The Organic Farmer

The magazine for sustainable agriculture in Kenya

BIOVISION

Nr. 31 December 2007

Indigenous chickens need proper feeding and housing to be productive. (Photo TOF)

Taking care of indigenous chickens

Many small-scale farmers seem to have resigned themselves to the belief that it is difficult to improve their earnings due to the falling prices of most agricultural commodities. But we hold a different view. There are many opportunities available if only farmers can accept to adopt new ideas and start farm enterprises that can increase their income and uplift their standard of living. For instance, every rural household has chickens especially of the indigenous variety. Indigenous chickens fetch premium prices on the market, but they are the most neglected of all livestock in rural households.

If well managed, indigenous chickens could change the fortunes of many small-scale farmers. In this issue we provide you with tips on how to manage them. *See page 5*

Farmyard manure is not garbage

In every homestead or farm across the country, a heap of farmyard manure dumped outside the boma is a familiar sight. It seems that many farmers do not know the value of farmyard manure as a valuable fertilizer that could enrich their soils and save them a lot of money which they spend currently in buying chemical fertilizers. Farmyard manure loses essential nutrients when it is exposed to the sun or rain. *See page 3*

Farmyard manure should always be covered to prevent nutrients loss. Photo P. Luthi

Tiny pests, but huge damages

Nametodes cause serious damage. They are tiny thread-like worms that live in the soil. Most of them stay in the topsoils and contribute to the decomposition of organic matter. The damaging plant-feeding nematodes differ from other predatory nematodes because they have a sap-sucking mouth. Important environmental factors that influence development of the most damaging nematodes are moist soils and relatively warm temperatures. Under average conditions a female produces 300–800 eggs. A new generation can arise within 25 days. More about nematodes on *page .*

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www.organicfarmermagazine.org

Dear farmers,

The year is now coming to an end, with most farmers preparing to harvest the crops they planted during the course of the year. Apart from the festivities marking the end of the year, including the coming general election, this is an important period for the farmer. It is time when all of us should take stock of what we have achieved during the year and at the same time start planning for what we intend to do in the coming year.

If you managed to go through all the issues of The Organic Farmer, *that we sent you this year, you will notice that we have introduced various ventures that farmers can start to greatly improve their income. These include new ways of marketing, working together as groups to stop exploitation by middlemen, poultry keeping, beekeeping and mushroom production.*

We have stressed the need for farmers to change and adopt new ideas that can help them improve production and income. Some of these ideas are not difficult to try. They are simple farming techniques such as crop rotation that have so many benefits, not only in improving soil fertility but also in controlling pests and diseases. It is encouraging to note that so many farmers have made a notable improvement in their farming practices.

An important event that took place in October this year is the launch of the Infonet service. Farmers will now be able to access information on sustainable agriculture and organic farming at www.infonet-biovision.org. *Moreover:* The Organic Farmer *now has its own website! If you would like to read the latest issue, just go to* www.organicfarmermagazine.org. *For those who do not receive the magazine, this will be an opportunity not only to read it, but they can also be able to print copies and make the necessary reference in future. We do hope that farmers will make use of this service.*

We would like to thank you for the encouraging letters, telephone calls and SMSs. Our magazine is always working hard to ensure that farmers in Kenya are well equipped with the information they need for productive, sustainable organic farming. We have lined up lots of useful articles, tips and advice for next year. Finally, we wish all of you a bumper harvest, better market prices, seasons greetings and a Happy New Year.

OUR OPINION

Malnutrition is the biggest risk factor for illness worldwide. For both children and adults, malnutrition reduces the body's natural defences against a vast range of diseases. The death rate from diseases such as lower respiratory infection, malaria and measles are much higher in children who are underweight than in those who are adequately nourished. Undernourished People infected with HIV/AIDS develop the full symptoms of the disease more quickly than people who are well fed.

The Millenium Project for Africa

The Organic Farmer

The Organic Farmer is an independent magazine for the Kenya 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 to farmers. The reports of *The Organic Farmer* do not necessarily reflect the views of ICIPE.

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In-A-Vision Systems (k)

Managing your Napier grass

Napier grass is the most popular fodder crop in Kenya. However, is also the most neglected.

The Organic Farmer

It is approaching the dry season. One major problem likely to face farmers is lack of adequate pasture to feed their animals in order to increase (or at least to maintain) milk production and income. Although most farmers have adequate land on which they can grow good fodder, these pastures are poorly managed and can hardly sustain their animals. Good management of pasture ensures the farmer has enough feed the animals all year' round.

The most popular fodder crop in Kenya is Napier grass. Napier grass gives the highest yield per unit area compared with other types of fodder. Strangely enough, in most farms Napier grass is the most neglected crop. Farmers do not get the maximum benefit because they do not manage this valuable plant in the right way.

