SWAZILAND DAIRY BORD

(Established in terms of the Dairy Act 28/1968)

OPERATING AS SWAZILAND DAIRY DEVELOPMENT BOARD
TO PROVIDE DEVELOPMENTAL AND REGULATORY SERVICES
TO THE DAIRY INDUSTRY

REQUIREMENTS FOR STARTING A DAIRY CATTLE PROJECT

1.1 Farmer

A dairy farmer must have the following attributes:

- Love of dairy animals
- Be a hard worker
- Ability to prioritise
- Quick decision maker
- Entrepreneurial
- Be willing to work long hard hours
- Settle off leisure time for hard work
- Willing to take advise
- Be trainable

1.2 Land

Suitable land is a requirement for dairy farming. It selection must be guided by the following:

- Land size is 0.6ha to 1.0ha per livestock unit
- Access to electricity line for medium and large scale
- Should be on existing milk collection route
- Have enough water
- Should have at least 90% arability
- Should be of good soil type
- It can be own or rental land
- Accessible with all weather roads
- Have access to telephone line or cellular phone network coverage

1.3 Technical knowledge and skills

The aspiring dairy farmer must have knowledge and skills on the following:

- Necessary preparations for starting a dairy enterprise
- Animal husbandry
  - Dairy cattle breeding
  - Dairy cattle feeding
  - Dairy cattle selection
  - Other husbandry practices
- Dairy cattle breeds
- Disease prevention and control in dairy cattle
- Milk collection
- Milk storage
- Milk marketing
- Business plan preparation
- Loan acquisition procedures and requirements
- Record keeping
- Basic financial management

1.4 Facilities

The facilities of a dairy enterprise include the following:

- Milking parlour and related structures
- Housing and handling facilities
- Dipping facilities

1.5 Materials and Equipment

Below are some of the materials and equipment necessary in a dairy farming enterprise.

- Milking utensils
- Hand sprayer or spray race
- Milking machine
- Milk cooler
- Milk cans or buckets
- Bull nose lead
- Crestar applicator
- Semen flask and accessories
- Animal husbandry tools
- Tractor with implements
- Vehicle

State Requirements

The laws of the country with regards to the management of livestock include the following:

- Dipping authorization
- Dairy cattle import permit if cattle will be purchased outside Swaziland
- Branding of livestock

1.6 Dairy Cattle

The following are critical for a new entrant in dairying:

- Breeds
- Herd composition
- Source of dairy cattle supply
- Feeds availability and source
- Technical assistance availability and proximity to the market.

1.7 Capital

Any enterprise requires some form of capital investment to establish and run. It is worth thinking about the sources, maintenance and replacements of the capital that will be needed before the business is established.

1.8 Labour

Labour that is trained and/or trainable is a critical component of a dairy farm. They must be healthy, strong and alert in this business.

1.9 Market

The market drives the business growth. It must be reliable, sustainable and very well understood. There is always need to conduct research even if it is informal to get information about the industry.

2. Dairy Cattle

2.1 Preparations

A successful dairy farmer is the one who concentrates their effort on preparations. This can be achieved by seeking advice from dairy and management experts who will give guidance on the following preparatory activities:

- Pasture establishment
- Construction of milking shed or milking parlour
- Construction of spray rave or crust pan for dipping purposes
- Construction of handling pens
- Purchasing of all necessary items such as milking cans, milking machine etc.
- Applying for a dipping authorization
- Business and financial management.

2.2 Pasture Establishment

Reasons for establishing pasture

- To develop an improved pasture suitable for a dairy type of cattle, which produce plenty of milk.
- To establish high yielding pasture which will support more livestock units per hectare than the natural pasture can do
- To maintain or introduce a nutritious pasture specie (s)
- To secure a reliable source of roughage for the dairy herd rather than depending on uncertain supplies from the marker.

3. Land

It is normal that land offered to pasture establishment for the first time is red with veld vegetation of bush, trees and bad grass. For that reason clearing of these may be necessary, before introducing desirable specie of pasture. The land clearing activities include the following:

- Bush cutting using hand tools, such as axe, panga, etc
- Tree felling and stump digging using hand saw and pick etc.
- Burning of vegetation, stumps and trees branches.
- Sometimes the uprooting of trees and stumps becomes necessary.

