The Organic Farmer

The magazine for sustainable agriculture in Kenya

BIOVISION

Nr. 50 July 2009

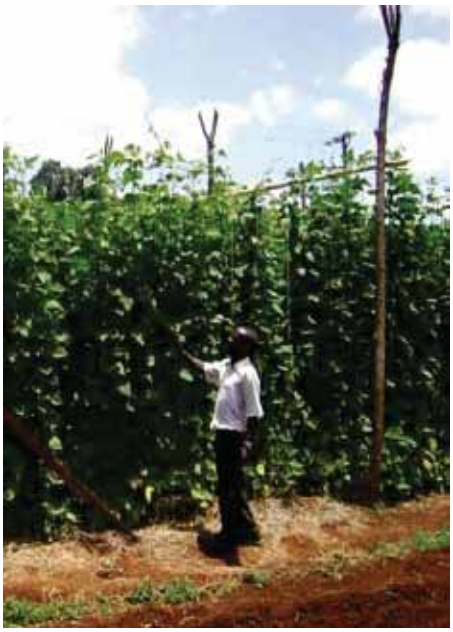
Climbing beans, double yields

A lot of beans on a small place:
This is the benefit of climbing beans.
And they are easy to harvest!

The Organic Farmer

A large section of the Kenyan population is unable to afford high protein food with adequate proteins, such as meat and eggs. This is where beans play a very important part; they are a cheap source of proteins. Unfortunately, the production of beans in most parts of the country is declining. The problem is the lack of good seeds . A survey by *The Organic Farmer* at the beginning of March this year indicated that most of the seed companies did not have any of the popular bean seeds. One reason for this could be that many farmers rely on their farm-stored beans for seed and hardly buy certified ones. What most of the farmers forget is that such beans pick up disease-causing bacteria, viruses and pests while in the shamba. These diseases are consequently spread in new fields when the same beans are replanted.

Due to the shrinking land sizes due to subdivision, farmers can no longer be able to produce enough beans to



feed the rapildy growing population. Researchers are therefore developing high-yielding varieties of beans that only need a small area to grow. In this issue we look at climbing beans – a variety that climbs and spreads on sticks and produce double the yield of local varieties. *See Page 5*

Farmers, use these telephone numbers

Many farmers are calling and sending SMS through our Tel. 0721 541 590; this is to inform you that this number is now out of service. Farmers should use the following numbers if they want to reach us:

SMS: All SMS should be sent to Tel. 0715 916 136

Calls

All calls should be directed to Tel. 0717 551 129 or 0738 390 715.

Our landline Tel 020 445 03 98 remains unchanged.

Email

E-mails are welcome, please address them to: info@ organickenya.org.

in this issue

i-TOF

Our new centres

The Organic Farmer, with support from its sponsor, BioVision, will open 4 information centres in the country in August this year. The centres will provide farmers with information and also organic inputs. The pilot project to be called *i-TOF* has selected the 4 centres in Kangundo in Eastern province, Gatuto in Central province, Molo in Rift valley and Buyangu in Western Province. An extension officer will be deployed in each centre to train farmers on organic farming. *Page 6*

Dear farmers,

To be a successful farmer, one needs to have knowledge and the appropriate skills. Additionally, in order to increase their yields and income, farmers require access to the right inputs. They should also be hard working and have a strong will to succeed. In the last few years The Organic Farmer *has provided you with a lot of information and practical tips on how to improve both crop and animal production. Every week, we receive 15 to 20 questions from farmers on various issues, most of which have to do with the issues we cover in our articles.*

This is indeed encouraging for it shows that farmers want to know more and even apply some of the technologies we introduce to them in their farming. But some of the questions relate to how farmers can buy the various organic inputs that we often recommend. We fully understand the problem; almost all agro-veterinary shops do not stock organic inputs. The truth is, if farmers have to realise the full benefits of organic farming, then they should be able to buy the necessary inputs at a shop near them.

Although farmers have at their disposal organic inputs such as plant extracts which they can prepare and apply on their crops when the need arises, others like diatomite, rock phosphate and other remedies for control of diseases and pests are altogether unavailable. Aware of this problem, The Organic Farmer *has taken an initiative to help farmers get access to these inputs. In the next few weeks, we will open four centres in various parts of the country where farmers can, not only get information through our TOF issues and the Infonet-biovision information platform, but can also purchase organic inputs.*

These centres will be stocked with some of the essential organic inputs that farmers need but have been unable to obtain from their local agrovet shops. This initiative, which is supported by BioVision Foundation, will be undertaken on a pilot basis (See our article on this page and also on page 6). Should the project succeed, more centres will be opened in other parts of the country. It is up to the farmers to make use of these centres to keep them going. We hope that you will utilise the facilities to improve production and gain the full benefits of organic farming.

Bloat can cause death if not treated on time

Bloat can be a problem when animals are introduced to lush green pastures.

