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"Bridging the gap between increasing knowledge and decreasing resources"

Uptake of Artificial Insemination and Non-Indigenous Cattle in Small to Medium Scale Farms in Senegal

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Abstract

Milk production in Senegal is dominated by low-input low-output systems. These systems are characterised by the use of indigenous cattle breeds with low milk production potential. Under a government initiative to sustainably improve dairy cattle productivity, artificial insemination (AI) using exotic dairy cattle breeds were introduced in the mid-1990s. Since then, government sponsored AI programs (public AI services) and private veterinarians (private AI services) continue to provide AI services to farmers. However, AI uptake and use of non-indigenous cattle remains modest or low. We aimed to determine factors that could influence the use of AI and non-indigenous cattle breeds in small to medium scale dairy cattle farms in Senegal.

Data were collected from 270 cattle farmers in Thies and Diourbel regions in a baseline survey conducted as part of larger research project "Senegal Dairy Genetics"

(http://senegaldairy.wordpress.com/). Multiple logistic regression models were used to determine which farmer demographic, socio-economic and location factors could influence the uptake of AI, or use of non-indigenous cattle, in the last 5 years.

Use of AI and non-indigenous cattle breeds varied with farmer's characteristics. Irrespective of AI service provider, farmers were less likely to use AI if they belong to the traditional Fulani ethnic group and if the first non-indigenous cattle was not acquired via AI. Farmers with large families, who depend on crop production for subsistence, and those located farther from AI service providers, were more likely to rely on public AI services. The use of private AI services depends positively on wealth indicators such as monthly income earnings and land owned. Similarly, adoption of non-indigenous cattle depends on farmer's ethnicity and monthly income earnings. On the other hand, adoption of AI and non-indigenous crossbred cattle rearing was independent of farmer's education, labour availability, herd size and duration of dairy farming.

This study highlights the need to focus on farmer's ethnicity and wealth in future programs promoting AI and / or non-indigenous cattle breeds.

Keywords: Adoption, artificial insemination, dairy cattle, Senegal

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