

The Organic Farmer

The magazine for sustainable agriculture in East Africa



Nr. 79 December, 2011

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.

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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 TOFRadio 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 productions 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. Dairy farmers have also to plan for their fodder requirements for the dry season.

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 any one time. 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 crop production. Indeed one third of crop consumed by people all over the world comes from crops that depend on pollination to produce quality fruits. Apart from crops, bees pollinate many plant and trees species that provide food for wildlife.

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 most plants cannot develop fruits unless they are fertilised. The more a plant is fertilised, the more seeds it will produce and the larger the size of its fruits. This increases the overall crop yields and income to farmers.

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

The transfer of pollen depends on pollinator population; if it is low, the pollination of crops is limited which affects the crop yields. Farmers therefore need to exercise extreme care in the management of bees to ensure that they continue to offer this vital service in crop production.

Destruction of pollinator habitats
Despite their immense contribution to crop production and to biodiversity, most farmers do not understand the importance of bees and other pollinating insects. Information on the role of pollination is missing in our agricultural systems. As a result, 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:

Use of natural habitats:

When people cut down trees and reduce forested areas, places where bees and other insects reside, are destroyed. Forest fires and harvesting of firewood also destroys nests and food sources of most pollinators.

In Kenya for example, the area under forest has been reduced from more 10 per cent to less than 2 % per cent. In most of the forested areas, indigenous trees that form a good habitat for most of the pollinators have been destroyed or replaced with exotic trees.

Fragmentation of land: The increase in population has led to subdivision and intensive use of land for farming purposes. This has led to further destruction of pollinator habitats, nests and food sources. Ploughing of land for crop production affects bee habitats.

Use of chemicals: Many chemicals that farmers use for pest and disease control kill both the harmful and beneficial insects that include the pollina-

tors such as bees. 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.

Benefits of bees to crop production
To show the importance of bees in crop production, a study was conducted on nine crops: i.e. beans, cowpeas, green grams, bambara nuts, tomatoes, capsicum, passion fruits sunflower and squash grown by farmers neighbouring Kakamega forest in Western Kenya in 2005. The study titled: 'Bee pollinators and economic importance of pollination in crop production (Dr. Muo Kasina, KARI)

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How to protect pollinators

Good pollination by bees and other beneficial insects is of utmost importance to farmers. It is therefore 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 afforestation in all farming areas and especially where forests have been depleted.
- Farmers need to grow crops that are attractive to bees. It is easy to identify particular plants in your farm, which the bees like to visit, and plant more of these.
- Bees like to rest in warm, sunny and necessarily reflect the views of icipe.

The Organic Farmer is an independent magazine for the East African farming community. It promotes organic farming and supports discussions on all aspects of sustainable development.



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The reports in the The Organic Farmer do not

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 Nairobi and one of the leading forestry experts in the country.

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 be your answer to this farmer?

Plants and especially trees form a larger part of the ecosystem in which we both co-exist. Trees are very important: they provide both, direct benefits, which can be seen, and indirect benefits, which are hard to quantify, for instance the beauty of trees 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.

Once 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 to them. 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 and shrubs for fodder. More over, planting them needs some knowledge: Different fodder trees are suitable for different animals. The amount of fodder that can be fed to each type of animal is also different. We must give priority to



Patrick Maundu is an ethnobotanist with Bioversity International in Nairobi. His research interest is in food plants: AI Bioversity International, he coordinates a community-based research project that aims to understand the link between agricultural biodiversity, dietary diversity, nutrition and health. He has published widely in the area of African food plants especially vegetables and is the principal author of two books - The Traditional Food Plants of Kenya (1999) and Useful Trees and Shrubs for Kenya (2005). The Organic Farmer magazine thanks Patrick Maundu for his valuable advice, contacts and resource material. - With this interview, we close our series "our trees - our future".

Planting different trees has great value to ecosystem



Photo: P. Maundu

these fodder plants when planting trees on the farm.

Farmers fear the trees may take up space meant for food crops.

There are technologies which allow a farmer to mix the two in such a way that crops benefit from the fodder trees and vice versa. We can get full benefits of trees in terms of fruits, shade and so on if we know how to manage them.

Can we then say that it all boils down to lack of knowledge?

