Etude bibliométrique, sur la répartition selon les axes stratégiques du Cirad, des articles de périodiques publiés en 2007par le Cirad avec des partenaires ou des agents Cirad affectés dans 48 pays d'Afrique

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Méthodes et limites de l'études

Les 48 pays concernés par l'étude

Classement selon l'organisation des Directions régionales du Cirad

DIR 1 Afrique de l'Ouest côtière	DIR2 Afrique de l'Ouest continentale	DIR3 Afrique centrale	DIR4 Afrique de l'Est et australe	DIR5 Madagascar et Océan Indien
- CAP-VERT - GAMBIE - GUINEE - GUINEE BISSAU - LIBERIA - MAURITANIE - SENEGAL - SIERRA LEONE	- BENIN - BURKINA FASO - COTE D'IVOIRE - GHANA - MALI - NIGER - TOGO	- CAMEROUN - CONGO - GABON - GUINEE EQUATORIALE - NIGERIA - REP. CENTRAFRICAINE - REP. DEMOCRATIQUE DU CONGO - SAO TOME ET PRINCIPE - TCHAD	**Australe** - AFRIQUE DU SUD - ANGOLA - BOTSWANA - LESOTHO - MALAWI - MOZAMBIQUE - NAMIBIE - SWAZILAND - ZAMBIE - ZIMBABWE **Orientale** - BURUNDI - DJIBOUTI - ERYTHREE - ETHIOPIE - KENYA - OUGANDA - RWANDA - SOMALIE - SOUDAN - TANZANIE	- COMORES - MADAGASCAR - MAURICE - SEYCHELLES

Constitution du corpus :

Le 23/09/2008, extraction d'Agritrop des notices bibliographiques d'articles de périodiques 2007 :

- ayant au moins un auteur avec une affiliation Cirad,
- et ayant aussi au moins une affiliation (adresse) dans l'un des pays de la zone étudiée.

Cela représente 155 références parmi les 616 articles 2007 ayant une affiliation Cirad et enregistrés dans Agritrop avant le 23/09/2008.

Deux types de références sont prises en compte dans l'étude :

- celles avec au moins un auteur partenaire affilié dans l'un pays de la zone étudiée et au moins un auteur Cirad affecté hors de ou dans la zone étudiée.

- celles n’ayant pas un auteur partenaire affilié dans l’un des pays mais un auteur Cirad affecté dans la zone étudiée.

Classement des références dans les axes :

C’est celui réalisé par la Dist, selon la méthodologie retenue pour l’étude menée en juin 2008.

Chaque référence est classée dans un axe et un seul.

Les références difficilement classables selon les axes ont été regroupées dans une classe « Hors axes ».

Quelques indicateurs

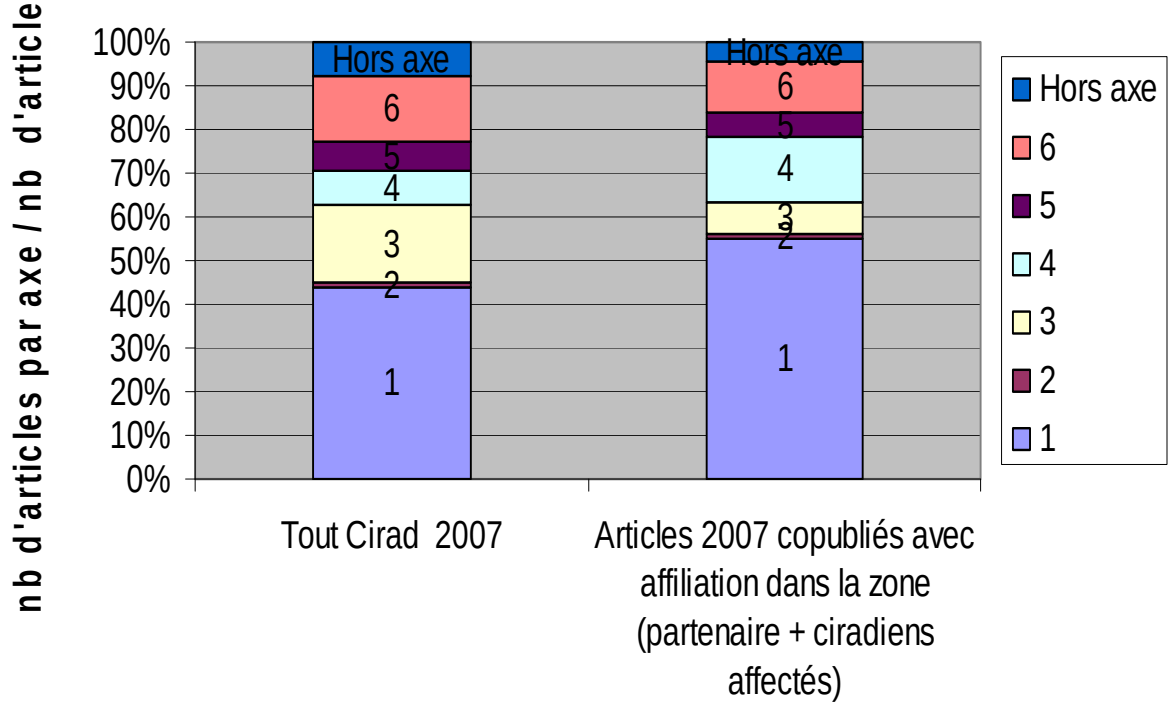
Les données représentent des comptages d'articles de périodiques.

Répartition globale par axe (en nombre d’articles)

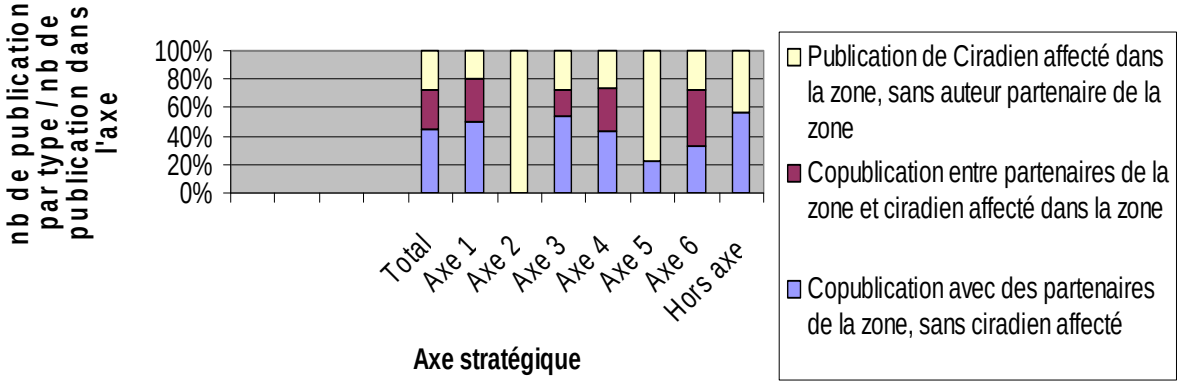
Tableau 1 : répartition selon les axes (partenaires + ciradiens avec une affiliation dans les pays de la zone considérée) des articles 2007

Axe stratégiques	Total	Axe 1	Axe 2	Axe 3	Axe 4	Axe 5	Axe 6	Hors axe
Copublication avec des partenaires de la zone, sans ciradien affecté	70	42	0	6	10	2	6	4
Copublication entre partenaires de la zone et ciradiens affectés dans la zone	42	26	0	2	7	0	7	0
Publication de ciradiens affectés dans la zone, sans auteur partenaire de la zone	43	17	2	3	6	7	5	3
Total de la zone étudiée	155	85	2	11	23	9	18	7
Total Cirad 2007	616	272	5	110	48	40	92	49

Comparaison de la répartion des articles selon les axes : ensemble des articles 2007 du Cirad et le corpus étudié



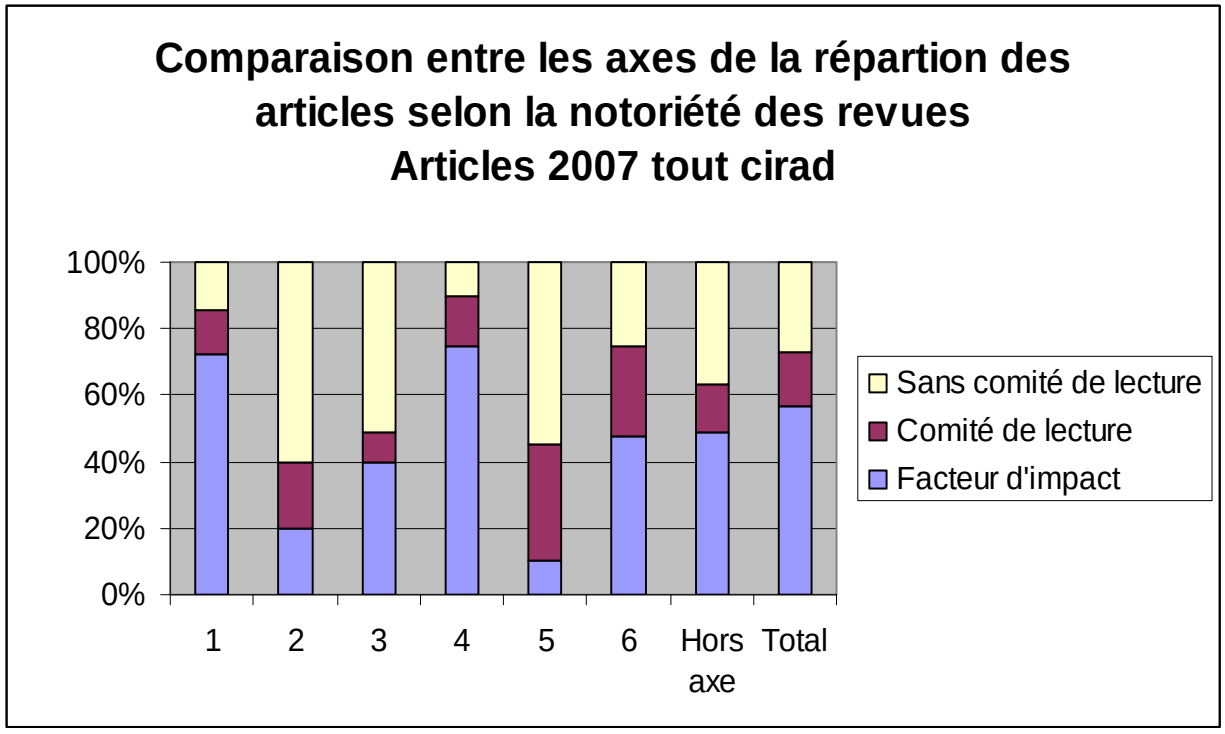
Comparaison entre les axes de la proportion de copublications avec ou sans partenaire de la zone

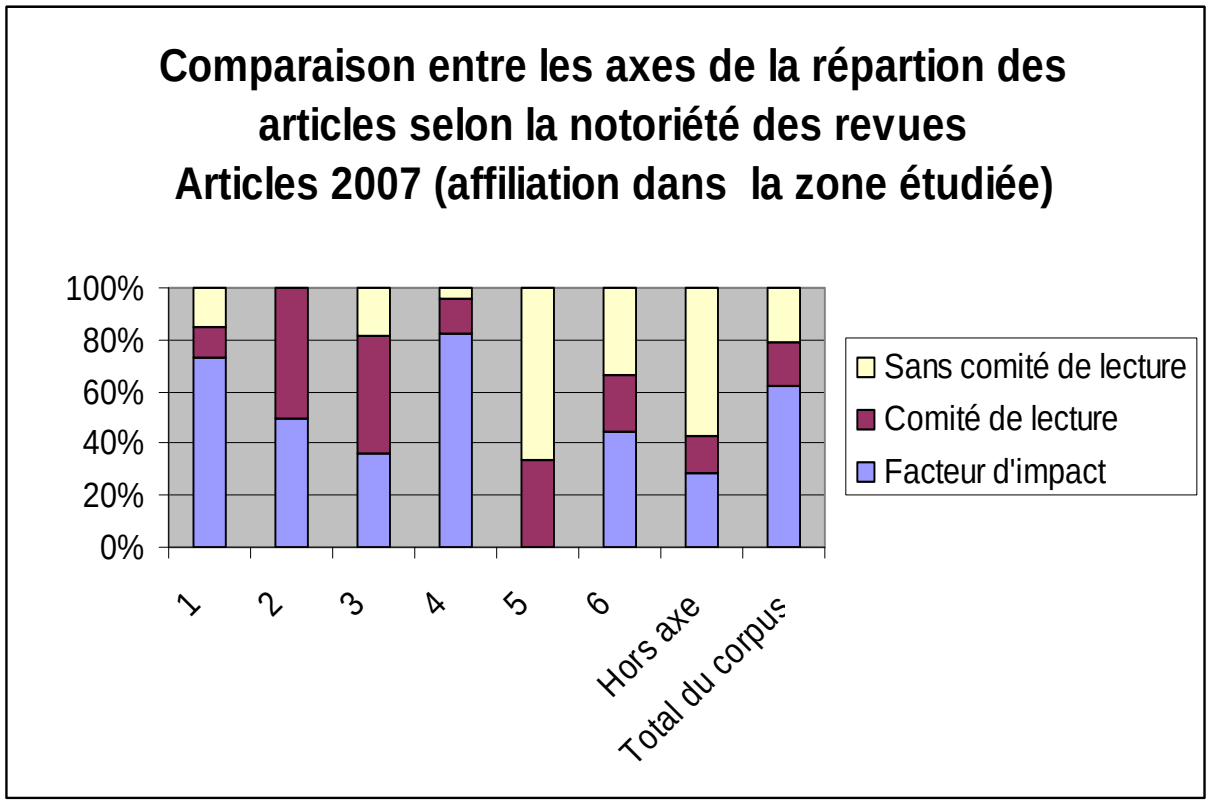


Répartition par axe et selon la notoriété des périodiques

Tableau 2 : répartitions selon les axes et la notoriété des périodiques

	Tout Cirad	Partenaire + affectés			
Axe			Facteur d'impact	Comité de lecture	Sans com
1	272	85	62	10	
2	5	2	1	1	
3	110	11	4	5	
4	48	23	19	3	
5	40	9	0	3	
6	92	18	8	4	
Hors axe	49	7	2	1	
Total	616	155	96	27	
Total tout Cirad 2007 (pour comparaison)	**616**		**349**	**101**	


Comparaison entre les axes de la répartion des articles selon la notoriété des revues
Articles 2007 tout cirad
100%
80%
60%
40%
20%
0%
1
2
3
4
5
6
Hors axe
Total
Sans comité de lecture
Comité de lecture
Facteur d'impact


Comparaison entre les axes de la répartion des articles selon la notoriété des revues
Articles 2007 (affiliation dans la zone étudiée)
100%
80%
60%
40%
20%
0%
1
2
3
4
5
6
Hors axe
Total du corpus
Sans comité de lecture
Comité de lecture
Facteur d'impact

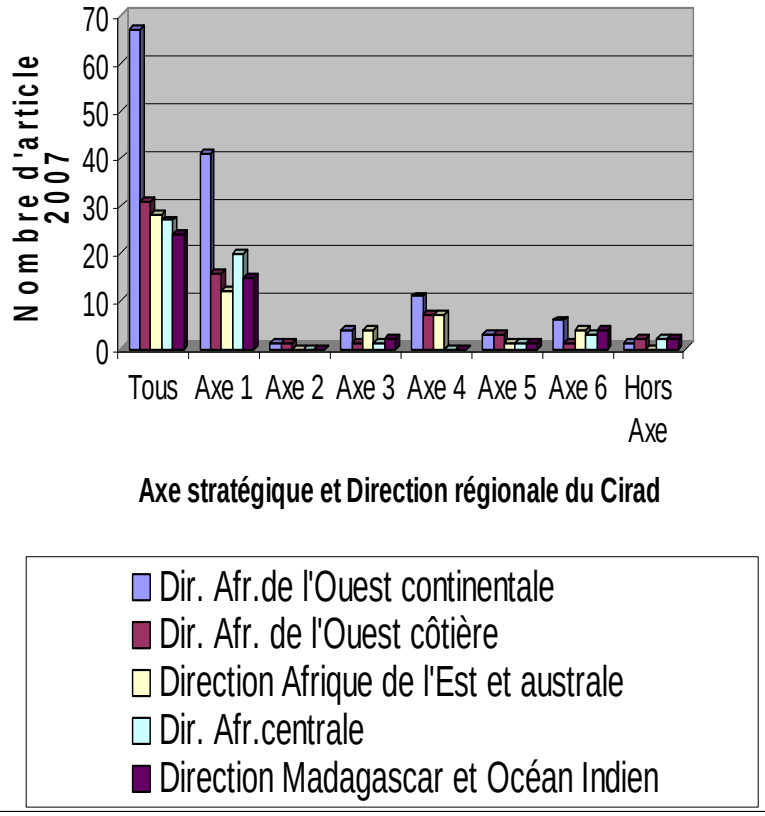
Répartition par axe stratégique et par Direction régionale du Cirad

Tableau 3 : répartition par axe et par Directions
(Partenaires + ciradiens avec une affiliation dans les pays de la zone considérée)

Attention : il y a des copublications entre les zones donc ne pas additionner les doonées par ligne !

Axe	Total Cirad	Total Partenaires + Affectés.	DIR1 A. Ouest costière	DIR 2 A. Ouest continentale	DIR3 A. centrale	DIR4 A. de l'Est et australe	DIR5 Madagascar et O.I.
1	272	85	16	41	20	12	15
2	5	2	1	1	0	0	0
3	110	11	1	4	1	4	2
4	48	23	7	11	0	7	0
5	40	9	3	3	1	1	1
6	92	18	1	6	3	4	4
Hors axes	49	7	2	1	2	0	2
Total	616	155	31	67	27	28	24

Répartition du nombre d'article 2007 par axe et par Direction régionale du Cirad



Répartition par axe stratégique et par pays

Tableau 4 : Répartion des 155 articles 2007 par pays (il y a des co-publications entre pays)								
Pays	**Nbre d'articles (partenaires + ciradien affectés dans le pays**							
	Axes	**Axe 1**	**Axe 2**	**Axe 3**	**Axe 4**	**Axe 5**	**Axe 6**	**Hors Axe**
GUINEE	6	6	0	0	0	0	0	0
SENEGAL	26	11	1	1	7	3	1	2
Dir. Afr. de l'Ouest côtière	**31**	**16**	**1**	**1**	**7**	**3**	**1**	**2**
BENIN	19	14	0	1	3	0	1	0
BURKINA FASO	16	9	1	1	4	0	1	0
COTE D'IVOIRE	13	9	0	1	3	0	0	0
GHANA	6	3	0	1	0	2	0	0
MALI	14	9	0	0	0	1	4	0
NIGER	6	3	0	0	1	0	2	0
Dir. Afr.de l'Ouest continentale	**67**	**41**	**1**	**4**	**11**	**3**	**6**	**1**
CAMEROUN	24	20	0	1	0	1	1	1
GABON	2	0	0	0	0	0	1	1
NIGERIA	1	1	0	0	0	0	0	0
TCHAD	1	0	0	0	0	0	1	0
Dir. Afr.centrale	**27**	**20**	**0**	**1**	**0**	**1**	**3**	**2**
AFRIQUE DU SUD	12	5	0	0	2	1	4	0
ZIMBABWE	3	1	0	0	2	0	0	0
ETHIOPIE	4	0	0	2	2	0	0	0
KENYA	5	4	0	0	1	0	0	0
OUGANDA	4	2	0	2	0	0	0	0
Direction Afrique de l'Est et australe	**28**	12	0	4	7	1	4	0
MADAGASCAR	23	14	0	2	0	1	4	2
SEYCHELLES	1	1	0	0	0	0	0	0
Direction Madagascar et Océan Indien	**24**	15	0	2	0	1	4	2
Total du corpus (pas la somme des colonne car copublication)	**155**	**85**	**2**	**11**	**23**	**9**	**18**	**7**
Total Cirad pour 2007 (pour mémoire et comparaison)	**616**	**272**	**5**	**110**	**48**	**40**	**92**	**49**

Identification des partenaires copubliant par axe stratégique

Répartition des libellées d'affiliations par axe stratégique de 155 articles 2007

Axe 1 - Intensification écologique

Organisme d'affiliation	Dir.	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Guinée	Conakry	2
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	1
. CIRAD (affecté dans la zone étudiée)	2	Bénin	Cotonou	10
. CIRAD (affecté dans la zone étudiée)	2	Burkina Faso	Bobo-Dioulasso, Ouagadougou	2
. CIRAD (affecté dans la zone étudiée)	2	Ghana	Accra, Sekondi	2
. CIRAD (affecté dans la zone étudiée)	2	Mali	Bamako	3
. CIRAD (affecté dans la zone étudiée)	3	Cameroun	Douala, Garoua, Yaoundé	9
. CIRAD (affecté dans la zone étudiée)	4	Kenya	Nairobi	4
. CIRAD (affecté dans la zone étudiée)	4	Ouganda	Kampala	2
. CIRAD (affecté dans la zone étudiée)	4	Zimbabwe	Hararé	1
. CIRAD (affecté dans la zone étudiée)	5	Madagascar	Antananarivo, Antsirabé	9
ADRAO	2	Bénin	Cotonou	3
CERASS	1	Sénégal	Thiès	2
CIRDES	2	Burkina Faso	Bobo-Dioulasso	2
CNRA	2	Côte d'Ivoire	Abidjan	9
FOFIFA	5	Madagascar	Antananarivo	3
ICRISAT	2	Mali	Bamako	3
IER	2	Mali	Bamako, Sikasso	5
INRAB	2	Bénin	Cotonou	5
Institute of Infectious Diseases and Mol. Med…	4	Afrique du Sud	Cape Town	2
IRAD	3	Cameroun	Yaoundé, Ekona, Bafoussam, Garoua, Maroua	11
IRAG	1	Guinée	Conakry, Kankan	5
IRD	1	Sénégal	Dakar	5
IRD	2	Burkina Faso	Ouagadougou	2
ISRA	1	Sénégal	Dakar	1
Makerere University	4	Ouganda	Kampala	1
Ministry of Environment and Natural Resources	5	Seychelles	Victoria	1
OPRI-Coconut Research Programme	2	Ghana	Sekondi, Kade	3
SADEL	3	Cameroun	Garoua	1
SASRI	4	Afrique du Sud	Mount Edgecombe	3
SNGF	5	Madagascar	Antananarivo	1
SODECOTON	3	Cameroun	Garoua	1
UCAD-Faculté des Sciences et Techniques	1	Sénégal	Dakar	2
Université Abdou Moumouni	2	Niger	Niamey	3
Université d'Abobo-Adjame-UFR-SN	2	Côte d'Ivoire	Abidjan	2

Université de Ouagadougou	2	Burkina Faso	Ouagadougou	2
Université de Yaoundé	3	Cameroun	Yaoundé	1
Université Gaston Berger-GIRARDEL	1	Sénégal	Saint-Louis	1
University of Cape Town-Electron microscope unit	4	Afrique du Sud	Rondebosch	1
University of the Witwatersrand-School of Animal	4	Afrique du Sud	Wits	3

Axe 2 - Biomasse énergie et sociétés du Sud

Organisme d'affiliation	Direction	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	1
. CIRAD (affecté dans la zone étudiée)	2	Burkina Faso	Bobo-Dioulasso, Ouagadougou	1

Axe 3 - Alimentation sûre et diversfiée

Organisme d'affiliation	Direction	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	1
. CIRAD (affecté dans la zone étudiée)	2	Ghana	Accra, Sekondi	1
. CIRAD (affecté dans la zone étudiée)	4	Ouganda	Kampala	1
. CIRAD (affecté dans la zone étudiée)	5	Madagascar	Antananarivo, Antsirabé	2
CNRA	2	Côte d'Ivoire	Abidjan	1
EIAR	4	Ethiopie	Addis Abeba	2
ISRA	1	Sénégal	Dakar	1
Makerere University	4	Ouganda	Kampala	1
UAC-Ecole doctorale chimie et applications	2	Bénin	Cotonou	1
UEMOA	2	Burkina Faso	Ouagadougou	1
Université de Cocody	2	Côte d'Ivoire	Abidjan	1
Université de Douala	3	Cameroun	Douala	1
Université de Parakou-Faculté d'agronomie	2	Bénin	Parakou	1

Axe 4 - Santé animale, maladies émergentes

Organisme d'affiliation	Direction	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	4
. CIRAD (affecté dans la zone étudiée)	2	Bénin	Cotonou	3
. CIRAD (affecté dans la zone étudiée)	2	Burkina Faso	Bobo-Dioulasso, Ouagadougou	3
. CIRAD (affecté dans la zone étudiée)	4	Afrique du Sud	Onderstepoort, Pretoria	2
. CIRAD (affecté dans la zone étudiée)	4	Zimbabwe	Hararé	2
CIRDES	2	Burkina Faso	Bobo-Dioulasso	3
CREC	2	Bénin	Cotonou	2
Institut Pasteur de Dakar	1	Sénégal	Dakar	3
IRD	2	Bénin	Cotonou	2

IRD	2	Burkina Faso	Ouagadougou	2
ISRA	1	Sénégal	Dakar	3
LANADA	2	Côte d'Ivoire	Bingerville	3
NVI	4	Ethiopie	Debre Zeit	1
ONG KARKARA	2	Niger	*	1
UABIRA	4	Kenya	Nairobi,	1
Wildlife Conservation Department	4	Ethiopie	*	1

Axe 5 - Politique publiques, pauvreté et inégalités

Organisme d'affiliation	Direction	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	3
. CIRAD (affecté dans la zone étudiée)	2	Ghana	Accra, Sekondi	2
. CIRAD (affecté dans la zone étudiée)	2	Mali	Bamako	1
. CIRAD (affecté dans la zone étudiée)	3	Cameroun	Douala, Garoua, Yaoundé	1
FOFIFA	5	Madagascar	Antananarivo	1
University of Pretoria	4	Afrique du Sud	Pretoria	1

Axe 6 - Agriculture, environnement, nature et sociétés

Organisme d'affiliation	Direction	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	1
. CIRAD (affecté dans la zone étudiée)	2	Burkina Faso	Bobo-Dioulasso, Ouagadougou	1
. CIRAD (affecté dans la zone étudiée)	2	Niger	Niamey	2
. CIRAD (affecté dans la zone étudiée)	3	Gabon	Franceville, Libreville	1
. CIRAD (affecté dans la zone étudiée)	4	Afrique du Sud	Onderstepoort, Pretoria	4
. CIRAD (affecté dans la zone étudiée)	5	Madagascar	Antananarivo, Antsirabé	4
CEEPA	4	Afrique du Sud	Pretoria	2
CIRDES	2	Burkina Faso	Bobo-Dioulasso	1
IER	2	Mali	Bamako, Sikasso	2
IRAD	3	Cameroun	Yaoundé, Ekona, Bafoussam, Garoua, Maroua	1
Projet CURESS	3	Tchad	N'Djamena	1
Rhodes University-Department of Geography	4	Afrique du Sud	*	1
Université polytechnique de Bobo Dioulasso	2	Burkina Faso	Bobo-Dioulasso	1
University of Pretoria	4	Afrique du Sud	Pretoria	2
URDOC	2	Mali	Niono	2

Hors axe

Organisme d'affiliation	Direction	Pays	Ville	Nb
. CIRAD (affecté dans la zone étudiée)	1	Sénégal	Dakar, Thies Escale	1
. CIRAD (affecté dans la zone étudiée)	2	Bénin	Cotonou	1
. CIRAD (affecté dans la zone étudiée)	3	Gabon	Franceville, Libreville	1
IRAD	3	Cameroun	Yaoundé, Ekona, Bafoussam, Garoua, Maroua	1
Parc botanique et zoologique de Tsimbaz	5	Madagascar	Antananarivo	1
Université d'Antananarivo	5	Madagascar	Antananarivo	2

Les références classées selon les axes stratégiques puis par pays

AXE 1

AXE 1 DIR1 GUINEE (6) 1, 2, 3, 4, 5, 16

1 - Barry M.B., Pham J.L., Courtois B., Billot C., Ahmadi N.
Rice genetic diversity at farm and village levels and genetic structure of local varieties reveal need for in situ conservation. *Genetic resources and crop evolution 2007 vol.54 1675-1690*
Rice genetic diversity partitioning between farms, varieties and, within-variety diversity, were analysed in two villages of Maritime Guinea with contrasted agroecological conditions. One thousand and two hundred individual plants belonging to 45 accessions collected in eight farms were genotyped using 10 SSR markers. The molecular variance was evenly shared between and within accessions, while the farm effect was almost nil. Local varieties had a multi-line genetic structure. The number of multilocus genotypes was proportional to the utilisation rate of the variety in the village. The F ST values between different accessions of each variety were significant which indicated low genetic consistency in the variety names. This varietal structure could mainly be explained by the migration phenomenon and the high varietal turnover. Compared to allelic diversity, multilocus genotypic diversity seemed to be the most suitable indicator of the quantitative distribution of diversity at different management scales (accession, farm and village). The within- and between-farm F ST values were in the same order of magnitude. The within-farm diversity was not farm-specific but quantitatively high, i.e. up to 50% of the total genotypic diversity of a given village. Given the relative importance of the within-variety diversity, the in situ approach stands out as the most effective solution. As farms do not host specific diversity the in situ approach could be implemented by working with a small number of farms. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,731
http://dx.doi.org/10.1007/s10722-006-9176-3 Dk : 542876

2 - Barry M.B., Pham J.L., Noyer J.-L., Billot C., Courtois B., Ahmadi N.
Genetic diversity of the two cultivated rice species (#O. sativa & O. glaberrima#) in Maritime Guinea. Evidence for interspecific recombination. *Euphytica 2007 vol.154:n 1-2 127-137*
In Maritime Guinea, the interpenetration of upland, lowland and mangrove rice growing ecosystems has found expression in the cohabitation of the two rice cultivated species. Recent changes in cropping practices may lead to the replacement of local varieties by modern high-yielding varieties. In the framework build-up of a strategy for the preservation of local varieties, we analysed the extent, the organisation and the specificities of the rice genetic diversity. One hundred seventy accessions collected in farmers' fields were genotyped with 11 SSR markers and phenotyped with 26 morpho-physiologic descriptors. The general organisation of rice genetic diversity in Maritime Guinea, and its tight relationship with the rice growing ecosystems were similar to the one observed elsewhere. The two major subspecies of O sativa-indica and tropical japonic-as well as the two major ecotypes of O. glaberrima-"floating" and "upright"-were present. Moreover, an original genetic compartment was detected, highlighting the occurrence of glaberrima × sativa hybridisation. Allelic diversity was found to be comparable to that noted worldwide for indica and japonica groups of O. sativa, but not as large for O. glaberrima. Given its extent, its original compartment, and its potential for inter-specific and inter-subspecific indica × japonica recombination, the preservation of rice genetic diversity in Maritime Guinea deserves special attention. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,050
http://dx.doi.org/10.1007/s10681-006-9278-1 Dk : 541928

3 - Barry M.B., Pham J.L., Noyer J.-L., Courtois B., Billot C., Ahmadi N.
Implications for #in situ# genetic resource conservation from the ecogeographical distribution of

rice genetic diversity in Maritime Guinea. *Plant genetic resources: Characterization and utilization 2007 vol.5:n 1 45-54*
Genetic resource conservation is widely acknowledged as important. The implementation of conservation requires an insight into the distribution of genetic diversity at the scale of small regions or villages. We present an analysis of rice diversity at such a scale, in a region where traditional farming still prevails. Regional allelic diversity was comparable to that noted worldwide for Asian rice (Oryza sativa), but not as high for African rice (O. glaberrima). Each village pooled more than half of the regional allelic diversity. Genetic differentiation between varieties from the same village accounted for 70% of the regional variation. The differentiation associated with lowland and upland rice-growing ecosystems was 23%, while that associated with differences between villages within the same ecosystem was 7%. In the upland ecosystem, geographical distance had a significant effect on the FST between pairs of villages. In the lowland ecosystem, differences in soil salinity between villages affected FST. Genetic diversity within a single village may have up to three components: an ancient glaberrima component shared with neighbouring or ethnically related villages; a relatively ancient sativa component which was hardly or no longer shared with other villages due to local differentiation; and a recently introduced sativa component shared with other villages. Genetic resource conservation could be achieved, in terms of allelic diversity, through stratified sampling according to described genetic differentiation factors, whereas current farming systems must be preserved to ensure conservation of the diversity of allelic associations. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://dx.doi.org/10.1017/S1479262107390898 Dk : 541931

4 - Rey J.-Y., Diallo T.M., Vannière H., Didier C., Kéita S., Sangaré M.
The mango in French-speaking West Africa : varieties and varietal composition of the orchards; variétés et composition variétale des vergers; variedades y composicion varietal de los huertos. *Fruits 2007 vol.62:n 1 57-73*
Introduction. Le manguier est l'un des arbres fruitiers les plus répandus en Afrique de l'Ouest. Un historique de son introduction dans la zone a été publié récemment. Pour faire suite à ce document, l'analyse présentée a été consacrée aux principales variétés qui y sont cultivées aujourd'hui et à l'impact des facteurs historiques et commerciaux sur la composition variétale des vergers. Quelques définitions. En préalable à un inventaire des variétés, certains termes permettant de les caractériser ont été précisés (précocité, monoembryonie et polyembryonie) et quelques informations sur l'origine des variétés floridiennes ont été fournies. Les principales variétés cultivées en Afrique de l'Ouest. Quatre catégories ont été distinguées : les variétés de mangues locales ou polyembryonnées (mangots, mangue du Cameroun), les premières variétés monoembryonnées propagées par greffage (Amélie, Julie, Sabot, Djibelor, Cuisse Madame), les variétés floridiennes, également monoembryonnées et propagées par greffage, introduites plus tardivement et utilisées soit pour l'exportation (Kent, Keitt, Palmer, Zill, Valencia, Smith, Irwin, Haden), soit pour les marchés régionaux (Brooks, Davis-Haden, Miami Late, Springfels, Beverly, Eldon, Ruby). Chaque variété a été décrite, de même ses caractéristiques culturales et ses débouchés. La composition des vergers de manguiers greffés. La composition des vergers greffés est influencée par l'évolution historique et la destination des fruits qui peuvent être autoconsommés, vendus sur le marché local, national ou sous-régional, exportés sur le marché international ou transformés dans des unités artisanales ou industrielles. Cette composition a été précisée pour la Guinée, le Mali, le Burkina-Faso, la Côte d'Ivoire, le Sénégal et le Togo. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2006051 Dk : 537356

