Dirty sheds affect dairy cows

TOF - Perhaps farmers may wonder why we keep on repeating the importance of maintaining hygiene in the cowshed. To them it may seem to be a non-issue because their animals still produce milk in these miserable sheds. Animal production requires a high level of management if farmers expect to get maximum production levels and income from them.

A cow living in a dirty shed, full of urine and dung cannot be comfortable; this will affect its level of production. Dairy cows and all other domesticated animals require adequate space for rest and movement. Zero-grazing sheds in many homesteads resemble small cells in a prison; animals living in such confinements are stressed and their general health is greatly affected. They cannot be productive in such conditions.

In this issue, an experienced dairy farmer, Wesley Ngeno gives some advice on how to keep dairy cows. He stresses the importance of hygiene, of record keeping, proper feeding – and writes about the ultimate need of acquire knowledge about dairy farming. Pages 4 & 5

Farmers support tree planting

TOF - The year 2011 was declared as the International Year of the Forests. As part of this global effort to increase the earth’s tree cover, The Organic Farmer embarked on a series of articles whose aim was to educate farmers on tree planting and management.

The farmers have fully embraced the tree planting effort. We were overwhelmed by the huge response including the requests for various types of tree seedlings for planting by farmers. We hope that they will use the knowledge they have acquired to plant more trees in future to meet their own needs and also restore the country’s forest cover.

The many tree nurseries that have been set up by farmers are a clear indication that many of them are beginning to see the benefit of trees not only as one way of protecting our environment and biodiversity but also as a source of income. In this last article in the series, we carry an interview with Patrick Maundu, one of the leading forestry scientists in the country where he shows the importance of trees in maintaining biodiversity. Page 3

A beautiful Tamarind tree in a shamba in Kitui.

Farmers, beware of fake feeds

The year 2011 started with an acute shortage of animal feeds, which led to higher prices of feed for poultry, dairy cows and even pigs. Due to the high cost of raw materials, most manufacturers of feeds are still using low quality material to make feeds, which has affected production in all these sub-sectors.

We would like to warn farmers to be especially careful when buying animal feeds. The best way to avoid this problem is to buy feeds from reputable companies even though the prices may be slightly higher than what other manufacturers are offering.

Farmers, our trees, our future

The Organic Farmer
The magazine for sustainable agriculture in East Africa
Nr. 79 December, 2011

in this issue

No pollination, no fruits 2
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Wool: Neglected but profitable 8

Dear farmers,

The year is now coming to an end. As we look back at our achievements this year, we can say with confidence that we have made great strides in our farmer communication programme through The Organic Farmer magazine, the i-TOF training centres and the TOF Radio programme. To cap it all, the programme launched a Kiswahili magazine for Tanzanian farmers, Mkulima Mbunifu. Our vision is to help transform agriculture in the country and the East African region in a way that benefits small-scale farmers, not only to produce food and rear livestock in an environmentally friendly way, but also to help them increase yields and income. Small-scale farmers form 80 per cent of Kenya’s population and rely entirely on agriculture as their main source of food and income.

Although we can say with certainty that a large number of farmers are changing their farming methods and realising very good results with guidance from the magazine, we have to remind all farmers that proper planning is the beginning of any successful farming enterprise.

With the new year in mind, it is important that farmers sit down, look back and take stock of their activities in the ending year. Can the same crops they grew or production methods be improved in the coming year? Where did they go wrong if they made losses?

Agriculture is becoming such an expensive and risky undertaking due to the high cost of inputs, management, and changing weather patterns. Farmers have to work in this environment and make a profit. It is important to know the market trends and even prices of various commodities to help you decide the best crop to grow next year. Where did they go wrong if they made losses?

Proper planning helps in the optimum utilisation of farm resources. Proper planning cuts unnecessary costs and improves earnings. And this, exactly, is what this magazine wants. We hope farmers will set achievable targets for new year and work hard to meet them.

We wish all of you a happy holiday season and a prosperous new year.
Bees have many benefits to farmers

Apart from making honey, bees help pollinate our crops, increasing both their quantity and quality.

