

DAIRY CATTLE PRODUCTION

NUTRITION

1) Feeding

For a healthy and productive cow, feed on a balanced diet. The ration should have the right amount and quality of concentrates, protein, mineral and vitamins. A dairy cattle ration should contain 70% energy source, 30% protein source and required minerals (such as: 35% wheat bran + 35% maize + 30% cotton seed cake + 1% minerals).

Feed on:

a) Dry matter

This comprise of both dry and fresh fodder.

- Fresh fodders are mainly green forages such as Napier grass, Lucerne and sweet potato vines among others. They usually contain a lot of water. Do not feed freshly cut grass to your cow. Cut fresh fodder and leave in a dark place for a day to wilt, then chop into 2 inch (5cm) pieces to make it easy for your cow to eat. This will avoid feed wastage.

A dairy cow should be given 15-20 kg of chopped forage per day, preferably in two splits i.e. one in the morning and the other in the evening.



Wilt fresh fodder for 1-2 days before you feed to your cow

- Dry feeds include materials such as wheat straw; rice straw, maize Stover and other vegetable by products. They are best fed by first soaking in water or molasses in case of straw and also poor quality hay. Mix one part of fresh fodder

with one part of dry fodder e.g. 1 sack of chopped Napier plus 1 sack of chopped wheat straw.



When feeding your cow, give a mix of half of dry feeds and half of fresh fodder

Dry feeds also include supplement with commercial feeds e.g Unga Dairy Meal concentrates.

1. A dairy cow should be given 1 kilogram of concentrates for every 2 L of milk produced above the first 5L. It is assumed that a cow can produce up to 5L of milk per day from good forage without giving concentrates so long as the required minerals are present or available. Dairy cubes, dairy meals, maize germ, bran (wheat, rice or maize), cotton seed cake sunflower cake, Soybean cake etc.
2. For lactating cows, give concentrates after milking. When steaming up heifers, give concentrates daily for 2 months before calving. You need 2 kg /day /cow.



Supplement with 1 kg of concentrates e.g Dairy meal for every 2 litres above 5 litres you get

This is extra feed of high quality concentrates (preferably compounded), which is given to in-calf cows and heifers at 2-4 kg per cow per day for two months before calving. However, it can be more or less depending on the condition of the animal. Preferably, growing heifers will need more.

b) Minerals

Milking cows also need minerals like MACLIK SUPER. Give about 1 glass per day.

For dry and non-lactating cows, give FUGO DRY COW MINERAL from Unga Farm Care.

Granular mineral products should be mixed with feeds in a feeding trough while free lick should be allowed if it is in the form of a solid block.



Give Maclik Super to lactating cows

Note: Calves and heifer should get MACLIK MINERAL BRICK.

c) Protein supplements

Cows also need protein for a healthy calf and to increase milk production. Fodder e.g desmodium, sweet potato vines and lucerne are rich in protein. You can supplement with feeds e.g Kupakula Nutrition formula or Kupakula gold from Coopers



Supplement with protein e.g Kupakula Nutrition or Kupakula gold

d) Vitamins

2) Parasites

Healthy herd gives more milk. Parasites can be external or internal.

a) External parasites to control include ticks, fleas, lice and flies.

Regular dipping or spraying with approved and effective acaricides eg TRIATIX or GRENADE from Coopers helps to control.



Tick like the brown ear tick cause diseases like ECF. Dip every 2 weeks with an acaricide e.g Grenade or Triatix.

b) Internal parasites include Mainly the roundworms, flatworms, liver flukes, etc

To control worms, deworm your herd. Dose calves with recommended anthelmintics at 4 months and every 6 months thereafter. It is recommended to do drenching when deworming to ensure the cow swallow the dose of the drug.

To deworm using a drenching gun:

1. Restrain the animal either by putting it between you legs (for small animals) or by putting it into a crush
2. Measure the drug into the bottle or drenching gun according to manufacturer's instructions
3. Put one hand over the animal's nose, open the mouth just enough to admit the gun or the bottle.
4. Place the bottle in the corner to the animal's mouth and ensure that the tongue is not held when dosing.

5. Hold the mouth closed for a few seconds after withdrawing the gun or bottle so that the drug is completely swallowed.



Hair falling off is one sign of internal parasites e.g worms

When deworming, use dewormers such as NILZAN PLUS, NEFLUK 10% or NEFLUK from Coopers K brands.

