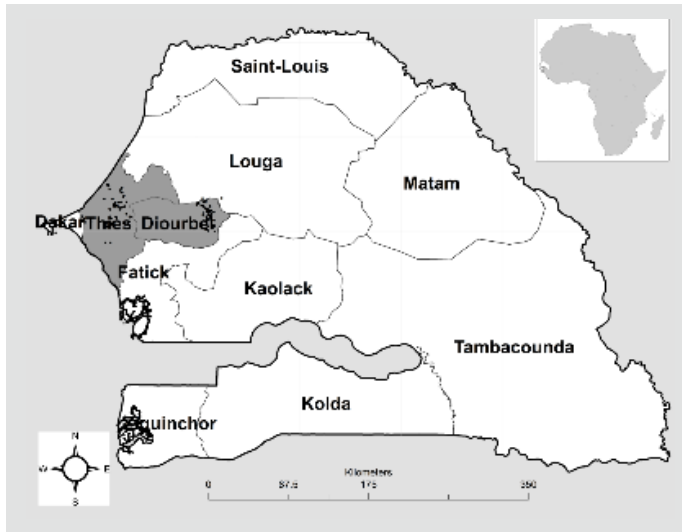




Dairy cattle keeping

IN SENEGAL



This document presents results from a study on cross-bred dairy cattle in the Thies and Diourbel regions of Senegal. It is designed to assist cattle keepers in these regions on decision making around keeping cross-bred dairy cattle.

Collaborators on the study

- Ecole Inter-Etats Des Sciences Et Médecines Vétérinaires de Dakar, Dakar, Senegal
- The International Livestock Research Institute, Nairobi, Kenya
- University of Helsinki, Helsinki, Finland
- Natural Resources Institute Finland (Luke), Jokioinen, Finland

Funding provided by the Finnish Ministry of Foreign Affairs under the FoodAfrica Program and by the Livestock and Fish CGIAR Research Program.

For more information on this study, contact

Professor Ayao Missohou: missohou@gmail.com

TOP LEFT: Map showing study site. **BOTTOM LEFT:** Cross-bred dairy cattle



Cross-bred dairy cattle

are both adapted and productive

Zebu Gobra

Zebu Maure

Adaptation to environment



Milk yield



Holstein-Friesian

Montbeliarde

Adaptation to environment

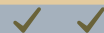


Milk yield

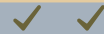


Cross-bred

Adaptation to environment



Milk yield





Cross-bred dairy cattle can result in high household profit

Profit calculated for herd size of 8 adult cows, no transhumance, and assume use of own bull for mating of indigenous Zebu cows, and artificial insemination for mating cross-bred or exotic cows.

CFA	Indigenous Zebu – poor management	Indigenous Zebu – fair management	Cross-bred – fair management	Cross-bred – good management	Exotic – very good management
Annual mature female health cost (CFA per cow)	210	425	775	800	1,790
Annual mature female feed cost (CFA per cow)	72,500	193,000	198,500	394,500	736,000
Annual animal housing cost (CFA per herd)	2,000	2,000	61,000	112,500	112,500
Annual milk-offtake (litres)	175	568	508	1,315	1,422
Young male sale price (CFA per animal)	176,000	176,000	536,000	536,000	933,000
Profit (CFA per cow per annum)	60,235	142,041	206,430	445,585	373,716

Animal type					
Cost of health-care					
Cost of feed					
Cost of animal housing					
Lactation milk yield					
Young male sale price					
Profit					



Cross-bred dairy cattle require **good management**



**Good management over
life of animal**



Good feed all year round



Good water



Good health care



Housing to provide shade



Hygienic milking and milk
storage



Limited walking (no
transhumance)



**High productivity
(milk & calves) and
high profit**



Comes in heat quickly
– short time between
calvings



Low abortions / still
births



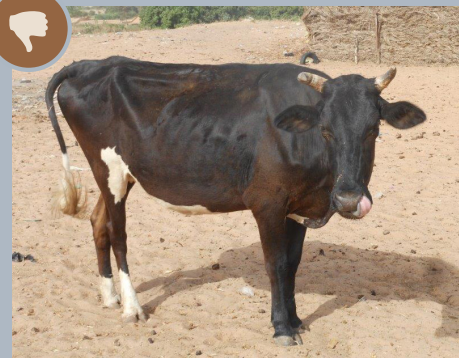
Low calf mortality



Good calf growth



High milk yield





Breeding cross-bred dairy cattle: cross-bred bull or cross-bred bull semen

1

Mate Zebu cow to exotic bull to create first cross-bred (F1)



Zebu cow



Exotic bull



Cross-bred (F1)



Genetic profile

2

Mate cross-bred cow to cross-bred bull semen



Cross-bred
Zebu cow



Cross-bred bull



Cross-bred bull semen



Cross-bred



Genetic profile

3

Continue to mate cross-bred cows to cross-bred bulls (naturally or via artificial insemination)



Breeding cross-bred dairy cattle: rotational mating

1

Mate Zebu cow to Exotic bull to create first cross-bred (F1)



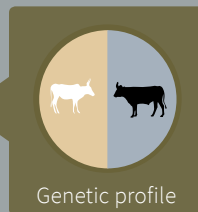
Zebu cow



Exotic bull



Cross-bred (F1)



2

Mate cross-bred cow to Zebu bull



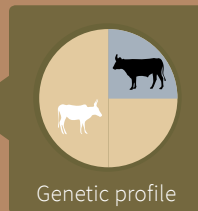
Cross-bred cow



Zebu bull



Cross-bred (F1
backcross to Zebu)



3

Mate cross-bred cow to Exotic bull



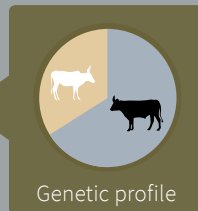
Cross-bred cow



Exotic bull



Cross-bred (backcross
to Exotic)



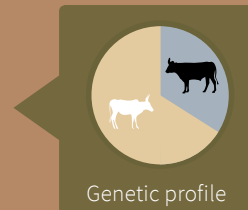
4

Mate cross-bred cow to Zebu bull

Cross-bred cow



Zebu bull

Cross-bred (backcross
to Zebu)

5

Mate cross-bred cow to Exotic bull

Cross-bred cow



Exotic bull

Cross-bred (backcross
to Exotic)

6

Continue to mate cross-bred cows alternatively between Zebu and Exotic bulls

Decision-making on keeping cross-bred dairy cattle



How will I breed the animals?

- ? Can I access cross-bred semen?
- ? Can I receive training / advice on preparing animals for artificial insemination?
- ? Can I access good quality Zebu and Exotic bulls or semen?



Can I provide good animal management?

- ? Can I receive training / advice on keeping cross-bred animals?
- ? Who will provide labour for caring and milking of animals?
- ? Can I provide adequate and safe feed – including during the dry season?
- ? Can I milk hygienically?
- ? Can I join an organization for better input prices?
- ? Can I access credit to purchase inputs if needed?



Considerations for both women and men household members



Can I sell the milk?

- ? Who will provide labour for processing and selling of milk?
- ? Who will buy the milk?
- ? Can I join an organization for better milk sale prices?
- ? Who will control the income from the sale of milk?



How will this affect other livelihood activities?

- ? Will there be enough time for child-care and other household activities?
- ? Will there be enough time for other livestock, cropping?
- ? Will there be enough time for off-farm activities?



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