Peter Kamau

Most farmers have grown beans, cabbages, avocados, sunflower, pumpkins or even watermelon at one time or another. To get good yields from these crops and many others, they have to be pollinated by bees and other insects.

Pollination plays a very important role in the production of crops. Studies show that production of crops that depend on pollination such as horticultural crops tends to decline in places where there is widespread use of chemicals.

Use of natural habitats

Modern land use systems and farming practices pose the greatest threat to pollinators, which is already causing a decline in crop production in many areas. The following factors have especially contributed to the decline of pollinators:

- Fragmentation of land
- Use of chemicals
- Deforestation

What is pollination?

Pollination is the transfer of pollen (a dust-like powder) from the male to female flowers of the same plant or from one plant to another. When pollen from a male flower is transferred to a female flower of the same species, fertilisation takes place. Fertilisation is very important because plants cannot develop fruits unless they are fertilised.

In the long run, the more seeds it will produce, the more is its size and the fruits. This increases the overall crop yields and income to farmers.

While some plants depend on wind, wasps, flies, and bats to transfer pollen, others such as sunflowers depend entirely on bees, wasps, flies, and bees and many other insects for pollination. However, bees are the main pollinators of crops in the ecosystem worldwide.

The loss of bee populations depends on pollinator population; if it is low, the pollination of crops is limited which affects the crop yields. Therefore need to exercise extreme care in the management of bees to encourage them to continue to offer this vital service in crop production.

Depletion of pollinator habitats

Despite their important contribution to crop production and to biodiversity, most farmers do not understand the importance of pollinators. The importance of pollinators is not fully appreciated and realized by many farmers.

How to protect pollinators

Good pollination by bees and other pollinating insects is an important part of a sound environmental policy to protect pollinators since they are crucial to our ecosystem. Farmers can protect bees by taking the following measures:

- Increased alfalfa cultivation in all farming areas and especially where forests have been depleted.
- Farmers need to grow crops that are attractive to bees in order to identify particular plants in your farm, which the bees like to visit, and plant more of these crops.
- Bees like to rest in warm, sunny and open places, which have a variety of plants that produce pollen. Farmers should protect such habitats.
- It is wise to leave a part of your farm undisturbed (or even hedges if your farm is too small) to encourage bees to visit these areas.
- Planting of crops that are rich in bee forage, for example lucerne, clovers, rape seed or sunflower can attract bees.
- Avoid use of harmful chemicals that kill bees and other useful predator insects. Instead farmers can use environmental friendly pesticides.
- It is very important to plant indigenous trees and shrubs instead of exotic varieties which are avoided by bees.

Patrick Maundu with Bioversity International

Patrick Maundu is an ethnobotanist with Bioversity International in Nairobi. His research interest is in food plants. At Bioversity International, he co-ordinates a project which aims to conserve agrobiodiversity and realize other added benefits to the environment. We need to become much more aware about the long-term effects of cutting down trees only to meet short-term needs.

The Organic Farmer

Planting different trees has great value to ecosystem

Deforestation affects not only the forest cover of Kenya and in the long-term the water conservation. The biodiversity in our forests and in the semi-arid areas, that means, the great varieties of different trees, especially the indigenous ones, is in danger. The Organic Farmer talked with Patrick Maundu, ethnobotanist with Bioversity International in Nairobi and one of the leading forestry experts.

Some weeks ago, a farmer asked us: “Why should I plant trees in my one-acre piece of land, is it not a waste of space?” What would you answer to this farmer?

Plants and especially trees form a large part of the ecosystem in which we both co-exist. Trees are very important to provide both, direct benefits, which can be seen, and indirect benefits which are hard to quantify, for instance the beauty of a tree in a landscape. The quantifiable benefits include medicinal values, soil erosion control, economic gains (timber and firewood) and nutritional value in terms of food and fruits.

The latter two main needs (economic and nutritional) are satisfied, farmers will maintain trees for other reasons. The aesthetic value of trees (beauty) becomes appreciated and realistic. For example, trees provide beautiful scenery that is very attractive to the eyes.

Why do farmers hesitate to plant trees, which provide fodder for cattle, goat, sheep and camels?