5 - Vannière H., Didier C., Rey J.-Y., Diallo T.M., Kéita S., Sangaré M.
The mango in French-speaking West Africa : cropping systems and agronomical practices; les systèmes de production et les itinéraires techniques; sistemas de produccion e itinerarios técnicos. *Fruits 2007 vol.62:n 3 187-201*
Introduction. Les systèmes de production du manguier en Afrique de l'Ouest sont très variés. Chacun d'eux s'est développé dans un contexte spécifique où l'itinéraire technique et la composition variétale des plantations contribuent à la diversité observée. L'étude entreprise devrait permettre de mieux comprendre l'influence des débouchés potentiels sur l'évolution de cette filière horticole. Les principaux systèmes de plantation. Dans la région étudiée, l'essentiel des vergers de manguiers exploités a moins de 10 ha; leur

production est extensive et utilise peu d'intrants. Ils appartiennent en majorité à des planteurs dont l'activité principale est centrée sur l'agriculture. Certaines plantations proches de 100 ha, trouvées au Sénégal ou en Côte d'Ivoire, appartiennent à des exportateurs et bénéficient d'un encadrement technique. Les itinéraires techniques. L'étude des itinéraires techniques utilisés en vergers de manguiers en Afrique de l'Ouest a permis d'analyser les aspects de production de plants, choix du site, aménagement du verger avant plantation, plantation des et entretien des arbres, protection contre les incendies, alimentation hydrique, ainsi que l'effet du marché d'exportation sur le choix variétal et l'offre variétale au cours d'une campagne de récolte. Maladies et ennemis. Un inventaire des problèmes pathologiques et des maladies physiologiques susceptibles de dévaloriser la production a été effectué. Commercialisation. Cette partie a permis de distinguer les exportations intercontinentales, nécessitant une organisation spécifique de la récolte et du conditionnement, et les marchés locaux, nationaux et régionaux. La transformation. Aujourd'hui, la part des mangues transformées en Afrique de l'Ouest n'utilise qu'une proportion infime de la production totale. Conclusion et perspectives. À côté d'une production traditionnelle qui présente des signes de fragilité apparaissent des vergers modernes. Plus qu'une intensification des vergers, par ailleurs nécessaire, une rationalisation des pratiques agronomiques, de la protection phytosanitaire, de la récolte ou de la manipulation des fruits est incontournable. En aval, la filière d'exportation se trouve confrontée à une évolution rapide des réglementations exogènes, basées sur des normes qualitatives et sanitaires de plus en plus strictes. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
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16 - Vayssières J.-F., Rey J.-Y., Traore L.
Distribution and host plants of #Bactrocera cucurbitae# in West and Central Africa. *Fruits 2007 vol.62:n 6 391-396*
Introduction. Les données sur Bactrocera cucurbitae collectées dans une grande partie de l'Afrique de l'Ouest depuis une dizaine d'années ont permis d'en faire une synthèse alors que cette espèce à fort impact économique est maintenant largement répandue. Des collectes de fruits ont été poursuivies lors de différents déplacements en Afrique; nous nous sommes focalisés sur la recherche de la mouche du melon, B. cucurbitae (Coquillett). Matériel et méthodes. Les Tephritidae ont été capturés par piégeage des adultes et par récolte de fruits piqués contenant des larves. Les échantillonnages de fruits ont été réalisés sur les cucurbitacées rencontrées dans la sous-région et sur d'autres familles végétales hébergeant des larves de la mouche du melon. Les fruits piqués par les mouches ont été récoltés dans des vergers non traités et rapportés au laboratoire pour être pesés, comptés et classés par espèce, variété, date et localité. Les larves recueillies se sont métamorphosées en pupes. Après éclosion des pupes, les adultes ont été récupérés. Résultats et discussion. Les échantillonnages effectués nous ont permis de déterminer la distribution de B. cucurbitae en Afrique de l'Ouest; l'espèce a été trouvée au Bénin, Burkina Faso, Cameroun, Côte-d'Ivoire, Guinée, Mali, Niger et Sénégal. Les fruits récoltés dans ces pays ont permis d'établir une liste des plantes-hôtes de B. cucurbitae dans ces régions; elle concerne, outre des cucurbitacées, deux espèces d'anacardiacées, deux espèces de rutacées, une espèce d'annonacées, une espèce de solanacées et une espèce d'oxalidacées. Quatre essences fruitières d'importance économique figurent parmi elles. Contrairement à l'île de la Réunion où le régime alimentaire de la mouche du melon est oligophage, en Afrique de l'Ouest il serait plutôt polyphage. Conclusion. Les données recueillies sur les plantes-hôtes de B. cucurbitae seront prochainement confirmées puis précisées par des analyses quantitatives au niveau de différents pays d'Afrique de l'Ouest. (Résumé d'auteur)
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AXE 1 DIR1 SENEGAL (11) 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

6 - **Actes de l'atelier déchets urbains et développement rural**. *Les cahiers de Girardel 2007 n 4 1-255*
Articles publiés dans une revue sans comité de lecture
Dk : 543103

7 - Clavel D., Baradat P., Khalfaoui J.-L., Drame N.K., Diop N., Diouf O., Zuily Fodil Y.
Adaptation à la sécheresse et création variétale : le cas de l'arachide en zone sahélienne : deuxième partie : une approche pluridisciplinaire pour la création variétale. *OCL. Oléagineux corps gras lipides 2007 vol.14:n 5 293-308*
Drought is a multiform constraint whose impact on the vegetal metabolism is very variable according to its duration, intensity and phenological stage of the vegetal development where it occurs. Thus, the plant resistance is expressed at different plant organisation levels. The present study was aimed at integrating knowledge generated by experiments carried out in Senegal on groundnut within the framework of a breeding programme geared towards improving groundnut yield under drought conditions. Three studies involved in the breeding work, are presented. The first chapter analyses an incomplete half-diallel cross performed on an original population under recurrent selection for drought adaptation. The study confirmed the weak heritability of yields but concludes that the best predictor of pod-yield was the pod-yield itself. By contrast, the study of the genetic correlations showed that a selection for high haulm-yield could lead to poor pod-maturity under drought constraint. The selection indices were performed and used to estimate genetic gains relative to the main agronomic characters according to selection pressure. The second chapter covers the genetic variability of phenological, agronomic and physiological characters studied in two series of quasi-isogenic early lines. It has indicated that genetic variability was expressed in these lines despite its closeness. Some correlations between yield and physiological parameters, i.e. mainly fluorescence parameters, were significant but not stable across lines and environments showing that groundnut have different drought adaptation strategies according to genetic background and drought pattern. This work was pursued at the molecular level with three reference cvs involving the both recurrent parents of the precedent study. The gene transcript kinetics under drought, obtained using RT-PCR, showed that Phospolipase D and Cysteine protease gene expressions were stimulated by stress in the most susceptible cultivars, whereas their was higher LEA gene expression in the resistant one. These interconnected experiments conducted at different plant organisation levels led to the development of a general methodological model and of new improved genotypes to meet the social demand. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 543536

8 - Dansero E., Fall S.M., Magrin G., Seck S.M.
Introduction : actes de l'atelier déchets urbains et développement rural. *Les cahiers de Girardel 2007 n 4 8-13*
Ce quatrième numéro des Cahiers de GIRARDEL regroupe les actes du séminaire "Déchets urbains et développement local" ainsi que les résultats des ateliers qui se sont déroulés du 17 au 21 janvier 2006 à Saint Louis du Sénégal. Ces travaux ont impliqué des professeurs et étudiants de la section de géographie de l'université Gaston Berger (U.G.B.), de la faculté des sciences politiques et du département interuniversitaire "Territoire" de l'université de Turin. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 543111

9 - Fougnies L., Renciot S., Muller F., Plenchette C., Prin Y., De Faria S.M., Bouvet J.-M., Sylla S., Dreyfus B., Bâ A.M.
Arbuscular mycorrhizal colonization and nodulation improve flooding tolerance in #Pterocarpus officinalis# Jacq. seedlings. *Mycorrhiza 2007 vol.17:n 3 159-166*
Pterocarpus officinalis (Jacq.) seedlings inoculated with the arbuscular mycorrhizal fungus, Glomus intraradices, and the strain of Bradyrhizobium sp. (UAG 11A) were grown under stem-flooded or nonflooded conditions for 13 weeks after 4 weeks of nonflooded pretreatment under greenhouse conditions. Flooding of P. officinalis seedlings induced several morphological and physiological adaptive mechanisms, including formation of hypertrophied lenticels and aerenchyma tissue and production of adventitious roots on submerged portions of the stem. Flooding also resulted in an increase in collar diameter and leaf, stem, root, and total dry weights, regardless of inoculation. Under flooding, arbuscular mycorrhizas were well developed on root systems and adventitious roots compared with inoculated root systems under nonflooding condition. Arbuscular mycorrhizas made noteworthy contributions to the flood tolerance of P. officinalis seedlings by improving plant growth and P acquisition in leaves. We report in this study the novel occurrence of nodules connected vascularly to the stem and nodule and arbuscular

mycorrhizas on adventitious roots of P. officinalis seedlings. Root nodules appeared more efficient fixing N2 than stem nodules were. Beneficial effect of nodulation in terms of total dry weight and N acquisition in leaves was particularly noted in seedlings growing under flooding conditions. There was no additive effect of arbuscular mycorrhizas and nodulation on plant growth and nutrition in either flooding treatment. The results suggest that the development of adventitious roots, aerenchyma tissue, and hypertrophied lenticels may play a major role in flooded tolerance of P. officinalis symbiosis by increasing oxygen diffusion to the submerged part of the stem and root zone, and therefore contribute to plant growth and nutrition. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,077
http://dx.doi.org/10.1007/s00572-006-0085-2 Dk : 538987

10 - Kisa M., Sanson A., Thioulouse J., Assigbetse K., Sylla S., Spichiger R., Dieng L., Berthelin J., Prin Y., Galiana A., Lepage M.
Arbuscular mycorrhizal symbiosis can counterbalance the negative influence of the exotic tree species #Eucalyptus camaldulensis# on the structure and functioning of soil microbial communities in a sahelian soil. *FEMS Microbiology Ecology 2007 vol.62:n 1 32-44*
The hypothesis of the present study was that bacterial communities would differentiate under Eucalyptus camaldulensis and that an enhancement of arbuscular mycorrhizal (AM) density would minimize this exotic plant species effect. Treatments consisted of control plants, preplanting fertilizer application and AM inoculation. After 4 months of culture in autoclaved soil, E. camaldulensis seedlings were either harvested for growth measurement or transferred into containers filled with the same soil but not sterilized. Other containers were kept without E. camaldulensis seedlings. After 12 months, effects of fertilizer amendment and AM inoculation were measured on the growth of Eucalyptus seedlings and on soil microbial communities. The results clearly show that this plant species significantly modified the soil bacterial community. Both community structure (assessed by denaturing gradient gel electrophoresis profiles) and function (assessed by substrate-induced respiration responses including soil catabolic evenness) were significantly affected. Such changes in the bacterial structure and function were accompanied by disturbances in the composition of the herbaceous plant species layer. These results highlight the role of AM symbiosis in the processes involved in soil bio-functioning and plant coexistence and in afforestation programmes with exotic tree species that target preservation of native plant diversity. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,039
http://dx.doi.org/10.1111/j.1574-6941.2007.00363.x Dk : 541561

11 - Hamidou F., Zombre G., Diouf O., Diop N.N., Guinko S., Braconnier S.
Physiological, biochemical and agromorphological responses of five cowpea genotypes (#Vigna unguiculata# (L.) Walp.) to water deficit under glasshouse conditions. *Biotechnologie, agronomie, société et environnement 2007 vol.11:n 3 225-234*
Cinq variétés de niébé (Vigna unguiculata), Bambey 21, Gorom local, KVX61-1, Mouride et TN88-63, cultivées en pots en serre ont été soumises à un déficit hydrique par suspension d'arrosage pendant 14 jours en phase végétative (T1) et 12 jours au stade floraison (T2). Les incidences de ce traitement sur le potentiel hydrique foliaire, les échanges gazeux, le volume racinaire, les teneurs en proline, en amidon et en protéines totales des feuilles, le rendement maximal photochimique (fp0) et les composantes de rendement ont été déterminées. Le potentiel hydrique n'a significativement baissé que chez Mouride et TN88-63 (de -0,55 à -0,92 MPa en moyenne) stressés en floraison, tandis que le volume racinaire, les échanges gazeux, ainsi que la teneur en amidon ont été significativement réduits chez les 5 variétés en conditions de stress aux 2 stades. (fp0) n'a pas été affecté par le stress en phase végétative. En phase floraison il a significativement baissé dès le 6e jour d'application chez Gorom, KVX61-1 et TN88-63 et au 10e chez Bambey 21 et Mouride. Une accumulation significative de la proline due au déficit hydrique a été observée chez les 5 variétés en phase T1 et T2, Mouride et TN88-63 ont les teneurs les plus élevées (respectivement 2,9 et 3,3 mg.g-1 MS) en phase floraison. La teneur en protéines totales n'a pas été significativement modifiée par le stress aux 2 stades. Nos résultats ont montré que les 5 variétés ont évité la déshydratation en baissant la conductance stomatique et la transpiration lors du stress en T1 et T2. L'accumulation de la proline, le maintien de la teneur en protéines totales et la baisse de la teneur en amidon chez les 5 génotypes en conditions de stress aux 2 stades pourraient contribuer au maintien de la turgescence cellulaire. En outre, ces solutés permettraient de protéger l'appareil photosynthétique

(PSII) contre la dénaturation notamment durant le stress en floraison. Le nombre de graines par gousse et le nombre de graines par plante ont été réduits en conditions de déficit hydrique, la différence variétale observée a montré que Bambey 21 a été moins affecté que Gorom, TN88-63 et Mouride tandis que KVX61-1 s'est révélée la plus sensible. Bambey 21 s'est montrée tolérante au stress durant les 2 stades, Gorom, Mouride et TN88-63 ont été intermédiaires tandis que KVX61-1 a été la plus sensible. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://popups.ulg.ac.be/Base/document.php?id=968 Dk : 543303

12 - Havard M., Vall E., Njoya A., Fall A.
La traction animale en Afrique de l'Ouest et du centre. *Travaux et innovations 2007 n 141 28-31*
Une exploitation agricole moyenne se compose de 6 personnes (3 actifs), cultive 2,2 ha, possède 1 bovin, 4 petits ruminants, 0,4 bovin de trait et 0,45 charrue. Les rendements sont relativement faibles: 950 kg/ha de coton, 2 100 kg/ha de maïs, 850 kg/ha de sorgho et 1 800 kg/ha d'arachide coque. La fumure minérale est utilisée surtout sur coton (110 kg/ha de NPK, et 25 kg/ha d'urée) et mais (90 kg/ha de NPK, 80 kg/ha d'urée). La valeur monétaire des productions (vente, autoconsommation, dons) et des activités est estimée à 886 € par exploitation par an, dont 80% pour les productions végétales, 5% pour l'élevage, 15% pour les activités extra-agricoles. L'assolement se compose de 30% de coton, 55% de céréales (sorgho, mals et riz), 12% de légumineuses (arachide, niébé), 3% d'autres cultures (oignon, manioc, cultures légumières). (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 542274

13 - Diouf D., Samba-Mbaye R., Lesueur D., Ba A.T., Dreyfus B., De Lajudie P., Neyra M.
Genetic diversity of #Acacia seyal# Del. rhizobial populations indigenous to senegalese soils in relation to salinity and pH of the sampling sites. *Microbial ecology 2007 vol.54:n 3 553-566*
The occurrence and the distribution of rhizobial populations naturally associated to Acacia seyal Del. were characterized in 42 soils from Senegal. The diversity of rhizobial genotypes, as characterized by polymerase chain reaction restriction fragment length polymorphism (RFLP) analysis of 16S-23S rDNA, performed on DNA extracted from 138 nodules resulted in 15 clusters. Results indicated the widespread occurrence of compatible rhizobia associated to A. seyal in various ecogeographic areas. However, the clustering of rhizobial populations based on intergenic spacer (IGS) RFLP profiles did not reflect their geographic origin. Four genera were discriminated on the basis of 16S rRNA gene sequences of the strains representative for the IGS-RFLP profiles. The majority of rhizobia associated to A. seyal were affiliated to Mesorhizobium and Sinorhizobium 64 and 29%, respectively, of the different IGS-RFLP profiles. Our results demonstrate the coexistence inside the nodule of plant-pathogenic non-N2-fixing Agrobacterium and Burkholderia strains, which induced the formation of ineffective nodules, with symbiotic rhizobia. Nodulation was recorded in saline soils and/or at low pH values or in alkaline soils, suggesting adaptability of natural rhizobial populations to major ecological environmental stress and their ability to establish symbiotic associations within these soil environments. These results contribute to the progressing research efforts to uncover the biodiversity of rhizobia and to improve nitrogen fixation in agroforestry systems in sub-Saharan Africa. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,558
http://dx.doi.org/10.1007/s00248-007-9243-0 Dk : 541285

14 - Faye A., Sall S., Chotte J.-L., Lesueur D.
Soil bio-functioning under #Acacia nilotica# var. #tomentosa# protected forest along the Senegal River. *Nutrient cycling in agroecosystems 2007 vol.79:n 1 35-44*
Acacia nilotica var. tomentosa trees from the Diarra protected forest located in the Senegal River valley were identified for the assessment of both biological nitrogen fixation, using the natural abundance method, and soil bio-functioning parameters (nodulation, root biomass, total microbial biomass, and potential N mineralization). The presence and the genetic diversity of indigenous rhizobia nodulating A. nilotica var. tomentosa was also investigated, taking into account distance from the trunk (0, 1, 2, and 3 m) and depth (0-25, 25-50, and 50-75 cm). Surprisingly, no nodules on the trees root systems were found, whereas under laboratory conditions the presence of indigenous rhizobia nodulating A. nilotica var. tomentosa was demonstrated in the analyzed soils (90% of the nodules harvested on the trapped plants

were occupied by the same Inter-Genic Spacer (IGS) group, IGS1). There was no significant influence of trees and/or depth on total microbial biomass and potentials of nitrogen mineralization. Some assumptions were formulated on the possible combined effect of flooding, which usually occurs annually during 4-7 months, and the clayey soils in the Diara forests. Although a deeply natural nodulation of A. nilotica var. tomentosa trees by indigenous rhizobia is not excluded, but it still remains to be demonstrated. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,116
http://dx.doi.org/10.1007/s10705-007-9033-7 Dk : 540605

15 - Thiaba Samba R., Neyra M., Lesueur D.
Natural nodulation of #Acacia mangium-Acacia auriculiformis# hybrids : distribution of the indigenous strains in the nodules. *World journal of microbiology and biotechnology 2007 vol.23 1485-1488*
Polymerase Chain Reaction/Restriction Fragment Length Polymorphism (PCR/RFLP) of the InterGenic Spacer (IGS) between rDNA 16S and 23S was used to identify indigenous strains nodulating four clones of Acacia mangium-Acacia auriculiformis hybrids cultivated in non-sterilized sandy soil from Sangalkam (Senegal) under greenhouse conditions. The experiment was for 4 months. The analysis of restriction fragment length polymorphism obtained with MspI and HaeIII restriction enzymes allowed the identification of 15 different IGS Groups with a distribution which significantly differed according to the clone of the hybrid (strains of one clone can belong to three and five different IGS Groups). Three large multi-lobed nodules were obtained on the root system of clone 3.26 within 5 months. Also, the nature of the rhizobia contained in each lobe was determined. The results showed that the lobes of large nodules can be occupied by one or two strains and the nodules analysed were mainly occupied by those belonging to IGS Group 12. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,745
http://dx.doi.org/10.1007/s11274-007-9373-z Dk : 541936

16 - Vayssières J.-F., Rey J.-Y., Traore L.
Distribution and host plants of #Bactrocera cucurbitae# in West and Central Africa. *Fruits 2007 vol.62:n 6 391-396*
Introduction. Les données sur Bactrocera cucurbitae collectées dans une grande partie de l'Afrique de l'Ouest depuis une dizaine d'années ont permis d'en faire une synthèse alors que cette espèce à fort impact économique est maintenant largement répandue. Des collectes de fruits ont été poursuivies lors de différents déplacements en Afrique; nous nous sommes focalisés sur la recherche de la mouche du melon, B. cucurbitae (Coquillett). Matériel et méthodes. Les Tephritidae ont été capturés par piégeage des adultes et par récolte de fruits piqués contenant des larves. Les échantillonnages de fruits ont été réalisés sur les cucurbitacées rencontrées dans la sous-région et sur d'autres familles végétales hébergeant des larves de la mouche du melon. Les fruits piqués par les mouches ont été récoltés dans des vergers non traités et rapportés au laboratoire pour être pesés, comptés et classés par espèce, variété, date et localité. Les larves recueillies se sont métamorphosées en pupes. Après éclosion des pupes, les adultes ont été récupérés. Résultats et discussion. Les échantillonnages effectués nous ont permis de déterminer la distribution de B. cucurbitae en Afrique de l'Ouest; l'espèce a été trouvée au Bénin, Burkina Faso, Cameroun, Côte-d'Ivoire, Guinée, Mali, Niger et Sénégal. Les fruits récoltés dans ces pays ont permis d'établir une liste des plantes-hôtes de B. cucurbitae dans ces régions; elle concerne, outre des cucurbitacées, deux espèces d'anacardiacées, deux espèces de rutacées, une espèce d'annonacées, une espèce de solanacées et une espèce d'oxalidacées. Quatre essences fruitières d'importance économique figurent parmi elles. Contrairement à l'île de la Réunion où le régime alimentaire de la mouche du melon est oligophage, en Afrique de l'Ouest il serait plutôt polyphage. Conclusion. Les données recueillies sur les plantes-hôtes de B. cucurbitae seront prochainement confirmées puis précisées par des analyses quantitatives au niveau de différents pays d'Afrique de l'Ouest. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2007037 Dk : 542141

AXE 1 DIR2 BENIN (14) 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

16 - Vayssières J.-F., Rey J.-Y., Traore L.
Distribution and host plants of #Bactrocera cucurbitae# in West and Central Africa. *Fruits 2007 vol.62:n 6 391-396*
Introduction. Les données sur Bactrocera cucurbitae collectées dans une grande partie de l'Afrique de l'Ouest depuis une dizaine d'années ont permis d'en faire une synthèse alors que cette espèce à fort impact économique est maintenant largement répandue. Des collectes de fruits ont été poursuivies lors de différents déplacements en Afrique; nous nous sommes focalisés sur la recherche de la mouche du melon, B. cucurbitae (Coquillett). Matériel et méthodes. Les Tephritidae ont été capturés par piégeage des adultes et par récolte de fruits piqués contenant des larves. Les échantillonnages de fruits ont été réalisés sur les cucurbitacées rencontrées dans la sous-région et sur d'autres familles végétales hébergeant des larves de la mouche du melon. Les fruits piqués par les mouches ont été récoltés dans des vergers non traités et rapportés au laboratoire pour être pesés, comptés et classés par espèce, variété, date et localité. Les larves recueillies se sont métamorphosées en pupes. Après éclosion des pupes, les adultes ont été récupérés. Résultats et discussion. Les échantillonnages effectués nous ont permis de déterminer la distribution de B. cucurbitae en Afrique de l'Ouest; l'espèce a été trouvée au Bénin, Burkina Faso, Cameroun, Côte-d'Ivoire, Guinée, Mali, Niger et Sénégal. Les fruits récoltés dans ces pays ont permis d'établir une liste des plantes-hôtes de B. cucurbitae dans ces régions; elle concerne, outre des cucurbitacées, deux espèces d'anacardiacées, deux espèces de rutacées, une espèce d'annonacées, une espèce de solanacées et une espèce d'oxalidacées. Quatre essences fruitières d'importance économique figurent parmi elles. Contrairement à l'île de la Réunion où le régime alimentaire de la mouche du melon est oligophage, en Afrique de l'Ouest il serait plutôt polyphage. Conclusion. Les données recueillies sur les plantes-hôtes de B. cucurbitae seront prochainement confirmées puis précisées par des analyses quantitatives au niveau de différents pays d'Afrique de l'Ouest. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2007037 Dk : 542141

17 - Adje I., Omoré A., Nouy B., Potier F., Amblard P., Flori A.
Jardín semillero de aceite de palma Cirad-Inrab en Suramérica : Cirad-Inrab oil palm seed gardens in South America. *Palmas 2007 vol.28:n Spec 241-255*
In order to further support the development of oil palm cultivation in South America, Cirad and INRAB have set up two seed gardens in Ecuador and Colombia in collaboration with two private companies, DANEC and Promotera Herrera. The plant material to be used as seed-producers was chosen so as to ensure the production of seed that accurately reproduces trial-tested high-value material. These seed gardens will make full use of the large experimental blocks (over 500 crosses in genetic trials) established between 1995 and 2000 to assess the value of 145 dura genitors and 137 Pisifera/Tenera genitors from the Pobè experimental station previously selected on the basis of inheritable characteristics. The propagation of the most promising genitors began in 2002 making use of 3-5 years data. The first plants were installed in 2004 and seed ommercialization is expected to begin in 2009. The final selection of the genitors will be carried out on the basis of their production at 6-10 years, an age at which the oil palm's yield is indicative of potential long-term production. These new seed gardens will make available several categories of seed, including improved versions of types already popular among South American planters and new ones. The material that will be reproduced has, in the ecological conditions of Northern Sumatra, exhibited a mean potential of at least 10.5 tons/ha/year of oil in trials (33t FFB/ha/yr with an Oil to Bunch of 32% in the laboratory), i.e. 8.5 tons expected in industrial conditions (31t FFB/ha/yr of bunches with an Oil Extraction Rate of 27.5 % in the oil mill). South American estates under favourable ecological conditions should be able to obtain comparable yields. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 543149

18 - Cornet D., Sierra J., Bonhomme R.
Characterization of the photosynthetic pathway of some tropical food yams (#Dioscorea# spp.) using leaf natural 13C abundance. *Photosynthetica 2007 vol.45:n 2 303-305*
A total of 23 genotypes belonging to seven tropical food yams and two wild relative species of different origin and coming from two sampling ecological zones (the Republic of Benin in Africa and Guadeloupe in

the Caribbean) was analysed for their 13C content. The [delta]13C values for all yam samples (from -25.39 and -30.07‰) indicated that all species had a C3 photosynthetic type. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,976
Dk : 537814

19 - Prudent P., Koko S., Deybe D., Vaissayre M.
Factors limiting the adoption of IPM practices by cotton farmers in Benin : A participatory approach. *Experimental Agriculture 2007 vol.43 175-183*
Smallholders' acceptance of innovations depends largely on the approach used to take their needs and constraints into account. The adoption of integrated pest management (IPM) strategies by smallholders can lead to a reduction in pesticide use in cotton, as soon as the recommended cropping practices are adapted to local conditions and associated with a threshold-based use of chemicals. To achieve this goal, farmers need to be trained on the biological basis of IPM. To ensure effective and rational implementation of IPM by farmers, it is essential to overcome constraints associated with pest scouting, identifying and preserving beneficial insects, and gaining access to the right inputs on time. In the current African context, where the extension system is sometimes in very poor shape, participatory methods fostered by the 'farmer field school' concept could enable farmers to implement an integrated approach to pest management, while keeping researchers informed about farmers' needs and constraints. Our paper is an attempt to use such a participatory method as a tool to explore farmers' needs and constraints when smallholders are asked to adopt an integrated approach to cotton pest management. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,678
http://dx.doi.org/10.1017/S0014479706004261 Dk : 539340

20 - Van Mele P., Vayssières J.-F.
Weaver ants help farmers to capture organic markets. *Pesticides news 2007 vol.75 6 p.*
Articles publiés dans une revue sans comité de lecture
Dk : 540771

21 - Van Mele P., Vayssières J.-F.
West Africa's mango farmers have allies in the trees. *Biocontrol news and information 2007 vol.28:n 3 56N-58N*
Articles publiés dans une revue sans comité de lecture
Dk : 541658

22 - Van Mele P., Vayssières J.-F., Van Tellingen E., Vrolijks J.
Effects of an African Weaver Ant, #Oecophylla longinoda#, in controlling mango fruit flies (Diptera: Tephritidae) in Benin. *Journal of economic entomology 2007 vol.100:n 3 695-701*
Six mango, Mangifera indica L., plantations around Parakou, northern Benin, were sampled at 2-wk intervals for fruit fly damage from early April to late May in 2005. Mean damage ranged from 1 to 24% with a weaver ant, Oecophylla longinoda (Latreille), being either abundant or absent. The fruit fly complex is made up of Ceratitis spp. and Bactrocera invadens Drew et al., a new invasive species in West Africa. In 2006, Ceratitis spp. peaked twice in the late dry season in early April and early May, whereas B. invadens populations quickly increased at the onset of the rains, from mid-May onward. Exclusion experiments conducted in 2006 with 'Eldon', 'Kent', and 'Gouverneur' confirmed that at high ant abundance levels, Oecophylla significantly reduced fruit fly infestation. Although fruit fly control methods are still at an experimental stage in this part of the world, farmers who tolerated weaver ants in their orchard were rewarded by significantly better fruit quality. Conservation biological control with predatory ants such as Oecophylla in high-value tree crops has great potential for African and Asian farmers. Implications for international research for development at the Consultative Group on International Agricultural Research level are discussed. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,201
Dk : 540768

23 - Vayssières J.-F.
L'IITA dans la lutte contre les mouches des fruits du manguier. *La lutte régionale conte les mouches des fruits et légumes en Afrique de l'Ouest 2007 n 1 3*

Articles publiés dans une revue sans comité de lecture
Dk : 540770

24 - Vayssières J.-F.
Les traitements par taches (GF120) testés au Bénin contre les mouches des fruits inféodées au manguier. *Lettre d'information sur la lutte régionale contre les mouches des fruits et légumes en Afrique de l'Ouest 2007 n 6 2*
Articles publiés dans une revue sans comité de lecture
http://www.coleacp.org/fo_internet/doc/File/lutte_regionale_contre_les_mouches_des_fruits_et_legumes_nr6.pdf Dk : 542218

25 - Vayssières J.-F., Cayol J.-P., Perrier X., Midgarden D.
Impact of methyl eugenol and malathion bait stations on non-target insect populations in French Guiana during an eradication program for #Bactrocera carambolae#. *Entomologia experimentalis et applicata 2007 vol.125 55-62*
We conducted this study to assess the impact of the bait station used in the Carambola fruit fly eradication program on non-target insects indigenous to French Guiana. A sampling device was developed based on the bait station, using four treatments: fiberboard blocks impregnated with methyl eugenol (ME) and malathion (MA), ME only, MA only, and a non-impregnated block. A total of only 149 non-target insects were captured during the 52 weeks of the experiment. The non-target taxa captured included representatives of nine orders and 26 families. Analysis based on a Poisson model of captures indicated no difference in the taxa or number of specimens captured among the treatments, providing evidence that the bait stations used by the regional program had no greater impact on non-target insect populations than the non-impregnated blocks. Our results indicate that captures of non-target insects could he related to accidental exposure to the sampling device and as such can be considered random events. The results of this experiment support the hypothesis that bait stations made with ME and MA can be used in an area-wide program without risk to non-target insect populations. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,483
http://dx.doi.org/10.1111/j.1570-7458.2007.00599.x Dk : 541656

26 - Vayssières J.-F., Sanogo F., Noussourou M.
Inventory of the fruit fly species (Diptera: Tephritidae) linked to the mango tree in Mali and tests of integrated control. *Fruits 2007 vol.62:n 5 329-341*
Au Mali, la production annuelle de mangues est estimée à 100 000 t. Du fait de problèmes structurels et phytosanitaires principalement liés à l'action des mouches des fruits, rarement plus de 1% de cette production est exporté. L'objectif principal de cette étude a été de mettre au point une lutte raisonnée contre les Tephritidae du manguier au Mali à l'aide de traitements par taches. L'un des préalables a été d'identifier les espèces responsables des dégâts dans les trois zones principales de production (Sikasso, Bougouni, Bamako). Matériel et méthodes. Des mangues appartenant aux principales variétés exportées ont été collectées de début avril à début octobre 2000 et mises en observation afin d'identifier les espèces de Tephritidae présentes dans les fruits. La pose de pièges à attractifs sexuels ou alimentaires a permis de suivre l'évolution et la constitution des populations de mouches des fruits dans les vergers des trois sites choisis. L'efficacité d'une méthode de traitement par taches pour lutter contre les cératites a été testée. Résultats et discussion. À partir des observations et de la détermination des adultes, six espèces de Tephritidae ont été mises en évidence. Parmi elles, Ceratitis cosyra (Walker), C. quinaria (Bezzi) et C. silvestrii Bezzi ont été les plus précoces et sont donc les plus préjudiciables. C. cosyra a représenté 86% de l'effectif total des mouches. Les espèces C. anonae, C. quinaria, C. fasciventris et C. ditissima ont été identifiées pour la première fois au Mali. Les dégâts dus aux Tephritidae en milieu de campagne ont avoisiné 50% de la production des variétés Kent et Keitt et dépassé 60% de celle de Brooks. Les 180 pièges mis en place sur les trois sites suivis ont permis de capturer 128 998 Tephritidae adultes appartenant à treize espèces; les six espèces inféodées au manguier ont représenté 99% de cet effectif. Les traitements par taches effectués sur les trois sites expérimentaux ont donné des résultats encourageants, avec une réduction des dégâts d'environ 50% sur les parcelles traitées par rapport aux parcelles témoins. Conclusions. Pour prolonger l'action entreprise, il sera intéressant de confirmer et d'approfondir les résultats obtenus au cours des années à venir. La mise en place d'un projet régional de lutte contre les Tephritidae du manguier pour l'Afrique de l'Ouest serait fondamentale à moyen terme pour

lutter contre de tels ravageurs qui sévissent à l'échelle de la sous-région. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2007029 Dk : 541127

27 - Lançon J., Wery J., Rapidel B., Angokaye M., Gérardeaux E., Gaborel C., Ballo D., Fadegnon B.
An improved methodology for integrated crop management systems. *Agronomy for sustainable development 2007 vol.27 101-110*
Designing innovative combinations of techniques to improve the sustainability of a cropping system is a major challenge in many regions of the world. The available techniques are often added together, and assessed for yield only, rather than combined in an integrated approach. We than developed here a methodology to design and assess a sustainable crop management system adapted to a specific set of constraints. Based on the prototyping approach, this methodology takes advantage of expert knowledge on cotton cropping techniques such as no-till, cover crop, varieties and growth regulator, with innovative potential but which are not yet properly simulated by actual crop models. It involves four successive steps: (1) identification of the local sets of constraints to crop production, and selection of relevant criteria for sustainability assessment, (2) elaboration of a cropping system prototype and its assessment indicators adapted to a target set of constraints, (3) on-station assessment and adjustment of the prototype, and (4) on-farm evaluation and adjustment of the prototype. We describe here the methodology, and how its first three steps were implemented lo build and test a prototype for late-planted cotton with low input availability in West Africa. A new cropping system was designed, which included new genotypes, increased plant stand, lower rates of fertilisers and the use of herbicides and growth regulators. Fourteen indicators were selected to assess the economic, environmental and social performance of the prototype. The prototype was then tested in Mali, Cameroon, and Benin in 2002 and 2003. Our findings show that this prototype improved farmers' income by about +35% in 2002 and +20% in 2003, and increased labour productivity by about +5 to +20%. It achieved a satisfactory environmental performance, similar to the control, with positive mineral balances. The prototype still requires extra labour, skill and money to implement, and therefore requires further adjustment. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,008
http://dx.doi.org/10.1051/agro:2006037 Dk : 538718

28 - Sêkloka E., Hau B., Gozé E., Lewicki S., Thomas G., Lançon J.
Effective flowering time variations in upland cotton (#Gossypium hirsutum#) at different planting dates and stand densities in Benin. *Experimental agriculture 2007 vol.43 173-182*
Effective flowering time in Gossypium hirsutum cotton plants was studied with the aim of enhancing decision making on the best varieties to plant according to the planting date under rainfed cropping conditions. Trials were conducted at two sites in a cotton-growing area of Benin in 2002 and 2003. A split-split plot design with three replicates was used to compare 10 cotton varieties, with different growth cycle lengths and morphology, at three stand densities (42 000, 125 000, 167 000 plants ha-I) and two planting dates (standard planting in June and late planting). The flowering period was characterized by the mean first flower opening date (FF), which is an indicator of flowering earliness, and by the opening date of the last flower giving rise to a first-position boll on fruiting branches (LFP1). Effective flowering time (EFT) was calculated as the difference between LFP1 and FE EFTs differed markedly in the 10 cotton varieties tested and this parameter could not be predicted on the basis of flowering earliness. Late planting and high planting rates delayed first-flower opening, accelerated last-boll development and reduced the effective flowering time. This latter factor should be taken into account in cotton breeding programmes so that varieties adapted to local rainfall constraints can be recommended to growers while also enhancing crop management sequences. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,678
http://dx.doi.org/10.1017/S0014479706004558 Dk : 540668

29 - Sêkloka E., Lançon J., Hau B., Gozé E., Lewicki S., Thomas G.
A simple method for estimating the end of effective flowering in upland cotton (#Gossypium hirsutum#). *Experimental agriculture 2007 vol.43 163-171*
In cotton (Gossypium hirsutum), it is hard to determine the exact date when reproductive growth ceases on the basis of field observations, as compared to more visible factors such as the onset of flowering or boll opening. It is, however, essential to characterize the growth cycle in order to determine what varieties

are suitable for planting in different climatic and local cropping conditions. We estimated the end of the effective flowering period on the basis of the opening date of the last flower giving rise to a first-position boll on fruiting branches (LFP1), and propose a simple method for estimating this date. This study, conducted in 2002 and 2003 at Okpara, Benin, involved a comparison of six cotton varieties planted at two different dates (June and July). Plants were monitored to determine the dates when flowers opened at each position on fruiting branches. The LFPI indicator made a clear distinction between varieties. This highly heritable trait, which was found to be closely correlated with other earliness criteria, could be used to characterize the length of the growth cycle in cotton varieties. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,678
http://dx.doi.org/10.1017/S001447970600456X Dk : 540669

AXE 1 DIR2 BURKINA FASO (9) 10, 11, 12, 30, 31, 32, 33, 34, 35

10 - Kisa M., Sanson A., Thioulouse J., Assigbetse K., Sylla S., Spichiger R., Dieng L., Berthelin J., Prin Y., Galiana A., Lepage M.
Arbuscular mycorrhizal symbiosis can counterbalance the negative influence of the exotic tree species #Eucalyptus camaldulensis# on the structure and functioning of soil microbial communities in a sahelian soil. *FEMS Microbiology Ecology 2007 vol.62:n 1 32-44*
The hypothesis of the present study was that bacterial communities would differentiate under Eucalyptus camaldulensis and that an enhancement of arbuscular mycorrhizal (AM) density would minimize this exotic plant species effect. Treatments consisted of control plants, preplanting fertilizer application and AM inoculation. After 4 months of culture in autoclaved soil, E. camaldulensis seedlings were either harvested for growth measurement or transferred into containers filled with the same soil but not sterilized. Other containers were kept without E. camaldulensis seedlings. After 12 months, effects of fertilizer amendment and AM inoculation were measured on the growth of Eucalyptus seedlings and on soil microbial communities. The results clearly show that this plant species significantly modified the soil bacterial community. Both community structure (assessed by denaturing gradient gel electrophoresis profiles) and function (assessed by substrate-induced respiration responses including soil catabolic evenness) were significantly affected. Such changes in the bacterial structure and function were accompanied by disturbances in the composition of the herbaceous plant species layer. These results highlight the role of AM symbiosis in the processes involved in soil bio-functioning and plant coexistence and in afforestation programmes with exotic tree species that target preservation of native plant diversity. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,039
http://dx.doi.org/10.1111/j.1574-6941.2007.00363.x Dk : 541561

11 - Hamidou F., Zombre G., Diouf O., Diop N.N., Guinko S., Braconnier S.
Physiological, biochemical and agromorphological responses of five cowpea genotypes (#Vigna unguiculata# (L.) Walp.) to water deficit under glasshouse conditions. *Biotechnologie, agronomie, société et environnement 2007 vol.11:n 3 225-234*
Cinq variétés de niébé (Vigna unguiculata), Bambey 21, Gorom local, KVX61-1, Mouride et TN88-63, cultivées en pots en serre ont été soumises à un déficit hydrique par suspension d'arrosage pendant 14 jours en phase végétative (T1) et 12 jours au stade floraison (T2). Les incidences de ce traitement sur le potentiel hydrique foliaire, les échanges gazeux, le volume racinaire, les teneurs en proline, en amidon et en protéines totales des feuilles, le rendement maximal photochimique (fp0) et les composantes de rendement ont été déterminées. Le potentiel hydrique n'a significativement baissé que chez Mouride et TN88-63 (de -0,55 à -0,92 MPa en moyenne) stressés en floraison, tandis que le volume racinaire, les échanges gazeux, ainsi que la teneur en amidon ont été significativement réduits chez les 5 variétés en conditions de stress aux 2 stades. (fp0) n'a pas été affecté par le stress en phase végétative. En phase floraison il a significativement baissé dès le 6e jour d'application chez Gorom, KVX61-1 et TN88-63 et au 10e chez Bambey 21 et Mouride. Une accumulation significative de la proline due au déficit hydrique a été observée chez les 5 variétés en phase T1 et T2, Mouride et TN88-63 ont les teneurs les plus élevées (respectivement 2,9 et 3,3 mg.g-1 MS) en phase floraison. La teneur en protéines totales n'a pas été significativement modifiée par le stress aux 2 stades. Nos résultats ont montré que les 5 variétés ont évité la déshydratation en baissant la conductance stomatique et la transpiration lors du stress en T1 et T2.

