CKL AFRICA LTD

Calf to Cow

CALF | HEIFER | COW

Feeding and Nutrition *Management*

www.ckl.africa

1. Calf Rearing

Why invest in management of calves?

a. If we don't get the basics right, nothing we do thereafter will really matter!

b. To be able to achieve the objectives of calf rearing in our dairy herd
   i. Faster weight gain (500g-800g per day)
   ii. Develop the rumen so as to prepare the calf to be ready for weaning by the age of 3 months or earlier
   iii. Set the foundation for a well-developed heifer
      1. Attain ideal weight of service (350kg) by the age of 14-16 months
      2. First calving at 24 months of age

Objectives

- To get a strong and healthy calf at birth
- To get a birth weight of about 40kg
- To prevent calf's diseases and death
- To wean at about 80kg body weight
- To develop rumen papillae/wall so that calf can stop feeding on milk

When / Age	What to do
At birth	• Monitor and in case of any difficulty, call a Vet • Stimulate breathing (wipe mucus from the nostrils and tickle with soft grass or hold calf by hind legs upside down. • Give colostrum as soon as possible and not later than 24 hours from birth. Give at least 6ltrs colostrum within first 12 hrs of life. • Feed colostrum for first 3-4 days consecutively.
4 days to 4 weeks	• Give 4-5 litres of Trilk per day reconstituted at 125g of Trilk to a litre of water. Minimum recommended is 4L of Trilk daily i.e. 2L fed twice daily. Use warm and clean water when mixing Trilk to avoid scours. • Provide a handful (0.25Kgs)/Day of calf pellet/starter in week 1 then increase to 0.5kg in week 2 then increase to 0.75kgs in week 3 then 1kg in week 4. • Add 1 teaspoon of Diamond V XPC per calf per day to help with the faster development of rumen and efficient digestion as well as boost calf's immunity (This can be added to the calf Pellet/starter or in Trilk). • Provide clean fresh water all the time. • Provide fresh quality hay free choice to enable the calf get accustomed to forage early • Keep calf, pen and feeding equipment clean (equipment washed with Bactergent and pen disinfected with Kupacide). • Provide Maclik Mineral Brick.
5 weeks to 9 weeks	• Increase the amount of Calf Pellet/Starter to 1.5kgs/day at week 5 then maintain it to 2kg/day till week 9. • At week 7, reduce the amount of Trilk fed to 3L per day in preparation for weaning. • At week 9, feed Trilk once daily (2L) alongside the pellets, sweet potato vines or soft hay and thereafter stop feeding Trilk completely. • Provide water free choice. • Provide fresh quality hay free choice. • Keep calf, pen and feeding equipment clean. • Provide Maclik Brick till 6 months of age after which you switch to Maclik Plus.

Disease Prevention and Management in Calves

a. Septicaemia/Bacterial Infection- for prevention disinfect the navel with Coopers Copper Sulphate or Mastrite. To treat, call a Vet.

b. Diarrhoea - Give Coopers Light Kaolin as per product instructions. Use electrolyte replacers, commercial or homemade (salt and sugar solution). If severe call a Vet.

c. Pneumonia - For prevention ensure proper and hygienic housing e.g. avoid wet floors, disinfect calf pens. To manage infections call a Vet. Signs include coughing, difficult breathing and fever.

d. Control tick borne diseases and fleas by spraying with Grenade®. Remember calves are susceptible to tick borne diseases such as ECF and so care must be taken to manage ticks right from day one. Triatix may also be used for control of ticks.

How to wean

Objectives

- To minimize stress which can affect immunity and hence disease
- To ensure smooth transition from liquid to solid food

Steps

1. Ensure the calf can consume atleast 2kg of fodder/grass/hay/silage. This usually happens when the calf doubles its birth weight. This can be mixed with 20g of Lipidol.
2. Feed Trilk only in the morning for 3 days then feed every other day after which you stop completely. That is if you feed today in the morning, skip tomorrow then feed the next day and finally stop completely.
3. Deworm the weaned calf (now heifer) with Nilzan, Nilverm or Nefluk .Use correct dose depending on weight. (Use weighing bands/conversion tables available from CKL.
4. If you graze the animals in a place with swamps, deworm every month until the heifer turns 6 months, thereafter the calf will be strong enough and deworming can be done after every 3 months.
5. Perform other routine practices like debudding/dehorning.

2. Heifer

Objectives

- To prevent disease and death losses.
- To ensure faster growth rate of 0.5-0.8 kg/day.
- To get first conception at 15 months (not a criteria for service).
- To get first conception at a weight of between 300-350kg.
- Get first calve at 24 months.

Why target conception at 15 months and calving at 24 months?

1. To shorten time for genetic gain -i.e., dam/sire to grand-daughter.
2. Calving at early age increases productive life-the farmer can get as many as 8 calves from a single cow and still resell at a good value at culling.
3. Well cared for heifers that calve at appropriate weight 400-450Kg give more milk compared to those of same genetic make-up but different weight.