Many farmers do not know the value of trees. They may not even know that planting trees is a better alternative to other income activities. The amount of fodder that can be fed to each type of animal is different. We must give priority to producing trees that are good indicators of human activities. Once you lose a tree, it’s gone forever. The lost tree may be seen as a single tree but in terms of biodiversity, it is a significant loss.

The diversity of trees is in danger

How does the cutting down of trees affect the ecosystem?

Yes, it affects biodiversity, another crucial issue to be dealt with while considering the indirect benefits of trees. I appreciate the efforts being put in afforestation, but much of these are concentrated on one or two species of fast-growing trees (Eucalyptus, Acacia). Deforestation affects all species of trees and more so the indigenous ones; in fact, some of them are on the verge of extinction and others have completely disappeared. The diversity of trees is in danger.

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The Organic Farmer
What a start-up dairy farmer needs to know about cattle

Dairy farming is essentially an efficient breeding program, since production is a function of dairy cow’s lactation, which can only happen after the cow has calved.

Important steps for beginners

Education: Read a lot about dairy farming, what I mean is basic dairy cow management. This information is available in government departments as well as development partners and agricultural shows. Education is not for the entrepreneur alone; include your workers, since most of us rely on unskilled labour. Invest in them too.

Contacts: Maintain network with other farmers. This will help to enhance your confidence and assures you of friends you can run to in case of a problem. Farmers will help you with tips, pastures, stock of herds, equipment. They even bring you in contact with specialized personnel like AI staff, veterinarians, stockmen and share with you feed formulas.

Prudence: If you are new to farming, begin with foundation cows, because high-end cows are very susceptible to slight changes in the environment. They are not good for experimenting, and poor management can put you in debt.

Planning: Choose your cow’s semen carefully. You can get semen of skilled bulls with the characteristics of heifers you want, but not on cost. Most of us farmers ask our AI personnel to serve our cows with a semen costing Ksh 400. We don’t ask ourselves what kind of semen this is. Cheap is always expensive!

Be vigilant, and observe

Good cattle farmers are calm and gentle in their behaviour towards their animals. If you are keen, you can easily detect changes in behavior. For example, slight change on appearance, temperament, production or even restlessness in a cow is a reason to investigate. Try to find out what could be wrong and never blame the animal. Good cattle farmers do not shout and do not beat their animals, but they observe their animals well and try to understand them.

Facing the daily challenges

Calves: A heifer calf is a dairy farmer’s future cow. Most farmers concentrate on the leading cows, since they give immediate cash and, forget to cultivate future cash. Calves management therefore, is the key to sustainable and steady profitability into the future. Ensure that you do not sell all the milk in the process the calf suffers from malnutrition and starvation.

Feeds: Feeds come from different sources and different areas. If you depend on feed from outside your area, then be careful, since the same feeds can be dangerous to your animals. Most feeds harvested in national parks and roadsides may have ticks and other pests. Hay harvested in mara has live-flakes. It is advisable that you buy hay from a recognized and established farms whose records and production have been tested and approved. This also applies to commercial feeds. Not all dairy meal is good dairy meal!

Labour: Dairy farming is labour intensive, especially zero-grazing. Dairy farms employ the services of skilled or unskilled workers. Care should be exercised while employing workers, but even more when sacking workers. Changing workers every now and then will affect your cow’s performance. A succession strategy can be used when retiring workers; employ another when the one to be retired is still in employment. This ensures a smooth transition is maintained.

Technology: Employ the latest technology available at your disposal. However, do not let technology manage your farm alone. Computer softwares, mobile phones, digital cameras, are helpful but your regular presence is irreplaceable.

Technology

Breeding

By Wesley Ngeno *

What a dairy cow shed should look like

Understand the area you want to start your dairy farm

Suitable environment

Two important factors determine where to set up your dairy farm:

- Availability of reliable rain for feeds and water.
- Good soil for feed establishment.

Understand the cycle of seasons, so that you can know when to conserve fodder, or when the cattle will suffer in times of drought.

Find out which livestock diseases are common in your area, so that you can vaccinate your animals against them.

No good feeding – no milk!