L'accumulation de la proline, le maintien de la teneur en protéines totales et la baisse de la teneur en amidon chez les 5 génotypes en conditions de stress aux 2 stades pourraient contribuer au maintien de la turgescence cellulaire. En outre, ces solutés permettraient de protéger l'appareil photosynthétique (PSII) contre la dénaturation notamment durant le stress en floraison. Le nombre de graines par gousse et le nombre de graines par plante ont été réduits en conditions de déficit hydrique, la différence variétale observée a montré que Bambey 21 a été moins affecté que Gorom, TN88-63 et Mouride tandis que KVX61-1 s'est révélée la plus sensible. Bambey 21 s'est montrée tolérante au stress durant les 2 stades, Gorom, Mouride et TN88-63 ont été intermédiaires tandis que KVX61-1 a été la plus sensible. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://popups.ulg.ac.be/Base/document.php?id=968 Dk : 543303

12 - Havard M., Vall E., Njoya A., Fall A.
La traction animale en Afrique de l'Ouest et du centre. *Travaux et innovations 2007 n 141 28-31*
Une exploitation agricole moyenne se compose de 6 personnes (3 actifs), cultive 2,2 ha, possède 1 bovin, 4 petits ruminants, 0,4 bovin de trait et 0,45 charrue. Les rendements sont relativement faibles: 950 kg/ha de coton, 2 100 kg/ha de maïs, 850 kg/ha de sorgho et 1 800 kg/ha d'arachide coque. La fumure minérale est utilisée surtout sur coton (110 kg/ha de NPK, et 25 kg/ha d'urée) et mais (90 kg/ha de NPK, 80 kg/ha d'urée). La valeur monétaire des productions (vente, autoconsommation, dons) et des activités est estimée à 886 € par exploitation par an, dont 80% pour les productions végétales, 5% pour l'élevage, 15% pour les activités extra-agricoles. L'assolement se compose de 30% de coton, 55% de céréales (sorgho, mals et riz), 12% de légumineuses (arachide, niébé), 3% d'autres cultures (oignon, manioc, cultures légumières). (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 542274

30 - Dabire A.P., Hien V., Kisa M., Bilgo A., Sangare K.S., Plenchette C., Galiana A., Prin Y., Duponnois R.
Responses of soil microbial catabolic diversity to arbuscular mycorrhizal inoculation and soil disinfection. *Mycorrhiza 2007 vol.17:n 6 537-545*
Although it is usually admitted that arbuscular mycorrhizal (AM) fungi are key components in soil bio-functioning, little is known on the response of microbial functional diversity to AM inoculation. The aims of the present study were to determine the influence of Glomus intraradices inoculum densities on plant growth and soil microflora functional diversity in autoclaved soil or non-disinfected soil. Microbial diversity of soil treatments was assessed by measuring the patterns of in situ catabolic potential of microbial communities. The soil disinfection increased sorghum growth, but lowered catabolic evenness (4.8) compared to that recorded in the non-disinfected soil (6.5). G. intraradices inoculation induced a higher plant growth in the autoclaved soil than in the non-disinfected soil. This AM effect was positively related to inoculum density. Catabolic evenness and richness were positively correlated with the number of inoculated AM propagules in the autoclaved soil, but negatively correlated in the non-disinfected soil. In addition, after soil disinfection and AM inoculation, these microbial functionality indicators had higher values than in the autoclaved or in the non-disinfected soil without AM inoculation. These results are discussed in relation to the ecological influence of AM inoculation, with selected fungal strains and their associated microflora on native soil microbial activity. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,077
http://dx.doi.org/10.1007/s00572-007-0126-5 Dk : 541895

31 - Ribolzi O., Karambiri H., Bariac T., Benedetti M., Caquineaux S., Descloitres M., Aventurier A.
Mechanisms affecting stormflow generation and solute behaviour in a Sahelian headwater catchment. *Journal of Hydrology 2007 vol.337:n 1-2 104-116*
The aim of this study was to analyse stormflow processes and the behaviour of solutes therein (Ca2+, Mg2+, Na+, K+, alkalinity, NO-3 , S24-, Cl-, Si), during flood events in tropical semi-arid conditions. The study site was a small Sahelian catchment (1.4 ha) located in northern Burkina Faso. Runoff and rain water was sampled over a 2-year period (1999 and 2000). In addition to dissolved load, suspended load was measured in the stream water collected at the outlet of the catchment. Isotopic tracing using ô180 was also conducted during two very different flood events. The results indicated that: (i) event water was

by far the major contributor to the stream stormflow, with Hortonian overland flow being the main stormflow process at work; (ii) a small fraction of pre-event soil water may have contributed during the recession of heavy flood with wet antecedent conditions; (iii) solute concentrations were higher in runoff compared to rainwater. With the exception of NO-3 and Cl-, the highest concentrations were measured at the onset of floods, and almost always decreased during the rising stage of the hydrographs; (iv) a good correlation was found between suspended load and the concentrations of Ca2+, Mg2', alkalinity and Si. It was concluded that fast physico-chemical interactions between event water and reactive suspended phases may explain most of the chemical changes between rainwater and floodwater.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,161
http://dx.doi.org/10.1016/j.jhydrol.2007.01.019 Dk : 538746

32 - Thevenon S., Dayo G.-K., Sylla S., Sidibé I., Berthier D., Legros H., Boichard D., Eggen A., Gautier M.
The extent of linkage disequilibrium in a large cattle population of western Africa and its consequences for association studies. *Animal genetics 2007 vol.38:n 3 277-286*
Several previous studies concluded that linkage disequilibrium (LD) in livestock populations from developed countries originated from the impact of strong selection. Here, we assessed the extent of LD in a cattle population from western Africa that was bred in an extensive farming system. The analyses were performed on 363 individuals in a Bos indicus x Bos taurus population using 42 microsatellite markers on BTA04, BTA07 and BTA13. A high level of expected heterozygosity (0.71), a high mean number of alleles per locus (9.7) and a mild shift in Hardy-Weinberg equilibrium were found. Linkage disequilibrium extended over shorter distances than what has been observed in cattle from developed countries. Effective population size was assessed using two methods; both methods produced large values: 1388 when considering heterozygosity (assuming a mutation rate of 10-3) and 2344 when considering LD on whole linkage groups (assuming a constant population size over generations). However, analysing the decay of LD as a function of marker spacing indicated a decreasing trend in effective population size over generations. This decrease could be explained by increasing selective pressure and/or by an admixture process. Finally, LD extended over small distances, which suggested that whole-genome scans will require a large number of markers. However, association studies using such populations will be effective. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,640
http://dx.doi.org/10.1111/j.1365-2052.2007.01601.x Dk : 540376

33 - Toguyeni A., Thevenon S., Soara E., D'Cotta H., Baroiller J.-F., Rognon X.
Genetic structure of domestic and natural populations of the Nile tilapia, #Oreochromis niloticus# in Burkina Faso, West Africa : [Abstract]. *Aquaculture 2007 vol.272:suppl.1 S314-S315*
The present study is part of an aquaculture developmental program held in Burkina Faso. The final aim is to generate a genetic selection program for an Oreochromis niloticus strain presenting good performances in both growth and reproduction. A characterization of the genetic diversity within and between wild and domestic populations was performed using Restricted Fragment Length Polymorphism (RFLP) of the mitochondrial DNA (mtDNA). Muscle or fins were sampled from 142 individuals in 7 different sites on the 3 main hydro-graphic basins of Burkina Faso (Comoé, Volta and Niger). DNA was extracted using a commercial kit (Promega). The fragment Nd-5/6 (2 500 bp) of mtDNA was amplified by PCR using primers C-GLU and C-LEU3. The amplified products were then digested using one of the six following restriction enzymes: AluI, HaeIII, HinfI, HpaII, RsaI, and Taq I. Haplotype frequencies of the mtDNA per population were calculated from the mtDNA data. When using TaqI, we obtained 4 haplotypes in the basin of Comoé, 3 in that of Volta and only one in the basin of Niger. While the haplotype B is fixed in the Niger basin and the haplotype C dominants in the Comoé basin, haplotype A is only found in the Volta basin. Within the Volta basin, we observed differences in the C haplotype frequencies when we compared the domesticated Bazèga population with the wild population of Bama. The populations of Bazèga could have been introgressed by those coming from Kompienga as the frequency of haplotype C is higher in the Kompienga population, also visible in the Bazèga population. It appears that some individuals of Kompienga population are also maintained in the same rearing station of Bazèga. This distribution revealed heterogeneity of the Oreochromis niloticus populations of Burkina Faso. A larger number of individuals are being analysed presently with Taq I in order to validate these results. Further

studies will consider the possible association of these genetic population differences, with growth and reproduction performances. (Texte intégral)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,735
http://dx.doi.org/10.1016/j.aquaculture.2007.07.194 Dk : 542063

34 - Hamidou F., Zombre G., Braconnier S.
Physiological and biochemical responses of cowpea genotypes to water stress under glasshouse and field conditions. *Journal of agronomy and crop science 2007 vol.193:n 4 229-237*
Five cowpea genotypes, Gorom local (Go), KVX61-1 (KV), Mouride (Mo), Bambey 21 (B21) and TN88-63 (TN), differing in their susceptibility to water stress, were studied under glasshouse and field conditions, to determine their physiological, biochemical and agronomic responses to water deficit at flowering stage. Effect of water deficit on leaf water potential ([psi]l), canopy temperature, gaseous exchange, leaf proline content, total protein and starch contents, maximal quantum yield ([phi]po) and yield components was examined. Water deficit significantly increased the canopy temperature and the proline content of the five genotypes while [psi]l, gaseous exchanges, [phi]po and starch content decreased significantly. Yield components, with the exception of seed number per pod, of the five genotypes, were also significantly affected. Under glasshouse and field conditions, the results showed that stomatal closure is the common strategy used by the five genotypes to avoid dehydration. Go, Mo and TN tolerated water stress better than B21 and KV. Furthermore, Go and Mo recovered more rapidly after rewatering than B21 and KV. These latter genotypes are revealed to be sensitive with low recovery capacity. The results suggest that the maintenance of net photosynthesis and solute accumulation seem to be traits conferring water stress tolerance in Go, Mo and TN. These traits and recovery capacity could be valuable selection criteria for higher yields under water deficit conditions. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,891
http://dx.doi.org/10.1111/j.1439-037X.2007.00253.x Dk : 540879

35 - Vall E., Djamen P., Havard M., Roesch M.
Investir dans la traction animale : le conseil à l'équipement. *Agricultures 2007 vol.16:n 2 93-100*
Les producteurs sont demandeurs d'un conseil à l'équipement en traction animale pour évaluer la faisabilité de leurs projets d'investissement et de leurs conséquences sur l'exploitation agricole. Le conseil à l'équipement expérimenté au Nord-Cameroun comprend trois phases: 1) le diagnostic global de l'exploitation pour préciser les contours du projet de traction animale du producteur; 2) l'analyse fine des pratiques de gestion de trésorerie pour effectuer le montage financier du projet dont la capacité d'autofinancement est un élément déterminant; 3) le suivi pour analyser les conséquences sur l'exploitation agricole, procéder à des ajustements et identifier de nouveaux projets. Les données sont collectées durant une année (de la récolte N à la récolte N + 1) et traitées avec le producteur. La co-construction du projet de traction animale sur plusieurs mois permet de l'affiner. Cette démarche permet aussi d'analyser les pratiques de gestion de l'exploitation et d'accéder au fonctionnement de l'unité de production. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,128
http://www.jle.com/fr/revues/agro_biotech/agr/e-docs/00/04/2E/62/article.md?type=text.html Dk : 538759

AXE 1 DIR2 COTE D'IVOIRE (9) 36, 37, 38, 39, 40, 41, 42, 43, 46

36 - Billotte N., Amblard P., Durand-Gasselin T., Flori A., Nouy B., Potier F., Richaud F., Rival A., Beulé T., Morcillo F., Adon B., Jourjon M.F., Mangin B., Aberlenc Bertossi A., Adam H.
Biotecnología en la palma de aceite en el Cirad : Mejoramiento y produccion de semilla. *Palmas 2007 vol.28:n Spec 123-143*
CIRAD and its French partner IRD are being implementing a long-term multi-stage project towards the marker-assisted selection of the oil palm (E. guineensis Jacq.) in order to make optimum use of the existing network of field genetic experiments while capitalising upon recent advances in plant biotechnology. Classical molecular breeding projects are originally combined with novel tools, for the cloning and tagging of key agronomic genes, such as: (i) EST (Expressed Sequence Tag) of cDNA sequences, (ii) physical mapping of BAC clones, (iii) cDNA-AFLP mapping, (iv) differential analysis of cDNAs, (v) macro- and micro-arrays technology. A network of field methodological trials is being

established in order to validate QTL/gene markers, to implement marker-assisted selection strategies and to pursue physical mapping towards the characterisation, cloning and tagging of useful genes. In parallel, the CIRAD-IRD team is exploring the molecular mechanisms underlying the oil palm somatic embryogenesis and mantled somaclonal variation. The development of a regeneration protocol based on the use of embryogenic cell suspensions and physiology results has provided a method which allows the production on a large scale of single somatic embryos displaying structural similarities with zygotic seed embryos. In order to establish an early clonal conformity testing procedure, molecular studies were carried out on both genomic DNA methylation changes and gene expression induced by tissue culture. Efforts will now being directed towards the exploitation of this new knowledge in the development of clonal conformity tests. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 543148

37 - Konan E.K., Durand-Gasselin T., Kouadio J.Y., Niamké A.C., Dumet D., Duval Y., Rival A., Engelmann F.
Field development of oil palms #Elaeis guineensis# Jacq. originating from cryopreserved stabilized polyembryonic cultures. *CryoLetters 2007 vol.28:n 5 377-386*
In this paper, the long term observation of plants originating from control and cryopreserved stabilized polyembryonic cultures (SPCs) of six elite oil palm clones was carried out. Survival of plantlets in the nursery was monitored, then a series of vegetative and floral characteristics of over 440 palms were studied for up to 12 years after field transfer in Côte d'Ivoire. The six clones tested showed an average recovery of 34% after freezing in liquid nitrogen. The average survival in the nursery of plantlets originating from pretreated and dehydrated and from cryopreserved SPCs was higher than that of control SPCs. Palm trees originating from control SPCs were found to flower earlier than those originating from pretreated and dehydrated and from cryopreserved SPCs. This delay in flowering disappeared progressively and all palms had flowered 3 years after planting regardless of the SPC treatment. Abnormal palms were observed in one clone only. With this clone, the percentage of abnormal palms originating from cryopreserved SPCs was significantly lower (5%) than that measured on palms originating from control SPCs (29%). (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,141
http://www.cryoletters.org/Abstracts/vol_28_5_2007.htm Dk : 541685

38 - Konan E.K., Kouadio J.Y., Flori A., Durand-Gasselin T., Rival A.
Evidence for an interaction effect during in vitro rooting of oil palm (#Elaeis guineensis# Jacq.) somatic embryo-drived plantlets. *In vitro cellular and developmental biology. Plant 2007 vol.43:n 5 456-466*
In vitro rooting of oil palm shoots derived from somatic embryos was achieved through a single-phase protocol in which three shoots are cultured in the same culture tube on an [alpha]-naphtaleacetic acid-enriched culture medium. Rooting performance was dependent on both the genetic origin and initial size of the shoot explants. All shoots from a given tube showed a tendency to give roots of the same type, independent of the original size of the explant. Whatever the clonal line, longer-size shoots (L-type: >9 cm) showed higher rooting rates than medium-size (M-type: 7-9 cm) and short-size ones (S-type: 5-7 cm). When groups of three shoots from the same clonal line were rooted together in the same culture tube, the combination of plant size within the group impacted overall quality of rooting. Within triplets of shoots containing more than one short individual, the probability of obtaining adequate rooting was low. Similarly, when more than one long shoot was included in the triplet rooting, quality was also poor. By avoiding such combinations, the rate of well-rooted plantlets increased by 25%, with a maximum of 66% when triplets of S/M/L combination were used. Smaller shoots, which usually showed poor rooting performance, were therefore found to benefit from the presence of their neighbors. This interaction between the sizes of individuals in a given tube was found to be associated with a within-tube correlation effect, a phenomenon previously described as "event coupling," which was estimated using a distorted binomial-type distribution of probabilities. The resulting calculation of a coupling factor (average r=0.60) explains the behavior of shoots within the same culture tube and their average rooting performance. Modeling of the interactions that occurred during in vitro rooting is described here and is recommended for improvement of this critical step in micropropagation. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,548

http://dx.doi.org/10.1007/S11627-007-9093-y Dk : 542277

39 - Lidah Yehili, N'Guetta Assanvo S.-P., Gnagne M.Y., Blanc G., Rodier-Goud M., Clément-Demange A., Seguin M., Fanjavola M.
Flux de gènes dans un verger à graines d'hévéas sauvages (#Hevea brasiliensis# Müll. Arg.). *Agricultures 2007 vol.16:n 3 177-184*
Un verger à graines d'hévéas a été mis en place en Côte d'Ivoire afin d'utiliser la pollinisation naturelle pour la recombinaison de deux groupes de ressources génétiques sauvages dans une perspective de sélection récurrente et d'amélioration de populations. L'étude des flux de gènes associés aux mouvements du pollen a été basée sur une analyse de paternité grâce à l'emploi de huit marqueurs microsatellites. Elle a montré que l'allofécondation est très importante et stable quelle que soit l'année. Les distances séparant les arbres ne semblent pas constituer un facteur limitant de la recombinaison. La pollinisation à partir des arbres pollinisateurs s'est faite dans toutes les directions sans privilégier le sens des vents dominants. Ces observations confirment le caractère entomophile de la pollinisation chez l'hévéa. L'un des deux groupes génétiques a prédominé dans la pollinisation du verger. Ce résultat est apparu comme le facteur essentiel à prendre en compte pour l'organisation de la recombinaison et l'évaluation des descendances. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,128
http://dx.doi.org/10.1684/agr.2007.0101 Dk : 539173

40 - Tahi G.M., Kébé I., Sangaré A., Cilas C., Eskes A.
Foliar resistance of cacao (#Theobroma cacao#) to #Phytophthora palmivora# as an indicator of pod resistance in the field : the effect of light intensity and time of day of leaf collection. *Plant pathology 2007 vol.56:n 2 219-226*
Resistance of cacao leaves to Phytophthora palmivora was studied with regard to the time of leaf collection (morning, afternoon) and the degree of exposure of the leaves to light in the field (low, medium and high). The efficiency of leaf disc inoculations in predicting field resistance of nine clones was compared with that of detached and attached pod inoculations. Significant effects were observed, with leaves exposed to high light intensity and collected early in the afternoon showing highest susceptibility. The effect of time of leaf collection was reduced when leaves were stored overnight and leaf discs prepared and inoculated the following day, as compared to inoculations on the day of collection. Interactions between the main factors were significant, though less substantial than the clone effects. The most significant correlations with pod resistance (r = 0.70 to 0.97) were obtained for leaves collected early in the morning and exposed to intermediate shade conditions in the canopy. For other treatments, the correlations with pod resistance were still positive (r = 0.23 to 0.83) but often not significant. Pod inoculations in the laboratory were better correlated with field resistance (r = 0.92) than pod inoculations in the field (r = 0.72). Detached pod inoculations were also better correlated with leaf disc inoculations than those of attached pods. The results confirm the validity of laboratory inoculations of leaves and pods to assess field resistance to Phytophthora. Standardization of the leaf disc test is essential to obtain reliable results. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,012
http://dx.doi.org/10.1111/j.1365-3059.2006.01547.x Dk : 539112

41 - Tahi G.M., N'Goran J.A.K., N'Da A.B., Eskes A.
Comparison of methods to obtain twin seedlings by splitting of cocoa seeds. *Ingenic newsletter 2007 n 11 22-28*
Articles publiés dans une revue sans comité de lecture
Dk : 543860

42 - Nyassé S., Efombagn M.I.B., Kébé B.I., Tahi G.M., Despréaux D., Cilas C.
Integrated management of #Phytophthora# diseases on cocoa (#Theobrama cacao# L.) : impact of plant breeding on pod rot incidence. *Crop protection 2007 vol.26 40-45*
Pod rot, caused by several species belonging to the genus Phytophthora, is the main cause of cocoa harvest losses worldwide. Among the methods making up integrated disease management (IDM), the creation of resistant cultivars has been identified as a priority in cocoa breeding research programmes. To that end, various experiments have enhanced knowledge about the genetic basis of resistance to pod rot.

Genetic trials conducted in Cameroon, Ivory Coast and Togo indicated that genetic x environment interactions were relatively low. Rankings of progenitors tested were stable in different conditions, from one country to another. The greater the number of years of field observations, the higher the heritability of the pod rot resistance trait. A protocol for early evaluation of disease resistance on leaf discs has been developed and validated for the selection of more resistant families. The leaf disc test developed was well correlated at the genetic level to the pod test previously used. Heritability of mean disease scores obtained with the leaf disc test after several inoculation rounds is similar to the one of pod rot rate in the field after several years of observations. The potential use of the leaf disc test as breeding tool and its impact on the genetic improvement of black pod resistance are discussed. (c) 2006 Elsevier Ltd. All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,129
http://dx.doi.org/10.1016/j.cropro.2006.03.015 Dk : 535276

43 - Tahi G.M., N'Goran J.A.K., Sounigo O., Lachenaud P., Eskes A.
Efficacy of simplified methods to assess pod production in cocoa breeding trials. *Ingenic newsletter 2007 n 11 7-11*
Articles publiés dans une revue sans comité de lecture
Dk : 543863

46 - Konan K J.N., Koffi Kouablan E., Konan J.-L., Lebrun P., Dery S.K., Sangare A.
Microsatellite gene diversity in coconut (#Cocos nucifera# L.) accessions resistants to lethal yellowing disease. *African journal of biotechnology 2007 vol.6:n 4 341-347*
One of the problems faced in coconut cultivation is the lethal yellowing disease. Experimental trials, conducted in endemic region, showed that the Vanuatu Tall and Sri-Lanka Green Dwarf genotypes were tolerant while the West African Tall appeared susceptible to the lethal yellowing disease. Genetic differences between these tolerant genotypes and the susceptible ones were evaluated using twelve microsatellite markers. This work aimed to use identified materials as reference to select suitable parents for gene mapping studies. A total of 58 alleles were detected at the 12 microsatellite loci. The number of alleles varied from 3 to 7, with an average of 4.83 alleles. The Fst index revealed that 59.70% of the total allele variability explained differences between the three accessions. Genotypes of West African Tall, susceptible to the lethal yellowing disease, were less genetically clustered to the genotypes of the two tolerant accessions. This differentiation was based on specific alleles and frequency variation of shared allele in the three accessions. This molecular typology was useful as reference for large molecular screening of coconut genetic resources and the identification of suitable parents for the development of mapping populations for tagging the lethal yellowing resistance genes. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,456
Dk : 541932

AXE 1 DIR2 GHANA (3) 44, 45, 46

44 - Andoh-Mensah E., Philippe R., Owusu Nipah J.
Preliminary investigation of poor nut yield performance of Sri Lanka Green Dwarf in the coconut belt of South - Western Ghana. *Cord 2007 vol.23:n 1 26-31*
A lethal yellowing disease known locally as Cape Saint Paul Wilt Disease (CSPWD) has brought the coconut industry in Ghana under a serious threat due to its devastating effect. The Sri Lanka Green Dwarf (SGD) is so far the only coconut ecotype identified to have shown least susceptibility to the disease. However, in the coconut belt of South - Western Ghana, where the SGD is mainly found, this coconut ecotype has a general problem of low nut yield and wide variability in nut load. A phenomenon that does not auger well for any hybridization programme involving the ecotype. Consequently, between August 2003 and March 2004 an investigation was carried out into the problem of low yield and large variability of nut load in the SGD. Soil and leaf samples were taken from SGD plots in South - Western Ghana and analysed. Nut count was carried out to estimate annual nut load per tree. Pest survey and identification were also done. Results indicated nutritional/soil factors especially K deficiency or pest damage particularly due to Pseudoptheraptus devastans (coconut bug) or a combination of the two as being largely responsible for the low yield and wide variability in nut load. Oecophylla longinoda (red ant)

was confirmed as the natural enemy of the coconut bug during the study. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 543537

45 - Philippe R., Nkansah Poku J., Fabre S., Quaicoe R.N., Pilet F., Dollet M.
Search for the vector of Cape Saint Paul wilt (coconut lethal yellowing) in Ghana. *Bulletin of Insectology 2007 vol.60:n 2 179-180*
Phytoplasmas are associated to coconut lethal yellowing disease in several tropical and sub-tropical areas of the world and many coconut palms have been destroyed by this disease. A report of more than 15 years of search to detect insect vector(s) of coconut lethal yellowing disease (Cape Saint Paul wilt - CSPW) in Ghana is presented. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,381
http://www.bulletinofinsectology.org/pdfarticles/vol60-2007-179-180philippe.pdf Dk : 542910

46 - Konan K J.N., Koffi Kouablan E., Konan J.-L., Lebrun P., Dery S.K., Sangare A.
Microsatellite gene diversity in coconut (#Cocos nucifera# L.) accessions resistants to lethal yellowing disease. *African journal of biotechnology 2007 vol.6:n 4 341-347*
One of the problems faced in coconut cultivation is the lethal yellowing disease. Experimental trials, conducted in endemic region, showed that the Vanuatu Tall and Sri-Lanka Green Dwarf genotypes were tolerant while the West African Tall appeared susceptible to the lethal yellowing disease. Genetic differences between these tolerant genotypes and the susceptible ones were evaluated using twelve microsatellite markers. This work aimed to use identified materials as reference to select suitable parents for gene mapping studies. A total of 58 alleles were detected at the 12 microsatellite loci. The number of alleles varied from 3 to 7, with an average of 4.83 alleles. The Fst index revealed that 59.70% of the total allele variability explained differences between the three accessions. Genotypes of West African Tall, susceptible to the lethal yellowing disease, were less genetically clustered to the genotypes of the two tolerant accessions. This differentiation was based on specific alleles and frequency variation of shared allele in the three accessions. This molecular typology was useful as reference for large molecular screening of coconut genetic resources and the identification of suitable parents for the development of mapping populations for tagging the lethal yellowing resistance genes. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,456
Dk : 541932

AXE 1 DIR2 MALI (9) 4, 5, 26, 27, 47, 48, 49, 50, 51

4 - Rey J.-Y., Diallo T.M., Vannière H., Didier C., Kéita S., Sangaré M.
The mango in French-speaking West Africa : varieties and varietal composition of the orchards; variétés et composition variétale des vergers; variedades y composicion varietal de los huertos. *Fruits 2007 vol.62:n 1 57-73*
Introduction. Le manguier est l'un des arbres fruitiers les plus répandus en Afrique de l'Ouest. Un historique de son introduction dans la zone a été publié récemment. Pour faire suite à ce document, l'analyse présentée a été consacrée aux principales variétés qui y sont cultivées aujourd'hui et à l'impact des facteurs historiques et commerciaux sur la composition variétale des vergers. Quelques définitions. En préalable à un inventaire des variétés, certains termes permettant de les caractériser ont été précisés (précocité, monoembryonie et polyembryonie) et quelques informations sur l'origine des variétés floridiennes ont été fournies. Les principales variétés cultivées en Afrique de l'Ouest. Quatre catégories ont été distinguées : les variétés de mangues locales ou polyembryonnées (mangots, mangue du Cameroun), les premières variétés monoembryonnées propagées par greffage (Amélie, Julie, Sabot, Djibelor, Cuisse Madame), les variétés floridiennes, également monoembryonnées et propagées par greffage, introduites plus tardivement et utilisées soit pour l'exportation (Kent, Keitt, Palmer, Zill, Valencia, Smith, Irwin, Haden), soit pour les marchés régionaux (Brooks, Davis-Haden, Miami Late, Springfels, Beverly, Eldon, Ruby). Chaque variété a été décrite, de même ses caractéristiques culturales et ses débouchés. La composition des vergers de manguiers greffés. La composition des vergers greffés est influencée par l'évolution historique et la destination des fruits qui peuvent être autoconsommés, vendus sur le marché local, national ou sous-régional, exportés sur le marché international ou transformés dans

des unités artisanales ou industrielles. Cette composition a été précisée pour la Guinée, le Mali, le Burkina-Faso, la Côte d'Ivoire, le Sénégal et le Togo. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2006051 Dk : 537356

5 - Vannière H., Didier C., Rey J.-Y., Diallo T.M., Kéita S., Sangaré M.
The mango in French-speaking West Africa : cropping systems and agronomical practices; les systèmes de production et les itinéraires techniques; sistemas de produccion e itinerarios técnicos. *Fruits 2007 vol.62:n 3 187-201*
Introduction. Les systèmes de production du manguier en Afrique de l'Ouest sont très variés. Chacun d'eux s'est développé dans un contexte spécifique où l'itinéraire technique et la composition variétale des plantations contribuent à la diversité observée. L'étude entreprise devrait permettre de mieux comprendre l'influence des débouchés potentiels sur l'évolution de cette filière horticole. Les principaux systèmes de plantation. Dans la région étudiée, l'essentiel des vergers de manguiers exploités a moins de 10 ha; leur production est extensive et utilise peu d'intrants. Ils appartiennent en majorité à des planteurs dont l'activité principale est centrée sur l'agriculture. Certaines plantations proches de 100 ha, trouvées au Sénégal ou en Côte d'Ivoire, appartiennent à des exportateurs et bénéficient d'un encadrement technique. Les itinéraires techniques. L'étude des itinéraires techniques utilisés en vergers de manguiers en Afrique de l'Ouest a permis d'analyser les aspects de production de plants, choix du site, aménagement du verger avant plantation, plantation des et entretien des arbres, protection contre les incendies, alimentation hydrique, ainsi que l'effet du marché d'exportation sur le choix variétal et l'offre variétale au cours d'une campagne de récolte. Maladies et ennemis. Un inventaire des problèmes pathologiques et des maladies physiologiques susceptibles de dévaloriser la production a été effectué. Commercialisation. Cette partie a permis de distinguer les exportations intercontinentales, nécessitant une organisation spécifique de la récolte et du conditionnement, et les marchés locaux, nationaux et régionaux. La transformation. Aujourd'hui, la part des mangues transformées en Afrique de l'Ouest n'utilise qu'une proportion infime de la production totale. Conclusion et perspectives. À côté d'une production traditionnelle qui présente des signes de fragilité apparaissent des vergers modernes. Plus qu'une intensification des vergers, par ailleurs nécessaire, une rationalisation des pratiques agronomiques, de la protection phytosanitaire, de la récolte ou de la manipulation des fruits est incontournable. En aval, la filière d'exportation se trouve confrontée à une évolution rapide des réglementations exogènes, basées sur des normes qualitatives et sanitaires de plus en plus strictes. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2007014 Dk : 539306