To some extent yes. The benefits, services and products that trees offer differ from one region to another and the tree of choice depends on the acuteness of the problem. In high potential areas where all land is under crop production, fodder trees may be more important. In dry areas, shade and other ecological considerations could be more paramount than fodder because there is more land not being utilized for farming and the livestock can graze or browse there.

Devastating charcoal production
Unfortunately, 70% of the charcoal produced in Kenya comes from ecologically sensitive dry (semi-arid) areas. It used to be a problem of Ukambani or Machakos and Kitui areas; but now it has spread to other areas like Baringo and Maasailand. Bagfuls of charcoal stacked by the roadsides are a clear sign of massive charcoal production in these areas. Charcoal making is one of the most destructive activities in our ecosystems. We should stop it and search for alternative income generating ways. It aggravates soil degradation, destroys grazing land - and affects the beauty of landscapes.

Can somebody with an empty stomach appreciate a tree with flowers?
A hungry person will wake up and cut down a tree to make charcoal and sell to buy food. Such tree may have been there since the time of his grandparents. As mentioned above, the aesthetic values are

mentioned above, the aesthetic values are term needs.

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, Grevillea). Deforestation affects all species of trees and more so the indigenous ones; in fact, some of them are on the verge of extinction while others have completely disappeared. The diversity of trees is in danger.

Trees 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 conservation, it houses birds, insects, tree frogs and other living creatures. Therefore cutting down one tree affects many other living creatures that depend on that tree.

Mixing of trees does not only attract animal-to-plant biodiversity but also plant-to-plant biodiversity. Plants live in association with others. The smaller trees or plants live comfortable underneath the big trees which may grow to a height of 40 m or so. This means that farmers need knowledge about trees, especially the need to mix specific ones when planting.

That way, we can increase the biodiversity of trees - and hence get more income 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.



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. Management can put you in debt. What I mean is basic dairy cow management. This information is easily 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 networks with other farmers. This will help to enhance your confidence and assures you of friends you can run to in case of a problem. Friends will help you with tips, pastures, stock of herds, equipment. They even bring you in contact with specialized personnel like AI staff, veterinarians, suppliers 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. What I mean is basic dairy cow management. This information is easily 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.

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 marshy areas has live-flukes. 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!

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, during periods of high supply. Otherwise your animals 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 Friesian takes up to 70kgs 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.

Caning: Many of us have been to agricultural and farming support networks can help you meet your goals, and find ways to gain the skills and resources necessary to stay in business.

* The author, Wesley Ngeno owns Leigut dairy farm in Nakuru county. Contacts: email: leigutdairyfarm@yahoo.com, www.facebook.com/leigutdairyfarm, Mobile - 0721 206 070.

A clean shed maintains health

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

The Organic Farmer

Sometimes, when we visit farmers and readers of our magazine, we get 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 diseases. Internal parasites are often taken up by cattle in dirty housings, and you will spend a lot of money paying veterinary bills. It would be much cheaper for farmers to keep the cow shed clean.

What a dairy cow shed should look like

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

Milking 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 trough needs to be cleaned and brushed out from time to time.

All animals must 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 or hard-packed soil. Concrete is 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 pens or cubicle where she can lie down, chew cud, and sleep.

Water

- The shed should be close to a reliable



Facing the daily challenges

Calves: A heifer calf is a dairy farmer's future cow. Most farmers concentrate on the lactating cow, since they give immediate cash, and forget to cultivate future 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.

Patience: Think long term! A cow takes 278 days to calf and more than 20 months for a heifer to mature for serving. Patience and determination is the key. Do not be tempted to take short cuts.

Infrastructure needed

- Good weather roads to ferry your milk to the market easily;
- Reliable market for your milk and access to cooling facilities.
- Access to reliable veterinary and A.I. service personnel.
- Good personnel: Always use qualified personnel to attend to your animals. Experience shows that qualified personnel do not charge very high fees as quacks do! Some AI personnel in several areas have been accused of not inseminating your cow with what you had ordered for.

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 calf once a year.