A cow’s production is equal to a proper feeding program. Proper feeding is not just filling a cow’s stomach. On average a Frisian takes up to 70%gs of feed per day. That does not mean 70 kgs of hay or silage but a balanced diet.

Water is life: So it is to a dairy cow. Water is a must, you are better off with enough clean water and little food than a lot of good feeds and no or bad water.

Canning

Many of us have to agricultural tours and are left wondering how those cows being paraded were trained to be so obedient and composed. Don’t gain your animal if you want them to be calm.

Resources, skills & experience

Lastly you don’t have to be brought up in a village, farming family, be a veterinarian or own huge chunks of land to be a successful farmer. You need to know how well your experience, financial resources, and farming support networks can help you meet your goals, and find ways to gain the skills and resources necessary to stay in business.

Records are vital for a dairy farmer

A serious farmer should prepare in the following basic records:

Health records: This is to capture basic health history of your cow, what medicine was administered, which Vet attended to the animal. Remember, this vital information can help you seek for redress should you cow die out of the vet’s negligence.

Breeding records: This captures the cow’s bio data i.e. birth, insemination and will tell when to dispose the cow. A cow should calve once a year.

Production records: This captures daily milk production per cow per day. It is recommended that a cow be milked three times a day. Sum up the total daily milk production and record it. These records help you to market your cow when you want to dispose off. It’s also vital for governmental statistical purposes.

Dairy farmers can visit our website at www.organicafricanfarmersmagazine.org enter the word “cattle” and access all the information.

The Dairy Cattle Training Manual published by Self-Help Development Africa (SHA). Farmers interested in getting copies of this book can send Ksh 250 through our Mpesa (07917 444 405), do not forget to send us your address.

The Organic Farmer

A clean shed maintains health

An important requirement for a dairy farmer is to keep hygiene in the cow shed.

Sometimes, when we visit farmers and observers of our magazine, there is the impression, that these farmers do not like their cows. The cow shed is a muddy, dirty place. The animals body is covered with a thick crust of dry mud, and they have no space to walk around. Look at the picture on the right! It is a cow shed of a serious dairy farmer clean and comfortable.

We really do not understand this behaviour, such farmers are not serious, even worse, they lack prudence, since they have spent thousands of shillings to buy the cow. They do not know that the main reason for reduced milk production is due to the way the animal is kept. A dairy cow that is kept in a dirty shed is uncomfortable and its milk production is also affected.

A dirty cow shed is a breeding ground for germs. Internal parasites are often taken up by cattle in dirty environments, and you will spend a lot money on veterinary bills. It would be much cheaper for farmers to keep the cow shed clean.

Hygiene in the cow shed must be the first priority for dairy farmers. How will a farmer sell healthy milk when their cows live in such conditions? Milk inside a healthy cow’s udder is free from any bacteria. Contamination happens only outside the udder especially during milking and handling the milk. Clean conditions are even more important when you keep your cows in a zero-grazing unit.

What a dairy cow shed should look like

Each adult cow needs at least 8 square metres apart from her resting pens. The easiest way is to confine this area in front of the stall.

Cattle unit

All animals must to be able to stand in the shade and shelter under the roof. It must be high enough for a person to stand up and work.

- The floor should be made of concrete, wooden or hard packed soil. The floor should be easy to clean.

- The floor should not be too smooth, otherwise the cattle will slip on it. A rough floor also keeps the hooves short.

- The ground must slope gently towards a channel leading to a manure pit outside the pen for urine and water to flow.

- Each cow must have her own resting box or cubicle where she can rest down, chew cud, and lie comfortably.

Water

The shed should be close to a reliable source of clean water. One dairy cow needs between 50 and 180 litres of water every day (5 to 18 buckets).

Milling area

Provide a separate area for milking with a trough there, so the cow can feed during milking.

Maintenance

- Dung and urine have to be swept into the manure pit at least once every day, keep the pit covered.

- The bedding material must be changed as soon as it is soaked and dirty. This is necessary to keep the animals clean and dry and will prevent serious diseases like diarrhoea, foot rot and mastitis.

- Clean the feeding troughs every time before you put fresh fodder into them.

- The water needs to be cleaned and brushed out from time to time.
Cyprus Mahasi set up an agribusiness centre after getting information from i-TOF centre.