Note that not all trees should be cut down during land clearing, some are to provide shade for the grazing cattle.

4. Choices of Pasture Species

There are many factors that are taken into consideration when choosing appropriate pasture specie that a farmer may wish to grow for his/her dairy cows. The following are some of the factors though not exhaustive:

- The dairy cattle management that the farmer will adopt can limit pasture species. A zero grazing management system goes well with Napier, hay and silage fodder. A grazing system in the high veld region kikuyu, rye, star grass etc.
- Availability of pasture planting materials (e.g. seeds, setts or runners) may also limit the farmer's choice to what is obtainable.
- Some pasture species are selected for the ease with which they can be planted. It is easier to establish a star grass pasture than the Rhodes seeds. So is Napier grass compared to Eragrostis teff.
- The manner in which the farmer intends to utilize a pasture also helps in seeds, Lucerne etc. For high veld grazing kikuyu and star grass can do, but for green chops Napier can do well as well as for silage.
- The prevailing climatic conditions, where the pasture is to be established can influence the type of pasture species to be grown. Species which do well in the high veld include Napier grass, Eragrostis teff, Rye grass, Oats, Bermuda grass, Kikuyu etc
- Access to irrigation can also help in determining the types of species to be grown especially during the winter season.

5. Soil Testing

Some pasture species area sensitive to soil pH levels, for example Lucerne does not favour acid soils. Most soils in the high veld regions are acidic, some liming will therefore be necessary when establishing pasture. Amount of lime and soil fertilizer required are determined by soil testing.

Soil testing is done at the Malkerns Research Station on soil samples, sent there by farmers who need such information. The procedure of sampling a farmer's land can be explained by the local agricultural extension agent.

6. Early Ploughing

- Early ploughing is necessary to loosen the soil and destroy undesirable vegetation cover on virgin land. This can also help to incorporate kraal

manure and lime if they are to be applied. The ploughing is preferably done in autumn, when the soil moisture due to last summer is till high. Disk harrowing may follow to destroy sods and miss manure and lime well before planting time comes in spring to early summer

- If early ploughing happens to be done in the spring for any reason, lime may be applied then too. Such cases may occur where pasture land has food crops on it before, and therefore is not a virgin land.

7. Pasture Planting

- A seedbed is prepared by disk harrowing the earlier ploughed land thoroughly. During this activity, basal fertilizer or kraal manure may be broadcasted and buried in the soil too. However, if there is too much weeds already growing since early ploughing, ploughing may be necessary to control them before a good tilt of seed bed is prepared.

- Seed application can be hand broadcasted over seed bed immediately after preparation without delay; otherwise weeds can overgrow the pasture during germination. It therefore, follows that seed preparation should be done when soil moisture is good in order to plant immediately. In the case where other planting materials apart from seed are used, runners an setts can be buried in a clean seed bed with fertilizer (basal). Different kinds and qualities of chemical/commercial fertilizer are used for different species as recommended by the manufacturers and research people.

- Where irrigation is possible, this is an added advantage in successful pasture establishment. Most pasture fail to establish due to moisture shortage ate germination and early growth.

8. Weed Control

- Once the pasture germinates and develops, weeds also show up. The need for weeding becomes very important and necessary. Depending on the type of pasture species, herbicides can help destroy the weeds. The advice of the extension officer is helpful here.

- Weed control can also be done manually, using a slasher or by pulling the weeds with hand when soil moisture is good enough.

- For those who can afford, a tractor drawn mower can sometime help to control weeds as good as a slasher.

9. Pasture Fencing

- It is essential that pasture be perimeter fenced, otherwise it will be unsuccessful. Most pastures fail because farmers rush into buying dairy cattle before fencing their pastures in order to keep away communal grazing animals of neighbouring community. Then no dairy animals will destroy what the farmer has spent time and energy to develop, within a short space of time. Freely grazing cattle and other livestock in the surrounding community too should not have access into the dairy pasture because it will not help in the development. Once developed, the pasture can be subdivided for ease of grazing and fertilization.

10. Pasture Utilisation and Management

- To maintain pasture productivity for a long period of time, a proper stocking rate has to be followed carefully at all times.

- Established pasture should be well fertilized to keep it in high yielding state.

- The pasture should be grazed or cut at the right stage of growth to harvest the best out of it.