Case Study on Dairying in Israel

Introduction:

The experiments in dairy farming were initiated in Israel in 1910 when there were only about 1000 cattle in the country. While cross breeding efforts started in 1920s, the increased importance of dairy farming resulted in focus on cattle health and eradication of diseases in 1930s. This improved the production and by the end of 1940s Israel had more than 33,000 cows with 75 million litres of milk production. In 1956, Israeli dairy board was formed to promote exports and organise dairying in the country. Israel has two farming systems: The Kibbutz and the Moshav. Kibbutz are large farm collective units, whereas Moshav are family herds organised as cooperative society. The unfavourable climatic conditions, desert conditions, heat, humidity, endemic diseases and limited land & water resources poses challenge in rearing and maintenance of cows.

Intervention:

Dairying is much organised in Israel with focus on cattle health, Hygiene and nutrition. Region specific nutrition strategy is developed based on the climatic conditions and energy needs of cows. Proper management of feed is seen as critical for maintaining body weight and sustained milk production. Feed management by maintaining forage and storing silage also form important part of feeding strategy. For better health and productivity, balanced energy rich diet through a mixture of wheat, barley, sorghum rice and other grains is provided. Sufficient intake of fat rich diet (upto 6%) through cottonseed, brewer grain and oilseeds are ensured for lactating cows. Fresh forage act as an important source of vitamins and minerals. Israeli dairy board and associated institutions also supports and publishes research and paper on nutrition & feeding and region specific feeding strategies are consistently updated on the basis of the findings. Herd diet is based on scientific, online feed analysis, for highest nutritional value and economic efficiency. Herd management, disease control and strong veterinary services are at the core of the dairy industry success in Israel. This are complemented by genetic improvement measures and AI support, training on heat detection, proper practices on calf rearing. The Israeli herd book contains information of about 90% dairy cows in the country. The health details, production and other aspects of cows are consistently recorded and analysed in Israeli dairy farms.

Impact:

- Highest per cow milk production annually in the world at 11,970 Kg (3.75% Fat, 3.45% protein)
- Improved milk quality with reduced somatic and bacterial count per unit reduced by more than 50% since 1999
- Average milk yield per cow is tripled since 1940, yield has been consistently above 10,000 kg per year since 1995

Learnings for India:

- Region specific balanced diet plan needs to be developed for Buffaloes and Cows.
- Silage making and forage management practices needs to be encouraged
- Strengthening of health services and hygiene has immediate impact on health and productivity of cattle

- Awareness building and training among producers on importance of right diet, proper drinking water and hygiene in rearing of cattle can be encouraged
- Dairy herd nutrition management studies from Israel shows that increasing proportion of high energy foods in ration can be counterproductive for production and yield as it may reduce pH value, impact metabolism. The diet needs to be a balance between forage and fibrous structure
- It is important to note that Israel has different climatic conditions and very small geographical area and 100% of cattle are stall fed. Therefore, Indian strategy needs to be developed based on India local conditions and different strategy may be developed for stall fed animals and grazing animals.
- To prevent indigestion and toxins, it is important to minimize humidity while storing and transporting food and silage
- Millets (Barley, Sorghum etc.), maize, alfalfa and oilseeds are important sources of nutrition and these crops may be promoted in addition to wheat in integrated farming systems

Source: https://www.dairyschool.co.il/israeli-dairy-industry/; Dairy herd nutrition management by Dr Ofer Kroll, 2015