Feeding of heifers 3 to 6 Months

- After weaning, give the heifer high quality pasture/hay/silage/grass as much as she can eat.
- Mix 5kgs of Kupakula Advanced with 70Kgs of Young stock Pencils/Wheat bran/ Wheat Pollard/any other concentrate, Lipidol 3 tablespoons, 8 tablespoons of Diamond V XPC and feed 1.5kgs per animal per day.

- Give Maclik Plus at a rate 100 - 150g per day or ad lib (recommended). This will help the body and bone structure of the growing heifer as well as development of reproduction system.
- Provide CKL Xtra/Maclik Mineral Brick if Maclik Plus (Recommended) is not provided free choice. This will help the body and bone structure of the growing heifer as well as development of reproduction system.
- Deworm with Nilzan, Nilverm or Nefluk every 1-2 months especially if grazing in an area with swamps. This should be done until the heifer turns 6 months old when the rumen becomes aggressive enough to deal with worms. Thereafter deworm every 3 months.

Feeding of Heifer from 6 to 18 months

- By six months of age, good quality fodder (such as chopped, dark green, one metre tall Napier grass) is sufficient to meet the heifers' needs.
- Add a handful of Kupakula Advanced to provide the much needed by pass protein and energy and to take care of poor quality forage and to help faster growth or feed Kupakula/dairy meal mix at the rate of 0.5kg/heifer/day.
- Add 3 tablespoons of Lipidol per day to ensure better growth performance.
- Provide Maclik plus 100g/cow/day or (4-5 tablespoons) and provide CKL Brick or Feed Maclik Plus ad lib
- At the age of 14 months and on attainment of 350kg body weight our heifer is ready to be served. Breed with high quality genetics. We highly recommend CRV genetics.

Our heifer is now pregnant and waiting to calve! Management is now for a pregnant cow.

3. Pregnant Heifer/Cow

Management Objectives

- To prevent loss of pregnancy through- abortion/still birth.
- To get a strong and healthy calf at birth.
- To build enough body reserves to be utilized in the first 2 months post calving when the cow will be in NEB (negative energy balance).
- To encourage growth of udder (alveolar tissue) for high milk production.
- To ensure there is enough energy for easy calving and avoid difficult calving (dystocia).

For pregnant heifers, continue with the feeding program above till 2 months prior to calving when they get into a steaming program (see details below). Lactating cows should be dried off 2 months prior to calving and get into a steaming program shortly thereafter.

Q.1. How do you dry off a cow?

For lactating animals, the cow needs to undergo a drying off period which happens 2 months prior to calving (refer to the dry cow manual for more details).

Q2. What is steaming?

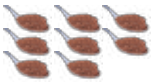
Increased feed supplementation during the last 4 to 6 weeks of a cow's pregnancy prior to calving.

Q3. Why steaming?

i. To build up reserves for use in the period of NEB and for high milk production.
ii. To encourage growth/repair of udder (alveolar) tissue.
iii. The calf is growing faster at this time and the nutrient requirements is higher.

Q4.How is steaming done?

i. Feed quality pasture to provide bulk fiber and energy at a rate of 3-4% of body weight on Dry matter basis (a full wheelbarrow).
ii. For fast growth of the calf and demands on the mother's body, feed 8 tablespoons per day of Maclik Dry Cow.

Feed to give	Why give?	Quantity per 70kg concentrate (Give upto 3kg of the mix per day)
1. Kupakula Advanced 	• To provide by pass protein for growth and repair of udder. • To provide fat to build up stores for use in period of NEB and high milk production.	5kg.
2. Diamond V XPC 	• To ensure effective rumen function and efficient feed utilization.	8 tablespoons. 
3. Lipidol 	• Ensure maximum absorption of nutrients. • Helps to build up body reserves for use in the period of NEB.	13 tablespoons. 

4. Lactating Cow

Feeding and Management objective

- To get more milk (quantity), better /improved milk components (fat and protein content), persistence (attain peak e.g. rise from 20ltrs to 30ltrs and maintain for at least 2 months before a very gradual decrease over the 305 days lactation period to the next calf).
- To ensure minimal body weight loss due to the NEB (negative energy balance) ie period after birth when cow loses weight even when feeding normally.
- To ensure cow comes on heat and becomes pregnant by day 60 after calving.
- To ensure cow has strong immunity to withstand diseases that may result in death, unnecessary expenses and loss in production.

Average milk yield per cow should be at least 20L per cow per day over the 305 days lactation period i.e. over 6000L per lactation period. Genetics and good practice can push this to an average of 35L per day (10,675L per lactation period).

Strategies to achieve this are:

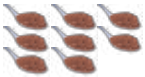
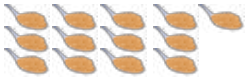
1. Increased feed efficiency and nutrients absorption
2. Increased milk yield and persistence
3. Control/prevent diseases
4. Improved genetics

"Silage, Hay, Wheat Bran, Maize Germ, Cotton Seed Cake and such usually fed to dairy cattle at the farm level have been found to develop mould. Mold produces poisonous metabolites called Mycotoxins that have a negative effect on reproduction, nutrient absorption, milk quality and immunity.

