Shree Narayan dairy farm Success story

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Shree Narayan dairy farm in Shili Gujrat was established in 2008, by Shri Sharad Rai Maharaj. Although ambitious with his goals, his efforts were failing him. He started with 3 cows and there was decline in production as well as reproduction. Although efforts were made at a personal level, but the failing dairy could not be balanced, as a result, expansion of the project was likely to be suspended.

After much research in the field of successful dairy in Punjab, I met Shri Sharad Rai Maharaj. The curiosity of this man had led him to Punjab, where he could see so many dairy farms running successfully through thick and thin of the harsh variations in our tropical climate. Although this man had bigger and more progressive plans for his dairy, there was no one to lead him to the proper way.

After listening to the history of this farm, I could easily deduce that the farmers in Gujrat needed to adapt to the growing needs of dairy as well as accept and adapt to the challenges posed by improved germplasm of the new cows. The history of this farm led me to work on the following parameters to make this farm a success in the coming years.

1. Breeding

The major challenge for the new farmers and entrepreneurs is the lack of understanding the genetics of cows. They have to assess their animals in terms of purity, production and reproduction and then select animals with desired genomic traits in order to advance the farm. Following protocol was established to succeed in terms of breed at this farm:

- The farmer has to realize that they have to keep using the better breed. Local semen once used, intentionally or un-intentionally, will hamper the progress.
- Imported genomics semen was procured and preserved and been used successfully at this farm. This farm possesses elite Canadian HF-cross animals. A well-maintained record book is frequently updated whenever semen was used.
- The animals purchased at the beginning of revival at this farm were analyzed for their pedigree history. After complete evaluation, the animals were accepted. Since animals were purchased from a proper breeder farm, up-gradation in terms of breeding was comparatively easy.
- As a CLA Trainee, I also advised this farmer to cross more pure Gir cows available in Gujarat with HF. Since the cross varieties yield a maximum of 36 liters of milk with a fat % of 5.5 with a very good endurance in high heat and humid conditions. With help of Semen companies and experts we tried in 3 animals with Genomic sex semen, now all three cows are pregnant and we are waiting for the offspring.

- As a CLA trainee, I developed easy record format for Proper record maintenance which was made a priority at this farm. Before every insemination, straw details are preserved to maintain future pedigree records and other reproductive managemental interventions.

GR HF Cross

Elite Heifer

Cross breed cow

GIR cow for breeding

2. Feeding

Before my intervention, feeding was done in a traditional manner with 400g of feed for every liter of milk. Wheat straw and low-quality fodder by-products were fed on a regular basis. Green fodder was seasonal and silage was never a priority. After his visit to Punjab, the owner of this farm was acquainted with ration formulation and customized diets for every category of farm. After my TMR formulations, quality and quantity of milk was improved, but there was a lot to be done to make sure that animals received green fodder/forage on a regular basis.

It was challenging to make the farmer understand that silage could be the backbone of his farm production. I arranged a few trips for this farmer in Punjab to look at silage-making practices. Commercially, bale silages are also available, but it is always economical to make silage especially corn silage. This year, Shri Sharad Rai Maharaj has grown maize and is also planning to procure it and make silage under my supervision in the month of July.

In terms of green fodder, I advised this farmer to grow Rye grass and Lucerne (20 to 22% crude protein on dry matter basis). The high yield varieties seeds were obtained from Punjab, As a result of this fodder, milk production increased from 460 to 880 litres at one stage.

Under my supervision, it was made a priority to rear calves on accelerated basis. Following things were mandated for efficient calf rearing at this farm:

- Colostrum was fed to calves within 1st two hours of birth with the help of a bottle in a neck-upwards position.
- It was made sure that calves receive at least 5 litres of colostrum within 6 hours of their birth.
- Deworming protocol was also performed. My protocol focusses on removal of all endo-parasites within the first 3 months of calf.
- Calf rearing has been advised in cages to attain least infection & maximum weight. Calf starter provided with adequate protein, energy for optimum growth. Anti-coccidials, mineral vitamin and superior toxin binders have also been added at recommended doses for better growth.
- Proper milk feeding (at least 4-5 Liters per calf per day) at this farm has been done as per my directions. Weaning age is 75days and calves do attain at least 100 kg of weight at weaning.

Calf 1: 138 Kg white (birth weight 32 kg) in 110 days
Calf 2 : 148 Kg black (birth weight 34 kg) in 115 days

Elite heifers with TMR wagon

Faster calf growth

3. Housing

The farm has been constructed with a modern design, but animals have not been properly grouped. After my intervention, animals have been grouped properly. Fine changes to combat heat stress; a must for 4 months in this part of the world, have been made.

- Modern technology-equipped fans supply air up-to 60 ft. Animals do receive air at a speed of 2.5 meters per second to waive of their excess body heat.
- Proper combination of water sprinklers and fans do help animals dissipate their excess body heat and relive stress. At extreme THI (Temperature humidity Index), proper fan and sprinkler combination help animals take adequate dry matter.

4. Management

After our joint efforts at this farm, the farmer has realized that a successful dairy has the following goals and performance criteria. All these criteria are achieved with 90 percent success rate.

- Calf a year from cow. This has become possible by maintaining nutrition, management and health status of cows, all being achieved with our joint efforts.
- Proper calf rearing programme is helping heifers to attain a body weight of 320 kg at 14 months. Heifers calve within 23-25 months at this farm.
- Animals do not utilize more than 2.5 average numbers of AI straws per animal for their conception.
- Metabolic disorders are nearly zero after adopting transition management protocols, in contrast to the last year's prevalence, which was approximately 7% in previous years.
- Mastitis prevalence is near to zero every month.

Due to less availability of labor at this place, milking parlour became a necessity. This farm is equipped with all basic amenities for a successful farming, but the main driving force behind the smooth working of this farm is the fact that one needs to keep learning and implementing the latest modifications in terms of nutrition and management.

As of now, this farmer has 60 cows, 35 heifers and a calf of near to pure HF and 5 buffaloes. The milk production is 800 liters in peak season. 56 animals are pregnant out of 60. All the criteria for a successful dairy farming are being met at this farm. With a vote of thanks for me, this farmer and I are going forward on the path of a never ending learning spree.

Discussion with Owner Narayan Dairy Farm

HF cross Calf from Genomic semen