

## DAIRY EXPO

# Expos should not miss on dairy farmers' diaries

Cow comfort is key to improving production and reducing incidence of diseases in the farm.

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The dairy sub-sector in Kenya continues to grow and contributes about 4 per cent of the National Gross Domestic Product. The sub-sector is a source of livelihood to about 1.8 million small holder households. This sector further contributes direct and indirect employment to 750,000 and 500,000 respectively especially through vending, processing and transport.

Apart from the cash and employment, milk consumed at home provides an important source of animal protein to supplement the other foods. The cow

has been used as a bank where cows and heifers may be sold at a short notice to provide cash for school fees, hospital and investment.

However, climate change, minimal capacities among the aging farmers for innovation, to a less extent poor genetics, poor exposure to the dairy development, minimal farmer information on policy and regulation of the sector has under capacitated the sector. This challenges require a decisive and sustained action.

Against this background, FarmKenya organised a two days' dairy expo event in June 29 and 30 at Kaguru Agriculture Training Centre in Meru county.

During this event, many exhibitors

showcased their products and more than 150 farmers, who were very eager to learn were trained on successful dairy enterprise. The trainers dwelt on the following topics:

#### Breeds and breeding

There are many exotic and improved dairy breeds from which the farmers can choose from including but not limited to Jersey, Friesian, Ayrshire, Guernsey, Friesian-Holstein and Fleckvieh. Regardless of the breed chosen, the cow should be able to give you a calf per year and produce at least 20 litres of milk every day.

The farmers noted that they had issues of repeat breeding where a cow come on heat, is served several times without conceiving. We advised them to work closely with local veterinarians who can examine the affected cows and know what the problem is and deal with it. Usually in such cases, the issue could be with the cow, semen or owner

of the cow.

#### Housing

A good shelter acts as a buffer against harsh weather conditions such as strong winds, rain and excessive sunlight. Cow comfort is key to improving production and reducing incidence of diseases in the farm. This can be achieved by having good biosecurity measures at the farm.

#### Feeding

Proper feeding is essential to ensure animals receive adequate nutrients for maintenance and production, and remain healthy and in good body condition. Dairy cattle must eat a balanced diet. Too little (or poor-quality feed) results in thin animals that cannot resist disease while giving too much feed is wasteful and does not make economic sense. Lack of essential nutrients will result in ill-health, failure to reach full production potential and some-

times death.

The amount of water required depends mainly on milk yield, water content of feed, amount of feed consumed, salt content of feed and the environmental temperature. Except for high moisture content, an increase in the other factors increases water requirement.

#### Dairy diseases

Diseases are very costly to a farm. For management such as bloat, mastitis and milk fever, farmers were informed on how to prevent their occurrence.

#### Record keeping

Records are important to keep track of all animals, control inbreeding and aid in breeding planning and production, to rationalize labor, to plan for and manage the feeds, keeping track on treatment regimens and finding the effective treatments and assess the profitability of the venture.

#### Value addition

Value addition provides opportunities for dairy farmers to reap more per unit volume from their milk especially when they are in a co-operative so that they can acquire the, technology infrastructure and machines required.

Despite the ever rising feed costs, dairy farming has untapped potential that can change the lives of many both in Kenya and in the region.

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## Silage making from maize

BY DR JESSE KAGAI AND MUSDALAFA LYAGA

Livestock plays an important role in the livelihood of most farmers by providing food to the family, supporting crop production and earning farm family's income. However, feed shortage and poor quality of available feeds continue to be a major challenge for farmers in Kenya.

Farmers usually lack good quality feed that can enhance milk production as their animals depend on various grasses and crop residues which are only available in abundance during the rainy season.

As such, poor feeding leads to poor health and low milk production hence farmers get low income from their livestock. Fodder can be conserved to feed livestock during periods of shortage, caused by limited pasture growth or inadequate pasture conditions. One way to preserve the nutrients in green fodder and extend its storage to over a year, is by transforming it into silage.

#### Steps of silage making:

The key to making silage is to create the right conditions for a good fermentation.

- Harvest the maize plants when the ears are full size, but the plants are still green.
- Chop the maize plants into small pieces of 1 to 2 cm. You can cut the fodder by hand, but this requires a lot of labour, so it is better to use a chopper that easily

cuts the maize into small pieces of 1 to 2 centimetres. This is the best size for your cattle's digestion. If you do not have a chopper, then find one to rent when you make silage.

- Always inspect the maize before you chop it, as some stalks mature faster than others. The maize should be soft but not milky when you squeeze it open. At this stage the kernels are still full of sugars that are needed for fermentation. Set the mature stalks aside and feed them directly to your cattle instead of chopping them. Silage has to be made within hours of chopping the maize or else it will start to decompose and will not be suitable for silage.
- Collect the chopped maize in a truck or containers and move it immediately to the place you will make and store your silage.
- If left too long in the open air, the pile will heat up and this will increase the chance that everything will spoil.
- Then prepare a shallow pit depending on your feeding requirements.
- Two cubic meter can store 1,000 kilograms or 20 bags of fresh chopped maize. For this you will require 10 meters of strong plastic sheet to cover the silage pile. The area for your pit silage should be preferably on slightly sloping ground. Because you cannot move silage once it is made, ensure this space is free



Maize farmers load maize onto a tractor. [Courtesy]

- from potential disturbances. Make sure it is protected from water as this will rot the silage, and from animals that may dig into your silage pile.
- Place polythene sheeting over the sides and floor of the pit so that the forage does not come into contact with soil.
- Then empty 1 bag of about 50 kg of your first layer of chopped maize and then spread into a thin layer.
- Repeat this till you fill the pit with 6 bags. Some farmers sprinkle molasses at this stage for each new layer but this is not a necessary cost as maize already contains adequate starch.
- To reduce the risk of air pockets

- in the pile, compress it with your body weight. You can also use a drum full of water to force out as much air as possible. Without any air, finely chopped green maize ferments without rotting. This is because micro-organisms digest the sugars in the fodder and produce lactic acid, which acts as a natural preservative. This fermentation also makes the starch and fibres of the maize easier for livestock to digest.
- When you have finished, pull the thick plastic over and across the pile, but make sure it is tucked tightly to avoid any air pockets.
- To keep the pile compressed for fermentation and prevent damage of the polythene from

- rain, birds and rodents, slowly spread sand on top of the plastic.
- Finally dig a small trench around the sides of the pit to prevent water from seeping into the silage.

#### Safe use of silage

Do not open the silage unless you want to feed your animals as exposure to air compromises the quality. It is normal that the outer layers will be a little darker as they have been exposed to more air than the centre of the pile. If silage is too dark or rotten, do not feed it to any animals. Large animals will require 20 to 25 kg of silage a day. Like any new feed, it is always best to introduce the silage gradually, so the animals get used to the taste.

It is best not to feed silage to animals under 6 months as their digestive systems are not fully developed. Silage is not easily digested by calves, so they will not benefit from its nutrition.

#### Benefits of feeding your livestock with silage

Once transformed into silage, the green fodder has a different taste, is less bulky and contains more nutrients. This also has a positive effect on the animals' health. Animals that feed on silage benefit from the entire maize plant and their production is stable. Making silage is hard work for one day, but you reap the benefits for the entire year.

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