26 - Vayssières J.-F., Sanogo F., Noussourou M.
Inventory of the fruit fly species (Diptera: Tephritidae) linked to the mango tree in Mali and tests of integrated control. *Fruits 2007 vol.62:n 5 329-341*
Au Mali, la production annuelle de mangues est estimée à 100 000 t. Du fait de problèmes structurels et phytosanitaires principalement liés à l'action des mouches des fruits, rarement plus de 1% de cette production est exporté. L'objectif principal de cette étude a été de mettre au point une lutte raisonnée contre les Tephritidae du manguier au Mali à l'aide de traitements par taches. L'un des préalables a été d'identifier les espèces responsables des dégâts dans les trois zones principales de production (Sikasso, Bougouni, Bamako). Matériel et méthodes. Des mangues appartenant aux principales variétés exportées ont été collectées de début avril à début octobre 2000 et mises en observation afin d'identifier les espèces de Tephritidae présentes dans les fruits. La pose de pièges à attractifs sexuels ou alimentaires a permis de suivre l'évolution et la constitution des populations de mouches des fruits dans les vergers des trois sites choisis. L'efficacité d'une méthode de traitement par taches pour lutter contre les cératites a été testée. Résultats et discussion. À partir des observations et de la détermination des adultes, six espèces de Tephritidae ont été mises en évidence. Parmi elles, Ceratitis cosyra (Walker), C. quinaria (Bezzi) et C. silvestrii Bezzi ont été les plus précoces et sont donc les plus préjudiciables. C. cosyra a représenté 86% de l'effectif total des mouches. Les espèces C. anonae, C. quinaria, C. fasciventris et C. ditissima ont été identifiées pour la première fois au Mali. Les dégâts dus aux Tephritidae en milieu de campagne ont avoisiné 50% de la production des variétés Kent et Keitt et dépassé 60% de celle de Brooks. Les 180 pièges mis en place sur les trois sites suivis ont permis de capturer 128 998 Tephritidae adultes

appartenant à treize espèces; les six espèces inféodées au manguier ont représenté 99% de cet effectif. Les traitements par taches effectués sur les trois sites expérimentaux ont donné des résultats encourageants, avec une réduction des dégâts d'environ 50% sur les parcelles traitées par rapport aux parcelles témoins. Conclusions. Pour prolonger l'action entreprise, il sera intéressant de confirmer et d'approfondir les résultats obtenus au cours des années à venir. La mise en place d'un projet régional de lutte contre les Tephritidae du manguier pour l'Afrique de l'Ouest serait fondamentale à moyen terme pour lutter contre de tels ravageurs qui sévissent à l'échelle de la sous-région. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2007029 Dk : 541127

27 - Lançon J., Wery J., Rapidel B., Angokaye M., Gérardeaux E., Gaborel C., Ballo D., Fadegnon B.
An improved methodology for integrated crop management systems. *Agronomy for sustainable development 2007 vol.27 101-110*
Designing innovative combinations of techniques to improve the sustainability of a cropping system is a major challenge in many regions of the world. The available techniques are often added together, and assessed for yield only, rather than combined in an integrated approach. We than developed here a methodology to design and assess a sustainable crop management system adapted to a specific set of constraints. Based on the prototyping approach, this methodology takes advantage of expert knowledge on cotton cropping techniques such as no-till, cover crop, varieties and growth regulator, with innovative potential but which are not yet properly simulated by actual crop models. It involves four successive steps: (1) identification of the local sets of constraints to crop production, and selection of relevant criteria for sustainability assessment, (2) elaboration of a cropping system prototype and its assessment indicators adapted to a target set of constraints, (3) on-station assessment and adjustment of the prototype, and (4) on-farm evaluation and adjustment of the prototype. We describe here the methodology, and how its first three steps were implemented lo build and test a prototype for late-planted cotton with low input availability in West Africa. A new cropping system was designed, which included new genotypes, increased plant stand, lower rates of fertilisers and the use of herbicides and growth regulators. Fourteen indicators were selected to assess the economic, environmental and social performance of the prototype. The prototype was then tested in Mali, Cameroon, and Benin in 2002 and 2003. Our findings show that this prototype improved farmers' income by about +35% in 2002 and +20% in 2003, and increased labour productivity by about +5 to +20%. It achieved a satisfactory environmental performance, similar to the control, with positive mineral balances. The prototype still requires extra labour, skill and money to implement, and therefore requires further adjustment. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,008
http://dx.doi.org/10.1051/agro:2006037 Dk : 538718

47 - Barrabé A., Rapidel B., Sissoko F., Traoré B.S., Wery J.
Elaboration and test of a decision rule for the application of mepiquat chloride on cotton in Mali. *European journal of agronomy 2007 vol.27 197-204*
Farmers often make complex management decisions during a cropping cycle. To design new cropping systems that go beyond standard setups and are better adapted to local constraints, agronomists must formalize these farmer's decisions into decision rules that can be tested and disseminated. In Mali, there has been a marked decrease in cotton productivity over the last 10 years, whereas the area planted with cotton has doubled. However, cropping recommendations remain almost the same throughout the country. Cotton researchers have been asked to put forward new technical proposals suited to a wider range of socio-economic and biophysical cropping conditions. The aim of this study was to develop a methodology to build a decision rule (DR) to help Malian farmers in making decisions on the use of growth regulators in cotton fields. In the first phase, a 2-year experiment was conducted in two experimental stations, under a wide range of cotton vegetative growth conditions, along with different stand densities and fertilization rates. Mepiquat chloride (MC) was applied to half of the plots, and its effects were then computed against selected vegetative growth indicators measured before the date of MC application. A DR was proposed on this basis. In the second phase, the DR was tested in a six-village experiment. MC was applied in plots on 15 farms in each village and its effects on yield were recorded. The results showed that is possible to build a DR for MC application based on LAI or aerial biomass indicators. The usual indicators, such as the five-node length technique, were not found to be useful. The response of cotton plots to MC for a given level of vegetative growth remained scattered, as other factors

probably interfered, such as the length of the rainy season. Testing the DR in farmers' fields showed that it was useful in determining appropriate MC applications. The usefulness of the DR is discussed on the basis of its accuracy and on the complexity of the selected indicator. (c) 2007 Elsevier B.V. All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,503
http://dx.doi.org/10.1016/j.eja.2007.04.001 Dk : 540683

48 - Clerget B., Rattunde H.F., Dagnoko S., Chantereau J.
An easy way to assess photoperiod sensitivity in sorghum: Relationships of the vegetative-phase duration and photoperiod sensitivity. [On line]. *Journal of SAT agricultural research 2007 vol.3:n 1 [4] p.*
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49 - Sagnard F., Pichot C., Dreyfus P., Jordano P., Fady B.
Modelling seed dispersal to predict seedling recruitment : Recolonization dynamics in a plantation forest. *Ecological modelling 2007 vol.203:n 3-4 464-474*
The extend to which seed dispersal influences seedling recruitment is of major importance for forest dynamics. In non-equilibrium situations, seed dispersal might be of even further importance as it is a major determinant of the rate and composition of secondary succession. We modelled primary seed dispersal in a planted pine-spruce stand intensively recolonized by Abies alba and Fagus sylvatica, an ecological situation commonly found throughout southern Europe.We then evaluated the role of primary seed dispersal in seedling emergence and recruited seedling density. Using a seed trap experiment and inverse modelling methods,we calibrated short- and medium-distance seed dispersal functions. The relationship between the density of dispersed seed, the density of emerging seedlings and microsite characteristics were assessed using generalized linear models. The cumulative distribution function of seedling-to-nearest-adult distances made it possible to test the concordance between seed rain patterns and seedling spatial distributions. Seed production was highly variable between years for A. alba and F. sylvatica. Seed dispersal was shown to be locally restricted (median dispersal distance of 13.2-19.2mfor A. alba depending on the year and 6.49mfor F. sylvatica). Model prediction was considerably increased when seed production was directly assessed (and not indirectly estimated using diameter, for example). The number of A. alba seedlings that emerged in 1999was positively correlated with the number of seeds dispersed in 1998 and with the local density of Picea abies adults, and negatively correlated with grass cover. The spatial distribution of seedlings was less aggregated around adult trees than expected from seed dispersal models, but significantly different from random beyond 6m to the nearest adult for F. sylvatica and 26m for A. alba. Thus, seed rain patterns are only partially responsible for recruitment dynamics in our model forest. Our study demonstrates that inverse modelling methods are well suited for the study of seed dispersal at the local scale, especially when a direct count of seed production can be made, and are therefore of particularly high interest in forests where several successional stages are present. (Résumé d'auteur)
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50 - Clerget B., Haussmann B.I.G., Boureima S.S., Weltzien E.
Surprising flowering response to photoperiod: Preliminary characterization of West and Central African pearl millet germplasm. [On line]. *Journal of SAT agricultural research 2007 vol.5:n 1 4 p.*
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51 - Ratnadass A., Cissé B., Cissé S., Cissé T., Hamada M.A., Letourmy P.
An on-farm study of #Striga# as constraint to improved sorghum cultivar production in Mali. [On line]. *Journal of SAT agricultural research 2007 vol.5:n 1 5 p.*
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AXE 1 DIR2 NIGER (3) 11, 34, 50

11 - Hamidou F., Zombre G., Diouf O., Diop N.N., Guinko S., Braconnier S.
Physiological, biochemical and agromorphological responses of five cowpea genotypes (#Vigna unguiculata# (L.) Walp.) to water deficit under glasshouse conditions. *Biotechnologie, agronomie, société et environnement 2007 vol.11:n 3 225-234*
Cinq variétés de niébé (Vigna unguiculata), Bambey 21, Gorom local, KVX61-1, Mouride et TN88-63, cultivées en pots en serre ont été soumises à un déficit hydrique par suspension d'arrosage pendant 14 jours en phase végétative (T1) et 12 jours au stade floraison (T2). Les incidences de ce traitement sur le potentiel hydrique foliaire, les échanges gazeux, le volume racinaire, les teneurs en proline, en amidon et en protéines totales des feuilles, le rendement maximal photochimique (fp0) et les composantes de rendement ont été déterminées. Le potentiel hydrique n'a significativement baissé que chez Mouride et TN88-63 (de -0,55 à -0,92 MPa en moyenne) stressés en floraison, tandis que le volume racinaire, les échanges gazeux, ainsi que la teneur en amidon ont été significativement réduits chez les 5 variétés en conditions de stress aux 2 stades. (fp0) n'a pas été affecté par le stress en phase végétative. En phase floraison il a significativement baissé dès le 6e jour d'application chez Gorom, KVX61-1 et TN88-63 et au 10e chez Bambey 21 et Mouride. Une accumulation significative de la proline due au déficit hydrique a été observée chez les 5 variétés en phase T1 et T2, Mouride et TN88-63 ont les teneurs les plus élevées (respectivement 2,9 et 3,3 mg.g-1 MS) en phase floraison. La teneur en protéines totales n'a pas été significativement modifiée par le stress aux 2 stades. Nos résultats ont montré que les 5 variétés ont évité la déshydratation en baissant la conductance stomatique et la transpiration lors du stress en T1 et T2. L'accumulation de la proline, le maintien de la teneur en protéines totales et la baisse de la teneur en amidon chez les 5 génotypes en conditions de stress aux 2 stades pourraient contribuer au maintien de la turgescence cellulaire. En outre, ces solutés permettraient de protéger l'appareil photosynthétique (PSII) contre la dénaturation notamment durant le stress en floraison. Le nombre de graines par gousse et le nombre de graines par plante ont été réduits en conditions de déficit hydrique, la différence variétale observée a montré que Bambey 21 a été moins affecté que Gorom, TN88-63 et Mouride tandis que KVX61-1 s'est révélée la plus sensible. Bambey 21 s'est montrée tolérante au stress durant les 2 stades, Gorom, Mouride et TN88-63 ont été intermédiaires tandis que KVX61-1 a été la plus sensible. (Résumé d'auteur)
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34 - Hamidou F., Zombre G., Braconnier S.
Physiological and biochemical responses of cowpea genotypes to water stress under glasshouse and field conditions. *Journal of agronomy and crop science 2007 vol.193:n 4 229-237*
Five cowpea genotypes, Gorom local (Go), KVX61-1 (KV), Mouride (Mo), Bambey 21 (B21) and TN88-63 (TN), differing in their susceptibility to water stress, were studied under glasshouse and field conditions, to determine their physiological, biochemical and agronomic responses to water deficit at flowering stage. Effect of water deficit on leaf water potential ([psi]l), canopy temperature, gaseous exchange, leaf proline content, total protein and starch contents, maximal quantum yield ([phi]po) and yield components was examined. Water deficit significantly increased the canopy temperature and the proline content of the five genotypes while [psi]l, gaseous exchanges, [phi]po and starch content decreased significantly. Yield components, with the exception of seed number per pod, of the five genotypes, were also significantly affected. Under glasshouse and field conditions, the results showed that stomatal closure is the common strategy used by the five genotypes to avoid dehydration. Go, Mo and TN tolerated water stress better than B21 and KV. Furthermore, Go and Mo recovered more rapidly after rewatering than B21 and KV. These latter genotypes are revealed to be sensitive with low recovery capacity. The results suggest that the maintenance of net photosynthesis and solute accumulation seem to be traits conferring water stress tolerance in Go, Mo and TN. These traits and recovery capacity could be valuable selection criteria for higher yields under water deficit conditions. (Résumé d'auteur)
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http://dx.doi.org/10.1111/j.1439-037X.2007.00253.x Dk : 540879

50 - Clerget B., Haussmann B.I.G., Boureima S.S., Weltzien E.

Surprising flowering response to photoperiod: Preliminary characterization of West and Central African pearl millet germplasm. [On line]. *Journal of SAT agricultural research 2007 vol.5:n 1 4 p.*
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AXE 1 DIR3 CAMEROUN (20) 12, 27, 28, 29, 35, 42, 43, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64

12 - Havard M., Vall E., Njoya A., Fall A.
La traction animale en Afrique de l'Ouest et du centre. *Travaux et innovations 2007 n 141 28-31*
Une exploitation agricole moyenne se compose de 6 personnes (3 actifs), cultive 2,2 ha, possède 1 bovin, 4 petits ruminants, 0,4 bovin de trait et 0,45 charrue. Les rendements sont relativement faibles: 950 kg/ha de coton, 2 100 kg/ha de maïs, 850 kg/ha de sorgho et 1 800 kg/ha d'arachide coque. La fumure minérale est utilisée surtout sur coton (110 kg/ha de NPK, et 25 kg/ha d'urée) et mais (90 kg/ha de NPK, 80 kg/ha d'urée). La valeur monétaire des productions (vente, autoconsommation, dons) et des activités est estimée à 886 € par exploitation par an, dont 80% pour les productions végétales, 5% pour l'élevage, 15% pour les activités extra-agricoles. L'assolement se compose de 30% de coton, 55% de céréales (sorgho, mals et riz), 12% de légumineuses (arachide, niébé), 3% d'autres cultures (oignon, manioc, cultures légumières). (Résumé d'auteur)
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Dk : 542274

27 - Lançon J., Wery J., Rapidel B., Angokaye M., Gérardeaux E., Gaborel C., Ballo D., Fadegnon B.
An improved methodology for integrated crop management systems. *Agronomy for sustainable development 2007 vol.27 101-110*
Designing innovative combinations of techniques to improve the sustainability of a cropping system is a major challenge in many regions of the world. The available techniques are often added together, and assessed for yield only, rather than combined in an integrated approach. We than developed here a methodology to design and assess a sustainable crop management system adapted to a specific set of constraints. Based on the prototyping approach, this methodology takes advantage of expert knowledge on cotton cropping techniques such as no-till, cover crop, varieties and growth regulator, with innovative potential but which are not yet properly simulated by actual crop models. It involves four successive steps: (1) identification of the local sets of constraints to crop production, and selection of relevant criteria for sustainability assessment, (2) elaboration of a cropping system prototype and its assessment indicators adapted to a target set of constraints, (3) on-station assessment and adjustment of the prototype, and (4) on-farm evaluation and adjustment of the prototype. We describe here the methodology, and how its first three steps were implemented lo build and test a prototype for late-planted cotton with low input availability in West Africa. A new cropping system was designed, which included new genotypes, increased plant stand, lower rates of fertilisers and the use of herbicides and growth regulators. Fourteen indicators were selected to assess the economic, environmental and social performance of the prototype. The prototype was then tested in Mali, Cameroon, and Benin in 2002 and 2003. Our findings show that this prototype improved farmers' income by about +35% in 2002 and +20% in 2003, and increased labour productivity by about +5 to +20%. It achieved a satisfactory environmental performance, similar to the control, with positive mineral balances. The prototype still requires extra labour, skill and money to implement, and therefore requires further adjustment. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,008
http://dx.doi.org/10.1051/agro:2006037 Dk : 538718

28 - Sêkloka E., Hau B., Gozé E., Lewicki S., Thomas G., Lançon J.
Effective flowering time variations in upland cotton (#Gossypium hirsutum#) at different planting dates and stand densities in Benin. *Experimental agriculture 2007 vol.43 173-182*
Effective flowering time in Gossypium hirsutum cotton plants was studied with the aim of enhancing decision making on the best varieties to plant according to the planting date under rainfed cropping conditions. Trials were conducted at two sites in a cotton-growing area of Benin in 2002 and 2003. A split-split plot design with three replicates was used to compare 10 cotton varieties, with different growth cycle

lengths and morphology, at three stand densities (42 000, 125 000, 167 000 plants ha-I) and two planting dates (standard planting in June and late planting). The flowering period was characterized by the mean first flower opening date (FF), which is an indicator of flowering earliness, and by the opening date of the last flower giving rise to a first-position boll on fruiting branches (LFP1). Effective flowering time (EFT) was calculated as the difference between LFP1 and FE EFTs differed markedly in the 10 cotton varieties tested and this parameter could not be predicted on the basis of flowering earliness. Late planting and high planting rates delayed first-flower opening, accelerated last-boll development and reduced the effective flowering time. This latter factor should be taken into account in cotton breeding programmes so that varieties adapted to local rainfall constraints can be recommended to growers while also enhancing crop management sequences. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,678
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29 - Sêkloka E., Lançon J., Hau B., Gozé E., Lewicki S., Thomas G.
A simple method for estimating the end of effective flowering in upland cotton (#Gossypium hirsutum#). *Experimental agriculture 2007 vol.43 163-171*
In cotton (Gossypium hirsutum), it is hard to determine the exact date when reproductive growth ceases on the basis of field observations, as compared to more visible factors such as the onset of flowering or boll opening. It is, however, essential to characterize the growth cycle in order to determine what varieties are suitable for planting in different climatic and local cropping conditions. We estimated the end of the effective flowering period on the basis of the opening date of the last flower giving rise to a first-position boll on fruiting branches (LFP1), and propose a simple method for estimating this date. This study, conducted in 2002 and 2003 at Okpara, Benin, involved a comparison of six cotton varieties planted at two different dates (June and July). Plants were monitored to determine the dates when flowers opened at each position on fruiting branches. The LFPI indicator made a clear distinction between varieties. This highly heritable trait, which was found to be closely correlated with other earliness criteria, could be used to characterize the length of the growth cycle in cotton varieties. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,678
http://dx.doi.org/10.1017/S001447970600456X Dk : 540669

35 - Vall E., Djamen P., Havard M., Roesch M.
Investir dans la traction animale : le conseil à l'équipement. *Agricultures 2007 vol.16:n 2 93-100*
Les producteurs sont demandeurs d'un conseil à l'équipement en traction animale pour évaluer la faisabilité de leurs projets d'investissement et de leurs conséquences sur l'exploitation agricole. Le conseil à l'équipement expérimenté au Nord-Cameroun comprend trois phases: 1) le diagnostic global de l'exploitation pour préciser les contours du projet de traction animale du producteur; 2) l'analyse fine des pratiques de gestion de trésorerie pour effectuer le montage financier du projet dont la capacité d'autofinancement est un élément déterminant; 3) le suivi pour analyser les conséquences sur l'exploitation agricole, procéder à des ajustements et identifier de nouveaux projets. Les données sont collectées durant une année (de la récolte N à la récolte N + 1) et traitées avec le producteur. La co-construction du projet de traction animale sur plusieurs mois permet de l'affiner. Cette démarche permet aussi d'analyser les pratiques de gestion de l'exploitation et d'accéder au fonctionnement de l'unité de production. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,128
http://www.jle.com/fr/revues/agro_biotech/agr/e-docs/00/04/2E/62/article.md?type=text.html Dk : 538759

42 - Nyassé S., Efombagn M.I.B., Kébé B.I., Tahi G.M., Despréaux D., Cilas C.
Integrated management of #Phytophthora# diseases on cocoa (#Theobrama cacao# L.) : impact of plant breeding on pod rot incidence. *Crop protection 2007 vol.26 40-45*
Pod rot, caused by several species belonging to the genus Phytophthora, is the main cause of cocoa harvest losses worldwide. Among the methods making up integrated disease management (IDM), the creation of resistant cultivars has been identified as a priority in cocoa breeding research programmes. To that end, various experiments have enhanced knowledge about the genetic basis of resistance to pod rot. Genetic trials conducted in Cameroon, Ivory Coast and Togo indicated that genetic x environment interactions were relatively low. Rankings of progenitors tested were stable in different conditions, from one country to another. The greater the number of years of field observations, the higher the heritability of

the pod rot resistance trait. A protocol for early evaluation of disease resistance on leaf discs has been developed and validated for the selection of more resistant families. The leaf disc test developed was well correlated at the genetic level to the pod test previously used. Heritability of mean disease scores obtained with the leaf disc test after several inoculation rounds is similar to the one of pod rot rate in the field after several years of observations. The potential use of the leaf disc test as breeding tool and its impact on the genetic improvement of black pod resistance are discussed. (c) 2006 Elsevier Ltd. All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,129
http://dx.doi.org/10.1016/j.cropro.2006.03.015 Dk : 535276

43 - Tahi G.M., N'Goran J.A.K., Sounigo O., Lachenaud P., Eskes A.
Efficacy of simplified methods to assess pod production in cocoa breeding trials. *Ingenic newsletter 2007 n 11 7-11*
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Dk : 543863

52 - Bakoumé C., Louise C.
Breeding for oil yield and short oil palms in the second cycle of selection at La Dibamba (Cameroon). *Euphytica 2007 vol.156:n 1-2 195-202*
Breeding in oil palm aims mainly at improving palm oil yield. Short palms are also desired because they are easy to harvest and increase the economic life of the plantation. A total of 23 progenies from Deli × La Mé and Deli × PO 1097 P (Yangambi) crosses were field tested at La Dibamba Oil Palm Research Centre in Cameroon from 1988 to 1998. Oil yield components were measured on per palm basis from 3 to 9 years after planting, and the vertical growth at 6 years after planting. The mean oil yield of the trial was average, representing 102% of the control (3.515 t/ha), and the mean height 6 years after planting was 101% that of the control (88.0 cm). The analysis of variance detected differences among progenies for various yield parameters and vertical growth. The comparison of means showed clear separation of groups of progenies for oil yield at the juvenile period (3-5 years after planting). At maturity (6-9 years after planting), the groups of progenies were overlapping indicating that progenies were comparable each other. However, four precocious progenies and high oil yielding at maturity (119-122% of the control) in absolute values can be released to planters. Though their vertical growth represented 116-127% of that of the control, short pisifera palm are expected from parental selfs or crosses given the intrinsic heterozygosity of oil palm. (Résumé d'auteur)
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http://dx.doi.org/10.1007/s10681-007-9366-x Dk : 543302

53 - Bakoumé C., Wickneswari R., Rajanaidu N., Kushairi A., Amblard P., Billotte N.
Diversidad alélica de poblaciones naturales de palma de aceite (#Elaeis guineensis# Jacq.) detectada por marcadores microsatelitales. Implicación en conservación. *Palmas 2007 vol.28:n Spec 149-158*
The allelic diversity within 49 populations representing ten African countries, three breeding materials and one semi-wild material was determined using 16 microsatellite loci. A total of 209 alleles was revealed. The number of alleles at the 16 loci ranged from 8 to 22 (mean = 13.1). Same rare alleles were found ($p < 0.05$) across populations from areas with dry weather irrespective to the country. Rare alleles in Deli MPOB, which were common in natural oil palm populations, denoted their reduction due to many years of selection. Mean number of alleles per locus (A) ranged from 1.1 to 6.7 (mean = 5.0 ± 1.7). The effective number of alleles (Ae) ranged from 1.1 ± 0.2 to 4.7 ± 1.7 (mean = 3.3 ± 1.3). The Duncan's multiple range test separated the group of populations from Madagascar from the rest for Ae. The groups of means overlapped for the rest of the populations. When absolute values where considered, the high Ae found in populations from Nigeria (106-143% of the mean Ae from this study) tended to diminish westwards and eastwards. Implication of the data obtained in the conservation of oil palm genetic resources is explored. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 543144

54 - Brévault T., Quilici S.

Visual response of the tomato fruit fly, #Neoceratitis cyanescens#, to colored fruit models. *Entomologia experimentalis et applicata 2007 vol.125 45-54*
To determine how mature females of the tomato fruit fly, Neoceratitis cyanescens (Bezzi) (Diptera: Tephritidae), detect host fruit after arriving in their host plant habitat, behavioral responses to colored models were observed in a laboratory flight chamber. Host-seeking females oriented themselves preferentially towards bright orange spheres (3.7 cm in diameter), irrespective of their natal host fruit: tomato, bug weed, or black nightshade. Females oriented themselves preferentially towards the orange sphere when placed against a fluorescent yellow background as opposed to a black background, but the distribution of responses to the set of colored spheres did not vary significantly with background color. In a choice situation between bright orange spheres of various sizes (1.9, 3.7, and 7.5 cm in diameter), females landed preferentially on the bigger sphere. However, they preferred a yellow color when the latter was associated with two-dimensional models, probably mimicking leaves. The attractiveness of orange spheres depended more on the proportion of reflected light in the spectral region around 610 nm than brightness of color in itself. Low light intensity significantly influenced the activity of the flies but not their visual preference. The strong response of females to bright orange spheres confirmed the importance of visual characteristics in short-range mechanisms of host-plant location in specialist insects. Responses to fruit visual stimuli are discussed relative to other Tephritidae, host-finding strategy, and pest management. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,483
http://dx.doi.org/10.1111/j.1570-7458.2007.00601.x Dk : 541788

55 - Brévault T., Quilici S.
Influence of habitat pattern on orientation during host fruit location in the tomato fruit fly, #Neoceratitis cyanescens#. *Bulletin of entomological research 2007 vol.97 637-642*
Fruit flies have evolved mechanisms using olfactory and visual signals to find and recognize suitable host plants. The objective of the present study was to determine how habitat patterns may assist fruit flies in locating host plants and fruit. The tomato fruit fly, Neoceratitis cyanescens (Bezzi), was chosen as an example of a specialized fruit fly, attacking plants of the Solanaceae family. A series of experiments was conducted in an outdoor field cage wherein flies were released and captured on sticky orange and yellow spheres displayed in pairs within or above potted host or non-host plants. Bright orange spheres mimicking host fruit were significantly more attractive than yellow spheres only when placed within the canopy of host plants and not when either within non-host plants or above both types of plants. Additional experiments combining sets of host and non-host plants in the same cage, or spraying leaf extract of host plant (bug weed) on non-host plants showed that volatile cues emitted by the foliage of host plants may influence the visual response of flies in attracting mature females engaged in a searching behaviour for a laying site and in assisting them to find the host fruit. Moreover, the response was specific to mature females with a high oviposition drive because starved mature females, immature females and males showed no significant preference for orange spheres. Olfactory signals emitted by the host foliage could be an indicator of an appropriate habitat, leading flies to engage in searching for a visual image. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,431
http://dx.doi.org/10.1017/S0007485307005330 Dk : 542215

56 - Chillet M., Hubert O., De Lapeyre de Bellaire L.
Relationship between physiological age, ripening and susceptibility of banana to wound anthracnose. *Crop protection 2007 vol.26:n 7 1078-1082*
Wound anthracnose caused by Colletotrichum musae is the main disease affecting the quality of export banana from the West Indies. Mountain-grown banana fruits are less affected by the disease than those grown in lowland areas. Little is known about the effects of fruit growth on the development of wound anthracnose. The results of our experiments revealed that as the physiological age increased, banana became more sensitive to C. musae. However, at the same physiological age, lowland banana were more susceptible than those grown in mountain banana plantations. Banana fruits that were the most susceptible to C. musae ripened the fastest as a result of rot development. Noted differences in wound anthracnose occurrence in lowland- and mountain-grown banana are discussed.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,129

http://dx.doi.org/10.1016/j.cropro.2006.09.012 Dk : 539120

57 - Mouen Bedimo J.A., Bieysse D., Cilas C., Notteghem J.-L.
Spatio-temporal dynamics of arabica coffee berry disease Caused by #Colletotrichum kahawae# on a plot scale. *Plant disease 2007 vol.91:n 10 1229-1236*
Coffee berry disease (CBD) is caused by Colletotrichum kahawae. This pathogen only attacks green berries; it causes cherry rot and premature fruit fall. The disease leads to major harvest losses in the western highland region of Cameroon. The origin of the primary inoculum and the beginning of epidemics are unknown. The interactions between the pathogen and its host were studied at locations where CBD was known to cause severe disease. The disease was monitored weekly in uniform plots of adjacent coffee trees at Santa (1,750 m) in 2003 and 2004 and Bafou (1,820 m) in 2004 and 2005. The logistic model provided good fit of the epidemic's temporal dynamics. The spatial distribution of CBD over time indicated that plants in a plot were contaminated stepwise from the first infected coffee tree. An analysis of semi-variograms and the disease dispersal maps obtained by kriging revealed primary infection foci at both sites. They were observed from the 8th to the 10th week after flowering at Bafou and from the 11th to the 13th week at Santa. CBD affected the entire plots 3 weeks after the foci first appeared. These results suggest that inoculum from previous epidemics survives at points in the initial foci in a coffee plantation. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,790
http://dx.doi.org/10.1094/PDIS-91-10-1229 Dk : 541888

58 - Mouen Bedimo J.A., Bieysse D., Njiayouom I., Deumeni J.P., Cilas C., Notteghem J.-L.
Effect of cultural practices on the development of arabica coffee berry disease, caused by #Colletotrichum kahawae#. *European Journal of Plant Pathology 2007 vol.119:n 4 391-400*
In the high altitude regions of Africa, coffee berry disease (CBD), caused by Colletotrichum kahawae, is the main constraint for arabica coffee (Coffea arabica) production. However, certain agricultural practices can reduce losses caused by the disease and thereby promote optimum production. On small family farms in Cameroon, mixed cropping with fruit trees, intercropping with food crops and maintenance pruning of coffee trees are very widespread agricultural practices that can affect CBD epidemics. Consequently, an epidemiological study was conducted to assess how cultural practices affected the disease in an arabica coffee smallholding in Cameroon. The disease was monitored on a weekly basis over four successive years (2002-2005) on coffee trees in diverse cultural situations. Cultural practices likely to reduce losses due to CBD were identified. The infection rate was significantly lower on coffee trees grown intensively than on coffee trees grown in the traditional manner. Coffee trees located under the shade of fruit trees were significantly less attacked than those located in full sunlight. In addition, berries on the leafless parts of branches, near the main trunk of the coffee tree, were less infected than those on leafy sections. These results show that maintenance pruning, removal of mummified berries, and mixed cropping with shade plants are cultural practices which create environmental conditions that limit CBD development. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,482
http://dx.doi.org/10.1007/s10658-007-9169-x Dk : 541887

59 - Nibouche S., Gozé E., Babin R., Beyo J., Brévault T.
Modeling #Helicoverpa armigera# (Hübner) (Lepidoptera: Noctuidae) Damages on Cotton. *Environmental entomology 2007 vol.36:n 1 151-156*
We studied and modeled damage caused by Helicoverpa armigera larvae on cotton with the aim of developing a coupled crop pest model. Two damage components were studied: the voracity (quantity of fresh matter and number of organs consumed) and feeding preferences (type of organ infested). The laboratory no-choice study of voracity on excised squares and bolls revealed that an H. armigera larva consumes 2,856 mg of fresh matter throughout its larval life, with the sixth instar consuming 86% of this quantity. This consumption rate corresponded to 23.6 squares, or 7.8 bolls. We developed equations to predict the quantity of fresh matter uptake from an individual plant organ, according to the organ mass and the larval instar. The field study of feeding preference confirmed previous findings that larvae prefer squares to bolls, with this preference decreasing as the larval age increases. However, no significant relationship was noted between the age of larvae and the size of infested organs within each organ class (square or boll). We developed a logistic model to predict the probability of a larva infesting a boll rather

than a square. According to this model, the relative organ availability in the field and the larval instar were found to be significant factors. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,467
Dk : 536359

60 - Noupadja P., Tomekpé K., Youmbi E.
Evaluation d'hybrides tétraploïdes de bananiers plantains (#Musa# spp.) résistants à la maladie des raies noires créés au Cameroun. *Fruits 2007 vol.62:n 2 77-88*
Introduction. Le plantain constitue une importante denrée alimentaire pour de nombreuses populations au sud du Sahara. Sa production dans les systèmes traditionnels de culture par les petits paysans est menacée par la maladie des raies noires, une maladie foliaire due à Mycosphaerella fijiensis Morelet responsable de pertes importantes de récolte. Pour faire face à cette maladie, des hybrides tétraploïdes de type plantain, résistants à la maladie, ont été créés au Cameroun puis sélectionnés à l'issue d'une première phase d'évaluation. Après multiplication végétative, les hybrides ainsi sélectionnés ont été évalués en station de recherche afin de déterminer leurs caractéristiques agronomiques et leur rendement potentiel en conditions de culture semi-intensive. Matériel et méthodes. De 1996 à 2000, trente hybrides sélectionnés ont été évalués, en comparaison avec leurs parents femelles, sur deux cycles de production à la faveur de trois essais mis en place suivant un dispositif expérimental en blocs de Fisher complètement randomisés avec deux répétitions de 10 bananiers chacun. Chacun des bananiers a été étudié à partir de caractéristiques agronomiques portant sur la croissance et la production. Résultats et discussion. Sept hybrides ont été sélectionnés sur la base de leur rendement potentiel élevé, de leur précocité de floraison et de leur pouvoir rejetonnant. Cependant, ce matériel végétal tétraploïde présente plusieurs défauts qui constituent un frein à leur diffusion. Certains de ces hybrides sont utilisés comme produits intermédiaires dans un nouveau schéma d'amélioration variétale au CARBAP. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.1051/fruits:2007001 Dk : 537363

61 - Peltier R., Njiti C.F., Ntoupka M., Manlay R., Henry M., Morillon V.
Evaluation du stock de carbone et de la productivité en bois d'un parc à karités du Nord-Cameroun. *Bois et forêts des tropiques 2007 n 294 39-50*
Dans les zones soudaniennes du Nord-Cameroun, l'arrivée continue de migrants entraîne le défrichement de vastes étendues de savanes. La densification du parc arboré relictuel répondrait, à la fois, à des besoins agronomiques, économiques et environnementaux. Une méthode d'évaluation du carbone stocké dans la biomasse aérienne est proposée, pour un parc à karités, Vitellaria paradoxa, sur un terroir villageois. Il s'agit de mettre en place des projets agroforestiers éligibles au Mécanisme pour un développement propre (Mdp), à partir de 2012. De plus, une évaluation de la productivité en bois du parc à karités, géré par émondage, a été réalisée durant trois années, pour une trentaine d'arbres. Une série d'équations allométriques a été développée (sur six individus pour le karité et sur un seul arbre pour Anogeissus leiocarpus et Combretum nigricans), qui met en relation la biomasse aérienne en fonction du diamètre (du tronc à hauteur de poitrine ou de la base des branches) ou de la surface du houppier. Ainsi, les stocks de carbone par arbre, puis par parcelle ont pu être estimés. Face à la pression anthropique exercée sur ces parcs, il a été établi qu'une rotation de huit ans entre les émondages serait un bon compromis entre les divers intérêts. Ces travaux constituent une première approche qui devra être consolidée avec le recul du temps. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 541390

