

FIJI ISLANDS

Ministry of Agriculture, Fisheries and Forests

Yaqara Ranch

Ministry of Foreign Affairs

French Embassy in Suva

**TECHNICAL PERFORMANCE REPORT
SUPPORT MISSION FOR BOVINE
ARTIFICIAL INSEMINATION OPERATIONS IN FIJI**

from 11/04/99 to 19/04/99

by Manuel Bianchi

October 1999

**BREEDING PROGRAMME REPORT
N°10/99**

*International Co-operation Centre of
Agricultural Research for Development (France)*
**Breeding and Veterinary Medicine Section
CIRAD-EMVT**

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**Technical performance report
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artificial insemination operations
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I) Mission timetable :

- 11/04 : Flight Noumea - Nadi with stopover in Nadi.
- From 12/04 to 15/04 : Field work and technical discussions with Ranch management.
- 15/04 : Travel to Suva
- 16/04 : Meeting between MAFF, YPC, French Embassy and CIRAD
- 18/04 : Return to YPC
- 19/04 : Return to Nadi and Noumea

II) Mission objectives :

The mission objective were twofold :

- 1- Take part in the 1999 artificial insemination programme.
- 2- Assist operators with their computer work and rectify possible errors.
- 3- Conduct a final review of the technical performance status of the YPC three-year genetic improvement programme with all the Fijian participants.
- 4- Regulate selection work in the field, and verify the type of follow-up given and the validity of operations carried out at the Ranch.

III) Summary of the principle conclusions :

It is not necessary to restate here the recommendations made in the 1996 to 1998 technical performance reports as they are certainly still pertinent. According to our observations and comments made by the Yaqara Pastoral Company management team, MAFF and the French Embassy, efforts must be made to give a practical direction to the Project so as to satisfy the requirements of and the precision expected from a selection programme while at the same time bringing that programme into line with the Ranch's human, technical, material and economic resources.

- 1- A technical audit mission has become absolutely vital as the project draws to a close. The bilingual expert in charge of this mission will have to possess recognised skills in the areas of both animal science and pasture management. We feel that in the South Pacific region, the most competent specialist in these areas is Mr. Daniel Bourzat, CIRAD's Delegate to New Caledonia. He would have to make arrangements to give 10 days of his time to carry out this audit (7 days for fieldwork and 3 days for writing the report). It has been suggested that MAFF and the French Embassy in Suva make a joint request to this effect. This mission is all the more important since, due to the weather conditions (the unusual succession over these three years of cyclones, droughts and flooding), it has not been possible to implement most of the agro-pastoral section of the project. This section has also suffered from a lack of consistency on the part of those in charge, on both the Fijian and French sides (there has been a series of people in these posts). In addition, Fijian authorities want the project to be extended for another year (30 June 2000) so as to make better progress on the work and use a part of the remaining funds. YPC and MAFF will be submitting a proposal to this effect to the French Embassy (e.g. to conduct support missions, purchase weighing equipment, plant grazing land and carry out a final AI campaign in April 2000).
- 2- Work facilities for performing AI have been further improved and the Caboni team have mastered working techniques which make them really efficient.
- 3- These improvements made it possible to conduct three AI series under good conditions in 1999. The three series of 100 females were prepared for insemination by 600 semen doses taken from four Limousin bulls (150 each): Dormeur, Alfred, Harpon, Hiassy. If another AI series is to be conducted in 2000, thought should be given to renewing the genetic origin of the doses and having semen brought in from other bulls in New Caledonia, or else from France (more expensive but better quality by far) or other neighbouring countries (Canada, Australia, NZ, USA).
- 4- The fencing problem has, however, still not been completely resolved and while the poor weather conditions over the past few years did have a considerable effect on the work

done, it is also a well known fact that the Ranch did not have enough cash on hand to advance the funds needed to purchase the materials required to erect fencing. This cash flow problem also arose in other areas where the Ranch was obliged to advance funds (machine tillage, etc.). There was hardly any of this type of problem with regards to the "genetic improvement" section as CIRAD advanced the money for this part of the project and the French Development Agency (AFD) then reimbursed CIRAD upon presentation of the invoices and a letter from MAFF stating that the work had been completed. In the future, a solution must be found for this initial lack of cash flow, either by relaxing AFD funding regulations or by including a "bank charges" item in the project's initial funding provisions.

- 5- A certain number of shortcomings can still be seen with regard to the animal science aspect. In particular, the animals are not being weighed often enough. While the breakdown of the electronic scales may explain why they are not weighed after birth (unfortunately, we are still far from the bi-monthly weighing sessions requested in the 1998 performance report), there is really no excuse for the absence of systematic weighing of calves at birth since a sack and a simple hanging scale would provide this data. This oversight also corresponds certain other "oversights" concerning births (e.g. uncertainties about the parentage of cows and calves, sex of the calves recorded incorrectly and imprecise dates of birth). These data must be kept on both calves resulting from AI as well as on those resulting from natural mating. This has become even more important as YPC now owns 10 pure-bred Limousin bulls to ensure breeding when the inseminated cows come back in oestrus. In addition, as was the case in previous years, transcription of the AI sheets made in 1998 was shoddy and so errors slipped in. It is vital that high quality records be kept since, if the information registered is incorrect, the selection results obtained will be aberrant. In the same way, selection of females used for AI must be improved and brought into line with recommendations in the 1997 report, e.g., not selecting barren cows whose case history is unknown as some of them have very likely been infertile for years !
- 6- With regards to data entry work, a great deal of effort was made during this mission in order to complete the technicians' training and attempt to help them resolve all problems they encountered during the course of their work. By departure time, data entry operations appeared to have been properly mastered. The task still remains to create a constant exchange of information between the field base which does not yet supply all the required data and the computer workstation which processes the data so that it can be used by technicians in charge of selection and by field technicians by providing them with up-to-date animal listings ready to be filled in and schedules of operations to be conducted on the herd.

IV) The status of the Limousin breeding stock purchased in New Caledonia:

UPRA, Sodexport and I arranged for the animals to be shipped to Fiji at the end of 1998, where they underwent another month of quarantine. After satisfactorily meeting all the

quarantine checks carried out by Fijian health authorities, they were transferred to the YPC Ranch.

They were then placed on the station's choicest grazing plots to allow them to grow up under the best conditions. The dramatic flooding which devastated Fiji at the beginning of 1999 almost destroyed the imported herd but the herd manager's courage allowed this catastrophe to be averted.

At the time of my visit, the animals were in good overall condition and were ready to be used for the natural mating session scheduled to follow AI. I put special emphasis on the need to :

Use only a few females per bull (maximum 20) during this first mating season as the situation involves two-year old bullocks which should be treated with care so as to ensure they have a long breeding career.

Conduct separate mating sessions, i.e. one bull for a small herd of top-class females, as precise genealogical information is fundamental to the selection programme being implemented at YPC.