3) Vaccination

One way of controlling diseases is through vaccination. The table below illustrates some of the common diseases to vaccinate against and at various ages.

Age	Vaccinate against	Application	Remarks
3-8 months for heifers	Brucellosis	S/C - Once in a lifetime	During threats of outbreak the whole breeding herd may be vaccinated. Use vaccine with care. S19 live vaccine can cause brucellosis in humans.
3 months to 3 years	Anthrax and	S/C - Yearly or upon warning of impending outbreak	Vaccine is cheap, SO USE IT. Anthrax is deadly for humans and animals.

	Blackquater		
2 weeks and above	CBPP	Yearly in endemic areas. In other areas only upon warning of impending outbreak. Vaccinated through tail tip.	Consult your veterinary authorities. To be administered by trained veterinarians. Animals can lose their tails from this vaccination.
1 month and above	ECF	S/C under the ear. Vaccine is commercialized in Tanzania and under trial in Kenya	Only to be used by licensed Veterinarians who are trained on Infection and treatment methods.
2 weeks and above	Foot and Mouth disease	S/C - Every 6 months in endemic areas. All of East Africa is endemic in 2010	Different strains exist. Consult your veterinarian on the choice of vaccine.
3 months and above	Rabies	I/M or S/C - Cattle can be vaccinated annually and must	This is the only vaccine that can protect already affected herds if it is done within

		be vaccinated when there is an outbreak	maximum of a week after the outbreak. Report suspected cases immediately
6 months and above	Rift Valley Fever	S/C - Preventive after heavy rains or when there is a risk of outbreak.	Killed vaccine should be used in pregnant animals - they may abort if the vaccine is live. Some vaccines are live vaccines so HANDLE WITH CARE. RVF

			in humans can be deadly so control is very important
1 month and above	Lumpy skin	S/C - Preventive when there is a risk of outbreak.	If using live vaccine, separate cattle from sheep and goats, as the vaccine is derived from modified sheep pox virus which can cause pox in sheep and goats.

DAIRY HOUSING

1) THE CUBICLES (RESTING AREA):

- This is a place for the cows to relax and sleep during the night.
- Each cow has her own place in the resting area, called cubicle. The cubicles must be covered with a roof made of iron sheets (Mabati), grass thatch or makuti.
- The roof must be high enough so that it cannot be eaten by a cow if it is made of grass or if hay is stored under it.
- The cubicle should be constructed such that the cow remains clean all the time.
- One should construct the number of cubicles enough to be occupied by animals most of the time.
- Unoccupied cubicles are a waste of space and money.

For a given number of cows to a unit, extra cubicles are required to house young-stock (heifers) eg

1 cow	2 cubicles
2 cows	3 cubicles
3 cows	5 cubicles
4 cows	6 cubicles
5 cows	7 cubicles
6 cows	9 cubicles

Fix a mineral block to each cubicle to limit fighting between the animals.

A cubicle has a length of 210 cm (7ft) and a width of 120 cm (4 ft). Cubicles are separated from each other by two timbers.

2) THE WALKING AREA:

The walking area is about 3 meters wide i.e. between the resting area and where the feed and water troughs are located.

- No roofing is required for this area except under very hot conditions like in the ASAL area
- The floor of the working area is made of concrete. This makes it possible to collect urine and manure.
- The surface of the floor should be rough so that animals cannot slip on it but it easy to clean.
- The floor should slope from the milking place towards urine and dung collecting pit located at one end of the walking area.

3) THE MILKING PLACE:

The milking place should be constructed next to the cubicles. It should also be of same dimensions as cubicles i.e. 120 cm (4 ft) by 210 cm (7 ft).

4) THE CALF PEN:

The calf pen is situated opposite the milking place. It has a floor surface of 120 cm by 150 cm (4x5 ft).

If other crosses or local cattle are kept on the opposite side then avoid the opposite side.

MATERIALS REQUIRED FOR CONSTRUCTION OF A ZERO GRAZING UNIT

- Strong Posts
- Iron sheets
- Round poles

- Nails ie both wire nails and roofing nails
- Cement
- Sand
- Ballast(kokoto)
- Hard core

Kindly consult you local fundi or call ishamba on 0711082606 to know the various quantities.