62 - Verdeil J.-L., Alemanno L., Niemenak N., Tranbarger T.J.
Pluripotent versus totipotent plant stem cells: dependence versus autonomy ? *Trends in plant science 2007 vol.12:n 6 245-252*
Little is known of the mechanisms that induce the dedifferentiation of a single somatic cell into a totipotent embryogenic cell that can either be regenerated or develop into an embryo and subsequently an entire plant. In this Opinion article, we examine the cellular, physiological and molecular similarities and differences between different plant stem cell types. We propose to extend the plant stem cell concept to include single embryogenic cells as a totipotent stem cell based on their capacity to regenerate or

develop into an embryo under certain conditions. Our survey suggests that differences in chromatin structure might ensure that meristem-localized stem cells have supervised freedom and are pluripotent, and that embryogenic stem cells are unsupervised, autonomous and, hence, freely totipotent. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 8,995
http://dx.doi.org/10.1016/j.tplants.2007.04.002 Dk : 539560

63 - Efombagn M.I.B., Nyassé S., Sounigo O., Kolesnikova-Allen M., Eskes A.
Participatory cocoa (#Theobroma cacao#) selection in Cameroon : #Phytophthora# pod rot resistant accessions identified in farmers' fields. *Crop protection 2007 vol.26:n 10 1467-1473*
As part of a participatory selection programme, promising individual trees were selected in 2004 in cocoa farms of southern and western Cameroon regions for yield and for low incidence of Phytophthora pod rot (Ppr) caused by Phytophthora megakarya. The aim of this study was to compare the levels of resistance to Ppr between farm accessions (FA), introduced and local genebank accessions (GA). In total, 234 FA were grafted in the nursery together with 22 introduced GA and 73 local GA, and tested for resistance to P. megakarya by leaf disc inoculations. The introduced GA, that were reported as resistant to Ppr in other countries, proved to be more resistant than the selected FA and unselected FA and also more resistant than the 3 control clones for Ppr resistance used in the study. However, approximately 10% of the FA were as resistant as the average of the introduced GA, showing the potential of selection for resistance to Ppr in farmers' fields. The average level of resistance of the FA was relatively higher than that of the local GA. The FA selected for yield and low Ppr incidence in the field were more resistant in the leaf disc test than the unselected FA. The use of FA and of farmers' knowledge in the participatory selection process is valuable in obtaining Ppr-resistant cultivars. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,129
http://dx.doi.org/10.1016/j.cropro.2006.12.008 Dk : 540905

64 - Brévault T., Bikay S., Maldes J.-M., Naudin K.
Impact of a no-till with mulch soil management strategy on soil macrofauna communities in a cotton cropping system. *Soil and tillage research 2007 vol.97 140-149*
Systematic exportation, burning of crop residues and decreases in fallow periods have led to a large-scale depletion of soil organic matter and degradation of soil fertility in the cotton (Gossypium hirsutum L.) cropping systems of Cameroon. The present study tested whether soil management systems based on a no-till with mulch approach intercropped with cereals, which has been shown to restore cotton production, could boost the biological activity of soil macrofauna. The impacts of no tillage with grass mulch (Brachiaria ruziziensis Germain and Eward) (NTG) and no tillage with legume mulch (Crotalaria retusa L. or Mucuna pruriens Bak.) (NTL) on the abundance, diversity and functional role of soil invertebrates were evaluated during the third year of implementation in northern Cameroon (Windé and Zouana), compared to conventional tillage (CT) and no tillage (NT) without mulch. Macrofauna were sampled from two 30 cm x 30 cm soil cubes (including litter) at the seeding stage of cotton, and 30 days later. The collected organisms were grouped into detritivores, herbivores and predators. Examination of the soil macrofauna patterns revealed that the abundance and diversity of soil arthropods were significantly higher in NTG and NTL than in CT plots (+103 and +79%, respectively), while that of NT plots was in-between the no tillage groups and CT (+37%). Regarding major ecological functions, herbivores and predators were significantly more abundant in NTG and NTL plots than in CT plots at Windé (+168 and +180%, respectively), while detritivores, predators and herbivores were significantly more abundant in the NTG plots than in CT plots at Zouana (+92, +517 and +116%, respectively). Formicidae (53.6%), Termitidae (24.7%) and Lumbricidae (9.4%) were the most abundant detritivores while Julidae (46.1%), Coleoptera larvae (22.1%) and Pyrrhocoridae or Reduviidae (11.8%) were the dominant herbivores. The major constituents of the predatory group were Araneae (33.8%), Carabidae (24.6%), Staphylinidae (15.7%) and Scolopendridae (10.3%). Direct seeding mulch-based systems, NTG and NTL, favoured the establishment of diverse macrofaunal communities in the studied cotton cropping system.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,846
http://dx.doi.org/10.1016/j.still.2007.09.006 Dk : 542209

AXE 1 DIR3 NIGERIA (1) 63

63 - Efombagn M.I.B., Nyassé S., Sounigo O., Kolesnikova-Allen M., Eskes A.
Participatory cocoa (#Theobroma cacao#) selection in Cameroon : #Phytophthora# pod rot resistant accessions identified in farmers' fields. *Crop protection 2007 vol.26:n 10 1467-1473*
As part of a participatory selection programme, promising individual trees were selected in 2004 in cocoa farms of southern and western Cameroon regions for yield and for low incidence of Phytophthora pod rot (Ppr) caused by Phytophthora megakarya. The aim of this study was to compare the levels of resistance to Ppr between farm accessions (FA), introduced and local genebank accessions (GA). In total, 234 FA were grafted in the nursery together with 22 introduced GA and 73 local GA, and tested for resistance to P. megakarya by leaf disc inoculations. The introduced GA, that were reported as resistant to Ppr in other countries, proved to be more resistant than the selected FA and unselected FA and also more resistant than the 3 control clones for Ppr resistance used in the study. However, approximately 10% of the FA were as resistant as the average of the introduced GA, showing the potential of selection for resistance to Ppr in farmers' fields. The average level of resistance of the FA was relatively higher than that of the local GA. The FA selected for yield and low Ppr incidence in the field were more resistant in the leaf disc test than the unselected FA. The use of FA and of farmers' knowledge in the participatory selection process is valuable in obtaining Ppr-resistant cultivars. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,129
http://dx.doi.org/10.1016/j.cropro.2006.12.008 Dk : 540905

AXE 1 DIR4 AFRIQUE DU SUD (5) 65, 66, 67, 68, 69

65 - Kvedaras O.L., Keeping M.G., Goebel R., Byrne M.J.
Water stress augments silicon-mediated resistance of susceptible sugarcane cultivars to the stalk borer #Eldana saccharina# (Lepidoptera: Pyralidae). *Bulletin of entomological research 2007 vol.97:n 2 175-183*
Silicon (Si) can improve resistance of plants to insect attack and may also enhance tolerance of water stress. This study tested if Si-mediated host plant resistance to insect attack was augmented by water stress. Four sugarcane cultivars, two resistant (N21, N33) and two susceptible (N26, N11) to Eldana saccharina Walker were grown in a pot trial in Si-deficient river sand, with (Si+) and without (Si-) calcium silicate. To induce water stress, irrigation to half the trial was reduced after 8.5 months. The trial was artificially infested with E. saccharina eggs after water reduction and harvested 66 days later. Silicon treated, stressed and non-stressed plants of the same cultivar did not differ appreciably in Si content. Decreases in numbers of borers recovered and stalk damage were not associated with comparable increases in rind hardness in Si+ cane, particularly in water-stressed susceptible cultivars. Overall, Si+ plants displayed increased resistance to E. saccharina attack compared with Si- plants. Borer recoveries were significantly lower in stressed Si+ cane compared with either stressed Si- or non-stressed Si- and Si+ cane. Generally, fewer borers were recovered from resistant cultivars than susceptible cultivars. Stalk damage was significantly lower in Si+ cane than in Si- cane, for N21, N11 and N26. Stalk damage was significantly less in Si+ combined susceptible cultivars than in Si- combined susceptible cultivars under non-stressed and especially stressed conditions. In general, the reduction in borer numbers and stalk damage in Si+ plants was greater for water-stressed cane than non-stressed cane, particularly for susceptible sugarcane cultivars. The hypothesis that Si affords greater protection against E. saccharina borer attack in water-stressed sugarcane than in non-stressed cane and that this benefit is greatly enhanced in susceptible cultivars is supported. A possible active role for soluble Si in defence against E. saccharina is proposed. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,431
http://dx.doi.org/10.1017/S0007485307004853 Dk : 539339

66 - Kvedaras O.L., Keeping M.G., Goebel R., Byrne M.J.
Larval performance of the pyralid borer #Eldana saccharina# Walker and stalk damage in sugarcane: Influence of plant silicon, cultivar and feeding site. *International journal of pest management 2007 vol.53:n 3 183-194*
Applied silicon (Si) can improve resistance of plants to insect attack. We investigated the interactions

between soil applied Si, sugarcane cultivar, and three documented feeding/penetration sites (internode, leaf bud, and root primordia), each at three heights (top, middle, and base) on the stalk and their effects on stem borer, Eldana saccharina Walker (Lepidoptera: Pyralidae) performance and the stalk damage it inflicts. Four sugarcane cultivars, treated (Si+) and untreated (Si-) with calcium silicate, were artificially infested with E. saccharina and the larvae were examined 21 days later. Silicon treatment significantly increased stalk Si content in all sugarcane cultivars and, overall, significantly reduced borer growth rate and also reduced stalk damage, particularly at the internode. Borer survival and growth rate and stalk damage were lowest at the internode, particularly in Si+ resistant cultivars. Although the internode had the hardest rind, hardness at each site was not significantly increased by Si+. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,573
http://dx.doi.org/10.1080/09670870601110956 Dk : 540826

67 - Kvedaras O.L., Keeping M.G., Goebel R., Byrne M.J.
Silicon and water stress synergy in resistance of sugarcane cultivars to the stalk borer, #Eldana saccharina# (Lepidoptera : Pyralidae). *Sugar cane international 2007 vol.25:n 1 3-6*
Silicon (Si) improves plant resistance to insect attack and may also enhance tolerance of water stress. The objective of this study was to evaluate whether Si-mediated resistance of sugarcane to the borer Eldana saccharina Walker (Lepidoptera: Pyralidae) is enhanced by water stress. Sugarcane cultivars, two resistant to E. saccharina (N21, N33) and two susceptible (N26, N11) were grown in a pot trial, in Si deficient river sand with (Si+) and without (Si-) calcium silicate. To induce water stress, irrigation to half of the trial was reduced prior to inoculation with E. saccharina eggs, and harvested 66 days later. Stressed and non-stressed plants of the same cultivar did not differ significantly in Si content. However, Si+ plants exhibited increased resistance to E. saccharina attack. In Si+ cane, E. saccharina larval survival and biomass was lower than in Si- cane, significantly so for stressed, susceptible cultivars N26 and N11, and for larval mass in non-stressed N26. Stalk damage was reduced in Si+ cane, significantly so for the stressed, susceptible cultivars N26 and N11, and non-stressed N26. This study showed that Si provides greater protection against E. saccharina attack in susceptible, water-stressed sugarcane than in non-stressed cane and/or resistant cultivars. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 537169

68 - Lefeuvre P., Lett J.-M., Reynaud B., Martin D.P.
Avoidance of protein fold disruption in natural virus recombinants. [On line]. *PLoS Pathogens 2007 vol.3:n 11 1782-1789*
With the development of reliable recombination detection tools and an increasing number of available genome sequences, many studies have reported evidence of recombination in a wide range of virus genera. Recombination is apparently a major mechanism in virus evolution, allowing viruses to evolve more quickly by providing immediate direct access to many more areas of a sequence space than are accessible by mutation alone. Recombination has been widely described amongst the insect-transmitted plant viruses in the genus Begomovirus (family Geminiviridae), with potential recombination hot- and cold-spots also having been identified. Nevertheless, because very little is understood about either the biochemical predispositions of different genomic regions to recombine or what makes some recombinants more viable than others, the sources of the evolutionary and biochemical forces shaping distinctive recombination patterns observed in nature remain obscure. Here we present a detailed analysis of unique recombination events detectable in the DNA-A and DNA-A-like genome components of bipartite and monopartite begomoviruses. We demonstrate both that recombination breakpoint hot- and cold-spots are conserved between the two groups of viruses, and that patterns of sequence exchange amongst the genomes are obviously non-random. Using a computational technique designed to predict structural perturbations in chimaeric proteins, we demonstrate that observed recombination events tend to be less disruptive than sets of simulated ones. Purifying selection acting against natural recombinants expressing improperly folded chimaeric proteins is therefore a major determinant of natural recombination patterns in begomoviruses. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 9,336
http://dx.doi.org/10.1371/journal.ppat.0030181 Dk : 542862

69 - Lefeuvre P., Martin D.P., Hoareau M., Naze F., Delatte H., Thierry M., Varsani A., Becker N.,

Reynaud B., Lett J.-M.
Begomovirus melting pot in the south-west Indian Ocean islands: Molecular diversity and evolution through recombination. *Journal of general virology 2007 vol.88:n 12 3458-3468*
During the last few decades, many virus species have emerged, often forming dynamic complexes within which viruses share common hosts and rampantly exchange genetic material through recombination. Begomovirus species complexes are common and represent serious agricultural threats. Characterization of species complex diversity has substantially contributed to our understanding of both begomovirus evolution, and the ecological and epidemiological processes involved in the emergence of new viral pathogens. To date, the only extensively studied emergent African begomovirus species complex is that responsible for cassava mosaic disease. Here we present a study of another emerging begomovirus species complex which is associated with serious disease outbreaks in bean, tobacco and tomato on the south-west Indian Ocean (SWIO) islands off the coast of Africa. On the basis of 14 new complete DNA-A sequences, we describe seven new island monopartite begomovirus species, suggesting the presence of an extraordinary diversity of begomovirus in the SWIO islands. Phylogenetic analyses of these sequences reveal a close relationship between monopartite and bipartite African begomoviruses, supporting the hypothesis that either bipartite African begomoviruses have captured B components from other bipartite viruses, or there have been multiple B-component losses amongst SWIO virus progenitors. Moreover, we present evidence that detectable recombination events amongst African, Mediterranean and SWIO begomoviruses, while substantially contributing to their diversity, have not occurred randomly throughout their genomes. We provide the first statistical support for three recombination hot-spots (V1-C3 interface, C1 centre and the entire IR) and two recombination cold-spots (the V2 and the third quarter of V1) in the genomes of begomoviruses. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,120
http://dx.doi.org/10.1099/vir.0.83252-0 Dk : 542857

AXE 1 DIR4 KENYA (4) 13, 14, 15, 70

13 - Diouf D., Samba-Mbaye R., Lesueur D., Ba A.T., Dreyfus B., De Lajudie P., Neyra M.
Genetic diversity of #Acacia seyal# Del. rhizobial populations indigenous to senegalese soils in relation to salinity and pH of the sampling sites. *Microbial ecology 2007 vol.54:n 3 553-566*
The occurrence and the distribution of rhizobial populations naturally associated to Acacia seyal Del. were characterized in 42 soils from Senegal. The diversity of rhizobial genotypes, as characterized by polymerase chain reaction restriction fragment length polymorphism (RFLP) analysis of 16S-23S rDNA, performed on DNA extracted from 138 nodules resulted in 15 clusters. Results indicated the widespread occurrence of compatible rhizobia associated to A. seyal in various ecogeographic areas. However, the clustering of rhizobial populations based on intergenic spacer (IGS) RFLP profiles did not reflect their geographic origin. Four genera were discriminated on the basis of 16S rRNA gene sequences of the strains representative for the IGS-RFLP profiles. The majority of rhizobia associated to A. seyal were affiliated to Mesorhizobium and Sinorhizobium 64 and 29%, respectively, of the different IGS-RFLP profiles. Our results demonstrate the coexistence inside the nodule of plant-pathogenic non-N2-fixing Agrobacterium and Burkholderia strains, which induced the formation of ineffective nodules, with symbiotic rhizobia. Nodulation was recorded in saline soils and/or at low pH values or in alkaline soils, suggesting adaptability of natural rhizobial populations to major ecological environmental stress and their ability to establish symbiotic associations within these soil environments. These results contribute to the progressing research efforts to uncover the biodiversity of rhizobia and to improve nitrogen fixation in agroforestry systems in sub-Saharan Africa. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,558
http://dx.doi.org/10.1007/s00248-007-9243-0 Dk : 541285

14 - Faye A., Sall S., Chotte J.-L., Lesueur D.
Soil bio-functioning under #Acacia nilotica# var. #tomentosa# protected forest along the Senegal River. *Nutrient cycling in agroecosystems 2007 vol.79:n 1 35-44*
Acacia nilotica var. tomentosa trees from the Diarra protected forest located in the Senegal River valley were identified for the assessment of both biological nitrogen fixation, using the natural abundance method, and soil bio-functioning parameters (nodulation, root biomass, total microbial biomass, and

potential N mineralization). The presence and the genetic diversity of indigenous rhizobia nodulating A. nilotica var. tomentosa was also investigated, taking into account distance from the trunk (0, 1, 2, and 3 m) and depth (0-25, 25-50, and 50-75 cm). Surprisingly, no nodules on the trees root systems were found, whereas under laboratory conditions the presence of indigenous rhizobia nodulating A. nilotica var. tomentosa was demonstrated in the analyzed soils (90% of the nodules harvested on the trapped plants were occupied by the same Inter-Genic Spacer (IGS) group, IGS1). There was no significant influence of trees and/or depth on total microbial biomass and potentials of nitrogen mineralization. Some assumptions were formulated on the possible combined effect of flooding, which usually occurs annually during 4-7 months, and the clayey soils in the Diara forests. Although a deeply natural nodulation of A. nilotica var. tomentosa trees by indigenous rhizobia is not excluded, but it still remains to be demonstrated. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,116
http://dx.doi.org/10.1007/s10705-007-9033-7 Dk : 540605

15 - Thiaba Samba R., Neyra M., Lesueur D.
Natural nodulation of #Acacia mangium-Acacia auriculiformis# hybrids : distribution of the indigenous strains in the nodules. *World journal of microbiology and biotechnology 2007 vol.23 1485-1488*
Polymerase Chain Reaction/Restriction Fragment Length Polymorphism (PCR/RFLP) of the InterGenic Spacer (IGS) between rDNA 16S and 23S was used to identify indigenous strains nodulating four clones of Acacia mangium-Acacia auriculiformis hybrids cultivated in non-sterilized sandy soil from Sangalkam (Senegal) under greenhouse conditions. The experiment was for 4 months. The analysis of restriction fragment length polymorphism obtained with MspI and HaeIII restriction enzymes allowed the identification of 15 different IGS Groups with a distribution which significantly differed according to the clone of the hybrid (strains of one clone can belong to three and five different IGS Groups). Three large multi-lobed nodules were obtained on the root system of clone 3.26 within 5 months. Also, the nature of the rhizobia contained in each lobe was determined. The results showed that the lobes of large nodules can be occupied by one or two strains and the nodules analysed were mainly occupied by those belonging to IGS Group 12. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,745
http://dx.doi.org/10.1007/s11274-007-9373-z Dk : 541936

70 - Sarr A., Lesueur D.
Influence of soil fertility on the rhizobial competitiveness for nodulation of #Acacia senegal# and #Acacia nilotica# provenances in nursery and field conditions. *World journal of microbiology and biotechnology 2007 vol.23:n 5 705-711*
Within the framework of our study, we assessed the nodule occupancy of a mixture of various strains of rhizobia to inoculate several provenances of Acacia senegal and Acacia nilotica. The first part of the experiment was carried out under greenhouse conditions where the plants were cultivated in polyvinyl chloride tubes containing an unsterilized Sangalkam soil low in organic matter and nitrogen. The results showed that 4 and 8 months after sowing, rhizobial strains CIRADF 306 and CIRADF 300 were mainly present in nodules of A. nilotica and A. senegal, respectively. After transferring the seedlings to the more fertile soil in Bel Air field station, the molecular analysis of the nodules showed that strain CIRADF 306 was absent from the nodules of A. nilotica, whereas strain CIRADF 305 which occurred only at low nodule occupancy in the nursery, predominated in the field conditions. On the other hand, strain CIRADF 300 occurred in the majority of the nodules from the various provenances of A. senegal. These results demonstrated actual interaction between inoculated rhizobial strains, soil type and host plant genotype in terms of competitiveness, nodulation and symbiotic nitrogen fixation. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,745
http://dx.doi.org/10.1007/s11274-006-9288-0 Dk : 540616

AXE 1 DIR4 OUGANDA(2) 71, 72

71 - Grimaud P.
L'élevage du cerf sur l'Ile de la Réunion, voie de diversification d'une agriculture insulaire et enjeu

de coopération régionale. *Agricultures 2007 vol.16:n 2 111-118*
Le cerf rusa (Cervus timorensis russa) s'est parfaitement adapté aux conditions subtropicales de l'Ile de la Réunion, où l'on compte à ce jour un total de 14 fermes exploitant un cheptel d'environ 2200 biches. Les premiers cerfs y ont été introduits d'Indonésie au XVIIè siècle, par des navigateurs européens soucieux d'y trouver un vivier de protéines animales sur la route des Indes. Les premiers élevages extensifs sont apparus dans les années 1980, avec l'objectif d'exploiter des terres marginales non agricoles. Évoluant dans un environnement sanitaire propice, les élevages affichent une productivité moyenne de 0,7 faon sevré par biche et par an. Afin de diversifier les productions agricoles de l'Ile, les autorités locales ont encouragé le développement de fermes intensives plus petites, mais en raison de fortes mortinatalités les performances économiques y apparaissent médiocres. Les organismes locaux de développement assistent les producteurs de venaison dans plusieurs domaines, comme l'organisation du marché, la gestion des pâturages et la pathologie. Sur cette île pluriethnique, la venaison est consommée par l'ensemble de la population, au contraire des viandes de porc et de boeuf. La demande annuelle est estimée à plus de 100 tonnes: la production locale est d'environ 30 tonnes, alors que les importations, essentiellement d'Europe ou de Nouvelle-Zélande, atteignent près de 50 tonnes. L'augmentation de la part de venaison produite localement nécessite un accroissement de la productivité des animaux et du nombre d'exploitations. La filière pourra alors être au centre de projets ambitieux de codéveloppement régional, fortement encouragés par le président du Conseil régional, et déjà amorcés avec l'Ile Maurice voisine sur le thème de la gestion des pâturages. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,128
http://dx.doi.org/10.1684/agr.2007.0083 Dk : 538760

72 - Grimaud P., Mpairwe D., Chalimbaud J., Messad S., Faye B.
The place of Sanga cattle in dairy production in Uganda. *Tropical animal health and production 2007 vol.39 217-227*
A survey was carried out on milk production and reproductive performance of dairy cattle: 24 farms, with a total of 900 animals and distributed in four agro-ecological zones, were visited every 15 days over 18 months. Cows were fed on natural pastures as the only source of feed, and animal performance was dependent on the season and exhibited a dramatic drop in dry spells. Numeric productivity indices integrating productive performance for settler's, multipurpose, crop-livestock integrated and modem farms were 0.56, 0.74, 0.69 and 0.63, respectively. Milk productivity was higher on modem farms (6.7 L/cow per day) than in the other systems, and higher with Holstein-Friesian cows (7.7 L/cow per day) than with indigenous cattle (1.8 L/cow per day) or crossbred animals (3.7 L/cow per day). This paper speculates on the opportunity to improve the genetic potential of indigenous cattle, concomitantly with the efforts to adapt exotic cattle to a mountainous equatorial environment. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,410
Dk : 540974

AXE 1 DIR4 ZIMBABWE (1) 73

73 - Maltas A., Corbeels M., Scopel E., Oliver R., Douzet J.-M., Macena Da Silva F.-A., Wery J.
Long-term effects of continuous direct seeding mulch-based cropping systems on soil nitrogen supply in the Cerrado region of Brazil. *Plant and Soil 2007 vol.298 161-173*
In the Cerrado region of Brazil conventional soybean monoculture is since the 1980s being replaced by direct seeding mulch-based cropping (DMC) with two crops per year and absence of tillage practices. The objective of this study was to assess the long-term impact of DMC on soil organic matter accumulation and nitrogen (N) mineralization. Measurements of soil organic carbon (C) content, soil total N content and soil N mineralization, both under laboratory conditions using disturbed soil samples and under field conditions using intact soil cores were conducted on a chronosequence of 2-, 6-, 9- and 14-year-old DMC fields (DMC-2, DMC-6, DMC-9 and DMC-14, respectively). The average increase of organic C in the 0-30 cm topsoil layer under DMC was 1.91 Mg C ha-1 year-1. Soil total N increased with 103 kg N ha-1 year-1 (0-30 cm). The potential N mineralization rate under laboratory conditions (28 C, 75% of soil moisture at field capacity) was 0.27, 0.28, 0.39 and 0.36 mg N kg soil-1 day-1 for, respectively, the DMC-2, DMC-6, DMC-9 and DMC-14 soils. The corresponding specific N mineralization rates were 0.16, 0.15, 0.22 and 0.17 mg N g N-1 day-1. There was no obvious explanation for the higher specific N mineralization rate of

soils under DMC-9, given the similar soil conditions and land-use history before DMC was introduced. Results from the in situ N incubation experiments were in good agreement with those from the laboratory incubations. We estimated that soil N mineralization increases with about 2.0 kg N ha-1 year-1 under DMC. The increase was mainly attributed to the larger soil total N content. These results indicate that even in the medium term (10 years), continuous DMC cropping has limited implications for N fertilization recommendations, since the extra soil N supply represents less than 20% of the common N fertilization dose for maize in the region. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,821
http://dx.doi.org/10.1007/s11104-007-9350-1 Dk : 541789

AXE 1 DIR5 MADAGASCAR (14) 51, 64, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84

51 - Ratnadass A., Cissé B., Cissé S., Cissé T., Hamada M.A., Letourmy P.
An on-farm study of #Striga# as constraint to improved sorghum cultivar production in Mali. [On line]. *Journal of SAT agricultural research 2007 vol.5:n 1 5 p.*
Articles publiés dans une revue sans comité de lecture
http://www.icrisat.org/Journal/volume5/Sorgum_Millet/sm10.pdf Dk : 542467

64 - Brévault T., Bikay S., Maldes J.-M., Naudin K.
Impact of a no-till with mulch soil management strategy on soil macrofauna communities in a cotton cropping system. *Soil and tillage research 2007 vol.97 140-149*
Systematic exportation, burning of crop residues and decreases in fallow periods have led to a large-scale depletion of soil organic matter and degradation of soil fertility in the cotton (Gossypium hirsutum L.) cropping systems of Cameroon. The present study tested whether soil management systems based on a no-till with mulch approach intercropped with cereals, which has been shown to restore cotton production, could boost the biological activity of soil macrofauna. The impacts of no tillage with grass mulch (Brachiaria ruziziensis Germain and Eward) (NTG) and no tillage with legume mulch (Crotalaria retusa L. or Mucuna pruriens Bak.) (NTL) on the abundance, diversity and functional role of soil invertebrates were evaluated during the third year of implementation in northern Cameroon (Windé and Zouana), compared to conventional tillage (CT) and no tillage (NT) without mulch. Macrofauna were sampled from two 30 cm x 30 cm soil cubes (including litter) at the seeding stage of cotton, and 30 days later. The collected organisms were grouped into detritivores, herbivores and predators. Examination of the soil macrofauna patterns revealed that the abundance and diversity of soil arthropods were significantly higher in NTG and NTL than in CT plots (+103 and +79%, respectively), while that of NT plots was in-between the no tillage groups and CT (+37%). Regarding major ecological functions, herbivores and predators were significantly more abundant in NTG and NTL plots than in CT plots at Windé (+168 and +180%, respectively), while detritivores, predators and herbivores were significantly more abundant in the NTG plots than in CT plots at Zouana (+92, +517 and +116%, respectively). Formicidae (53.6%), Termitidae (24.7%) and Lumbricidae (9.4%) were the most abundant detritivores while Julidae (46.1%), Coleoptera larvae (22.1%) and Pyrrhocoridae or Reduviidae (11.8%) were the dominant herbivores. The major constituents of the predatory group were Araneae (33.8%), Carabidae (24.6%), Staphylinidae (15.7%) and Scolopendridae (10.3%). Direct seeding mulch-based systems, NTG and NTL, favoured the establishment of diverse macrofaunal communities in the studied cotton cropping system.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,846
http://dx.doi.org/10.1016/j.still.2007.09.006 Dk : 542209

73 - Maltas A., Corbeels M., Scopel E., Oliver R., Douzet J.-M., Macena Da Silva F.-A., Wery J.
Long-term effects of continuous direct seeding mulch-based cropping systems on soil nitrogen supply in the Cerrado region of Brazil. *Plant and Soil 2007 vol.298 161-173*
In the Cerrado region of Brazil conventional soybean monoculture is since the 1980s being replaced by direct seeding mulch-based cropping (DMC) with two crops per year and absence of tillage practices. The objective of this study was to assess the long-term impact of DMC on soil organic matter accumulation and nitrogen (N) mineralization. Measurements of soil organic carbon (C) content, soil total N content and soil N mineralization, both under laboratory conditions using disturbed soil samples and under field

conditions using intact soil cores were conducted on a chronosequence of 2-, 6-, 9- and 14-year-old DMC fields (DMC-2, DMC-6, DMC-9 and DMC-14, respectively). The average increase of organic C in the 0-30 cm topsoil layer under DMC was 1.91 Mg C ha-1 year-1. Soil total N increased with 103 kg N ha-1 year-1 (0-30 cm). The potential N mineralization rate under laboratory conditions (28 C, 75% of soil moisture at field capacity) was 0.27, 0.28, 0.39 and 0.36 mg N kg soil-1 day-1 for, respectively, the DMC-2, DMC-6, DMC-9 and DMC-14 soils. The corresponding specific N mineralization rates were 0.16, 0.15, 0.22 and 0.17 mg N g N-1 day-1. There was no obvious explanation for the higher specific N mineralization rate of soils under DMC-9, given the similar soil conditions and land-use history before DMC was introduced. Results from the in situ N incubation experiments were in good agreement with those from the laboratory incubations. We estimated that soil N mineralization increases with about 2.0 kg N ha-1 year-1 under DMC. The increase was mainly attributed to the larger soil total N content. These results indicate that even in the medium term (10 years), continuous DMC cropping has limited implications for N fertilization recommendations, since the extra soil N supply represents less than 20% of the common N fertilization dose for maize in the region. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,821
http://dx.doi.org/10.1007/s11104-007-9350-1 Dk : 541789

74 - Adreit H., Santoso, Andriantsimialona D., Utami D.W., Notteghem J.-L., Lebrun M.-H., Tharreau D.
Microsatellite markers for population studies of the rice blast fungus, #Magnaporthe grisea#. *Molecular ecology notes 2007 vol.7:n 4 667-670*
We developed nine new microsatellite markers for rice blast (Magnaporthe grisea) population studies. These markers were used in addition to nine microsatellite markers previously developed by our group for mapping purpose. Altogether, the 18 markers were used in multiplex PCR (polymerase chain reaction) to characterize six populations from different geographical origins. The average number of alleles per locus across populations ranged from 1.2 to 7 and the total number of alleles detected from 2 to 19. Based on this large range of polymorphism, this set of markers is expected to be useful for different kind of population studies at different geographical scales. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,257
http://dx.doi.org/10.1111/j.1471-8286.2006.01672.x Dk : 540786

75 - Blanchart E., Bernoux M., Sarda X., Siqueira Neto M., Cerri C.C., Piccolo M.d.C., Douzet J.-M., Scopel E.
Effect of direct seeding mulch-based systems on soil carbon storage and macrofauna in Central Brazil. *Agriculturae conspectus scientificus 2007 vol.72:n 1 81-87*
Soils represent a large carbon pool, approximately 1500 Gt, equivalent to almost three times the quantity stored in terrestrial biomass and twice the amount stored in the atmosphere. Any modification of land-use or land management can induce variations in soil carbon stocks, even in agricultural systems that are perceived to be in a steady state. These modifications also alter soil macrofauna that is known to affect soil carbon dynamics. Direct seeding Mulch-based Cropping (DMC) systems with two crops per year without soil tillage have widely been adopted over the last 10 to 15 years in the Cerrado (central region) of Brazil. They are replacing the traditional soybean monocropping with fallow under conventional tillage (CT). The objective of this study was to examine how DMC practices affect soil organic carbon (SOC) dynamics and macrofauna (Rio Verde, Goias State). The approach was to determine soil C stocks and macrofauna in five fields under DMC aged 1, 5, 7, 11 and 13 years. In order to compare DMC systems with the native system of the region and previous land-use, a situation under native Cerrado (tree-savanna like vegetation) and a field conducted traditionally (CT) were also studied. Soil C stocks were calculated for the 0-10 and 0-40 cm soil depth and also for the first 400 kg m-2 of soil to compare the same amount of soil and to suppress the potential artefact of soil compaction when sample is based on fix layer depth. Soil macrofauna was hand-sorted from soil monoliths (30 cm depth, TSBF method). In our study, the annual rate of carbon storage was equal to ca. 1.6 MgC ha-1, which is in the range of values measured for DMC in different areas of Brazil, i.e., 0.4 to 1.7 MgC ha-1 with the highest rates obtained in the Cerrado region. Compared to natural vegetation, soil macrofauna in cropped systems was strongly modified. In CT, biomass and density were very low and much lower than in DMC systems. With increasing age of DMC, total macrofauna density increased and then decreased while total macrofauna biomass continuously increased due to a strong increase in Coleoptera larvae biomass. These modifications in macrofauna density and biomass are discussed with regard to soil SOC dynamics

(decomposition, mineralization and physical protection). (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
http://www.agr.hr/smotra/pdf_72/acs72_13.pdf Dk : 539481

76 - Chaix G., Vigneron P., Razafimaharo V., Hamon S.
Are phenological observations sufficient to estimate the quality of seed crops from a #Eucalyptus grandis# open-pollinated seed orchard ? Consequences for seed collections. *New Forests 2007 vol.33 41-52*
Reproductive phenology was observed over three years in a Eucalyptus grandis seed orchard in Madagascar to determine the impact of geographic differences of parental selections on the expected genetic composition of seed crops. Pollen flow (observed pollen cloud) was deduced from a paternity assignment based on sampling from one year's seed production. The two approaches were used to verify whether knowledge of phenology is sufficient to predict the genetic quality of the seeds collected. Despite the high flowering level, with a constant cycle over three years, the results demonstrated wide reproductive phenological differences associated with the parents' origin, suggesting putative pollination disequilibrium. From both observed and expected pollen clouds, the results showed preferential mating among different provenances, which has consequences for seed crop composition. Phenological observations, which can be made inexpensively, can be used to promote methods of effective seed orchard management in order to improve the genetic quality of seeds. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,733
http://dx.doi.org/10.1007/s11056-006-9012-9 Dk : 541930