To avoid this always add T5Z at the rate of 2kgs/MT or one tablespoon per cow per feeding. T5Z is a Mycotoxin binder that has both preventative and curative measures and will protect the cow from the negative effects of Mycotoxins"

Feeding a lactating cow

i. For proper digestion, water should always be available (about 100-200ltrs)
ii. Feed quality pasture to provide bulk fiber and energy at a rate of 3-4% of body weight on Dry matter basis (a full wheelbarrow).
iii. In order to provide minerals needed for fast growth, feed Maclik Super at a rate of 8 tablespoons or ad lib or Maclik XP min of 75 gms per day.

Feed to give	Why give?	Quantity per 70kg concentrate (Give upto 3kg of the mix per day)
1. Kupakula Advanced 	• To provide by pass protein for growth and repair of udder and enhanced milk production. • Provides ingredients for milk production at intestinal level	5kg.
2. Diamond V XPC 	• To ensure effective rumen function and efficient feed utilization	8 tablespoons. 
3. Lipidol 	• Increased absorption of nutrients • Helps to prevent negative energy balance after birth	13 tablespoons. 

Protein digestion in the Cow

- Protein is degraded by micro-organisms- hence it's important to ensure optimum conditions for microbial growth and digestion. Diamond V XPC feeds micro-organisms in the rumen making the cow more efficient.
- To get maximum milk yield there is need to feed by-pass protein. Kupakula is highly recommended as it is highly bio-available compared to other protein sources. This can be mixed with Lipidol to maximize nutrients absorption.

Economics of feeding concentrates to lactating Dairy Cattle

The amount of concentrates fed should depend on:

- The level of milk production
- The quality of forage

Feeding Lactating Cow 0 to 12 weeks Post Calving

Challenge feeding

Begin with a low level of concentrates, such as four kilograms of dairy meal (70Kg Mixed with 5Kg Kupakula) per day

Gradually increase the amount of concentrates fed each day until the point is reached when adding more concentrate does not result in an increase in the next day's milk production.

Continue with this level of feeding for the first 12 weeks of the lactation.

After 12 weeks, the amount of concentrates fed should depend on the milk yield

How Much Concentrate Feed after 12 weeks of Lactation

A cow producing 20L of Milk/Day the amount of dairy meal require after 12 weeks of lactation would be calculated as follows:

20 – 5 = 15 then 15 ÷ 2 =7.5Kg of Concentrate Mix/Day

A cow producing 15L of Milk/Day after 12 weeks of lactation will require:

15 – 5 = 10 then 10 ÷ 2 = 5Kgs of concentrate Mix/Day

Breeding Tip

a) Genetics - It is critical to use good genetics to get maximum potential as well as avoid inbreeding, diseases and other disadvantages (we recommend CRV genetics). Seek guidance from qualified AI practitioners.

Trilk Fortified Milk Replacer for calves ensures fast, uniform growth (upto 500g weight gain per day) and development. Trilk supports fast rumen development and therefore short weaning period (2 months). Offers value for money. Trilk is the Foundation for Champions.

Maclik Plus is a mineral supplement formulated for heifers (6 months of age and upwards). It enhances heat and prepares heifers for conception and eventual lactation.

Maclik Super is a mineral supplement specifically formulated to provide lactating cows with the right balance of minerals necessary for maintenance of her body condition as well as production of both milk and healthy calves.

Maclik Dry Cow is specifically made for expectant cows that are nearing birth. It contains nutrients for optimum pregnancy maintenance.

Maclik XP is an advanced mineral supplement for high yielding lactating dairy cattle producing above 25L of milk per day. It is a chelated supplement which means the minerals and trace elements in it are highly bio-available for the cow.

CKL X-tra & Maclik Brick gives a supplemental supply of minerals that the animal can lick to their satisfaction. The Mineral Bricks can also be placed inside night bomas for animals that are managed under a grazing system.

Diamond V XPC ensures effective rumen function and efficient feed utilization.

Kupakula Advanced provides by pass protein for growth and repair of udder. Provides fat to build up stores for use in period of NEB and high milk production.

T5Z is a comprehensive solution against mycotoxins in animal feed with both curative and preventive action.

Natuzyme is a combination of key enzymes used to upgrade feed efficiency of cereal diets for poultry, turkey, aqua and ruminant feeds.

CRV Reliably tested sires, profitable and long lasting cows, high milk yields with high components, quality udders and great feet & legs.

CRV
BETTER COWS | BETTER LIFE

Lipidol is a fast nutrients absorption accelerator. It ensures maximum absorption of available nutrients into the bloodstream. It's applicable to feeds of all classes of livestock - ruminants, poultry, swines and aqua.

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