Cyprus Mahasi lived like any other youth in Maroengro village: Idle with nothing to do. But when the 26-year old youth learnt from the centre that had been opened at Maroengro trading centre, he decided to visit the centre out of curiosity. At the centre, he came to discover there was a lot of information on agriculture and organic farming. After going through some of the information material, he developed a keen interest on what they contained.

He started chicken rearing. "The i-TOF centre had information on almost everything in agriculture, crop production and animal health, pest and disease control. There was also information on chicken rearing. I was so impressed and so excited. I realised this is a business I could start because it did not require a lot of capital."

Armed with the knowledge he had acquired, Mahasi put up a simple chicken house where he had bought chicken wire and bought chicken wire to keep the birds safe. The first six hens he had started with laid 90 eggs the following year and he was making Ksh 90 per chicken. Using the information he had acquired from the centre on chicken feeding and management, he managed to raise them to mature birds within five months, which he later sold at a price of Ksh 290 per bird, raising Ksh 22,250.

... and later diversified

He opened a bank account where he kept the earnings while thinking of the best way to diversify. He later decided to invest the money he could invest in the business. He decided to buy some consumer products from the villagers. He used Ksh 17,000 to buy stock for the kiosk and ploughed back the profit to his bank account. He later diversified his business portfolio by setting up an entertainment centre complete with a DSTV satellite dish to cash in on the potential for entertainment in the area.

The magazine, together with the i-TOF extension worker questions on various issues that enable them to improve on their farming practices.

Hay important in all grazing animals

I am a passion fruit farmer, what should I use to support passion fruit vines while staking? Strings of wires or silk? Patrick W. Mahakiwa.

It is advisable to use barbed wire to support passion fruits because it can last longer. Steel strings get easily damaged when exposed to rain and sunshine, which will force the farmer to keep on replacing them, a task that is cumbersome.

Hay is usually dry grass and dry grass has got no nutrients in them, so why give them to animals?

Hay or grass is of importance in the diet of all grazing animals (ruminants). Hay can provide as much as 100 per cent of the total dry matter intake, and if not replaced with other forages, may reduce the animal's performance. Hay carries a lot of potential energy for the maintenance of body functions and the production of milk.

Diatomite is good poultry feed

Diatomite is good poultry feed. Can Diatomite also be mixed with the bird feed to keep on replacing them, a task that is cumbersome.

I would like to know whether the Fleckvieh breed has been crossed with the East African Zebu female cows? And if yes, can the offspring survive in Ukambani area? Carol 0717 078 603.

It is possible to cross East African Zebu with Fleckvieh breed. Indeed many farmers are already doing it in many parts of the country. However you will require an expert to evaluate your Zebu cow before serving it with Fleckvieh bull."

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Wool production is profitable

Farmers can take advantage of the renewed demand for wool by rearing sheep, which are easy to manage.

Frederick Njuguna

There is a huge demand for wool in Kenya at the moment; the small percentage of sheep breeders cannot meet the increasing wool demand in the Kenyan and the export market. This is attributed to history of mismanagement of the wool and cotton industries that led to the collapse of Rivatek, Raymonds and other emerging wool processing industries in the past.

However, the emergence of companies like Ken Kit, Spin Kit and others has revived a new demand for wool production in Kenya, giving farmers an opportunity to venture into sheep rearing as an income generating venture. Consequently, there are now new wool consuming market that includes the COMESA region, USA and even Europe.

Sheep rearing possible all over Kenya

The demand for both wool and sheep hair opens the opportunity for every region in Kenya to venture into this growing industry. For instance in arid and semi arid areas e.g. North Eastern, Eastern, coastal, North Rift and parts of Nyanza; breeds such as Dorper, Persian black, red Masaai and Nyanza fat tail are ideal; in high rainfall cold areas like Central, Rift Valley, Western and parts of Coast and Nyanza areas wool breeds such as Merino, Romney mash, corriedale and the Hampshire down are doing well.