77 - Coq S., Barthès B., Oliver R., Rabary B., Blanchart E.
Earthworm activity affects soil aggregation and organic matter dynamics according to the quality and localization of crop residues : An experimental study (Madagascar). *Soil biology and biochemistry 2007 vol.39:n 8 2119-2128*
Soil organic matter (SOM) plays a central role in the functioning of ecosystems, and is beneficial from agronomic and from environmental point of view. Alternative cultural systems, like direct seeding mulch-based cropping (DMC) systems, enhance carbon (C) sequestration in agricultural soils and lead to an increase in soil macrofauna. This study aimed at evaluating in field mesocosms the effects of earthworms on SOM dynamics and aggregation, as influenced by residue quality and management. In the highlands of Madagascar, buckets were filled with 2mm-sieved clayey Inceptisol. The effects of earthworm addition (Pontoscolex corethrurus), residue addition (rice, soybean, and no addition), and localization of the residues (mulched or buried) were studied. After 5 months, soil from mesocosms with earthworms had significantly lower C concentration and higher proportion of large water-stable macroaggregates (> 2000 gm) than those without earthworms, because of the production of large macroaggregates by earthworms. Earthworm effect on soil aggregation was greater with rice than with soybean residues. Casts (extracted from mesocosms with earthworms) were slightly enriched in C and showed significantly higher mineralization than the non-ingested soil (NIS), showing that at the time scale of our study, the carbon contained in the casts was not protected against mineralization. No difference in microbial biomass was found between casts and NIS. Complementary investigations are necessary to assess long-term effects of earthworm addition on SOM dynamics, the conditions of occurrence of physical protection, and the impact of earthworms on the structure of the microbial community.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,580
http://dx.doi.org/10.1016/j.soilbio.2007.03.019 Dk : 538753

78 - Favreau B., Andrianoelisoa H.S., Nunez P., Vaillant A., Ramamonjisoa L., Danthu P., Bouvet J.-M.
Characterization of microsatellite markers in the rosewood (#Dalbergia monticola# Bosser & R. Rabev.). *Molecular ecology notes 2007 vol.7:n 5 774-776*
Dalbergia monticola is one of the major components of the oriental forest of Madagascar. This economically and ecologically important tree is threatened because of the dramatic decrease of the Madagascar forest. We have estimated the genetic diversity and structure of the species by studying nuclear microsatellites. We have developed eight pairs of primers to analyse 215 individuals distributed from the north to the south of the island. These markers will be useful for genetic and ecological studies of this species. (Résumé d'auteur)

Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,257
http://dx.doi.org/10.1111/j.1471-8286.2007.01692.x Dk : 540638

79 - Franc A., Braud Y., Ratovonasy H., Wagner G., Duranton J.-F.
Distribution et limites écologiques du criquet nomade #Nomadacris septemfasciata# (Serville, 1838) à Madagascar. *Journal of orthoptera research 2007 vol.16:n 2 181-188*
Le Criquet nomade, Nomadacris septemfasciata (Serville, 1838) a été étudié depuis longtemps en Afrique australe où ses aires grégarigènes sont connues et suivies régulièrement. Ce locuste est aussi présent à Madagascar, mais c'est seulement récemment que des individus grégaires ont été observés et décrits: en 1997 dans le sud et en 2002 dans le nord de l'île. Ce criquet fait une reproduction par an et passe la saison sèche en diapause imaginale. Le présent travail vise à recenser les signalisations de Nomadacris septemfasciata collectées depuis 1907 et d'établir une première chorologie du taxon au niveau national. Pour compléter ces archives, d'autres données ont été recueillies par des enquêtes paysannes et des prospections de terrain. Ces données sur la distribution ont été comparées à des variables physiques (altitude) et météorologique (pluviométrie et température). Au total 717 signalisations ont été recueillies. La confrontation avec les variables physiques du milieu ne permet pas de déterminer d'optimum thermique ou pluviométrique pour ce locuste. Au contraire du criquet migrateur, un autre locuste menaçant à Madagascar, le criquet nomade semble s'adapter à des conditions variées. Le criquet nomade se répartit entre 0 et 2000 m d'altitude. Une zone de diapause peut être délimitée sur le rebord des hautes terres et sur la côte-Est. La zone de reproduction est beaucoup plus étendue, elle concerne les zones de moyenne altitude et l'ensemble du versant occidental du sud au nord. Le climat est de type tropical chaud et contrasté. La région de la Sofia (au nord-ouest) concentre l'essentiel des signalisations de populations groupées. C'est dans cette zone que des individus grégaires ont été décrits dans des essaims et des bandes larvaires entre 1999 et 2003. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 542297

80 - Metay A., Alves Moreira J.A., Bernoux M., Boyer T., Douzet J.-M., Feigl B.E., Feller C., Maraux F., Oliver R., Scopel E.
Storage and forms of organic carbon in a no-tillage under cover crops system on clayey Oxisol in dryland rice production (Cerrados, Brazil). *Soil and tillage research 2007 vol.94:n 1 122-132*
The management and enhancement of soil organic carbon (SOC) is very important for agriculture (fertility) as well as for the environment (carbon (C) sequestration). Consequently, changes in soil management may alter SOC content. No-tillage (NT) practices are potential ways to increase SOC. We studied the SOC from agricultural soils in the Cerrados in Central Brazil. We compared two different tillage systems: conservation agriculture with no-tillage under cover crops (NT) and disc tillage (DT) for 5 years in a context of rainfed rice production. The soil is a dark red oxisol with high clay content (about 40%). The objectives of the study were: (i) to evaluate the short-term (5 years) impact of tillage systems on SOC stocks in an oxisol and (ii) to better understand the dynamics of SOC in different fractions of this soil. We first studied the initial situation in 1998, and compared it to the 2003 situation. NT with cover crop (Crotalaria) was found to increase the storage of C in the topsoil layer (0-10 cm) compared to DT. The difference observed for the 0-10 cm layer under NT in comparison with DT represented C enrichment under no-tillage amounting to 0.35 Mg C ha-1 year-1 and corresponding to less than 10% of cover crops residues returned to the soil. A particle-size fractionation of soil organic matter (SOM) showed that differences in total SOC between NT and DT mainly affected the 0-2 µm fraction and, to a smaller extent the 2-20 µm fraction. This specific enrichment of SOC in the silt and clay fraction was attributed to (i) the storage of a water soluble C in the field and (ii) the effect of soil biota and especially fauna activity. The mean residence time of carbon associated with the fine fractions being rather long, it might be assumed that the preferential storage in fine fractions resulted in a long-term carbon storage. This study suggests a positive short-term effect of a no-tillage system on C sequestration in an oxisol.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,846
http://dx.doi.org/10.1016/j.still.2006.07.009 Dk : 537415

81 - Metay A., Oliver R., Scopel E., Douzet J.-M., Alves Moreira J.A., Maraux F., Feigl B.E., Feller C.
N2O and CH4 emissions from soils under conventional and no-till management practices in

Goiânia (Cerrados, Brazil). *Geoderma 2007 vol.141 78-88*
Nitrous oxide (N2O) and methane (CH4) are important greenhouse gases (GHG) produced respectively by the naturally occurring microbial processes of incomplete denitrification or nitrification and methanogenesis. Tillage practices and climate affect the release of GHGs. No tillage (DMC) systems may increase CO2-C fixation in soil but also N2O and CH4 emissions. The aim of this article is to question whether the positive effect of a DMC system observed on carbon storage for the topsoil layer in Cerrado soils is offset or not by the N2O and/or CH4 emissions. Two 5-year-old systems, tillage (disc on the first 15 cm called offset: OFF) and a direct-sowing mulch-based crop system (DMC) with an additional cover crop were studied during a cropping cycle. N2O and CH4 fluxes are determined using a closed-chamber, N2O and CO2 concentrations are measured at 3 depths (10-, 20- and 30 cm). No significant difference between treatments was observed for both gases (for emissions and concentrations). Soil N2O contents increase from surface to depth (30 cm) and range from 300 ppbv to 3 ppm for both treatments. Total annual estimated emissions of N2O range from 31 to 35 g N2O-N ha-1 year-1 for DMC and OFF respectively which is low and corresponds only to 0.03% of the total N-fertilizer applied. Monthly means N2O emissions were strongly correlated to monthly means of N2O content at 10 cm depth (R2=0.66) and seem to increase exponentially with monthly mean Water Filled Pore Space WFPS (0-10 cm layer) (R2=0.33). CH4 fluxes were very low as well: both treatment act as source of CH4 (245 and 403 g CH4-C ha-1 year-1 for DMC and OFF respectively. On a CO2-C equivalent basis these results correspond to 4.1 and 4.7 kg CO2-C ha-1 year-1 for N2O and to 1.9 and 3.1 kg CO2-C ha-1 year-1 for CH4 for DMC and OFF respectively. As a result, the carbon sequestration balance taking into account the CO2, CH4 and N2O on a CO2-C equivalent basis is in favour of DMC treatment considering that this treatment increases carbon storage originated from CO2-C for the topsoil (0-10 cm) layer (350 kg C ha-1 year-1) in comparison with OFF treatment.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,898
http://dx.doi.org/10.1016/j.geoderma.2007.05.010 Dk : 540670

82 - Raboin L.-M., Selvi A., Oliveira K.M., Paulet F., Calatayud C., Zapater M.-F., Brottier P., Luzaran R., Garsmeur O., Carlier J., D'Hont A.
Evidence for the dispersal of a unique lineage from Asia to America and Africa in the sugarcane fungal pathogen #Ustilago scitaminea#. *Fungal genetics and biology 2007 vol.44:n 1 64-76*
The basidiomycete Ustilago scitaminea Sydow, which causes sugarcane smut disease, has been spreading throughout Africa and America since the 1940s. The genetic diversity and structure of different populations of this fungus worldwide was investigated using microsatellites. A total of 142 single-teliospore were isolated from 77 distinct whips (sori) collected in 15 countries worldwide. Mycelium culture derived from on generation of selfing of these single teliospores were analysed for their polymorphisms at 17 microsatellite loci. All these strains but one were homozygous at all loci, indicating that selfing is likely the predominant reproductive mode of U. scitaminea. The genetic diversity of either American or African U. scitaminea populations was found to be extremely low and all strains belong to a single lineage. This lineage was also found in some populations of Asia, where most U. scitaminea genetic diversity was detected, suggesting that this fungal species originated from this region. The strong founder effect observed in U. scitaminea African and American populations suggests that the fungus migrated from Asia to other continents on rare occasions through movement of infected plant material.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,425
http://dx.doi.org/10.1016/j.fgb.2006.07.004 Dk : 536351

83 - Ramanankierana N., Ducousso M., Rakotoarimanga N., Prin Y., Thioulouse J., Randrianjohany E., Ramaroson L., Kisa M., Galiana A., Duponnois R.
Arbuscular mycorrhizas and ectomycorrhizas of #Uapaca bojeri# L. (Euphorbiaceae) : Sporophore diversity, patterns of root colonization, and effects on seedling growth and soil microbial catabolic diversity. *Mycorrhiza 2007 vol.17 195-208*
The main objectives of this study were (1) to describe the diversity of mycorrhizal fungal communities associated with Uapaca bojeri, an endemic Euphorbiaceae of Madagascar, and (2) to determine the potential benefits of inoculation with mycorrhizal fungi [ectomycorrhizal and/or arbuscular mycorrhizal (AM) fungi] on the growth of this tree species and on the functional diversity of soil microflora. Ninety-four sporophores were collected from three survey sites. They were identified as belonging to the

ectomycorrhizal genera Afroboletus, Amanita, Boletus, Cantharellus, Lactarius, Leccinum, Rubinoboletus, Scleroderma, Tricholoma, and Xerocomus. Russula was the most frequent ectomycorrhizal genus recorded under U. bojeri. AM structures (vesicles and hyphae) were detected from the roots in all surveyed sites. In addition, this study showed that this tree species is highly dependent on both types of mycorrhiza, and controlled ectomycorrhization of this Uapaca species strongly influences soil microbial catabolic diversity. These results showed that the complex symbiotic status of U. bojeri could be managed to optimize its development in degraded areas. The use of selected mycorrhizal fungi such the Scleroderma Sel isolate in nursery conditions could be of great interest as (1) this fungal strain is very competitive against native symbiotic microflora, and (2) the fungal inoculation improves the catabolic potentialities of the soil microflora. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,077
http://dx.doi.org/10.1007/s00572-006-0095-0 Dk : 539522

84 - Sester M., Dürr C., Darmency H., Colbach N.
Modelling the effects of cropping systems on the seed bank dynamics and the emergence of weed beet. *Ecological modelling 2007 vol.204:n 1-2 47-58*
Weed beet (Beta vulgaris) is a serious problem in sugar beet fields in many European countries and in the USA. This weed is the progeny either of accidental hybrids between sugar beet (ssp. vulgaris) and wild beet (ssp. maritima), or of bolted sugar beet plants in the case of varieties with low bolting resistance. Because of its proximity to the crop, the weed cannot be eradicated by herbicides in sugar beet crops. With the advent of genetically modified (GM) sugar beet varieties tolerant to non-selective herbicides, weed beet could also become tolerant to these herbicides because the sugar beet and weed beet are interfertile. It is therefore crucial to evaluate and develop cropping systems for managing weed beet. Consequently, we need models quantifying the effects of cropping systems on weed beet dynamics. Because of the seed longevity, the seed bank of weed beet constitutes a key step for these dynamics. The objective of the present work was to develop a model quantifying the effects of tillage, in interaction with soil climate and structure, on the seed bank dynamics and the emergence of weed beet. The model was based on sub-models predicting (a) soil environment (climate, structure) resulting from the cropping system and weather, (b) vertical soil seed distribution after tillage, depending on the tool, the characteristics of the tillage implement and the soil structure; and (c) seed mortality, dormancy, germination and pre-emergent growth depending on season, soil environment, seed depth and age. Seed mortality occurs only during autumn; seed dormancy increases during summer and autumn and decreases during winter; it also increases with seed depth. Germination is triggered by rain or tillage and driven by hydrothermal time; pre-emergent shoot elongation increases with thermal time; pre-emergent seedling mortality increases with soil clod size and seed depth. The sub-models for soil environment and seed movements were based on existing models; the weed beet sub-model was developed from our previously published studies and completed here with additional experiments. Simulations were carried out to show how crop rotation and tillage influence weed beet seed bank and emergence in different crops. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,077
http://dx.doi.org/doi:10.1016/j.ecolmodel.2006.12.018 Dk : 543120

AXE 1 DIR5 SEYCHELLES (1) 85

85 - Lefeuvre P., Delatte H., Naze F., Dogley W., Reynaud B., Lett J.-M.
A new tomato leaf curl virus from the Seychelles archipelago. *Plant pathology 2007 vol.56:n 2 342*
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,012
http://dx.doi.org/10.1111/j.1365-3059.2006.01471.x Dk : 544181

AXE 2

AXE 2 DIR1 SENEGAL (1) 86

86 - Boutinot L., Diouf C.N.

Les linéaments de la politique forestière dans les normes de régulation institutionnelle de la filière du bois énergie au Sénégal. *Afrique contemporaine 2007 vol.2:n 222 45-72*

L'exploitation des forêts communautaires des régions productrices de bois énergie (bois et charbon de bois) au Sénégal posent plus que jamais le problème des formes institutionnelles, des instruments techniques, économiques et juridiques adéquats à une gestion socialement et écologiquement durable. La particularité du système de production forestier au Sénégal s'illustre dans l'oligopole que forment les grands exploitants charbonniers traditionnels. Le contexte de la décentralisation impose aux communautés rurales des plans de gestion pour que celles-ci puissent assumer leur compétence sur les forêts qui relèvent de leur autorité. Ces plans de gestion comprennent des plans d'aménagement précis pour les espaces forestiers qui sont destinés à la production de charbon de bois. Ce changement a produit un vacillement du rapport de force ancien entre les exploitants privés, les communautés rurales, les villageois et les services forestiers. À travers les linéaments de l'organisation de la production du charbon de bois, notre article rend compte de la dynamique sociale entre les acteurs (publics, privés, communautaires) et le rôle de l'État dans les efforts de régulation. Il interroge d'autre part l'argumentaire technique et écologique de ces aménagements tant dans leurs mises en oeuvre que dans leurs justifications politiques. (Résumé d'auteur)

Articles publiés dans une revue à comité de lecture, sans facteur d'impact

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AXE 2 DIR2 BURKINA FASO (1) 87

87 - Bru K., Blin J., Julbe A., Volle G.

Pyrolysis of metal impregnated biomass: An innovative catalytic way to produce gas fuel. *Journal of Analytical and Applied Pyrolysis 2007 vol.78:n 2 291-300*

An innovative way of catalysis was investigated for its potential to reduce the amount of condensable hydrocarbons produced during the pyrolysis of oak wood. The experiments were carried out in a horizontal tubular reactor, fed with a controlled flow rate of nitrogen and equipped with accessories to collect char, liquid and gaseous products. Pyrolysis was performed at 700 C with different wood sample series impregnated with either Ni or Fe nitrates (in aqueous solution) and by varying the metal concentration in the wood. In the blank run the biomass was acid-washed to determine the impact of demineralization. The influence of the metal type and content introduced into the wood to reduce the fraction of condensable organic compounds produced during pyrolysis was determined. Depending on the experimental conditions, the gas yield increases from 20.0 to 33.1%. Condensable hydrocarbons are cracked into gaseous components and the concentration of H2 is significantly increased, by 260% compared to the reference sample. In particular, the Ni-loaded wood samples give much higher H2 yields than the Fe-loaded ones under similar conditions but less toxic products are formed with the latter. These results show that biomass impregnation with either nickel or iron salts is a promising way to reduce the fraction of condensable organic compounds produced during pyrolysis. (c) 2006 Elsevier B.V. All rights reserved.

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http://dx.doi.org/10.1016/j.jaap.2006.08.006 Dk : 536361

AXE 3

AXE 3 DIR1 SENEGAL (1) 88

88 - Dieye P.N., Duteurtre G., Cuzon J.-R., Dia D.
Livestock, liberalization and trade negotiations in West Africa. *Outlook on agriculture 2007 vol.36:n 2 93-99*
West Africa is shifting towards an increasing liberalization of agricultural markets. This trend will continue in line with current trade negotiations at the World Trade Organization (WTO) and between the European Union and African, Caribbean and Pacific (ACP) countries. The objective of this paper is to assess the impact of these negotiations on the livestock sector in the region. Livestock systems, in spite of their technical weakness, are strongly integrated with markets. Liberalization has had an important impact on national livestock sectors, especially dairying and poultry production. Imports of poultry meat increased, for example, from 500 to 17,000 tonnes between 1996 and 2002 in Senegal. Similar changes have been seen in Ghana and Ivory Coast. The dairy sector has had to compete with milk powder imports for years, but this competition seems to be limited by market segmentation, which explains the recent good prospects for local milk production. In addition, powdered milk production has had a significant role in the establishment of a local dairy industry. African countries should invest further in trade negotiations if they are to increase national capacities, eg via improvements in the negotiating power of administration services and the encouragement of national and regional research networks for market analysis. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,242
Dk : 540938

AXE 3 DIR2 BENIN (1) 89

89 - Tchobo P.F., Natta A.K., Baréa B., Barouh N., Piombo G., Pina M., Villeneuve P., Soumanou M.M., Sohounhloue D.C.K.
Characterization of #Pentadesma butyracea sabine# butters of different production regions in Benin. *Journal of the american oil chemists' society 2007 vol.84:n 8 755-760*
Pentadesma butter (Pentadesma butyracea, sabine, clusiaceae) is an extract of the kernels of tree fruits in West Africa and similar to shea butter. The study of the fatty acid composition, triacylglycerols, sterols and tocopherols of Pentadesma butter was carried out on seeds collected in ten production areas in Benin. The results obtained show that the composition in fatty acids is characterized by the presence of stearic acid and oleic acid, which represent nearly 96% of the total fatty acids. The triacylglycerols profile of the different butters is marked by the overwhelming presence of the triacylglycerols SOS and SOO. The unsaponifiable fraction shows, for the sterolic composition, a predominance of stigmasterol (nearly 68% of the total sterols) whilst the b-tocopherol is the main tocopherol. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,137
http://dx.doi.org/10.1007/s11746-007-1102-0 Dk : 545773

AXE 3 DIR2 BURKINA FASO (1) 88

88 - Dieye P.N., Duteurtre G., Cuzon J.-R., Dia D.
Livestock, liberalization and trade negotiations in West Africa. *Outlook on agriculture 2007 vol.36:n 2 93-99*
West Africa is shifting towards an increasing liberalization of agricultural markets. This trend will continue in line with current trade negotiations at the World Trade Organization (WTO) and between the European Union and African, Caribbean and Pacific (ACP) countries. The objective of this paper is to assess the impact of these negotiations on the livestock sector in the region. Livestock systems, in spite of their technical weakness, are strongly integrated with markets. Liberalization has had an important impact on national livestock sectors, especially dairying and poultry production. Imports of poultry meat increased,

for example, from 500 to 17,000 tonnes between 1996 and 2002 in Senegal. Similar changes have been seen in Ghana and Ivory Coast. The dairy sector has had to compete with milk powder imports for years, but this competition seems to be limited by market segmentation, which explains the recent good prospects for local milk production. In addition, powdered milk production has had a significant role in the establishment of a local dairy industry. African countries should invest further in trade negotiations if they are to increase national capacities, eg via improvements in the negotiating power of administration services and the encouragement of national and regional research networks for market analysis. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,242
Dk : 540938

AXE 3 DIR2 COTE D'IVOIRE (1) 90

90 - Assa R.R., Konan J.-L., Agbo N., Prades A., Nemlin J.
Caractéristiques physico-chimiques de l'eau des fruits de quatre cultivars de cocotier (#Cocos nucifera# L.) en Côte d'Ivoire. *Agronomie africaine 2007 vol.19:n 1 41-51*
Les caractéristiques physico-chimiques de l'eau de coco sont étudiées à cinq stades de la maturation des noix de quatre cultivars de cocotier: le Grand Ouest Africain, le Nain Jaune de Malaisie, le Nain Vert de Guinée Equatoriale et l'hybride PB121 amélioré. Les paramètres étudiés sont le poids de l'eau de coco, le degré Brix, le pH, les teneurs en matière sèche et en sucres. Les résultats obtenus montrent des interactions significatives entre les cultivars et les stades de maturité pour tous les paramètres étudiés. Au cours de la maturation des noix, la diminution du poids de l'eau s'accompagne d'importantes modifications physico-chimiques. Chez le Nain Jaune de Malaisie, la teneur maximale en sucres totaux de l'eau de coco de 53 mg/ ml, est atteinte lorsque la noix est âgée de 9 mois. L'analyse chromatographique a permis d'identifier les sucres solubles contenus dans l'eau de coco que sont le glycérol, le sorbitol, le glucose, le galactose, le fructose et le saccharose. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 542262

AXE 3 DIR2 GHANA (1) 91

91 - Ruf F.
Le cacao : un siècle de domination africaine du marché. *Cultures Sud 2007 n 167 35-40*
Comment le cacao est-il arrivé en Afrique ? Quel est son impact en termes de développement ? Cette culture d'exportation a-t-elle nuit à l'indépendance alimentaire des pays et, en premier lieu, à celle des familles de planteurs de cacao ?
Articles publiés dans une revue sans comité de lecture
Dk : 543653

AXE 3 DIR3 CAMEROUN (1) 92

92 - Nkendah R., Nzouessin C.B., Temple L.
Economic analysis of the spatial integration of plantain markets in Cameroon. *African journal of economic policy 2007 vol.14:n 1 57-82*
The paper's broad objective is to facilitate the spatial integration of main foodstuffs' markets (plantain, cassava, onion, rice, etc.) in Cameroon where the authorities have set up an information system on markets (ISMS) to support the information flow on prices, as well as the correction of the market dysfunctions. Taking into consideration the particular case of the banana plantain, one would like to understand why the urban consumer prices do not cease increasing. Is it due to lack of arbitration or a bad information circulation between the consumption and the production markets? This study answered these questions via econometric time series models (VAR, ADL, ECM, AECM). Monthly prices of plantain in kilogrammes collected by the MINAGRI, the CARBAP and the DSCN on ten markets over the period 1993 to 2000 were used. Results showed a weak integration of the production to the consumption

markets. In other words, the urban consumer prices increase because, in part, there is a bad information circulation in the various markets. The concentration of information in the hands of certain tradesmen, in particular the wholesalers, caused an asymmetry of the price information between the consumption and production markets. This asymmetry of price information prevented other wholesalers from penetrating the plantain marketing chain. This resulted in a weak supply of cities and consequently a high price of plantain to the consumers. To maintain urban food security in plantain, attempts must be made to cancel the information asymmetry in the prices between consumption and production areas. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 540648

AXE 3 DIR4 ETHIOPIE (2) 93, 94

93 - Zelalem Y., Faye B., Loiseau G.
Occurrence and distribution of species of #Enterobacteriaceae# in selected Ethiopian traditional dairy products : a contribution to epidemiology. *Food control 2007 vol.18 1397-1404*
A total of 316 samples of traditional milk and milk products (66 milk, 52 Ergo - naturally fermented milk, 66 butter, 66 buttermilk and 66 Ayih, Ethiopian cottage cheese); 20 samples of cleaning water and 20 samples of udder swabs were collected in the central highlands of Ethiopia to assess the occurrence and distribution of enteric bacteria. A total of 534 isolates distributed among 10 genera and 20 species were identified. Klebsiella, Escherichia and Enterobacter were the dominant genera in their order of abundance with Escherichia coli, the most prevalent species. Erwinia, Klyuvera and Providentia were the least abundant genera. Most of the genera/species identified were isolated predominantly from milk samples followed by butter and buttermilk during the dry season and from milk, buttermilk and butter during the wet season in order of their abundance. The overall mean aerobic mesophilic, coliform and enterobacterial counts of dairy products were 8.3, 4.5 and 5.2 log cfu mL-1 or g-1, respectively. Ergo samples had 0.7 more log cfu of aerobic mesophilic count than butter samples. Coliform and enterobacterial counts were generally lower in samples of fermented milk products than milk with the largest difference being 1.2 log cfu mL-1 for coliform and 1 log cfu mL-1 for enterobacteria between milk and Ergo samples. The highest and lowest coliform counts were 5.2 and 3.9 log cfu mL-1 or g-1 in samples collected from cooperative centers and smallholder producers, respectively. The knowledge of the enteric bacterial properties of traditional dairy products is essential for the improvement of quality and preservation of the products thereby provide a wholesome product to the consumer with minimum health risk.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,823
http://dx.doi.org/10.1016/j.foodcont.2006.10.002 Dk : 539036

94 - Zelalem Y., Loiseau G., Faye B.
Manufacturing efficiencies and microbioal properties of butter and Ayib - Ethiopian cottage cheese. [On line]. *Livestock research for rural development 2007 vol19:n 7*
Four butter-making methods (3 traditional: clay pot - CP, 'mesbekia' - M - a wooden agitator with three to five finger like projections at one end, and a combination of the two - CP+M; and one improved internal wooden agitator fitted to the traditional clay pot - IWA) were evaluated for their efficiencies in terms of fat recovery and churning time at 12 smallholder milk producers in the central highlands of Ethiopia. About 21 litres of milk was needed to produce one kg of butter (83% total solids - TS). An average churning time of 222 min was recorded for the three traditional methods with a mean fat recovery of about 90%. Churning time was significantly reduced by 65% for the IWA as compared to the average of the 3 traditional methods. The effect of holding Ayib (Ethiopian cottage cheese) in whey for different time length (1 h, 2 h and overnight) on Ayib yield was compared. The mean Ayib-making time and temperature was respectively 48 min and 57 C. Weight of Ayib recovered significantly increased with increasing length of time Ayib stayed in whey before separation, amounting to 1266, 1475 and 1776 g per 9.2 litres of buttermilk for 1 h, 2 h and overnight, respectively. About 6 litres of buttermilk was needed to produce one kg of Ayib (20.4% TS). Besides, aerobic mesophylic bacterial count (AMC), counts of enterobacteria, and coliform bacterial count (CC) were performed. Average AMC, counts of enterobacteria and CC of butter samples were 8, 5.3 and 3.8 log cfu/g, respectively, while the counts for Ayib samples were 7.9, 5.1 and 4.4 log cfu/g, respectively. Enterobacter, Escherichia, Klebsiella and Klyuvera were the genera identified,

while Enterobacter cloacae, Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae and Klebsiella gr. 47 are the species commonly isolated from both products. The knowledge on traditional butter- and Ayib-making efficiencies and their microbial properties is essential to increase yield and improve quality and preservation of the products. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://www.cipav.org.co/lrrd/lrrd19/7/yilm19088.htm Dk : 540400

AXE 3 DIR4 OUGANDA(2) 95, 96

95 - Alary V., Chalimbaud J., Faye B.
Multiple determinants of milk production in Africa : The example of the diversity of dairy farming systems in the Mbarara area (Uganda). *Africa development 2007 vol.32:n 2 156-180*
Dans les pays en développement, l'approvisionnement en produits d'origine animale présente un défi majeur à relever pour faire face à la demande au cours des deux prochaines décennies. Bon nombre de chercheurs font remarquer la nécessité d'une " intensification raisonnée ", en particulier dans les régions agricoles, en intégrant à l'agriculture les activités d'élevage. Cependant, l'intensification n'est pratiquée que dans des exploitations spécifiques. Comment peut-on expliquer l'inégal développement dans la production laitière ou bien les différences de choix techniques entre les exploitations ? Une analyse de la diversité des systèmes de production laitière dans la région de Mbarara (Ouganda) a été faite sur la base d'une enquête mensuelle représentative portant sur un échantillon de 22 exploitations identifiées lors d'une enquête/ménage (183 exploitations). L'analyse factorielle de plusieurs tableaux permet de faire une étude complète des interactions et indique quelques relations des causes à effet entre le développement des systèmes de production laitière et la gestion sociale et technique de la ferme dans son ensemble. L'analyse met en relief les facteurs clés de l'intensification tels que l'amélioration génétique ou les opportunités offertes par le marché, mais également le degré d'intensification qui est étroitement lié au niveau de développement de la famille. Si le bétail peut renforcer différentes fonctions (sécurité, consommation, trésorerie) selon le type d'exploitation, les résultats montrent que toutes ces fonctions sont présentes dans tous les types d'exploitations des zones pastorales comme des zones agricoles. Par conséquent, ces résultats remettent en question les clichés que l'on se fait sur les différents types d'élevage en Afrique. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://www.codesria.org/Links/Publications/ad2-07/alary.pdf Dk : 542868

96 - Grimaud P., Sserunjogi M.L., Grillet N.
An evaluation of milk quality in Uganda : Value chain assessment and recommendations . [On line]. *African journal of food, agriculture, nutrition and development 2007 vol.7:n 5 16 p.*
The sanitary quality of raw milk is an important issue in Uganda for social, economical and healthy reasons. A survey on milk quality was carried out in Mbarara major milk producing region in Uganda, between June and August 2004. The milk production system described in this paper has largely remained unchanged up to now. Milk quality was analysed at six stages of the commodity chain: farm, bicycle collector at the farm level, pick-up collecting centre, milk collecting centre, urban cooler, and vendor in Kampala city at the urban cooler level. Milk quality was evaluated using platform tests (Clot on boiling (COB), Alcohol test, milk temperature and density) and microbiological tests (total plate count, total and faecal coliforms, Escherichia coli count). Approximately half of the total coliform count was attributed to fecal coliforms including E. coli. This indicates great possibility of the occurrence of enteric pathogens in milk. This is partly confirmed by the large count of E. coli. The bacteria load reached very high levels close to 2 x 106 colony forming units per millilitre (cfu/mL) at the farm level, and these levels increased 150-fold during transportation to Kampala. An analysis of the raw milk marketed through the informal sub sector in Uganda, revealed two main issues: (i) poor hygiene conditions from the production location all the way to the consumer; (ii) lack of an efficient preservation system to limit bacteria proliferation during transportation to Kampala. Milk was overheated at the urban informal milk heat processing units but rendered free from bacteria. However, storage of such treated milk over several days makes this process potentially more dangerous than beneficial since post processing contamination of a sterile substratum could lead to rapid proliferation of microorganisms. Milk quality across the value chain could be improved through: (i) changing milking practices to ensure better hygienic conditions; (ii) improvement of milk

handling and storage conditions maintaining the cold chain. This study presents baseline information for developing a technical and scientific basis for milk quality improvement in Uganda. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://www.ajfand.net/Issue16/PDFs/Grimaud_2625.pdf Dk : 543476

AXE 3 DIR5 MADAGASCAR (2) 97, 98

97 - Kondjoyan A., Portanguen S., Lecompte J.-Y., Sarter S., Collignan A.
Intérêt d'utiliser les traitements par de la vapeur d'eau seule ou combine avec de l'acide lactique pour décontaminer la surface des viandes : le cas des carcasses de volailles. *Viandes et produits carnés 2007 vol.26:n 4 110-114*
Cet article fait le point sur les résultats récents obtenus pour décontaminer la surface des carcasses de volailles en utilisant de la vapeur d'eau seule ou en combinaison avec de l'acide lactique. Les résultats devraient déboucher rapidement sur des applications industrielles et pourraient être rapidement étendus à d'autres types de viandes que la volaille. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 545631

98 - Sarter S., Nguyen H.N.K., Le Thanh H., Lazard J., Montet D.
Antibiotic resistance in Gram-negative bacteria isolated from farmed catfish. *Food control 2007 vol.18:n 11 1391-1396*
Feeding practices for Pangasius sp. aquaculture in Mekong Delta (Viet Nam) are assessed and the importance of home-made feeding is highlighted. Farmers spend 5% production cost for disease prevention, mainly antibiotics for prophylactic and therapeutic treatments. Therefore, the study aims to analyse the resistance of fish bacteria to antibiotics to help them improve their practices. Bacteria isolated from catfish (n = 92) were arbitrarily-selected from 3 different fish farms to analyse their antibiotic resistance and evaluate the antibiotic pressure exerted on the surrounding environment. Antimicrobial susceptibility was examined for selected isolates against 6 major antibiotics using the agar diffusion method: oxytetracycline, chloramphenicol, trimethoprim-sulphamethoxazole, nitrofurantoin, nalidixic acid, and ampicillin. The predominant bacterial microflora consisted of members of the Enterobacteriaceae (49.1%), Pseudomonads (35.2%) and Vibrionaceae (15.7%) families. The main multiple antibiotic resistance profiles included AM-OTC-SXT-NA (17.8% of isolates), OTC-SXT-NA (15.1%), AM-C-FT-SXT-NA (13.7%), AM-FT-OTC (9.6%), AM-C-FT-OTC-SXT-NA (8.2%). MAR index values of the 3 farms ranged from 0.36 to 0.62 which indicates a high-risk exposed-antibiotic source. These results showed that antibiotic resistance among fish indigenous bacteria is of a high concern in catfish aquaculture in the Mekong River Delta.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,823
http://dx.doi.org/10.1016/j.foodcont.2006.10.003 Dk : 539122

AXE 4

AXE 4 DIR1 SENEGAL (7) 99, 100, 101, 102, 103, 104, 105

99 - De La Rocque S., Tran A., Etter E., Vial L., Hendrickx G.
Environmental changes, disease ecology and geographic information system-based tools for risk assessment. *Veterinaria italiana 2007 vol.43:n 3 381-391*
In recent years, several vector-borne, parasitic or zoonotic diseases have emerged or re-emerged in different parts of the world, with major public health, socio-economic and political consequences. Emergence of these diseases is linked to climatic change, human-induced landscape changes and human activities that have affected disease ecology. The authors illustrate geographic information system-based approaches to understand epidemiological processes and predict disease patterns. Continent-wide approaches are used to explore vector and host distributions and identify areas where substantial changes in vector and vector-borne disease distributions have occurred. Time series of high-resolution satellite data and locally collected data reveal the spatial relationships between factors impacting disease dynamics. Using Rift Valley fever as a case study, a conceptual approach is proposed to integrate all of these data and to identify key parameters for disease modelling. Some of the challenges posed by different spatial and temporal scales of the biological processes and associated indicators are highlighted. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 541976