William Ayako

Barely a month ago, most livestock keepers were so worried about the effects of prolonged drought on their animals. As a result of this, most livestock keepers incurred very high losses. Some pastoralists lost up to 50 % of their animals.

However, with the onset of the long rains, livestock keepers especially goat, sheep and cattle keepers are faced with yet another problem: Bloat. Bloat occurs when there is an abrupt nutritional change in the diet and especially when cattle feed on the lush green pastures causing the swelling of the rumen with gas.

Clinical signs of bloat

The left side of the abdomen behind the ribs becomes very swollen causing distressed breathing, and the animal altogether stops eating. Sometimes green froth comes out of the mouth and nose. Some animals may have diarrhoea. The rumen of cattle, sheep and goats is like a large vat in which a mixture of partly digested feed and liquid is continuously fermenting producing large quantities of gas. For example, an average cow can produce over a thousand litres of gas in a day. Some of the gas is removed by absorption into the blood stream, but most of it is removed by belching during 'cudding'. If for whatever reason the gas cannot escape, the rumen is literally overblown and the animal gets bloat.

The swollen abdomen is a typical sign of gassy bloat. Photo PD

Types of bloat

There are two types of bloat namely, frothy bloat and gassy bloat.

Animals get frothy bloat when the rumen becomes full of froth (foam) because the digestion is upset. Several animals in the herd get this type of bloat at the same time when they graze on a lot of wet, green pasture mixed with legumes in the field. Animals can also get it when they feed on ripe fruits or other feeds that ferment easily. Some poisonous plants can cause sudden and severe bloat. A sudden change in the type of food can also cause frothy bloat. Frothy bloat normally happens at the start of wet season when the diets of grazing animals abruptly change from dry feeds to wet lush pastures.

Animals get gassy bloat when the rumen fills with gas because the oesophagus is blocked. This type of bloat normally affects one or two animals in the herd at the same time. They get it when they choke on something or eat plastics or when they get a disease like tetanus that paralyses and hinders them from ruminating.

Treatment of bloat

Depending on the type of bloat, several methods of treatment can be applied:

• Do not feed the animal for several hours. Make them move around to exercise and improve on digestion.

• For less severe cases of frothy bloat, give 500 mls and 100 mls of any edible vegetable oil, solid cooking oil, butter oil, ghee or milk orally to large and small animals respectively.

•For more severe cases where the animal cannot swallow, you can tie a rope across the mouth of the animal to make it chew the rope to stimulate belching.

• For very severe cases of frothy and gassy bloat when the animal is distressed and cannot breathe, it is advisable to puncture the skin carefully and the rumen of the animal on the left flunk to let the gas out. Use a knife or any sharp thing, but the best instrument to use is the trochar and cannula. The hole should be made at a hands' width behind the last rib and a hand away from the edge of the backbone. Push hard because the skin is very tough. Gas and froth will come out when you make the hole. It helps to put a tube or cannula through the hole to keep the hole open. Pour some vegetable oil into the rumen through the hole to help stop further gas or froth formation. Do not carry out this procedure on your own. Contact a veterinary doctor.

Prevention of bloat

• Feed the animals with dry grass to fill them up before you put them on new wet lush pasture.

• Do not water the animals just before you put them on wet pasture.

•Do not graze the animals on wet green pasture early in the morning. Wait until when the pasture has been dried up by the heat of the morning sun.

• You should increase grazing hours of the animals on wet green pasture gradually for about a week.

•Avoid abrupt changes in the diet of animals and always give newly introduced feeds in small quantities.

The Organic Farmer is an independent magazine for the Kenyan farming community. It promotes organic farming and supports discussions on all aspects of sustainable development. *The Organic Farmer* is published monthly by icipe and distributed free of charge to farmers. The reports in the *The Organic Farmer* do not necessarily reflect the views of icipe.

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Publisher African Insect Science for Food and Health (icipe), P.O. Box 30772, 00100 Nairobi, KENYA, Tel: +254 20 863 2000, icipe@icipe.org, www.icipe.org

Editors Peter Kamau, Peter Baumgartner

Secretariat Lucy W. Macharia

Layout In-A-Vision Systems, 0720 419 584

Advisory Board Nguya Maniania, icipe, Charles Kimani, farmer, Wangige, Joseph Mureithi, KARI, Henry Kiara, ILRI, Christian Borgemeister, icipe, Sunday Ekesi, icipe

Address *The Organic Farmer*
P.O. Box 14352, 00800 Nairobi, KENYA
Tel: +254 20 445 03 98, 0738 390 715, 0717 551 129, info@organickenya.org
www.organicfarmermagazine.org

Foot rot is a problem in wet season

Due to reduced weight gain, foot rot can have negative economic consequences to farmers.

William Ayako

Foot rot is an infectious disease of cattle causing swelling and lameness in one or more feet. It can turn chronic if treatment is delayed. Weight gain is significantly reduced when grazing cattle contract the disease.