Productions records: This captures daily milk produce per cow per day. It is recommended that a cow be milked three times

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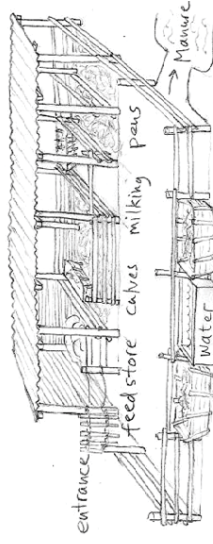
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Cattle unit

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"i-TOF centre empowered me"

Cyrus Mahasi set up an agribusines venture after getting information from i-TOF centre.

Alfred Amusibwa

Cyrus Mahasi lived like any other youth in Malengo village. Idle with nothing to do. But when the 26-year old youth learnt that there was a new information centre that had been opened at Malengo 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 every topic in agriculture: crop production and animal health, pest and disease control. There was also information on all agricultural enterprises one can start, but what attracted my attention most was the information on chicken rearing. I immediately 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 with cheap material and bought chicken wire to keep the birds safe. The first six hens he started with, laid 90 eggs that later hatched, giving him 90 chicks. Using the information he had acquired from the centre on chicken feeding and management, he managed to raise them into mature birds within five months, which he later sold at a price of Ksh 250 per bird, raising Ksh 22,250.

... and later diversified

He opened a bank account where he kept the earnings while thinking of the best business venture where he could invest the money in. Finally he decided set up a small kiosk where he could sell various consumer products to the villagers. He used Ksh 17,000 to buy stock for the kiosk and ploughed back the remaining Ksh 5,250 into his poultry business. With the two businesses running, Mahasi's fortunes began to change. He diversified his business portfolio by setting up an entertainment centre complete with a DSTV satellite dish to cash in on the

>> from page 2: Pollination

found that the increase in crop yield due to pollination ranged between 25 per cent for tomatoes to more than 99 per cent for squash.

There was also a significant increase in the quality of seed among such crops as sunflower, which recorded a



strong demand for sports entertainment, especially for European football. The three enterprises have completely transformed Mahasi's life which he proudly attributes to the information he obtained from the i-TOF centre. Now he plans to invest in other money-making ventures such as buying land and putting up rental houses.

Other youth learnt from him

The rapid expansion of his businesses has also spread benefits to the youth from his village, who now do casual jobs for him. Mahasi plans to use the information from the i-TOF centre to start other agricultural enterprises that can benefit him and the youth in Malengo village. Whenever the youth visit Mahasi's entertainment centre to watch football, he always takes opportunity to introduce them to The Organic Farmer magazine and share ideas on some of articles in the magazine.

Apart from his businesses, Mahasi is also growing watermelons, which do well in the area during the dry season. With his earnings he has been able to help his parents and pay school fees for his sister, who is studying at Maseno University.

The magazine, together with other material at the i-TOF centre has now become an important resource for youth and other farmers in Malengo area who now use it to get information on various problems they face. They also get an opportunity to ask the i-TOF extension worker questions on various issues that enable them to improve on their farming practices.

21% increase in yield. Fruit size in capsicums increased by 29 per cent. The contribution of bee pollination to the farmers' income in the study area was recorded at 50 per cent of the annual value of the selected crops. The net benefit was 40 per cent, which shows that bee pollination has direct benefit to farmers.

Answers in brief

Compost fertilizers

How often should one apply compost fertilizers?

This depends mainly on the fertility of your land. Compost is not a very concentrated fertilizer but a soil amendment that improves soil structure and soil fertility, and supports plant health. It is usually applied every season at planting. Additional top-dressing, e.g. with manure and plant teas, is beneficial.

Organic matter improves soil

Why soils do not keep water for long. What could be the reason for this? This can be due to high sand content or low loam content ("light soil"). Try using organic compost manure and add all the organic matter you can manage to get by using mulches and green manures from hedges, weeds, tree trimmings etc. This also reduces water evaporation. In one or two seasons you should see an improvement, and after 4-5 years, your soil should be much richer and have better water holding capacity.

Soya beans in concentrates

Can I use soya beans while preparing my concentrate? Remi Wamala, Ngalasia group
In fact, soya bean (by-) products are often used in commercial dairy feeds.



They are rich in protein and energy. In order to maximize your income from soya beans, you may consider pressing the oil first and then feed the soya cake as part of your concentrate. Soya beans should not make more than 10 to 15% of the total ration dry matter, as they may cause scouring, acidosis, and decreased performance.

