

RFL

#4

RENCONTRES
FRANCOPHONES
LÉGUMINEUSES



Innovier ensemble avec
les légumineuses
tempérées et tropicales
pour des systèmes
agricoles et alimentaires
durables

LIVRE DES RÉSUMÉS

Programme - Résumés des communications
Listes des posters & des participants

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Diversité des légumineuses dans les systèmes de production : Quelles ressources génétiques ? Quels modes de cultures adaptées ?
Quels services écosystémiques produits ?

Diversité des ressources génétiques des légumineuses

P3-T3-20

An exploration of functional diversity among *Vigna* Spp: in the search of functional ideotypes adapted to future climates

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Diversification is now commonly accepted as a key driver towards improved farm resilience and reduced risk taking in the face of climatic and economic events. Diversification with appropriate crops or intercrops requires to deliver farmers with references and tools to select species and varieties adapted to their constraints and objectives. Grain legumes have been gaining more attention and interest in the past years. Their diversity may help broaden cropping systems options. Under this framework, we explored an overlooked legume crop: *Vigna*. *Vigna* is a pantropical genus with over a hundred species, from which only ten are cultivated, including important crops such as Cowpea (*Vigna unguiculata* (L.) Walp.), Bambara Groundnut (*Vigna subterranea* (L.) Verdc.) and Mungbean (*Vigna radiata* (L.) R. Wilczek). *Vigna* species offer numerous diversification possibilities as food crops or service crops. We attempted to explore this untapped diversity by conducting a field trial in April 2021 in which we followed the phenological evolution and quantified the extent of genetic diversity among the studied collection. 372 accessions representing 36 *Vigna* species were sown in April 2021 at the INRA station in Tessaout, Morocco. The collection included 9 cultivated and 27 wild species for which we evaluated different phenological and agromorphological traits, both quantitatively and qualitatively. We used a functional trait approach to identify robust strategies schemes of genotypes and projected them onto pre-defined analysis schemes. We were able to group the studied species into three main functional groups: Competitive (C), Stress Tolerant (S) and Ruderal (R) species. The results were complemented by the analysis of the nutritional quality of the seeds. This work allowed us to establish a selection grid for selecting genotypes in an agronomic and nutritional context.