100 - Dieudonné Kinana A., Cardinale E., Bahsoun I., Tall F., Sire J.-M., Breurec S., Garin B., Boye C.S.-B., Perrier Gros-Claude J.D.
#Campylobacter coli# isolates derived from chickens in Senegal : diversity, genetic exchange with #Campylobacter jejuni# and quinolone resistance. *Research in microbiology 2007 vol.158 138-142*
We used the multilocus sequence typing (MLST) method to study the genetic diversity of Campylobacter coli isolated from chickens in Senegal, and to check the presence of genetic exchange with Campylobacter jejuni. In addition, we assessed the resistance of the isolates to ciprofloxacin and nalidixic acid, and their gyrA sequences. MLST revealed a low level of diversity and the absence of lineages among C. coli isolates. In addition, an exchange of alleles with C. jejuni was found. Twenty percent of the ciprofloxacin-resistant isolates lacked mutations within the quinolone resistance-determining region (QRDR) of GyrA. There was no link between quinolone resistance and sequence type (ST).
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,219
http://dx.doi.org/10.1016/j.resmic.2006.11.009 Dk : 537204

101 - Dieudonné Kinana A., Cardinale E., Bahsoun I., Tall F., Sire J.-M., Garin B., Boye C.S.-B., Dromigny J.-A., Perrier Gros-Claude J.D.
Analysis of topoisomerase mutations in fluoroquinolone-resistant and -susceptible #Campylobacter jejuni# strains isolated in Senegal. *International journal of antimicrobial agents 2007 vol.29 397-401*
In this study, topoisomerase mutations in ciprofloxacin-resistant and -susceptible Campylobacter jejuni were analysed by DNA sequencing. In certain ciprofloxacin-resistant C. jejuni, the mechanism of resistance was complex. The Thr86-Ala substitution in the GyrA protein appears to play a role in increasing the minimum inhibitory concentration of nalidixic acid only. In addition, isolates with this amino acid change and those resistant to quinolones but lacking a mutation in the GyrA quinolone resistance-determining region could be derived from two different clones. Based on gyrA and gyrB polymorphisms, C. jejuni isolates from the Dakar region of Senegal appeared to be less diverse than those from other countries. Moreover, C. jejuni isolates in Senegal appeared to differ from European isolates by lack of a silent mutation at codon 120 of the gyrA gene.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,338
http://dx.doi.org/10.1016/j.ijantimicag.2006.11.012 Dk : 537551

102 - Raphaelle, Ibra, Renaud, Magate, David
Remote sensing and geographic information systems to predict the density of ruminants, hosts of Rift Valley fever virus in the Sahel. *Veterinaria italiana 2007 vol.43:n 3 675-686*
Rift Valley fever (RVF) is an acute arboviral disease of domestic ungulates and humans in Africa and the Middle East. Since the first epidemic in 1987, Senegal has been confronted with recurrent episodes of the disease. This study aimed to model spatial distribution of ruminants in the agropastoral area of Barkedji (Senegal) where the disease is enzootic. In this Sahelian ecosystem, livestock distribution mainly depends on the availability of resources. Accordingly, remote sensing and geographic information systems (GIS) were used to seek environmental indicators of livestock density. A high-resolution Landsat image was associated with landscape field data to describe the land-cover. A series of normalized difference vegetation index values gave an estimation of the phytomass. In addition the compounds of herders in the study zone were located and sampled. Three surveys were conducted during the rainy season to record the number of herds in each compound of the sample. All these data were overlaid in the GIS. A discriminant analysis was performed to associate the observed herd density with environmental data and to develop a predictive model for the entire study zone. The final result was a 1-km resolution raster map of herd density during a normal rainy season. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://www.izs.it/vet_italiana/2007/43_3/675_686.pdf Dk : 544605

103 - Tran A., Gaidet N., L'Ambert G., Balenghien T., Balança G., Chevalier V., Soti V., Ivanes C., Etter E., Schaffner F., Baldet T., De La Rocque S.
The use of remote sensing for the ecological description of multi-host disease systems : a case study on West Nile virus in southern France; un caso studio sul West Nile virus nel sud della Francia. *Veterinaria italiana 2007 vol.43:n 3 687-697*
A large number of diseases that affect humans and animals are influenced by environmental factors. For multi-host infectious diseases, various species might be involved in the transmission process and the circulation of the pathogenic agent might result from the occurrence of certain specific association(s) between host and vector species. The need to characterise multi-species assemblage requires the development of new methods to derive integrated environmental risk factors. We have given remote sensing an ecological application to study the potential distribution of West Nile virus (WNV) in the Rhone River delta in southern France. West Nile fever is a vector-borne disease transmitted in natural cycles between birds and mosquitoes. Satellite images were used to create an ecological map on land cover. Appropriate typology was employed for the description of both hosts and vectors distributions. A database including the probability of occurrence of bird and mosquito species in each landscape unit is linked to this ecological map. Spatial and temporal information on host and vector distribution is then integrated using geographic information systems. This integrative tool is designed to test some hypotheses on the epidemiological process of WNV and to identify environmental configurations and environmental changes likely to favour the emergence of WNV. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 540972

104 - Dabiré K.R., Baldet T., Diabaté A., Dia I., Costantini C., Cohuet A., Guiguemdé R.T., Fontenille D.
#Anopheles funestus# (#Diptera# : #Culicidae#) in a humid savannah area of Western Burkina Faso : bionomics, insecticide resistance status, and role in Malaria transmission. *Journal of medical entomology 2007 vol.44:n 6 990-997*
An entomological survey was carried out in three humid savannah sites of western Burkina Faso (Bama, Lena, and Soumousso) to 1) update the taxonomy of the Anopheles funestus Giles group, 2) examine the role of each species in malaria transmission, 3) characterize the insecticide resistance status of this malaria vector, and 4) determine the distribution of An. funestus chromosomal forms in these areas. Polymerase chain reaction identification of the members showed the occurrence of An. leesoni Evans in Lena and An, rivularum-like in Soumousso in addition to An. funestus s.s. Malaria transmission was ensured mainly by An. funestus s.s. both in Soumousso and Lena and by An, gambiae s.s. Giles in Bama, the rice-growing area. The insecticide resistance status performed only on An. funestus indicated that this mosquito was susceptible to pyrethroids irrespective of the study area, but it was resistant to dieldrin. Furthermore, the occurrence of the two chromosomal forms of An. funestus, namely, Kiribina and

Folonzo, seemed to follow ecological setups where Kiribina predominated in the irrigated area and Folonzo was more frequent in classic savannah. This study revealed that the problematic of An. funestus taxonomy was closer to that of An. gambiae requiring more structured studies to understand its genetic ecology. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,864
Dk : 542387

105 - Vial L., Wieland B., Jori F., Etter E., Dixon L., Roger F.
African swine fever virus DNA in soft ticks, Senegal. *Emerging infectious diseases 2007 vol.13:n 12 1928-1931*
African swine fever is a highly contagious disease of pigs in Africa. Although its persistence in Senegal may be caused by asymptomatic carriers involved in the domestic transmission cycle, we demonstrated that the soft tick Ornithodoros sonrai can be naturally infected with the causative agent. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 5,775
http://www.cdc.gov/eid/content/13/12/1928.htm Dk : 542053

AXE 4 DIR2 BENIN (3) 106, 107, 108

106 - Corbel V., N'Guessan R.N., Brengues C., Chandre F., Djogbenou L., Martin T., Akogbeto M., Hougard J.M., Rowland M.
Multiple insecticide resistance mechanisms in #Anopheles gambiae# and #Culex quinquefasciatus# from Benin, West Africa. *Acta tropica 2007 vol.101:n 3 207-216*
Because free-insecticide treated net distribution is planned in Benin (West Africa) during the next few years, we investigated the type, frequency and distribution of insecticide resistance mechanisms in Anopheles gambiae and Culex quinquefasciatus mosquitoes in four localities selected on the basis of contrasting agricultural practices, use of insecticides and environment. Bioassays with WHO diagnostic test kits were carried out using pyrethroid, carbamate, organophosphate and organochlorine insecticides. An. gambiae mosquitoes were identified to species and to M or S molecular forms using PCR techniques. Molecular and biochemical assays were carried out to identify kdr and Ace.1 mutations in individual mosquitoes and to detect any increase in the activity of enzymes typically involved in insecticide metabolism (oxidase, esterase and glutathion-S-transférases). WHO diagnostic tests showed high frequency of resistance in An. gambiae and Cx. quinquefasciatus to permethrin and DDT in three areas. This was consistent with the presence of target site insensitivity due to kdr mutation and to increased metabolism through enzymatic activity. Kdr was expressed in both M and S forms. However, less than 1% of An. gambiae or Cx. quiqnuefasciatus showed the presence of the Ace.1R mutation. Carbamate/OP resistance was present at higher frequency in Culex than in An. gambiae. Dieldrin resistance was present in both species at all four localities. A higher frequency of pyrethroid-resistance was found in An. gambiae mosquitoes collected in urban areas compared to those collected in rice growing areas. The expansion of vegetable growing within urban areas probably contributed to selection pressure on mosquitoes. The detection of multiple resistance mechanisms in both An. gambiae and Cx. quinquefasciatus in Benin may represent a threat for the efficacy of ITNs and other forms of vector control such as indoor residual spraying in the future. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,000
http://dx.doi.org/10.1016/j.actatropica.2007.01.005 Dk : 542622

107 - Hougard J.M., Martin T., Guillet P.F., Coosemans M., Itoh T., Akogbeto M., Chandre F.
Preliminary field testing of a long-lasting insecticide-treated hammock against #Anopheles gambiae# and #Mansonia# spp. (Diptera : Culicidae) in West Africa. *Journal of Medical Entomology 2007 vol.44:n 4 651-655*
L'efficacité d'un hamac expérimental muni d'une couverture en moustiquaire, tous deux en polyéthylène imprégné d'un insecticide pyréthrinoïde (perméthrine) et à longue durée d'efficacité, a été testée dans une case expérimentale en parpaings de ciment contre des populations naturelles de Anopheles gambiae s.l., vecteur de paludisme, et de Mansonia africana (Theobald) et Mansonia uniformis (Theobald), moustiques nuisants et vecteur d'arboviroses. Le hamac a été évalué pendant 20 semaines consécutives

en comparaison avec des tortillons insecticides. 2,227 moustiques (130 An. gambiae et 2,097 Mansonia spp.), soit 27,8 moustiques par nuit de capture ont été collectés dans la case non traitée (témoin). L'effet répulsif des tortillons comme celui du hamac ont diminué significativement le taux d'entrée des moustiques dans les cases (de 35 à 60%). Le pourcentage d'inhibition du taux de piqûres a été élevé, tant pour les tortillons que le hamac (de 93 à 97%) ainsi que la mortalité (de 88 à 98%). En protégeant durablement les personnes dormant à l'intérieur des habitations, il apparaît que les hamacs imprégnés sont plus pratiques que les tortillons dans la mesure où ces derniers doivent être remplacés chaque nuit. Il serait intéressant d'évaluer l'efficacité de ces hamacs imprégnés contre les vecteurs exophages dans la mesure où la plupart des gens dormant spontanément dans des hamacs les utilisent à l'extérieur. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,864
Dk : 540667

108 - Martin T., Chandre F., Chabi J., Guillet P.F., Akogbeto M., Hougard J.M.
A biological test to quantify pyrethroid in impregnated nets. *Tropical medicine & international health 2007 vol.12:n 2 245-250*
First instar larvae of Aedes aegypti (L.) (Diptera: Culicidae) are very susceptible to deltamethrin, which kills all larvae at a very low dose (0.1 µg/l). Thus the sensitivity of this insect to detect that pyrethroid is in parts per billion, as obtained with most common chromatographic methods of analysis. Here we describe a biological test (BT) to quantify deltamethrin in long-lasting insecticidal nets (LLINs) by exposing first instar larvae of Ae. aegypti to serial extracted insecticide solutions from net samples. The deltamethrin concentration in the net was calculated at the doses killing 50% of larva, from the LC50 of deltamethrin (6.5 x 10-5 mg/l) and the dilution factor (DF50) of the extracted net solution. The pyrethroid quantification in LLINs after 0-25 washes with this BT was correlated with those obtained by direct chromatographic analysis (r2 = 0.84). This BT did not require sophisticated equipment and could be extended to other molecules and materials. It appeared accurate, robust, cheap and well adapted to the national malaria programmes as the eggs of Ae. aegypti might be used for some months. This method was adapted to provide an easy to use kit test for the quality control of LLINs in the field. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,466
http://dx.doi.org/10.1111/j.1365-3156.2006.01777.x Dk : 536709

AXE 4 DIR2 BURKINA FASO (4) 104, 109, 110, 111

104 - Dabiré K.R., Baldet T., Diabaté A., Dia I., Costantini C., Cohuet A., Guiguemdé R.T., Fontenille D.
#Anopheles funestus# (#Diptera# : #Culicidae#) in a humid savannah area of Western Burkina Faso : bionomics, insecticide resistance status, and role in Malaria transmission. *Journal of medical entomology 2007 vol.44:n 6 990-997*
An entomological survey was carried out in three humid savannah sites of western Burkina Faso (Bama, Lena, and Soumousso) to 1) update the taxonomy of the Anopheles funestus Giles group, 2) examine the role of each species in malaria transmission, 3) characterize the insecticide resistance status of this malaria vector, and 4) determine the distribution of An. funestus chromosomal forms in these areas. Polymerase chain reaction identification of the members showed the occurrence of An. leesoni Evans in Lena and An, rivularum-like in Soumousso in addition to An. funestus s.s. Malaria transmission was ensured mainly by An. funestus s.s. both in Soumousso and Lena and by An, gambiae s.s. Giles in Bama, the rice-growing area. The insecticide resistance status performed only on An. funestus indicated that this mosquito was susceptible to pyrethroids irrespective of the study area, but it was resistant to dieldrin. Furthermore, the occurrence of the two chromosomal forms of An. funestus, namely, Kiribina and Folonzo, seemed to follow ecological setups where Kiribina predominated in the irrigated area and Folonzo was more frequent in classic savannah. This study revealed that the problematic of An. funestus taxonomy was closer to that of An. gambiae requiring more structured studies to understand its genetic ecology. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,864
Dk : 542387

109 - Bouyer J., Pruvot M., Bengaly Z., Guérin P.M., Lancelot R.

Learning influences host choice in tsetse. *Biology letters 2007 vol.3 113-116*
A learning capacity for feeding is described in many insect species including vectors of diseases, but has never been reported in tsetse flies (Diptera, Glossinidae), the cyclic vectors of human (sleeping sickness) and animal trypanosomoses in Africa. Repeated feeding on the same host species by a disease vector is likely to increase the within-species disease-transmission risk, but to decrease it between species. An experiment with cattle and reptiles in a stable provides evidence that the species of host selected for the second blood meal in tsetse flies depends on the host encountered for the first blood meal when the between-meal interval is 2 days. This preference disappears when the between-meal interval is extended to 3 days. The energetic advantages of this acquired preference and its importance in trypanosomoses epidemiology are discussed. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,716
http://dx.doi.org/10.1098/rsbl.2006.0578 Dk : 540943

110 - Bouyer J., Ravel S., Dujardin J.P., De Meeus T., Vial L., Thevenon S., Guerrini L., Sidibé I., Solano P.
Population structuring of #Glossina palpalis gambiensis# (Diptera : Glossinidae) according to landscape fragmentation in the Mouhoun river, Burkina Faso. *Journal of medical entomology 2007 vol.44:n 5 788-795*
The impact of landscape fragmentation due to human and climatic mediated factors on the structure of a population of Glossina palpalis gambiensis Vanderplank (Diptera: Glossinidae) was investigated in the Mouhoun river basin, Burkina Faso. Allele frequencies at five microsatellite loci, and metric properties based on 11 wing landmarks, were compared between four populations. The populations originated from the Mouhoun river and one of its tributaries. The average distance between samples was 72 km with the two most widely spaced populations being 216 km apart. The sampling points traversed an ecological cline in terms of rainfall and riverine forest ecotype, along a river enlarging from downstream to upstream and oriented south to north. Microsatellite DNA comparison demonstrated structuring between the populations, but not complete isolation, with an overall Fst = 0.012 ($P < 0.001$) . Wing geometry revealed significant centroid size and shape differences between populations, especially between the two most distant populations. There was no significant correlation between gene flow and geographic distance at this scale, but there was a positive correlation in females between metric distances (wing shape differences) and geographic distances that might be attributed to the cline of environmental conditions. The impact of the fragmentation of riparian landscapes on tsetse population structure is discussed in the context of control campaigns currently promoted by Pan African Tsetse and Trypanosomosis Eradication Campaign. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,864
Dk : 540964

111 - Bouyer J., Stachurski F., Kaboré I., Bauer B., Lancelot R.
Tsetse control in cattle from pyrethroid footbaths. *Preventive veterinary medicine 2007 vol.78:n 3-4 223-238*
In Burkina Faso, we assessed the efficacy of treating cattle with a footbath containing aqueous formulations of pyrethroids to control two tsetse-fly species, Glossina tachinoides Westwood, 1850 (Diptera, Glossinidae) and Glossina palpalis gambiensis Vanderplank 1949. Legs were the most targeted parts of the body for tsetse-fly blood meals: 81% (95% CI: 73, 89) for G. tachinoides and 88% (81, 95) for G. palpalis. The in-stable efficacy of footbath treatments was compared with manual full spraying with a 0.005% alphacypermethrin (Dominex, FMC, Philadelphia, USA) formulation (250 mL versus 2 L). The proportions of knocked-down flies were the same with footbath and full spray but the latter was more protective against fly bites. In field use, the efficacy of both methods should be similar given the recommended treatment frequency: 3 days for footbath versus 7 days for full spray. Among 96 cattle drinking at the same water point in Dafinso (Burkina Faso), 68 (71%) were treated with a footbath containing a 0.005% deltamethrin formulation (Vectocid, CEVA SA, Libourne, France). We observed the effect of this live-bait technique on the one hand on released cohorts of reared, irradiated flies, and on the other hand on wild tsetse flies. In both cases, the footbath treatment was associated with a reduction of the apparent fly density probably related to an increased mortality. (c) 2006 Elsevier B.V. All rights reserved. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,704

http://dx.doi.org/10.1016/j.prevetmed.2006.10.008 Dk : 536363

AXE 4 DIR2 COTE D'IVOIRE (3) 112, 113, 114

112 - Couacy-Hymann E., Bodjo S.C., Danho T., Koffi M.Y., Libeau G., Diallo A.
Early detection of viral excretion from experimentally infected goats with peste-des-petits ruminants virus. *Preventive veterinary medicine 2007 vol.78:n 1 85-88*
We observed 15 goats for 9 days after subcutaneous infection with 103 TCID50 with isolates of peste-des-petits ruminants virus from Africa and India and five concurrent, uninfected control goats. Typical clinical signs of the infection were present in all 15 infected goats by day 8 and in most by day 6 and some signs were present by day 4. However, 6 out of 15 goats already have detectable virus shedding by day 3 and four more were shedding by day 4 and every goat had virus shedding for at least 1 day before the recognition of clinical signs. This experiment indicates that incubatory carriers therefore might play a role in the transmission of PPRV among small ruminants. (c) 2006 Elsevier B.V. All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,704
http://dx.doi.org/10.1016/j.prevetmed.2006.09.003 Dk : 536364

113 - Couacy-Hymann E., Bodjo S.C., Danho T., Libeau G., Diallo A.
Evaluation of the virulence of some strains of peste-des-petits-ruminants virus (PPRV) in experimentally infected West African dwarf goats . *The veterinary journal 2007 vol.173:n 1 178-183*
Different isolates of peste-des-petits-ruminants virus (PPRV) from outbreaks in Africa and India were investigated for virulence in West African dwarf goats in the Ivory Coast. Six groups of five animals received a virulent suspension of various strains of virus at a concentration of 103 TCID50/mL and the goats were observed for 15 days after infection. The Côte-d'Ivoire 89 (CI89), Guinea Conakry and Bissau Guinea PPRV strains caused a peracute disease; the India-Calcutta strain caused acute disease; the Sudan-Sennar strain produced an acute to mild disease, while the Nigeria 75/1 wild-type strain caused a mild disease and the animals recovered. The viruses studied contained examples of PPRV from specific lineage groups based on their nucleoprotein PPRV gene. This experiment indicated that virulence characteristics might be a useful marker to help classify PPRV isolates. (c) 2005 Elsevier Ltd. All rights reserved
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,755
http://dx.doi.org/10.1016/j.tvjl.2005.08.020 Dk : 536419

114 - Michaud V., Gil P., Kwiatek O., Prome S., Dixon L., Romero L., Le Potier M.-F., Arias M., Couacy-Hymann E., Roger F., Libeau G., Albina E.
Long-term storage at tropical temperature of dried-blood filter paper for detection and genotyping of RNA and DNA viruses by direct PCR. *Journal of virological methods 2007 vol.146 257-265*
In tropical countries the diagnosis of viral infections of humans or animals is often hampered by the lack of suitable clinical material and the necessity to maintain a cold chain for sample preservation up to the laboratory. This study describes the use of filter papers for rapid sample collection, and the molecular detection and genotyping of viruses when stored over long periods at elevated temperatures. Infected blood was collected on filter papers, dried and stored at different temperatures (22, 32 and 37 C) for various periods (up to 9 months). Two animal viruses, African swine fever, a large double-stranded DNA virus and Peste des Petits Ruminants, a negative single-stranded RNA virus, were used to validate the method. Filter papers with dried blood containing virus or control plasmid DNA were cut in small 5 mm2 pieces and added directly to the PCR tube for conventional PCR. Nucleic acid from both viruses could still be detected after 3 months at 32 C. Moreover, the DNA virus could be detected at least 9 months after conservation at 37 C. PCR products obtained from the filter papers were sequenced and phylogenetic analysis carried out. The results were consistent with published sequences, demonstrating that this method can be used for virus genotyping. (c) 2007 Elsevier B.V. All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,933
http://dx.doi.org/10.1016/j.jviromet.2007.07.006 Dk : 541964

AXE 4 DIR2 NIGER (1) 115

115 - Antoine-Moussiaux N., Faye B., Vias G.F.
Tuareg ethnoveterinary treatments of camel diseases in Agadez area (Niger). *Tropical animal health and production 2007 vol.39 83-89*
Pendant des générations, les pâtres nomades ont appris à prendre en charge la santé des troupeaux, en particulier ceux de dromadaires en raison de leur valeur considérable. Etant donné le manque de disponibilité de services vétérinaires, les pâtres de chameaux des zones distantes ont développé leurs propres techniques vétérinaires et celles des techniques adaptées à la pharmacopée. La saignée des animaux malades est un traitement courant, compte tenu du fait que les pâtres Tuareg estiment que du "sang vicié" (izni) est la cause de nombreuses conditions. Plusieurs techniques chirurgicales sont néanmoins utilisées, telles que l'excision du cordage sublingual calcifié. Les remèdes mentionnés dans cette enquêtes sont dérivés de Maerua crassifolia, Boscia senegalensis, Acacia raddiana, Cucumis prophetarum, Calotropis procera, Ricinus communis, Citrullus colocynthis, du thé vert, du millet, du tabac et des oignons. Des éléments artificiels sont également utilisés pour le traitement des animaux. Les poudres recueillies de batteries, de diverses crèmes de soins des cheveux ou de la peau, du verre granulé, des insecticides ou de l'huile pour moteur appartiennent à leur pharmacopée. Cette ouverture d'esprit autorise l'introduction de médicaments vétérinaires modernes. Différents facteurs, tels que le manque d'objectifs de production réels, représentent toutefois des limitations au progrès. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,410
http://dx.doi.org/10.1007/s11250-007-4404-1 Dk : 541981

AXE 4 DIR4 AFRIQUE DU SUD (2) 105, 116

105 - Vial L., Wieland B., Jori F., Etter E., Dixon L., Roger F.
African swine fever virus DNA in soft ticks, Senegal. *Emerging infectious diseases 2007 vol.13:n 12 1928-1931*
African swine fever is a highly contagious disease of pigs in Africa. Although its persistence in Senegal may be caused by asymptomatic carriers involved in the domestic transmission cycle, we demonstrated that the soft tick Ornithodoros sonrai can be naturally infected with the causative agent. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 5,775
http://www.cdc.gov/eid/content/13/12/1928.htm Dk : 542053

116 - Mendoza P., Mayor P., Galvez H.A., Céspedes M.J., Jori F.
Antibodies against #Leptospira# spp. in captive collared peccaries, Peru. [On line]. *Emerging infectious diseases 2007 vol.13:n 5*
Articles publiés dans une revue à facteur d'impact, FI 2007 : 5,775
http://www.cdc.gov/eid/content/13/5/793.htm Dk : 539026

AXE 4 DIR4 ETHIOPIE (2) 117, 118

117 - Diallo A., Minet C., Le Goff C., Berhe G., Albina E., Libeau G., Barrett T.
The threat of peste des petits ruminants : progress in vaccine development of disease control. *Vaccine 2007 vol.25 5591-5597*
Peste des petits ruminants (PPR) is a highly contagious animal disease caused by a virus in the genus Morbillivirus, family Paramyxoviridae. This infection is responsible for high morbidity and mortality in sheep and goats and in some small wild ruminant species. The huge number of small ruminants, which are reared in the endemic areas makes PPR a serious disease threatening the livelihood of poor farmers. Taking advantage of the closely relationship between rinderpest and PPR viruses, the attenuated rinderpest vaccine was used in the control of PPR. It is now replaced by the homologous attenuated PPR vaccine. Unfortunately, animals that have received this vaccine cannot be distinguished serologically from infected animals. With the advent of DNA recombinant technology, efforts are being made to develop effective PPR marker vaccines to enable such differentiation and which would allow countries to

implement both vaccination and disease surveillance programmes at the same time. (c) 2007 Elsevier Ltd All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,377
http://dx.doi.org/10.1016/j.vaccine.2007.02.013 Dk : 540379

118 - Goutard F., Roger F., Guitian J., Balança G., Argaw K., Demissie A., Soti V., Martin V., Pfeiffer D.
Conceptual framework for avian influenza risk assessment in Africa : the case of Ethiopia. *Avian diseases 2007 vol.51 504-506*
The avian influenza (AI) epidemic is threatening Africa mainly because the flyways of migratory birds link the endemic and newly infected countries with disease-free areas in this continent and because of the risk of introduction through trade. Risk analysis provides a set of tools for supporting decision making by the veterinary services and other stakeholders, resulting in more effective surveillance and emergency preparedness. The risk assessment process could be split into three different steps: 1) risk release through the migratory birds and the official and unofficial poultry-product marketing chains; 2) risk exposure by means of studying interfaces among imported and exposed poultry and among wild and domestic birds; and 3) risk consequences for establishing the probability of AI spreading within the poultry population and the probability of it escaping detection. A conceptual framework is presented based on preliminary data and field missions carried out in Ethiopia. Field surveys and expert opinion will be necessary for the parameterization of the risk model. Spatial analysis will be used to identify high risk of exposure among wild and domestic birds. Risk communication and risk management will be based on the findings from the risk assessment model. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,069
Dk : 540391

AXE 4 DIR4 KENYA (1) 119

119 - Camus E., Traoré M.T., Cuny G., Aumont G.
Le retour des maladies animales. *La recherche 2007 n 406, suppl. 16-17*
Persistance de la fièvre de la Vallée du Rift, essor de la grippe aviaire ou extension de la bluetongue... les maladies animales résistent et nécessitent une démarche innovante alliant notamment la biotechnologie et l'écologie. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 536835

AXE 4 DIR4 ZIMBABWE (2) 120, 121

120 - Gaidet N., Dodman T., Caron A., Balança G., Desvaux S., Goutard F., Cattoli G., Lamarque F., Hagemeijer W., Monicat F.
Avian influenza viruses in water birds, Africa. [On line]. *Emerging infectious diseases 2007 vol.13:n 4 626-629*
We report the first large-scale surveillance of avian influenza viruses in water birds conducted in Africa. This study shows evidence of avian influenza viruses in wild birds, both Eurasian and Afro-tropical species, in several maior wetlands of Africa. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 5,775
http://www.cdc.gov/eid/content/13/4/626.htm Dk : 538521

121 - Gaidet N., Dodman T., Caron A., Balança G., Desvaux S., Goutard F., Cattoli G., Martin V., Tripodi A., Lamarque F., Hagemeijer W., Monicat F.
Influenza surveillance in wild birds in Eastern Europe, the Middle East, and Africa : preliminary results from an ongoing FAO-led survey. *Journal of wildlife diseases 2007 vol.43:n 3, suppl. S22-S28*
In the context of the spread of highly pathogenic avian influenza (IIPAI) II5N1 virus through Eurasia during 2005, a surveillance study of wild birds was launched in early 2006 within the framework of regional Technical Cooperation Programmes of Food and Agriculture Organization in several countries of eastern Europe, the Middle East, and Africa. From mid-January to mid-May 2006, field campaigns were

conducted in 14 countries, including recently infected countries. In total, 5,256 samples were collected in large wetland areas where Eurasian and Afro-tropical waterbirds congregate. The overall prevalence of avian influenza viruses detected by RT-PCR was 3.3%, with no positivity for IIPAI II5N1 virus. Five distinct virus isolates were obtained from the RT-PCR positive samples. Low pathogenic avian influenza (LPAI) viruses were detected and isolated in both Eurasian and Afro-tropical bird species, indicating that low pathogenic viruses were circulating in Africa during the northern winter. These findings reveal that LPAI virus persists in wild birds in subtropical environments and support the hypothesis that avian influenza viruses could he perpetuated in wild birds throughout the year, including in Palearctic waterbirds wintering in sub-Saharan Africa before their northward spring migration. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,013
Dk : 540976

AXE 5

AXE 5 DIR1 SENEGAL (3) 122, 123, 124

122 - Magrin G.
L'Afrique sub-saharienne face aux famines énergétiques. *EchoGéo 2007 n 3 12 p.*
La faible consommation d'énergie est une cause et un symptôme du sous-développement de l'Afrique. La pénurie énergétique qui menace le monde semble y introduire deux trajectoires différentes : pour les pays pétroliers, il s'agit d'éviter les pièges de la " malédiction des matières premières ", d'utiliser la rente pour consolider l'Etat et l'économie. Pour les autres, il convient déjà de penser l'après pétrole. Partout, des innovations sont à rechercher pour que l'énergie ne soit plus un frein mais un catalyseur du développement. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://echogeo.revues.org/index1976.html Dk : 542606

123 - Magrin G.
La ruée vers l'or noir : une chance pour sortir l'Afrique de l'impasse ? *Défense nationale et sécurité collective 2007 75-85*
Un nouveau contexte pétrolier s'est installé en Afrique à la faveur de la hausse des cours des hydrocarbures. De nombreux acteurs américains, européens ou asiatiques rivalisent pour la maitrise d'une scène pétrolière renouvelée par des découvertes récentes. Cette compétition risque de renforcer les effets pervers de l'or noir souvent observés dans les Etats fragiles: économies déstructurées, corruption généralisée, environnement et droits de l'homme bafoués. D'un autre côté, des initiatives internationales militent pour un comportement plus responsable des sociétés minières et des Etats impliqués dans les activités extractives, afin que celles-ci contribuent mieux au développement. Cet article vise à éclairer les perspectives dessinées par la rencontre de ces deux dynamiques contradictoires. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 541336

124 - Magrin G.
Le développement local introuvable : réflexions sur l'importation d'un concept au Sénégal. *Les cahiers de Girardel 2007 n 4 32-64*
Il s'agit ici de mesurer la distance entre les différentes acceptions du développement local et les réalités qui s'abritent sous son nom. On commencera par rappeler les différentes définitions courantes du développement local, à travers leur contexte de naissance et leurs relations avec le contexte de décentralisation; puis, on analysera leurs modalités d'importation dans le contexte sénégalais, les ambiguïtés qu'elles posent, pour finir par s'interroger sur ce que pourrait être un processus de développement local au Sénégal. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 543113

AXE 5 DIR2 GHANA (2) 125, 126

125 - Ruf F.
De la pauvreté à la fable médiatique et politique : le cacao africain emploie-t-il des enfants ? *La Tribune 2007 25*
Une campagne stigmatise le travail des enfants dans les plantations en Afrique et les multinationales du chocolat. Non avérés, du moins très exagérés, ces faits risquent d'avoir de graves conséquences pour les populations locales. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 536959

126 - Ruf F.
Boom du cacao au Ghana, fruit de la libéralisation ? *Grain de sel 2007 n 38 5-6*
Effondrée dans les années 80, la production ghanéenne de cacao se rétablit dans les années 90 pour rebondir à partir de 2003 [1]. L'économie du pays, bon élève du FMI, se redresse. Bien des observateurs concluent au succès d'une politique de libéralisation progressive et partielle. Mais de multiples autres facteurs entrent en ligne de compte. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 539149

AXE 5 DIR2 MALI (1) 127

127 - Nubukpo K.K.
Dépenses publiques et croissance des pays de l'union économique et monétaire ouest-africaine (UEMOA). *Afrique contemporaine 2007 vol.2:n 222 213-240*
Dans le contexte actuel d'assainissement des finances publiques dans les États de l'Union économique et monétaire ouest africaine (UEMOA) et dans le prolongement des réflexions relatives aux facteurs de la croissance au sein des économies en développement, il convient de s'interroger sur le rôle des dépenses publiques dans la réalisation de la croissance des économies de l'UEMOA. L'objet de la présente étude est ainsi d'évaluer l'impact du niveau et de la composition des dépenses publiques sur la croissance des économies de l'UEMOA, sur la période 1965-2000. Il ressort des estimations effectuées, qu'à court terme, les dépenses publiques totales n'ont pas d'impact significatif sur la croissance dans la majorité des économies de l'Union. A long terme, la hausse des dépenses publiques a un impact sur la croissance nettement différencié par pays. La prise en compte de la composition des dépenses publiques conduit à mettre en évidence l'effet négatif des dépenses de consommation publique sur la croissance à court et à long terme dans l'Union. S'agissant des dépenses publiques d'investissement, leur impact est positif, essentiellement à long terme, sur la croissance des économies de l'UEMOA. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 543920

AXE 5 DIR3 CAMEROUN (1) 128

128 - Havard M., Dugué P.
Aider les paysans à mieux gérer leur exploitation. *Travaux et innovations 2007 n 138 46-50*
Le Programme d'Amélioration des Systèmes d'Exploitation en zone cotonnière financé par l'Agence Française de Développement, et l'Assemblée Permanente des Chambres d'Agriculture du Mali ont sollicité le Cirad pour appuyer en 2006 le volet "conseil à l'exploitation familiale" de ce programme. L'appui apporté visait à améliorer les performances du dispositif de conseil expérimenté et à contribuer à la réflexion sur la construction de dispositifs de conseil originaux et novateurs avec les différents opérateurs de développement au Mali. Les pistes d'action proposées ci-après sont tirées de l'analyse des expériences de conseil agricole passées ou en cours au Mali. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 540645

AXE 5 DIR4 AFRIQUE DU SUD (1) 129

129 - Fok M., Hofs J.-L., Gouse M., Kirsten J.F.
Contextual appraisal of GM cotton diffusion in South Africa. *Life science international journal 2007 vol.1:n 4 468-482*
The bulk of the South African cotton crop is produced by large scale commercial farmers. Therefore it might be misleading to present South Africa's Impressive Genetically Modified Cotton (GMC) adoption figures as evidence of successful GMC use by smallholder farmers. The South African cotton sector struggles In an unstable production and market environment and smallholders with limited resources and limited production, managerial and marketing capacity and choice suffer most. The total South African

cotton area and number of farmers decreased drastically since the introduction of GMC and this causes observers to question the so-called success story of GMC In South Africa. The South African smallholder experience has shown that technology introduction on its own cannot sustalnably increase production; factors like institutional arrangements plays a vital role. Studies have In the past focussed exclusively on the performance of the new technology and the Institutional role has been under emphasised. The results of our research complement the existing studies by pointing out low profitability in an unfavourable climatic and Institutional context. This reminds us that rain-fed agriculture remains sensitive to climatic hazards and that new technology adoption under these conditions might Increase financial risk associated with cotton production. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 541774