Do not store liquid manure for long

Does liquid manure expire and after how long?
Liquid manure should be used as fast as possible. Or you have at least to close the drum properly after using the liquid manure, otherwise the nitrogen will disappear into the air. Some crops like maize can do with quite strong solutions.

Diatomite is good in poultry feed

Can Diatomite also be mixed with the bird feed to cater for the internal parasites?
Yes, diatomite can be fed to chickens, ducks, geese, turkeys or any other bird. Apart from controlling worms, diatomite contains several minerals which are of benefit to chickens. Besides, the eggshells will be stronger because diatomite has high calcium levels.



How to attract bees to a new hive

Is it easy to attract bees into a new beehive?

Many beekeepers face the problem of bee occupation in their new hives. If you encounter the problem you need to check the following:

- Make sure you have put wax on the top bars of the hive.
- The beehive should be clean and pest-free.
- If there are no ants or rats nesting in it, the hive should be cleaned and degreased-bees do not like a dirty hive. It is important to check if it is the swarming season-this is the time when bees reproduce themselves and fly out of the old hive.
- During the swarming season, bees can easily occupy a hive. Experienced beekeepers can also catch a swarm of bees especially the period when there is a lot of nectar. They should ignore small swarms and go for the big ones.

To catch bees, it is important to encourage them to stay.

Use barbed wire to support passion fruit

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

It is advisable to use barbed wire to support passion fruits because it can last longer. Sisal 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.



Cross-breeding Fleckvieh and Zebu

I would like to know whether the Fleckvieh breed can be 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. The reason for prior assessment is to make sure that your cow does not have a difficult calving. Most Zebu cattle are small in size, this could be a problem when it comes to calving. If your Zebu is too small in size, it will have difficulties calving down because the calf will be too big for its size. In this case, we would advise you to serve it with a jersey bull, which is an equally good exotic breed. You can consult a veterinarian near you so that they can see the cow and advise you accordingly. As regards survival in your area, the Fleckvieh cow is a hardy breed, if crossed with a zebu which is an equally hardy breed, then you will have a really good breed that will not only give you more milk but also one that is not prone to diseases, apart from surviving on less feed.



Hay important in all grazing animals

production, growth, weight gain and reproduction.

Hay is dried grass

When is grass considered as hay?

Hay is dried grass that has been prepared for future use mainly during the dry season when animals have less pasture or even during cold season in winter in countries, which experience extreme winter weather condition. Grass for hay should be cut when the nutritional value is highest (about 4 to 6 weeks after growing). Morning is the best time to cut grass because more nutrients are conserved. The grass should be allowed to wilt after cutting. It should then be dried in the sun for 2 to 3 days (overdrying gives poor quality hay).

Hay should be stored in cool dry place preferably in a platform to avoid damage by rats and termites. It should also be covered to avoid damage by rain or sunlight and should be well aerated.

All grazing animals including dairy cows get most of their energy from roughage that is obtained by eating hay and other fodder sources. They require the energy for body maintenance, milk

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 Rivatex, 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 throughout the country – irrespective of weather and climate.

Sheep rearing is considered one of

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.

Wool prices gone up

A single sheep can produce between 5kgs up to 33kgs fleece per year; the



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;

- Eldoret hides and Skins Merchants Tel 0722 594 162, Eldoret.
- Karawooskins, Box 49, Kinale

- 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

Selling & buying

Products for sale: Hiro Organic Farmers group in Kaimosi has the following products for sale: White radish, egg Plants, cucumber, green pepper. Interested buyers can contact Suwako Nagata on 0701 414 212 OR neruda-suwa@yahoo.co.ke.

Poultry and fish for sale: Kili enterprises based in Machakos are producers of poultry including day and week old Kienyeji, Kenbro chicks, turkey and fish fingerlings. Contact Lilian, Kili Enterprises Management

Turkey for sale: we are looking for buyers interested in Turkeys, geese and ducks. Our farm is found in Ruai-Nairobi. Tony M. Wenani 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: Alysal 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 Ksh 130 and day old chicks at Ksh 95. For more details call 0723619238.

Bamboo for sale: I have bamboo seedlings for sale at Ksh 30 per seedling, get in touch with me @ info.mtkenya@gmail.com

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 version on CD. Send us Ksh 200 on 0717 444 405 and then SMS us your address, and we will send you the CD immediately.