With the onset of long rains, foot rot becomes quite common among cattle, sheep and goats kept under extensive production systems. This is mainly because of the prevailing humid and warm weather conditions that are conducive to bacteria that cause foot rot infection. However, foot rot is also a problem under intensive dairy production systems where dairy cattle are kept for milk production e.g. zero-grazing. Other factors such as breed and housing are known to influence the occurrence and severity of the disease.

Under intensive systems where exotic breeds are kept for instance under zero grazing, the disease occurrence is more severe than in the extensive system where indigenous breeds are kept. It is caused by a strain of bacteria called *Fusiformis necrophorus* and others which are always present in the environment where animals are kept. The animals get the disease from the soil on which infected animals have stepped.

Clinical signs

The disease has negative economic consequences to the farmer because it hinders the animal from feeding, at a time when there is plenty of good feed.

A hoof of a cow infected with foot rot, between the hooves and at the back of the hoof.

- The animals become lame on one or more legs.
- There is swelling between the two claws and sometimes further up the leg. The flesh between the two hooves becomes damaged and crusty.
- Although the disease is not always severe, signs of fever and loss of weight are noted.

Treatment tips

- Isolate animals with severe infection to stop further spread of the disease to the other animals.
- Wash the foot especially the skin between the claws with hot water- as hot as you can put your hand in.
- Cut away or trim any decayed part of the hoof to remove the infection that is underneath it.
- Apply juice from euphorbia trees such as *euphorbia kibwezi* to cauterize some kinds of abscesses and secondary infections. The juice also stops the wound from bleeding.
- Move the animals across hot sand or drier places to control foot rot.
- Treat infected animals as above as soon as possible to avoid further spread of the disease to the rest of the cattle herd.

Dirty animal sheds harbour diseases

If you visit any homestead with dairy cattle in the country you will be appalled by the poor conditions under which the animals are kept. Most farmers are good at feeding their animals. But when it comes to maintaining hygiene in the cattle housing shed, they do very little to clean the sheds to make sure they are free of animal droppings and urine.

What happens in many households is that the animal waste is left to accumulate to a stage where the animal have to sleep and wade through their own muck. This is very unhygienic and has very devastating effect on the animals' health. Farmers should understand that animals are affected if left to stay in an unclean environment. Their health deteriorates including milk production. Dirty sheds are also breeding grounds for many disease-causing organisms. One of the most common diseases that affect cattle kept in unclean sheds is mastitis. Mastitis is very common in farms where animals sleep on floors littered with animal waste.

Animals need clean shelter Photo TOF

Another common problem that comes with poor sanitation in animal sheds is foot rot as we have explained elsewhere on this page. Any dairy farmer should know that an animal kept in such unhygienic conditions such as the one shown in the picture above cannot be productive. Animals should not only be kept in a clean environment, they also require some free space for movement in order to express their normal behaviour. Farmers often confine their animals in small enclosures due to lack of space and also for security reasons. However they should ensure that sheds are cleaned all the time to give the animals a clean and comfortable place to stay.

Deworming improves animal health

Animals infested with worms lose weight and face the risk of increased infections and even death.

The Organic Farmer

Grazing animals are always exposed to parasites and are thus constantly being reinfected. The levels of infection range from a few parasites to large numbers that can cause severe weakness (lost weight gains, poor feed conversion or increased infection) and even death. A serious pest control program in organic farming begins with a good understanding of parasites and the implementation of preventive measures. The ultimate objective of this is to develop an animal production system where parasites may be present in small numbers but do not affect the health or performance of herds. An animal that has not had worm infestation cannot develop resistance and is thus extremely vulnerable when exposed to parasites.

Adult animals are much less susceptible to most parasites. Young animals should preferably be put in new pastures where parasite levels are low so that they can slowly be immunized. Well-fed animals, living in good conditions, are better able to resist or tolerate internal parasites.

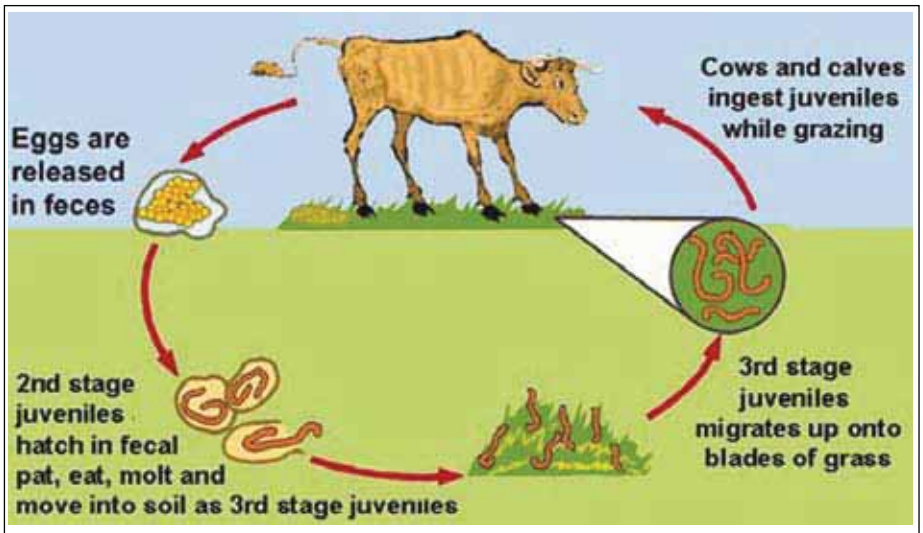
Preventive measures

• Animals should not be allowed to graze on wet pastures. The conditions that favour grass growth also favour parasite larvae growth.