AXE 5 DIR5 MADAGASCAR (1) 130

130 - Bouquet E., Wampfler B., Ralison E., Roesch M.
Trajectoires de crédit et vulnérabilité des ménages ruraux : le cas des Cecam de Madagascar. *Autrepart 2007 n 44 157-172*
L'article s'intéresse aux trajectoires de crédit des sociétaires des Cecam de Madagascar et cherche à évaluer dans quelle mesure ces trajectoires constituent un dispositif de gestion du risque et de réduction de la vulnérabilité. Les données suggèrent une relation positive entre la diversité et l'intensité de la trajectoire de crédit d'une part, la perception par les sociétaires d'une réduction de la vulnérabilité d'autre part, même si, dans certaines situations, le crédit peut s'avérer une source de risque. Les conditions d'accès aux crédits indiquent par ailleurs une relative équité vis-à-vis des sociétaires les plus pauvres. L'expérience innovante des Cecam permet de tirer des enseignements de portée plus générale pour la microfinance rurale. Continuité de l'offre sur le long terme, diversification de la gamme et adéquation des procédures d'accès et de remboursement du crédit apparaissent comme déterminants. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 542263

AXE 6

AXE 6 DIR1 SENEGAL (1) 131

131 - Magrin G.
Le lac Tchad n'est pas la mer d'Aral. *Mouvements 2007 [21] p.*
Symbole du réchauffement climatique, la baisse spectaculaire des eaux du Lac Tchad est en réalité naturelle. Retour sur un mythe de la lutte écologique, érigé pour le meilleur... ou pour le pire ? Il s'agira ici de décrire les variations du lac Tchad et son fonctionnement actuel; puis de présenter l'histoire des relations entre les sociétés riveraines et le lac, pour s'interroger enfin sur les scenarii d'évolution du lac et les enjeux anthropiques associés, dans le contexte du changement climatique. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
http://www.mouvements.info/spip.php?article201 Dk : 541862

AXE 6 DIR2 BURKINA FASO (1) 132

132 - Bouyer J., Sana Y., Samandoulgou Y., César J., Guerrini L., Kaboré Zoungrana C., Dulieu D.
Identification of ecological indicators for monitoring ecosystem health in the trans-boundary W regional park : a pilot study. *Biological conservation 2007 vol.138 73-88*
The sustainable management of the W Regional park and its peripheral areas is based on a trade-off between conservation and the generation of economic income for local populations. This work is a pilot study for the identification of ecological indicators to monitor ecosystem health in Sudanian Savannah ecosystems. Ecological indicators are needed to warrant the efficiency of the protection measures, particularly in the mosaic landscapes of the peripheral areas. Two insect families (Coleoptera: Scarabaeidae (Cetoniinae) and Lepidoptera: Nymphalidae) were trapped along transects crossing landuse units submitted to various human pressures (none, hunting, traditional and intensive crops, grazing) in two countries (Burkina Faso and Bénin). Plant species richness was found to be correlated with the abundance of four fruit-feeding insect species and with the fruit-feeding butterflies species richness, but not with the Cetoniinae species richness. The abundance of Nymphalidae species generally dropped with human activities, but that of Cetoniinae species followed the intermediate disturbance theory. The likely impact of the various management practises on the general ecosystem health is discussed, as is the potential value of fruit-feeding insects as bioindicators and the points that still need to be clarified. (c) 2007 Elsevier Ltd All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,296
http://dx.doi.org/10.1016/j.biocon.2007.04.001 Dk : 540940

AXE 6 DIR2 MALI (4) 133, 134, 135, 136

133 - Allaye Kelly B., Gourlet-Fleury S., Bouvet J.-M.
Impact of agroforestry practices on the flowering phenology of #Vitellaria paradoxa# in parklands in southern Mali. *Agroforestry systems 2007 vol.71 67-75*
The impact of human practices on the phenology of flowering was assessed for an important agroforestry tree species of the Sudano-Sahelian zone: Vitellaria paradoxa. Flowering was monitored at two sites in southern Mali over 2 years. At each site, the impact of agricultural practices on flowering phenology was assessed by comparing field, fallow and forest. The site effect and agricultural practices were significant for all the monitored variables. The proportion of individuals that flowered was 89% at Koumantou and 40% at MPeresso. About 98, 95 and 75% of individuals at Koumantou and 88, 12 and 20% at MPeresso flowered in the field, fallow and forest, respectively. The mean length of flowering ranged from 69 to 81 days at Koumantou and from 45 to 108 days at MPeresso. The mean number of days for the active phase ranged from 36 to 49 days at Koumantou and from 27 to 64 days at MPeresso. Koumantou's favourable climatic conditions resulted in better flowering ability and a higher probability of abundant flowering. Field appeared to provide better conditions than fallow and forest regarding flowering ability

and probability of abundant flowering. How-ever, tree diameter did not affect flowering phenology. Agricultural practices appear to have a noticeable impact on the phenology of flowering of V. paradoxa. Trees flowered abundantly in the parkland and therefore increased gene flow via pollen and/or seeds and the dynamics of genetic diversity. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,603
http://dx.doi.org/10.1007/s10457-007-9074-5 Dk : 541498

134 - Poilecot P., Gaidet N., Cappelle J., Iverson S., Yarris G., Niagate B., Samake M.B., Kone B.
De la chasse traditionnelle au suivi satellitaire des oiseaux d'eau. *Courrier de la nature 2007 n 236 20-27*
Au Mali, le Delta Intérieur du Niger est une vaste zone humide qui représente une ressource économique majeure pour le pays. Pêche, élevage, chasse et agriculture s'y côtoient. Il accueille une vaste population d'oiseaux, dont plus d'un million de migrateurs. En 2007, il a été le siège d'une mission de suivi de ces derniers, dans le cadre de la surveillance épidémiologique de la grippe aviaire. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 541803

135 - Vandersypen K., Keïta A.C.T., Coulibaly B., Raes D., Jamin J.-Y.
Drainage problems in the rice schemes of the Office du Niger (Mali) in relation to water management. *Agricultural water management 2007 vol.89:n 1-2 153-160*
This paper quantifies the impact of water management on the incidence of drainage
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,388
http://dx.doi.org/10.1016/j.agwat.2006.12.006 Dk : 538525

136 - Vandersypen K., Keïta A.C.T., Coulibaly Y.M., Raes D., Jamin J.-Y.
Formal and informal decision making on water management at the village level : A case study from the Office du Niger irrigation scheme (Mali). *Water resources research 2007 vol.43:n 6 10 p.*
[i] Water Users Associations (WUAs) are all too often considered a panacea for improving water management in irrigation schemes. Where grassroots movements are absent, they are usually imposed on farmers by national governments, NGOs, and international donors, without fully considering existing forms of organization. This also happened in the Office du Niger irrigation scheme in Mali, where after a partial irrigation management transfer, WUAs were created to fill the resulting power vacuum. This paper demonstrates that, despite active efforts to organize farmers in WUAs, informal patterns of decision making remain dominant. Given the shortcomings of these informal patterns, WUAs could provide a much-needed platform for institutionalizing collective action, on the condition that farmers accept them. Therefore WUAs should adopt some crucial characteristics of informal patterns of decision making while avoiding their weaknesses. First, making use of the existing authority of village leadership and the central management can improve the credibility of WUAs. Second, allowing flexibility in procedures and rules can make them more appropriate for dealing with collective action problems that are typically temporary and specific. Last, formalizing the current pattern of conflict management and sanctioning might enhance its sphere of action and tackle the current absence of firm engagement with respect to some informal management decisions. In addition, WUAs should represent and be accountable to all farmers, including those residing outside the village community. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 2,154
http://dx.doi.org/10.1029/2006WR005132, 2007 Dk : 539843

AXE 6 DIR2 NIGER (2) 132, 137

132 - Bouyer J., Sana Y., Samandoulgou Y., César J., Guerrini L., Kaboré Zoungrana C., Dulieu D.
Identification of ecological indicators for monitoring ecosystem health in the trans-boundary W regional park : a pilot study. *Biological conservation 2007 vol.138 73-88*
The sustainable management of the W Regional park and its peripheral areas is based on a trade-off between conservation and the generation of economic income for local populations. This work is a pilot study for the identification of ecological indicators to monitor ecosystem health in Sudanian Savannah ecosystems. Ecological indicators are needed to warrant the efficiency of the protection measures,

particularly in the mosaic landscapes of the peripheral areas. Two insect families (Coleoptera: Scarabaeidae (Cetoniinae) and Lepidoptera: Nymphalidae) were trapped along transects crossing landuse units submitted to various human pressures (none, hunting, traditional and intensive crops, grazing) in two countries (Burkina Faso and Bénin). Plant species richness was found to be correlated with the abundance of four fruit-feeding insect species and with the fruit-feeding butterflies species richness, but not with the Cetoniinae species richness. The abundance of Nymphalidae species generally dropped with human activities, but that of Cetoniinae species followed the intermediate disturbance theory. The likely impact of the various management practises on the general ecosystem health is discussed, as is the potential value of fruit-feeding insects as bioindicators and the points that still need to be clarified. (c) 2007 Elsevier Ltd All rights reserved.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 3,296
http://dx.doi.org/10.1016/j.biocon.2007.04.001 Dk : 540940

137 - Ipavec A., Maillard D., Chardonnet P., Danés C., Wally M., Lompo M., Dulieu D.
Elephant movement in W regional park, western Africa. *Pachyderm 2007 n 43 36-42*
Peu d'études se sont portées sur la population d'éléphants du Parc Régional du W, en Afrique de l'Ouest (Bénin, Burkina Faso et Niger), et c'était dans une perspective essentiellement nationale plutôt que transfrontalière. Pendant quatre mois, d'avril à juillet 2004, deux femelles éléphants ont été équipées de colliers radio pour connaître leurs déplacements transfrontaliers. Cela a permis de rapporter 556 localisations. La taille des domaines vitaux calculée par la méthode de Kernel 95% a été estimée à 2.572 km2 pour l'une et 1.970 km2 pour l'autre. Les espaces vitaux des deux femelles se recouvraient fortement et elles étaient étroitement associées pendant la période concernée. Les déplacements des animaux du Niger vers la partie centrale du parc (au Burkina Faso) en passant par le nord du Bénin ont été observés au début de la saison des pluies, le long de la rivière Mekrou. Il faudrait encourager des études régionales et l'adoption de pratiques de gestion transfrontalière pour permettre à cette grande population restante d'éléphants de se maintenir. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 544215

AXE 6 DIR3 CAMEROUN (1) 138

138 - Peltier R., Harmand J.-M., Ntoupka M., Njiti C.F., Sibelet N., Smektala G.
Pour une gestion intentionnelle de l'arbre par les agropasteurs du Nord Cameroun : du champ au paysage. *Sols de Tunisie. Bulletin de la direction générale de l'aménagement et de la conservation des terres agricoles 2007 n 2, spec. 103-114*
Du fait de l'augmentation de la population et de la péjoration des conditions climatiques, des milliers d'agriculteurs quittent chaque année les zones sahéliennes du Nord-Cameroun pour s'installer, plus au sud, dans les zones soudaniennes. Ils y défrichent progressivement les savanes arborées pour y installer leurs cultures. La grande faune est rapidement décimée. Les parcours des éleveurs se réduisent et des conflits apparaissent. Le nombre et la diversité des arbres diminuent rapidement et leurs produits se raréfient. Les sols perdent rapidement leur fertilité initiale et certains agriculteurs se voient contraints à poursuivre leur migration après une vingtaine d'années d'utilisation du milieu. Or l'espace devient rare et les services de protection de l'environnement s'opposent au défrichement des dernières aires protégées. Il est donc impératif d'aider les populations à trouver. des méthodes de gestion de l'environnement plus durables et plus conservatrices des sols et de la biodiversité. De nombreux projets de recherche-développement ont montré toute l'importance de l'arbre pour conserver ou rénover la fertilité des sols à travers l'enrichissement des parcs arborés ou l'installation de jachères arborées améliorées. Ces recherches, dont les résultats ont été diffusés par des projets de développement (DPGT, ESA...), ont permis la réinstallation de plusieurs millions d'arbres dans les champ des agriculteurs. Malgré. cela, des études ponctuelles montrent que le nombre et la diversité des arbres continuent à diminuer au niveau des territoires villageois, car le nombre d'arbres conservés par quelques agriculteurs reste très souvent inférieur à celui de ceux qui sont abattus sur les espaces pas encore ou pas clairement appropriés. Une modification des représentations individuelles et collectives de l'arbre et de sa gestion est un préalable indispensable à la mise en place d'une gestion intégrée de l'arbre dans l'ensemble des territoires. Une etude réalisée par un groupe d'étudiants et d'enseignants chercheurs de l'IRAD, du CIRAD et de

l'ENGREF, montre qu'il est possible de modéliser simplement l'évolution de la ressource arborée. Ceci peut aider les villageois à prendre conscience des futures pénuries et les inciter ainsi à prendre des mesures de conservation ou de régénération anticipées et à entamer un processus de négociation entre les groupes à intérêts contradictoires. On espère ainsi apaiser les conflits entre éleveurs, agriculteurs et bûcherons qui peuvent cohabiter même avec des densités de population égales ou supérieures à 100 habitant/km2. L'applicabilité de telles méthodes à grande échelle reste cependant à démontrer car il faudrait mettre en place, au niveau de cette région, une politique de sécurisation foncière et d'appui à la gestion collective des ressources. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 539310

AXE 6 DIR3 GABON (1) 139

139 - Van Vliet N., Nasi R., Emmons L., Feer F., Mbazza P., Bourgarel M.
Evidence for the local depletion of bay duiker #Cephalophus dorsalis#, within the Ipassa Man and Biosphere Reserve, north-east Gabon. *African journal of ecology 2007 vol.45:N 3 440-443*
Malgré son statut de protection, la Réserve d'Ipassa, au nord-est du Gabon, a subi d'intenses activités de braconnage. Des études récentes des mammifères ont montré que la réserve en abrite encore une grande diversité mais que leur densité a décliné de façon dramatique au cours des deux dernières décennies. Nous avons évalué les changements de la diversité des espèces de céphalophes dans la réserve en comparant les données récoltées il y a 20 ans et celles de 2005-2006 dans la même région. Les deux seules espèces présentes aujourd'hui sont le céphalophe bleu et le céphalophe de Peters. La densité des céphalophes bais était de 7,1 individus/km2 dans les années 1980' mais il semble qu'il n'y en ait plus à cet endroit. Comme la chasse pour l'approvisionnement fut la seule activité pratiquée dans la réserve au cours des 20 dernières années et que le céphalophe bai est une espèce particulièrement prisée par les chasseurs de la région, il est très probable que la chasse soit la raison de cette disparition locale. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,688
http://dx.doi.org/10.1111/j.1365-2028.2007.00783.x Dk : 542864

AXE 6 DIR3 TCHAD (1) 140

140 - Poilecot P., Boulanodji E., Taloua N., Djimet B., Ngui T., Singa J.
Parc national de Zakouma : des éléphants et des arbres. *Bois et forêts des tropiques 2007 n 291 13-24*
Les mesures de protection du parc national de Zakouma ont facilité la reconstitution des populations animales, en particulier des éléphants. De la fin des années 1980 à 2005, ceux-ci sont passés de mille individus à plus de quatre mille, avec un impact négatif croissant sur la végétation. En saison sèche 2004, des inventaires dans une savane à Acacia seyal et une savane à Combretaceae ont permis d'observer des dégâts récents dus aux éléphants sur 754 arbres et arbustes dans la première et 2 186 dans la seconde, incluant 31 individus "morts". Les dégâts sur les branches ont porté sur 265 ligneux dans la savane à Acacia pour 734 individus sur pied étudiés et 959 dans la savane à Combretaceae pour 2 175 individus sur pied observés. À ces résultats s'ajoutent 31 idividus considérés comme "morts", car cassés ou déracinés, dont 20 dans les savanes à Acacia. Les traumatismes des ligneux concernent environ 38% des individus de la savane à Acacia seyal et 45% de celle à Combretaceae. Les animaux utilisent la biomasse ligneuse depuis le sol jusqu'à 6 m de hauteur et 65% des arbres endommagés, davantage sur les branches secondaires que maîtresses, appartiennent respectivement aux classes de hauteur 1-4 m et de diamètre 5-20 cm. L'impact des feux de brousse sur les arbres endommagés par les éléphants est négligeable. Le broutage des éléphants peut sembler alarmant mais il est saisonnier et localisé. De plus, les espèces végétales sont résilientes. Les éléphants "utilisent" le milieu plus qu'ils ne le "détruisent" selon des stratégies complexes qui demandent à être mieux connues pour bien appréhender le fonctionnement des écosystèmes du parc. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 536809

AXE 6 DIR4 AFRIQUE DU SUD (4) 141, 142, 143, 144

141 - Banda B.M., Farolfi S., Hassan R.M.
Estimating water demand for domestic use in rural South Africa in absence of price information. *Water policy 2007 vol.9:n 5 513-518*
The paper applies the travel cost method (TCM) to estimate the value that rural households in the Steelpoort sub-basin of South Africa place on river and collective tap water. While the TCM calculations are based on the opportunity cost of the time household members spend on water collection, the resulting welfare values are close in magnitude to the estimates obtained using a contingent valuation method (CVM) on the same sample. The paper shows that in the absence of price data, the TCM provides satisfactory estimates of benefits where direct estimation of demand elasticity would otherwise be impossible. According to both methods, households consuming river water attribute higher value to the resource than collective tap users. The income elasticity of the trip generating function is much higher than that of the opportunity cost of time (price), implying that household's water use behaviour would be more responsive to factors affecting household income than to price incentives. Comparing the estimated values with actual operating and maintenance cost of water provision in the study area suggests that policies promoting cost-covering water tariffs have a potential to succeed. (Résumé d'auteur)
Revue indexée dans ISI Web of Science
http://dx.doi.org/10.2166/wp.2007.023 Dk : 541833

142 - Farolfi S., Mabugu R.E., Ntshingila S.N.
Domestic water use and values in Swaziland : a contingent valuation analysis. *Agrekon 2007 vol.46:n 1 157-170*
The paper reports on the use of the contingent valuation method to study the determinants of Swazi households' willingness to pay (WTP) for an improvement in their water quantity and quality. A sample of 374 households was surveyed and a Tobit model was applied to explain household preferences for quality and quantity of domestic water supply and derive estimates of WTP for such a service. The results confirm that household income had a positive and statistically significant impact on WTP for both quality and quantity. Distance to the water source is positively associated with WTP regardless of the location (rural or urban) and of the household head's age, education, and gender. Current water consumption was also statistically significant for WTP for improved quantity, but with a negative sign, implying that the more a household consumes water, the less that household is WTP to have improved water quantity. Conversely, the same household would be WTP for improved water quality. Rural households showed a much higher WTP for improved water provision services than urban households. There is therefore scope to improve water service levels in Swaziland even at a higher water price. More precisely, the estimates of WTP obtained in this study indicate the possibility of introducing a demand-driven program to expand the coverage of rural tap water schemes. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
Dk : 537486

143 - Farolfi S., Rowntree K.
Accompanying local stakeholders in negotiation processes related to water allocation through simulation models and role-playing games : an experience from South Africa. *Empowers insight 2007 n 2 5-7*
During the last twenty years, the concept of decision-making on natural resources has been criticized and modified by various research communities within almost all disciplines. In social sciences, for instance, ecological economics (Costanza, 1989; Ramos-Martin, 2003) and neo-institutional economics (Bromley, 1982; Soderbaum, 1992) have addressed issues such as uncertainty and incomplete information that were not explicitly taken into consideration by the conventional mainstream environmental economics (Janssen and Ostrom, 2004). In South Africa, the new national water legislation (1998) introduces a modern framework of integrated resource management in a social context still affected by severe gaps and backlogs inherited by the Apartheid regime that ended in 1994. While there is a political imperative to promote the democratisation of decision making regarding the use of water, local institutions do not yet have the capacity or the tools to take on board these responsibilities. This paper presents and discusses

an innovative action-research approach aimed at facilitating negotiation and decision-making capacity on water management at a local scale. The Kat River catchment in the Eastern Cape of South Africa is the study area. The paper is organised as follows: section 2 provides an overview of the recent developments in the South African water sector institutional and legal frameworks and illustrates the Kat river context of multi-stakeholder negotiation around water; section 3 introduces the Companion Modelling approach and describes the negotiation tools that are being developed in the Kat; some elements of discussion are provided in section 4. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 537485

144 - Perret S., Geyser M.
The full financial costs of irrigation services : A discussion on existing guidelines and implications for smallholder irrigation in South Africa. *Water S.A. 2007 vol.33:n 1 67-78*
Considering water as an economic good entails, among other requisites, properly assessing the cost incurred by supplying and managing the resource, and the required infrastructure thereof. Regarding irrigation, the International Commission for Irrigation and Drainage (ICID) set up a method for assessing the full financial costs, in the form of guidelines. This paper investigates the applicability of these guidelines in smallholder irrigation conditions in developing countries. The paper first presents the specific conditions and features of such a sector, with emphasis on South African examples. Several specific issues are identified and discussed, such as the lack of records on infrastructure and initial costs, the multiple purpose and actual uses of certain equipment and infrastructure, the shift in purpose of others over time, the inclusion of certain small, yet indispensable equipment in the calculation, the partial refurbishment works on particular assets, and the lack of a standard basis for calculation under tropical, developing conditions (e.g. on service life, maintenance requirements). Secondly, after a brief review of current frameworks, concepts and terminology, the paper attempts to apply the existing guidelines developed by ICID for evaluating financial costs of irrigation services on a case study in South Africa. The results suggest that the application of the guidelines is feasible, provided that some adapted data and available information replace the original set, especially for capital costs. This applies to the discount rate, calculation of the current value, and estimation of the service life of infrastructure and equipment. In particular, several scenarios have been tested in order to identify a surrogate to the discount rate. The average yield on Negotiable Certificates of Deposit (NCD) is suggested as a surrogate for treasury bills and hence as a substitute for the discount rate. The case study demonstrates the high costs of irrigation services compared to the low income derived from irrigation production in smallholder schemes and hence the need for renewed public intervention and subsidisation, especially on account of the current context of management transfer, privatisation, and liberalisation. The paper suggests a shift in the underlying policy and societal mindset about the water charging system for smallholder irrigation. Cost recovery and water charges should not be considered as being a further burden or deterring factor for smallholder irrigation, but rather as an incentive towards increasing production and ultimately improving their contribution to the country's economy. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,120
http://www.wrc.org.za/downloads/watersa/2007/Jan%2007/2000.pdf Dk : 536315

AXE 6 DIR5 MADAGASCAR (4) 145, 146, 147, 148

145 - Karpe P., Randrianarison M., Rambinintsaotra S.R., Aubert S.
La pratique judiciaire dans le domaine foncier à Madagascar. *Droits et cultures 2007 n 54 213-239*
A Madagascar, il existe des titres officiels de propriété: l'immatriculation individuelle et le cadastre. La pratique sociale en a créé un autre de force égale: "les petits papiers". Elle tend en effet à conférer à des actes sous seing privé légalisés et authentifiés une valeur juridique identique à celle des titres officiels de propriété. Ceci est une réponse aux contraintes matérielles actuelles d'accès à ces titres. Cette pratique sociale peut néanmoins entrer en conflit avec des titres officiels présents ou à venir (revendications concurrentes de droits). Dans ce cas, seuls ces derniers devraient l'emporter. Toutefois, par le passé, les magistrats ont pu marquer une certaine tolérance à l'égard des "situations de fait" et ainsi ne pas nécessairement les sanctionner (Rarijaona, 1967). Une étude en cours sur le traitement des conflits fonciers traités par l'administration judiciaire malgache nous permet, sur la base d'un travail d'enquêtes et

de dépouillement d'archives, d'aborder le rôle joué aujourd'hui par le juge dans l'application et la création de normes de droit. Il s'en suit que la pratique des acteurs malgaches interroge sur la pertinence du recours systématique au droit positif dans les stratégies de développement national. Des pistes de réflexion pour la constitution d'un ordre juridique viable dans un contexte de Pays en Développement sont proposées. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 544246

146 - Lagabrielle E., Metzger P., Martignac C., Lortic B., Durieux L.
Les dynamiques d'occupation du sol à la Réunion (1989-2002). [On line]. *M@ppemonde 2007 n 86 23 p.*
La Réunion (océan Indien) est un espace insulaire en essor socio-économique rapide. La composante spatiale observable de ces mutations a été cartographiée par télédétection à partir d'images Spot sur la période 1989-2002. La méthode de détection des changements mise en oeuvre est une comparaison de classifications (maximum de vraisemblance et analyse structurale). Les résultats obtenus confirment une forte croissance des espaces urbains, une migration spatiale des activités agricoles en altitude ainsi que de nettes disparités intrarégionales en termes d'évolution. L'analyse révèle également des dynamiques plus marquées sur les mi-pentes et les Hauts de l'île, et de façon surprenante dans l'enceinte actuelle du Parc national. Ces résultats remettent partiellement en cause des postulats d'aménagement à la Réunion, en particulier l'idée d'une ville s'étendant exclusivement sur les espaces agricoles. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://mappemonde.mgm.fr/num14/articles/res07205.html Dk : 542289

147 - Luyssaert S., Inglima I., Jung M., Richardson A.D., Reichstein M., Papale D., Piao S.L., Schulze E.-D., Wingate L., Matteucci G., Aragao L., Aubinet M., Beers C., Bernhofer C., Black G.K., Bonal D., Bonnefond J.-M.
CO2 balance of boreal, temperate, and tropical forests derived from a global database. *Global change biology 2007 vol.13 2509-2537*
Articles publiés dans une revue à facteur d'impact, FI 2007 : 4,786
http://www.blackwell-synergy.com/doi/full/10.1111/j.1365-2486.2007.01439.x Dk : 543057

148 - Thinon P., Martignac C., Metzger P., Cheylan J.-P.
Analyse géographique et modélisation des dynamiques d'urbanisation à La Réunion. [On line]. *Cybergeo 2007 n 389 [16] p.*
Cet article propose un prototype de modèle d'interprétation des dynamiques urbaines sur l'Ile de la Réunion. En entrée, le modèle combine un ensemble de champs géographiques jouant en faveur ou en défaveur de l'urbanisation; en sortie, il indique une propension à l'urbanisation de chaque lieu. Il est conçu de manière à permettre une analyse exploratoire de ces dynamiques selon une approche heuristique. Les premiers résultats ont permis d'obtenir, sur l'ensemble de l'île, une carte de la propension à l'urbanisation, jugée satisfaisante eu égard aux dynamiques observées entre 1989 et 2002 un premier scénario d'évolution, concernant les espaces de savanes à l'ouest de l'île, est également proposé. Les premiers travaux sur ce modèle, encore à un stade préliminaire, sont encourageants mais soulèvent de nombreuses questions concernant notamment le calibrage des facteurs et leur rôle respectif l'intégration de nouveaux champs comme le voisinage, l'analyse des résidus, la mesure de la qualité du modèle ou bien encore la mobilisation de ce type de modèle comme outil d'accompagnement de projets de territoires. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://www.cybergeo.eu/index8692.html Dk : 542285

HORS AXE

HORS AXE DIR1 SENEGAL (2) 149, 150

149 - Daré W.s., Fourage C., Gaye I.D.
Positionnement des sociologues dans la démarche de modélisation Domino. *Nouvelles perspectives en sciences sociales 2007 vol.2:n 2 103-127*
Articles publiés dans une revue sans comité de lecture
Dk : 543448

150 - Magrin G.
Sopi or not sopi ? A propos des élections présidentielles de février 2007 au Sénégal. *EchoGéo 2007 n 1 12 p.*
La large victoire au premier tour du sortant A. Wade aux élections présidentielles sénégalaises du 25 février 2007 a surpris: la géographie électorale ne laisse que de rares îlots à l'opposition. Certaines difficultés économiques et politiques alimentaient bien le mécontentement populaire. Mais l'inefficacité de l'opposition, l'habileté du président, des éléments de conjoncture favorable et l'incertitude de l'après Wade ont finalement amené nombre de Sénégalais à choisir le sopi (changement) par la continuité. (Résumé d'auteur)
Articles publiés dans une revue à comité de lecture, sans facteur d'impact
http://echogeo.revues.org/index838.html Dk : 539711

HORS AXE DIR2 BENIN (1) 151

151 - Curletti G., Vayssières J.-F.
Note sugli #Agrilus# Curtis, 1825 del Benin (Col. Buprestidae). *Lambillionea 2007 vol.107:n 1 203-212*
Notes sur les Agrilus Curtis, 1825 du Bénin (Coleoptera, Buprestidae). Compte-rendu partiel d'une prospection entomologique dans le Bénin du Centre et du Sud, durant le mois de mai 2006. Ont été trouvées 27 espèces dont 8 nouvelles pour la science qui sont ici décrites: Agrilus (Agrilus) buani n. sp., Agrilus (Agriphylus) finellei n. sp., Agrilus (Agriphylus) delmastrellus n. sp., Agrilus (Agriphylus) samaricus n. sp., Agrilus (Agriphylus) goergeni n. sp., Agrilus (Robertius) cristianoi n. sp., Agrilus (Robertius) drumonti n. sp., Agrilus (Robertius) isoberliniae n. sp. (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 542376

HORS AXE DIR3 CAMEROUN (1) 152

152 - Bonfils F., Ehabe E.E., Aymard C., Vaysse L., Sainte-Beuve J.
Enhanced solvent extraction of polar lipids associated with rubber particles for #Hevea brasiliensis#. *Phytochemical analysis 2007 vol.18:n 2 103-108*
Abstract: Biochemical studies of lipids bound to rubber particles have been complicated due to the solubility of polyisoprene chains in most extracting solvents and the rather delicate nature of polar lipids that arc often denatured when traditional solvent extraction techniques are employed. In this paper, we describe a traditional technique and accompanying solvents that permit optimal extraction of rubber particle bound lipids. The technique, which is validated after characterizing the lipid extracts by elemental analysis, silica column adsorption and thin layer chromatography, appeared more suitable for extracting total lipids with optimal glycolipid and phospholipid contents. This technique is proposed as an alternative to traditional extraction methods used for solid natural rubber as it offers advantages with respect to ease of application, extract quality, extraction yields and reproducibility. Copyright. (c) 2007 John Wiley & Sons, Ltd.
Articles publiés dans une revue à facteur d'impact, FI 2007 : 1,524

http://dx.doi.org/10.1002/pca.956 Dk : 537797

HORS AXE DIR3 GABON (1) 153

153 - Picard N., Bar-Hen A.
Estimation of the density of a clustered point pattern using a distance method. *Environmental and ecological statistics 2007 vol.14:n 4 341-353*
Distance-based methods use point-to-point distances or random-location-to-point distances in a cloud of points to estimate characteristics of the point pattern. One such characteristics is the density of points. The difficulty with distance-based density estimators is that their distribution depends on the spatial pattern of points. In particular, the distribution of distances is untractable for usual clustered patterns, that are often observed in natural systems. Here, we propose a density estimator for clustered patterns, based on the random-location-to-pth-point distance X p . An approximate expression for the distribution function, F p , of X p was obtained by identifying the first two moments of the count of individuals in disks for a given point process with the first two moments of a negative binomial distribution. The approximate expression of F p was then used to derive a maximum-likelihood estimator of the intensity of the point process. The quality of the approximation of F p was assessed for homogeneous Poisson processes (for which the expression of F p is exact) and for Matérn processes. The intensity estimator based on Matérn processes was then used to estimate tree density in a tree savanna in Mali, and it compared favorably with six robust estimators found in the literature. (Résumé d'auteur)
Articles publiés dans une revue à facteur d'impact, FI 2007 : 0,860
http://dx.doi.org/10.1007/s10651-007-0024-1 Dk : 542938

HORS AXE DIR5 MADAGASCAR (2) 154, 155

154 - Aberlenc H.-P., Andriamanantenina L., Faure E., Lees D.C., Minet J., Ollivier L., Rafamantanantsoa C., Randrianandrasana M., Razafindrakotomamonjy A.
Le radeau des cimes au Parc national de Masoala (Madagascar). Première partie : éléments pour un inventaire des Lépidoptères. *Bulletin mensuel de la Société linnéenne de Lyon 2007 vol.76:n 6 141-154*
Grâce à l'expédition Radeau des Cimes 2001, de nombreuses espèces de Lépidoptères peuvent être rajoutées aux inventaires faunistiques de la presqu'île de Masoala, encore très incomplets. Des papillons et quelques chenilles ont été collectés pendant cinq semaines (principalement en novembre) dans la région de Tampolo, mais aussi dans celle d'Andranobe, au sud d'Ambanizana. Un certain nombre de chenilles ont été élevées avec succès, notamment celle d'une noctuelle, apparemment non décrite (Herminiinae) et la chenille jusque-là inconnue du Sphingidae Rhagastis lambertoni (Clark). A partir de nids d'un Hypsoides sp. (Notodontidae Thaumetopoeinae; espèce peut-être nouvelle), divers insectes ont été obtenus, dont un Cosmopterigidae et un Phycitinae (Pyralidae) vraisemblablement des espèces nouvelles pour la science. Au moins 23 espèces de Bombycoïdes (dont le Sphingidae Hipparion melichari Haxaire) ont pu être capturées - en octobre-novembre 2001 - dans la région de Tampolo. En comparant l'efficacité de trois pièges lumineux similaires, mais installés, l'un sur le Radeau des Cimes, les deux autres sous celui-ci, dans le sous-bois, on peut avancer l'hypothèse selon laquelle la plupart des Sphinx nocturnes tendraient à voler au-dessus de la canopée. Une première liste des Sphingidae de Masoala est proposée. Parmi les Rhopalocères, 65 espèces de Rhopalocères ont été distinctement aperçues (p. ex. Smerina manoro (Ward) - Nymphalidae) ou capturées. Trois Hesperiidac sont signalés pour la première fois de Masoala: Perrotia howa (Mabille), P. silvestralis (Viette) et Borbo ratek (Boisduval). (Résumé d'auteur)
Articles publiés dans une revue sans comité de lecture
Dk : 542854

155 - Ravoahangimalala Ramilijaona O., Aberlenc H.-P., Barrios H., Andriamanantenina L., Curletti G., Minet J., Beaudoin-Ollivier L., Rakotoarivony H.L., Randriamasimanana D.
Le radeau des cimes au Parc national de Masoala (Madagascar). Deuxième partie : recherches entomologiques dans la canopée supérieure et le sous-bois de la forêt humide. *Bulletin mensuel de*

la Société linnéenne de Lyon 2007 vol.76:n 7-8 165-182

Notre étude porte sur l'analyse quantitative de la stratification verticale (sous-bois et canopée supérieure) de l'entomofaune de neuf sites en forêt tropicale humide de la presqu'île de Masoala, sur le rivage oriental de la baie d'Antongil (Madagascar). Nous avons pu accéder à la canopée grâce à la Bulle à Hélium(r), à la Luge des Cimes(r), à l'Lcos(r) et au Radeau des Cimes(r). Les Insectes ont été collectés par battage du feuillage et avec des pièges jaunes à glu. Les Arthropodes de la canopée supérieure sont significativement plus abondants que dans le sous-bois. Ce type de stratification verticale de l'entomofaune de la forêt tropicale confirme dans ses grandes lignes, malgré quelques différences, le modèle que nous avions établi au Cameroun et affiné au Gabon. L'analyse par guildes montre que certains de ces groupes ont nettement une strate préférentielle (en particulier les Phyllophages et les Piqueurs-suceurs pour la canopée), ce qui est directement fonction de la répartition verticale des ressources alimentaires. L'assignation à une guilde semble être un instrument pertinent pour étudier l'écologie et la stratification verticale des Insectes de la forêt tropicale. (Résumé d'auteur)

Articles publiés dans une revue sans comité de lecture

Dk : 541562