Napier needs nutrients

Since chemical fertilizers are not allowed in organic farming and are too expensive and beyond the reach of many small-scale farmers, the best alternative is to apply well-composted farmyard manure on Napier grass. Apply 5 to 10 tonnes/ha of farmyard manure at planting. In subsequent years, apply the same amount preferably in splits after every harvest. Very few farmers apply farmyard manure on their Napier grass; they neglect even the manure (see page 3). A good way to improve yields is to intercrop Napier with forage legumes like desmodium. This improves the quality of the feed and reduces the costs for nitrogen fertilizer.

Tumbukiza is a new method of planting Napier grass (see page 3). The initial labour costs for digging pits and trenches are higher than the conventional methods, but *Tumbukiza* produces more herbage yield than the conventional method, hence less land is required to keep one dairy cow.

Weeding is also a very important aspect of Napier management. Weeds take up a lot of nutrients and water that would have been used by the fodder crop and which in the process reduces its productivity. Weeding should be done after every harvest to maintain high productivity.

Farmers with inadequate fodder are often forced to cut immature Napier grass more frequently. Immature Napier grass is unsuitable for feeding as it contains too much water and very little dry matter. Harvest Napier when it is 1 m high or at every 6–8 weeks to obtain optimal quality and quantity. Maintain a stubble height of 5–10 cm above the ground level at each harvest to avoid weakening of the root system, which leads to low production in subsequent harvests.

Feeding

Many small-scale farmers keep too many animals without adequate land for pasture (overstocking). An average dairy cow requires 70 kg of fresh, unchopped Napier grass per day to produce 7 kg of milk, or 9–12 kg milk per day when fed on Napier/legume mixture. One acre (0.4 ha) of Napier grown in the conventional way should ideally support only one dairy cow if there is no other supplementary feeding being done. One acre of *Tumbukiza* Napier grass can provide enough feed for 2 – 3 dairy cows for one year.

Controls soil erosion and pests

Napier grass has other benefits for a farmer; for example, when planted around the maize fields, it helps to control stalk borer (stemborer) infestation. Farmers are advised to plant three rows of Napier all around the maize field. When planted along the contour lines in a pure stand or in a mixture of fodder legume trees, Napier reduces soil erosion. ■

With manure fodder crops grow faster

Many small-scale farmers do not use manure properly. Carelessly stored manure can lose half of its nitrogen content.

William Ayako*

No doubt, manure promotes the growth of all crops. The only problem is that many dairy farmers lack skills for improved management. This is shown in a study on methods of manure management on smallholder peri-urban dairy farms in Bahati division, Nakuru district. The results of the study, conducted in July, 2005, are significant for other regions in Kenya too.

A total of 30 smallholder dairy farmers in the Bahati region were randomly picked; their farming system is mainly small-scale mixed crop/livestock type. The farmers kept an average of 1 - 2 mature cows, mainly of Friesian, Ayrshire and Zebu crosses. The feeding was mainly "cut and carry" (zero gazing) in stables with planted Napier grass as the main feed resource and crop residue found within the farm.

It became clear that smallholder dairy farmers, neglected by policy makers, could not afford to apply inorganic fertilizers on Napier grass. The inputs were relatively expensive, and the availability of those inputs was always untimely. This means that the farmers were therefore in dire need of skills to improve manure management to boost fodder production for their dairy cows. This was even more important as the high human population in the division led to further decline in soil fertility due to over-cultivation of land.

Manure exposed to sun and rainwater loses essential nutrients. *(Photo TOF)*

Soil degradation as well as poor livestock nutrition and livestock diseases were responsible for the low milk production. Labour shortage and lack of capital was evident since over 90% of the farmers in Bahati used family labout and simple tools to apply manure. Some of the farmers used bedding from unused maize stalks for compost making. This is very helpful since the compost takes time to decompose under field conditions and hence increased the nitrogen ratio.

Improve Napier grass yield

The use of manure on Napier grass plots was a common practice among smallholder farmers in the division. The study observed that 70% of cow dung manure was returned to Napier grass while 30 % was applied on maize as compost. Due to labour constraints, manure management to preserve nutrients was poorly done by the farmers.

Since the majority of the farmers stored manure in open heaps for convenience, the method caused high nutrient losses, estimated at over 30% of nitrogen conten when the storage duration exceeded 3 months. Extended storage in open heaps further increased losses estimated to be more than 50% of nitrogen when the storage exceeded 6 months. During the season of land preparation, planting and weeding of the field crops, labour became scarce and manure management suffered at the expense of other activities. Therefore, it was estimated that smallholder farmers in the division incurred nutrient losses of over 60% in manure nitrogen due to lack of improved handling and application methods. In other words, through negligence, farmers reduced Napier yields and hence milk production and their income.