Roundworms

Series on parasites

External and internal parasite infestation are a serious problem among livestock keepers. However there are various methods farmers can use to protect their animals against them. In the past issues we gave you tips on external parasites such as fleas and lice and featured the control of ticks in livestock. In this issue we give you tips on internal parasites.



Adult roundworms deposit their eggs in the animal's intestine. These eggs pass into the environment through cattle manure. After the eggs hatch and larvae moult, the infective roundworm larvae migrate up the forage and are ingested by grazing cattle. After ingestion, the roundworm matures in about 3 weeks. Adult roundworms do not multiply in the host animal; the eggs must pass into the environment to continue the parasite's life cycle. Adult life span is only a few months. Animals will rid themselves of the adult parasites.

• The animals should be kept in paddocks and not taken back into the same field until the risk of infection has diminished. Deworming treatments have little effect if the animals are returned to the same larvae-infested field.

• Overpopulation in paddocks increases the concentration of parasites.

• Harrowing pastures disperses and exposes the parasite eggs and larvae; it should be done at the beginning of a dry season in a field that the animals will not be returning to for quite some time.

• In barns, animals should be fed from feeders rather than directly from the ground to avoid contamination as a result of their mouths coming into contact with manure or bedding.

• Manure to be used for spreading may be filled with parasite eggs and larvae. Composting is a good way to clean manure because the larvae and eggs are destroyed.

Parasite control methods

The first step in a pest control program is to assess the situation with randomly selected faeces. This regular control is important, since certain parasites have developed resistance to chemical deworming products. When using a dewormer, a farmer should treat all the animals in the herd or group. For deworming treatments with natural products, animals should not be fed for a period of 12 to 48 hours before the treatment and another 6-hour period afterwards. Young animals should be exempted from the fast. In the case of milking dairy cows, it may be simpler to lighten their diet by not using silage or concentrates rather than to have them fast.

Liquid deworming treatments that animals do not willingly ingest can be administered using a funnel and a flexible tube put down the animal's throat.

Botanical dewormers

Several plants have antihelminthic properties, and were in fact a part of the traditional animal husbandry before synthetic dewormers were commonly adopted.

Garlic: Garlic is a common plant dewormer that is easy to find. It must be used, however, as prophylaxis. Garlic does not prevent the production of eggs but prevents the eggs of certain parasites from developing into larvae. It can be administered in several ways:

Fresh minced garlic has proved to be clearly more efficient than garlic extracts for controlling internal parasites. The leaves and bulbs may also be used. If the animals do not want to eat the leaves whole, they may be cut into small pieces, mixed with molasses and shaped into small balls.

Powder: The most practical way to administer garlic is to add powdered garlic to animal feed.

Wild ginger: Wild ginger or snakeroot (*Asarum canadense*) grows in wooded areas. The dosage per animal is 20 to 30 g of the aerial parts of snakeroot mixed with wet bran. Wild ginger also has antibacterial properties.

continued on page 8

Climbing beans provide more food

Due to land subdivision and declining soil fertility, farmers need high yielding bean varieties.

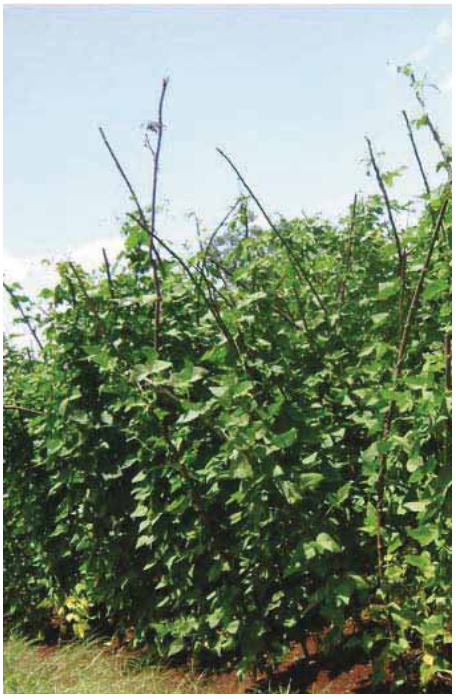
The Organic Farmer

Climbing beans is a variety of beans that requires support with stakes (sticks) to climb on when they are growing. The beans can grow up to a height of 3.5 metres. They require such support due to their imposing length and thin stems. The long stems of this variety of beans enable it to produce more pods as compared to normal bean varieties (bush beans). With good management, climbing beans can produce up to 4 tonnes per hectare (22 bags per acre). Conventional beans produce between 8 and 12 bags per acre. Due to their high yielding quality, climbing beans can be grown in densely populated areas where farmers possess small parcels of land. Farming areas around major towns are also appropriate production areas. The farmers should also have access to staking material; this is possible especially in areas where agroforestry is practised. The beans can do well in all areas that have an adequate rainfall of above 1000 mm. But they can also do very well in dry areas where irrigation is practised.

Varieties: There are four varieties of climbing beans; three of these varieties have been developed by the Kenya Agricultural Research Institute (KARI). These are the Medium Altitude Climber 13 (MAC 13) Medium Altitude Climber 34 (MAC 34) and the Medium Altitude Climber 64 (MAC 64). The advantages of these varieties is that they produce more grains and crop residue which can be incorporated back into the soil thus improving fertility and organic matter content.The residue can also be used as livestock fodder. The higher grain yield also means more food and income for the farmer.

How to grow climbing beans

Seed: Farmers are advised to use clean seed; preferably those produced by seed companies, research institutions, farmers' groups with good disease-free seed, non-governmental organisations and any certified seed producer. The only problem farmers may face is that currently, climbing beans can only be obtained from informal seed producers. The quality of these seeds is questionable. To overcome this problem, farmers' groups in various parts of the country are being trained on the production of clean seed that can be used by those interested in growing the beans.



Climbing beans require support

Land preparation: It is important to prepare the land during the dry season to reduce weeds and ensure the soil is fine. All perennial weeds such as grasses should be uprooted and exposed to sunlight to kill them. It is advisable to incorporate any crop residue back into the soil to build fertility.

Planting: Planting should be done at the onset of the rains.

Spacing: The beans should be planted at the rate of 2 seeds per hole, 75 cm between the rows and 25- 30 cm from one hole to the next. One support stick is adequate for 2 bean seedlings which helps to reduce the number of sticks used, other than when one stick is used to support only one seedling.

Fertilizer application: Climbing beans are heavy feeders and require adequate amounts of nutrients. A balanced supply of organic fertilizers or well-decomposed manure should be applied at planting time. These can be supplemented with organic foliar feeds.

Pest Control: Pest control should start early, just after germination. Use organic pesticides (Refer to our Plant extracts Special for the various plants that can be used to control pests). The most common pests are the bean-fly, ants, spider mites and aphids. Young bean tendrils, leaves flowers and young pods are vulnerable to bird damage. Scare birds away as you do with the other crops.

Disease control: Organic fungicides such as copper oxychloride can be used to control fungal diseases. A number of plant extracts such as those made from a mixture of African marigold, stinging nettle, garlic, rhubarb etc can effectively control fungal diseases.

Weeding: Like other beans, climbing beans should be weeded at least twice during the growth cycle.

Irrigation: Climbing beans do very well in dry areas if there is sufficient water for irrigation. They can also be grown under irrigation during the dry season in high potential areas.

Climbing beans need support

The beans must be supported while growing as they are very strong climbers. If left unsupported, they will crawl on the ground and will thus not produce good yields. They must be supported in order to grow upright and produce more grains. Support sticks of up to 3.5 metres high are economical for a fair and competitive yield. Support must be provided within 1 to 2 weeks after emergence from the ground to enable the young beans to climb and start producing branches early enough. In areas where maize is grown and support stakes may not be available, farmers are advised to grow the beans in the maize fields when the maize is about to mature, mainly around the month of August or September. The leaves of the maize can be plucked off and any weeds removed before planting. The climbing beans can then be planted at the base of each maize stalk which provides support to the climbers. When the maize is harvested, the stalks should be left standing in order to support the beans until they are ready for harvesting.

Farmers interested in buying climbing beans can contact KARI Embu, Call Alfred Micheni Tel.0720 705 625.

Request for climbing beans

"I am a regular reader of *The Organic Farmer* magazine (TOF). Please send me more information about climbing beans. Kindly also direct me to where I can get the seeds? Tel. 0711 754 542" This is one of the many questions we have received in the past few weeks on climbing beans. It seems that many farmers want to improve their yields by growing high yielding varieties.

Where are the *i-TOF* centres?

In the last issue of *The Organic Farmer* magazine, we wrote about our intention to open centres for information and organic inputs in various parts of the country, called *i-TOF*s. The idea came from the many questions we have been receiving from farmers regarding lack of training and inputs. Research done by TOF has confirmed that few agrovet shops are selling organic inputs.

After some research, we have decided to set up four *i-TOF* centres. Since this project is on a trial basis, we have identified two agricultural institutions and two active farmers' groups : Baraka Agricultural College, Molo ; Sustainable Organic Farming Development Initiative (SOF-DI), based in Buyangu, Ebunangwe and Mukumu; Kangundo Dairy Farmers CBO, Kangundo, and Amuka Farmers Self-Help Group, Gatuto.

i-TOF : The information centres

Each of the centres will be equipped with:
- The "farmers' toolkit", which consists of a laptop computer running the offline-version of the infonet-biovision information package
- An entire archive of *TOF* magazines since its launch in April 2005
- A variety of publications and books on organic farming
- Other information material deemed necessary for training farmers on sustainable agriculture.

SOF-DI, Kangundo and Gatuto: These centres host the *i-TOF* extension worker, a trained agronomist with experience in organic farming, value addition and marketing. This *i-TOF* extension officer will be responsible for training all farmers' groups in their respective region. Farmers' groups can book him/her for a one day training on specific areas. This service is free of charge.

Baraka/Molo: The Baraka agricultural college runs three outposts in Mau Summit, Kamara and Nyakinyua will be staffed with an extension worker. The three outposts will work as *i-TOF* centres. They are equipped with all the information material as mentioned above.

The telephone numbers of the *i-TOF* extension workers indicated below will be working from 20th of July. From that day, you can start making bookings directly with the *i-TOF* team members in your area. If you have questions about *i-TOF* before that or would like to reserve a date for a course at your place, please contact *TOF* at the usual phone number.

Organic inputs

These inputs will include commercially available organic pesticides and fungicides and soil conditioner, and may include Neem products, Diatomite, E.M , Rock Phosphate (Minjingu), Flower DS etcc.

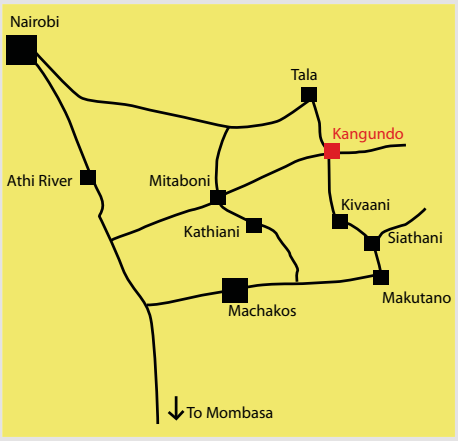
Since we are looking for the best ways to supply small-scale farmers with organic inputs, we chose different possibilities:

- Baraka will sell the inputs in the already existing shop at the Baraka Agricultural College.
- SOF-DI will have a small shop at the main centre in Buyangu.

>>

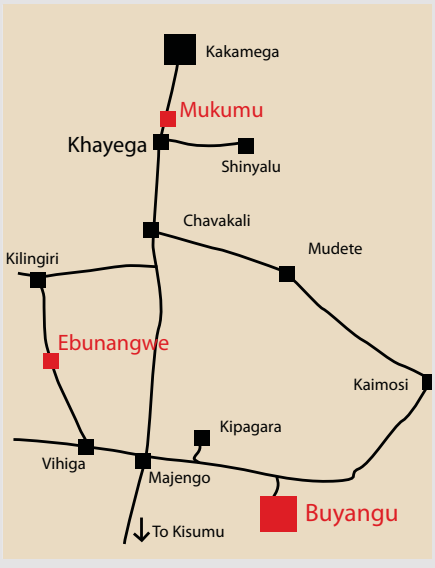
i-TOF centre, Kangundo, Eastern

Host: CBO Kangundo Dairy Farmers (KDF), running a milk bar
Location: KDF-milk bar in Kangundo Town
i-TOF information: Within the premises of KDF, equipped with the whole information package, run by the TOF-extension worker
Contact: 0724 331 405
i-TOF organic inputs Shop: Situated within the premises of KDF in Kangundo town.



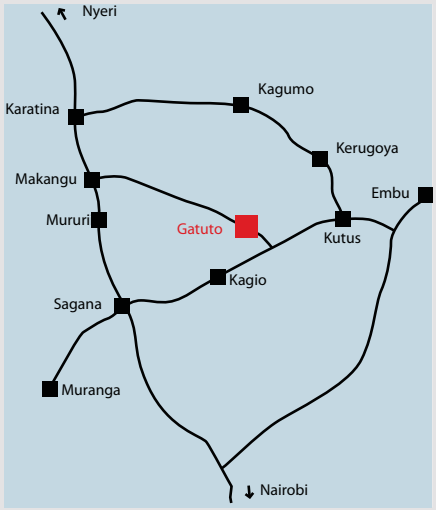
i-TOF centre, Buyangu, Western

Host: Main office of the Sustainable Organic Farming Development Initiative (SOF-DI), Buyangu
Location: (SOF-DI) Buyangu, in the compound of the Catholic parish
i-TOF info centre: Within the premises of SOF-DI, equipped with the whole information package, run by the TOF-extension worker
Contact: 0724 331 456
i-TOF organic inputs Shop: Situated within the premises of SOF-DI in the SOF-DI main office in



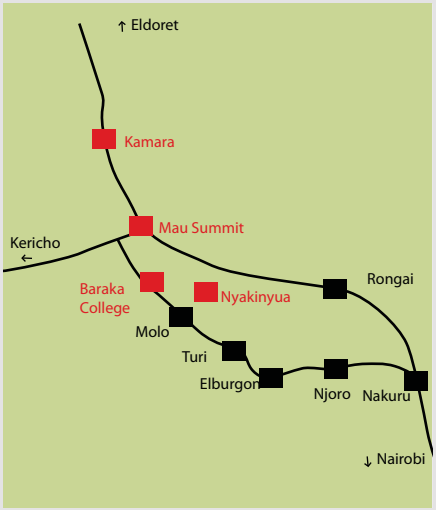
i-TOF centre Gatuto, Kerugoya

Host: Amuka Farmers Self-Help Group, Gatuto
Location: Meeting and education hall of Amuka Farmers Self Help Group, Gatuto
Location I-TOF information: Within this meeting hall; equipped with the whole information package, run by the TOF-extension worker
Contact: 0724 331 375
i-TOF organic inputs Shop: An agrovet shop in Kagio; to be named in the TOF August-issue and by direct mail to farmers' groups.



i-TOF centre Baraka College, Molo

Host: Baraka Agricultural College, Molo
Location: In the three Baraka outreach centres in Mau Summit, Kamara and Nyakinyua
i-TOF info centre: Within these three outreach centres in Mau Summit, Kamara and Nyakinyua; these three centres are equipped with the whole information package as mentioned above.
i-TOF organic inputs shop: Situated within the premises of Baraka Agricultural Centre, Molo.



>>> from page 6: i-TOF

• Amuka Farmers Self Help Group will co-operate with an agrovet shop in Kagio.
• Kangundo Dairy farmers will store and sell the organic inputs in their premises in Kangundo, next door to the *i-TOF* information office.

In the beginning, *The Organic Farmer* will assist the groups to source organic inputs. After that, it will be the responsibility of each centre to buy and market the inputs to farmers in their respective regions.

All farmers' groups in the respective regions of the 4 centres will be informed of the existence of these centres and are encouraged to make use of the facilities provided. *TOF* will make a regular assessment of these centres which will form the basis of any future expansion to other parts of the country.

i-TOF

Available training modules

1. Soil fertility and conservation
   - i) Composting
   - ii) Vermiculture
   - iii) Soil conservation
   - iv) Liquid composts
   - v) Green Manures
2. Crop Nutrition
3. Pest Management
4. Disease Management
   - i) Identification of diseases
   - ii) Disease management and crop hygiene
5. Water conservation and management
   - i) Harvesting
   - ii) New technologies, drip irrigation etc.
6. Animal production and health.
   - i) Feeding and housing in organic systems.
   - ii) Pasture management and storage.

i-TOF

Conditions

The following conditions apply to all groups that will undergo under the *i-TOF* training programmes:

- The training will be conducted free of charge to all farmers groups.
- The farmers have to identify a training venue and organise a demonstration plot where the training will take place.
- Training will be offered to farmers groups with at least 15 members and above.
- Each training session will take 4 to 5 hours.
- Farmers must observe punctuality.

Vaccination of chickens important

I want to know the most effective medicine that can protect my young chicks from diseases. Can the same be used for turkeys? Tel.0721 422 978

You have asked this question at the right time when the rains have just started. The wet season is a delicate time for poultry farmers due to the proliferation of diseases that can wipe out a whole flock of birds if preventive measures are not put in place. Young chicks are especially vulnerable to diseases. Diseases such as fowl typhoid are a serious problem that is very difficult to eradicate once they have attacked chickens. Sometimes they require the culling of the entire flock. Regular vaccination can protect your chickens against coccidiosis because the bacteria responsible are always present in the soil. The best way to keep these diseases at bay is to ensure the poultry sheds are kept as clean as possible at all times. Wash the floors regularly with organic acaricides such as neem powder. The following are important vaccinations that can prevent diseases on chickens:

Marek: This is an injection administered at the hatchery on young chicks.
Newcastle: These are inter-nasal drops applied to the eyes at 2 to 3 weeks and repeated at 18 weeks and after every 6 months.
Fowl Typhoid: This is applied as an intra muscular injection at 8 weeks in high risk areas and 18 weeks in low risk areas.
Gumboro: It is applied in drinking water from four to fourteen days.

Organic chickens are often reared vaccine-free because they are reared in a clean environment and are allowed to graze on free range. Organic farmers can make their own natural antibiotics that can protect chickens against disease. Extracts from plants such as aloe vera can control a number of infections in chickens if added to drinking water.

Maize varieties good for short rains

Which hybrid maize seeds can do well during the September – January period?