Less investment but more profit

With good husbandry, a small-scale farmer is bound to rake in high yields, from as little as zero capital injection. Sheep rearing is virtually practical from as little as zero capital injection. A farmer is bound to rake in high yields, with 1 ram (male) and 2 ewes (female), a farmer will have about 31 heads of sheep stock within three years. Lambs reach maturity within a year, shearing is done twice a year, preferably after cold seasons or prior to lambing for ewes.

Wool prices gone up

A single sheep can produce between 5kgs up to 33kgs fleece per year; the easiest, less labor-intensive ventures that require less attention by veterinarians (deforming and foot rot medication in high rainfall areas). Sheep generally browse in the fields and return late in the evenings, they give birth twice a year. That means, with 1 ram (male) and 2 ewes (female), a farmer will have about 31 heads of sheep stock within three years. Lambs reach maturity within a year, shearing is done twice a year, preferably after cold seasons or prior to lambing for ewes.

Cost of shearing per sheep will range from Ksh 10 up to Ksh 70. Initially the price of fleece was Ksh 40 per kg. But now wool prices have gone up; companies are paying between Ksh 80 up to Ksh 140 per kilo, depending on the quality of the wool. Through marketing co-operatives, farmers can avoid exploitation from middlemen, they can sell directly to spinning companies. Apart from the fleece, sheep produce both meat and manure. They are therefore a good investment for farmers.

Where to sell wool

There are over 52 mills throughout the major urban centers in Kenya, spanning from Nairobi to North Rift, Athi River, Eldoret, Kibwezi, Kisumu, Mombasa, Nanyuki, Nakuru, Thika, Ruiru. They are further boosted by the EPZ and various wool merchants who export the wool directly to foreign markets. The following are some of the merchants, spinners and weavers:

- Afro Spin Ltd., Box 3341, Nakuru
- Alpha Knits Ltd., Box 47018, Nairobi
- Ken Knit Kenya Ltd., Box 142, Eldoret
- Mega Spin Ltd., Box 3204, Nakuru
- Mount Kenya Textile Ltd., Box 115, Nanyuki
- Spin Knit Ltd., Box 1478, Nakuru
- Spinners and Spinners Ltd., Box 46206, Nairobi
- Nanyuki Spinners & Weavers, Box 25, Nanyuki
- Ngoringori Development Co., Eldoret, 0722 476 098

Products for sale:

- Hiro Oganic
- Kili Enterprises
- Alysaly Poultry International
- Suwa
- Nagata
- Hiro Organic

Bamboo for sale:

I have bamboo seedlings for sale at Ksh 30 per seedling, 1 week-old chicks at Ksh 130 and day old chicks at Ksh 95. For more details call 0723619238.

Turkey for sale:

We are looking for buyers interested in Turks, geese and ducks. Our farm is found in Ruai-Nairobi. Tony M. Wamusi Mobile Tel: +254 722 690 395, 254 734 690 395

Land for sale:

The El-Paraiso farm wants to relocate to a 3-Acre farming land in Nanyuki. We are therefore selling our one-acre piece of land located near Kerugoya-Karatina road at Kagumo; A coffee and tea growing zone; electricity; 90 coffee stems, half acre Napier Grass, 100 rabbit cages, a 3 bed-roomed house, a zero grazing unit of 15 cows; chicken cage on top of zero grazing with a capacity of 2000 layers; 8 calf/goat pens; water tank 6000 litres; chaff cutter; A 60 feet well; good network of piped water for irrigation; A well-fenced home area contact sokohr@gmail.com 0722 460 066 Facebook.

Chicks for sale:

- Alyssal Poultry International has Kenbro chicks ready for sale, 3 weeks old chicks at Ksh 200, 2 week-old chicks at Ksh 165, 1-week-old chicks at Ksh130 and day old chicks at Ksh 95. For more details call 0723619238.

Infonet-biovision is an information platform for organic farmers. Whatever you would like to know about the ecological methods for the control of pests and parasite infestations of plants, humans and animals – Infonet-biovision will have an answer. You just go to the Internet, either at home or at a cybercafe and type in: www.infonet-biovision.org. You can order the most updated edition on CD. Send us Ksh 200 on 0717 444 405 and then SMS us your address, and we will send you the CD immediately.

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Bamboo for sale: