



FEATURE

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OPERATION DAIRY PRODUCTION FOR THE SAHEL

by Moustapha Mbodj

Because of the arid climate, inconsistency of pastures, and high mortality rate livestock raising in the Sahel region of Africa will have to develop in new directions. In Senegal a new plan of operation is under study, according to Mr. Abdel Kadar Diallo, director of the National Livestock and Veterinary Research Laboratory (LNERV).

The northern part of the country, or the sylvo-pastoral zone, will be exclusively reserved for cow-calf production, as it is the traditional livestock raising area. The peanut-growing area, because of the large quantities of plant waste that could be used as animal feed, could concentrate on building up depleted herds. And areas surrounding large cities will specialize in intensive dairy farming.

But can a modern dairy farm of the intensive type be established close to a large and growing African city? Researchers at the LNERV say it can and point out to possible investors that "all it takes is the capital." Operation Dairy Production is a demonstration of this type of farm with high-production dairy cows imported from France and Pakistan.

Sangalkam is a small village situated on the outskirts of Dakar, about 30 kilometres from the city centre. In the past, this village specialized in what is known as dry season farming, which supplied the Senegalese capital with fresh fruits and vegetables. The individual plots traditionally reserved for market gardening have always been worked by the local inhabitants. Always, that is, until 1976, when the LNERV decided to embark on the dairy production operation. The Sangalkam farm has a long tradition of animal husbandry. Built in 1950 and covering 650 hectares, it served primarily as a holding area for research animals to be used by the old federal live-stock laboratory. It became part of LNERV when scientific research structures in Senegal were nationalized. Since 1973, LNERV has been part of one of the four major centres constituting the Senegal Agricultural Research Institute (ISRA).

With the launching of Operation Dairy Production in 1976, the Sangalkam farm was given a new direction. There are now 15 hectares of irrigated fields for fodder production; 470 hectares of natural pasture for a herd which numbered 171 head in 1980; and two fully automatic electric water-pumping stations, with diesel back-up. The first station supplies an irrigation network covering 8.5 hectares. The second supplies a storage basin which holds 200 cubic metres of water and feeds a mobile sprinkler system.

Initially LNERV imported 24 young Montbeliard cows from France, which were with calf. This is one of the hardiest French breeds, and was chosen for its ability to produce large quantities of milk. During the lactation period, Montbeliard cows have produced up to 30 litres of milk per day, whereas the local breeds only produce three to four litres per day. The Montbeliards have a tremendous advantage over the local zebus. Mr. Cadot, the researcher in charge of the project, describes them as almost like "natural factories for transforming food into milk."

The significance of the Sangalkam farm from a scientific point of view is that it combines, on a reduced scale, all the research activities of the LNERV, and at the same time serves as a testing ground. The first aspect of the research is centred on production of forage crops, and the selection and development of farming techniques for the improvement of yield per hectare. It also includes, of course, the various techniques for preserving fodder - such as storing prepared feed in trench silos - and physiological and nutritional research for the improvement of animal feeds. The second aspect of the research lies in the adaptation of the dairy breeds introduced. Although the Montbeliard breed was chosen because of its resistance and productivity, the adaptation period has not yet been completed. The animals are still exclusively fed from troughs inside the barns. "This makes it possible to monitor more closely the effects of climatic changes and the adaptability of the animals, but above all we wish to protect them against parasites", says Mr. Cadot, but he regards this now simply as a precautionary measure.

The performance of the Montbeliards is already remarkable: they produce 30 litres of milk per day, and have an average lactation period of 300 days. They are in the process of adapting, but they are almost certainly not suitable for wide distribution, because breeders cannot provide adequate conditions required for a good operation. Contact with the natural environment is for the time being undesirable. The Montbeliard seems destined for a modern operation which will be able to provide it with proper protection, the necessary health care, adequate feed, and living conditions which are quite different from those found in traditional herd operations throughout the Sahel. The aim of this experiment is to show potential investors that an operation such as this one, for

the supply of milk and meat to large African cities, can be a profitable venture.

With its modern installations, Sangalkam is an example of the type of very sophisticated dairy farming which can only be developed with large capital investments. In addition to the barns, the farm is equipped with an automated milking parlour, equipment for pasteurization and packaging of milk for sale in Dakar, and installations for production of concentrates for improvement of animal feed.

There are still difficulties to be overcome, however. The Montbeliards' fertility rate is low, especially during the rainy season, when there are also outbreaks of hoof infections despite all the precautions taken. As a result, the herd is increasing much more slowly than expected despite the fairly good performance of the heifers.

Seven months after the introduction of the Montbeliards, LNERV began raising Pakistani zebu. Under the same conditions as the French animals the Pakistani cows have reached an average production of 15 litres per day. Although this figure could be improved, it is still much better than for the local zebu.

The increase in the population of the Pakistani zebu, which are more hardy than the Montbeliards, will make it possible to provide local herdsmen, right away, with sires to improve their stock and, in the future, with heifers ready to breed.

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