The weather has been rather unpredictable this year. Although the March –May long rains delayed somewhat, most parts of the country received adequate rains in May but dry conditions persisted in much of June, which has led to crop failure in most medium and low potential areas. In our March 2009 issue (Nr.45) we warned farmers that there was a possibility of depressed rains. Although you do not explain to us in which agro-ecological zone your farm is situated, we would recommend that you go for early maturing varieties. These include Katumani Composite, DHO1, DHO2, DHO4, DH09 or DH10. You can get these varieties from your nearest agrovet shop or any Kenya Seed Company agent near you.

My cow is eating clothes

My cow is eating clothes, soap, bones etc. I have tried to give a variety of mineral licks but the problem still persists. Please assist me get a solution to this problem. Tel 0726 071 136

Your cow could be suffering from a deficiency of some sort. Most of the salt licks available in local agrovet shops do not have sufficient composition of minerals salts that animals require. Try and buy imported ones. Some areas in the country lack particular minerals in the soil which can also affect the animals. You can also consult your local livestock extension staff to tell you if there is a deficiency of a particular mineral in your region. They can provide useful advice that may be of help to you. If this habit persists, consult a veterinarian

How can I attract bees to colonize my hive?

Peter Chikombe Saboti, (0728 209 456) is not the only farmer who has problems with attracting honey bees.

Jairus Lihanda

There are several reasons that prevent bees from colonizing a hive. One of them is pest infestation. Such pests may include ants, wasp, and rats. If the hive has rats nesting in it, it will definitely never be colonized. Rats also leave a bad smell even after they have been removed from the hive. So first, ensure the hives are free from any pests. If there are pests clean the hive. Secondly, have the hives waxed. In case you are using the Kenya Top Bar hives, wax the bars. For Langstroth hives, wax the frames well.

The second major reason is the apiary siting. If the apiary is sited in a dampy area, it is not a conducive site for bees. Bees need a site where they can maintain right moisture content in their honey.

A third reason would be the condition of the hive. If the temperatures are too high in the hive, bees may dislike such a hive. Hives should be sited under a shade.

Lastly, the positioning of the hives can keep the bees away because they do enter hives mostly during swarming seasons. However, bees have swarming routes. These routes are high up above buildings. Try placing your hives in catcher positions (on top of trees or buildings) or use a catcher box to catch bees and transfer them into the hives.

Pack the bees in the hives

If you try all these and bees still do not enter your hives, you can put them into the hives. There are different ways of doing this, but for this operation, it is best to seek help from an experienced friend. The swarm has a better chance of staying in its new hive during a nectar flow. Do not waste time with swarms smaller than a person's head as they cause more trouble than they are worth.

•First, prepare your hive by smearing it with some melted beeswax, so that smells nice for bees.

•Look for a swarm of bees clustering on a branch from where you can catch them. Wear your bee suit and smoke them very gently so as not to disturb them. (Do not smoke if you can avoid it!) Shake the bees into a catcher box or similar container, e.g., cardboard box. If the queen falls into the box, the rest of the swarm will follow. Wait for 20 minutes or so. If they return to their original site, repeat the procedure once more.

•Once you have the bees, leave the box in a shady place until evening. Make sure it does not become hot in the container by covering it with a damp cloth.

•In the evening, take the bees home and shake them into your empty hive.

•If you have other hives, take out a comb with some uncapped honey and a brood comb with eggs and give them to the bees to encourage them to stay on.

You can also colonize your hives by making colony divisions. Transfer comb with the queen cell, one other comb of brood, and two combs of food (honey and pollen) into a catcher box/ new hive. Include bees on all combs. Shake in bees from other combs as well. Remember to put brood combs in the middle and honeycombs on either side to insulate the brood nest.

Stingless bees

Is it true we have a new variety of bees that do not sting? If yes, how can a farmer get them and for how much? I am a farmer, now keeping rabbits. 0721 611 080.

Yes, it is true; there is a species of bees that do not sting because they are stingless. These bees colonize dark areas and are hard to try and domesticate. They produce less quantity of honey as compared to the stinging bees. However their honey is highly medicinal.

Keeping of stingless bees (meliponiculture) is not yet commercialized in Kenya. We advise interested bee keepers to concentrate on the honey Bee (*Apis Mellifera*). One of he major reasons that keep off interested beekeepers is fear, but just like you are used to your rabbits, you can get used to your bees.

First be careful, taking every precaution against the stings. Invite an experienced beekeeper to start you off. But the more you visit the hives, the more you get used to the bees. In fact, for an experienced beekeeper, the bee sting is healthy!

Jairus Lihanda

>>> from page 4: Worms

Cucurbits: Pumpkin seeds contain a deworming compound called cucurbitacin. The seeds may be fed directly to animals.

Lupin: A diet made up entirely of freshly cut, lightly salted lupin is a good dewormer. It is important not to allow free access to lupin; otherwise symptoms of poisoning may occur.

Other plants: Blackberries, raspberries, and nettle are also other plant species with deworming properties that should beaccessible in pastures. Fennel leaves and seeds are also used as dewormers.