Recommended methods

The manure application technology, developed by KARI Naivasha, has two options.

- The farmers on the hill slopes and with less than one acre of land should use the 'tumbukiza' method of manure management on Napier grass. The system involves digging pits of about 3x3x3 cubic feet. The pits are spaced at 2 metres apart and are filled with 3 debes of slurry (a mixture of manure and water), then a 1-foot layer of top soil is added on top of the manure. Thereafter, 6–10 cane cuttings of Napier grass are planted on each pit. The *tumbukiza* method has been known to increase fodder yield by approximately 30 %. It is advised to plant sweet potatoes or forage legumes between the pits to increase the quality of forage and to control weeds.
- Farmers should also plant Napier grass along the contours using the *Fanya Juu* method. In the *Fanya Juu* trenches, they should apply the slurry as explained above, then add top soil and plant Napier grass. This would prevent soil nutrient losses through erosion and secondly, it would reduce the frequency of additional labour. The most important advantage is increase in Napier grass yield per given area.

Farmers in less hilly areas should apply slurry in a shallow trench dug between the rows of Napier grass and cover with the soil. Although this method is labour-intensive, it enables better utilization of nitrogen in the urine and reduces other loses arising from evaporation.

** Dr. William Ayacko is a livestock scientist at the KARI Naivasha Animal Husbandry Centre*

Making manure pits

Proper manure management practice begins as soon as manure is deposited as dung and urine by the cow. To minimize nutrient losses in smallholder zero grazing farms, it is recommended that manure from the stable should be collected twice daily and stored in a well-constructed manure pit as a slurry. It is even easier since most farmers house the animals in well-designed cattle stables with aconcrete floor.

Maize stalks are essential in trapping minerals (Nitrogen) in manure when used as bedding material. The farmers should invest on manure storage pits to preserve nutrients in slurry. It is equally important to reduce the storage duration; increasing the frequency of manure-application feeds the soil with more nutrients.

Sweet potatoes: Good for people and animals

Farmers should not neglect sweet potatoes. They provide feed for humans and animals and contain more vitamin A than any other plant.

Philomena Nyagilo

Sweet potato vines are good fodder and nutritious vegetables for people. *(Photo TOF)*

Sweet potatoes is an easy-to-grow, adaptable crop.It tolerates some degree of drought, requires little weeding and little or no fertilizer. It has few insect or disease problems. And, it is a nutritious and tasty food.

Sweet potatoes are an excellent crop for small-scale farmers. You can eat both the leaves and the tubers. Together the leaves and tubers of sweet potatoes are likely to produce more nutrients per square metre in poor soils than any other crop (see box below). The young leaves contain protein and vitamins. The tubers provide protein, starch, vitamin C and vitamin A. The leaves are available throughout the long growing season; the tubers can be stored.

Easy to grow

Sweet potatoes grow best in sandy soils with a bit of clay in them, but they will grow well in almost any soil as long as water doesn't collect in the soil after a rain. If the soil is not well drained, it can be worked into ridges or mounds. Some people add compost to the ridges and mounds before planting.

In the tropics, most people start sweet potatoes planting vine cuttings that are 30 to 40 centimetres long. Plant the cuttings with at least 2/3 of their length underground, spacing them about 90 cm apart between rows and 30 cm within rows. Cuttings from the tips of the vine are the best planting material. If you can't get vine cuttings, you can plant the potato tubers directly into the soil.

For the first few weeks after planting, water the cuttings and make sure the soil does not dry out. Sweet potatoes are hot weather crops. The hotter it is, the faster they grow. Once the new plants get established, they can survive drought. Often when other crops are wilting in the heat, sweet potatoes are at their best. As the vines grow and spread, they choke out weeds, creating their own living mulch so they don't need much weeding after the first few weeks.

Rotate with other crops

The sweet potato weevil is the main insect pest of sweet potatoes. One way of dealing with this problem is to rotate sweet potatoes with other crops from year to year. Another solution is to plant quick-maturing varieties and harvest them as early as possible.

Once the sweet potato plants are established, the leaves can be harvested throughout the growing season. This will not affect the production of the tubers. Usually only the tender tips of the vine are harvested for cooking, like any other green leafy vegetable. The other parts can be fed to the cows or goats.

When the tubers are big enough for harvesting, dig them up and take them inside for storage right away. If they are in the sun for more than 30 minutes they get spoilt. Store them in a cool, humid place. You can feed the vines to your animals. They are high-value feed in terms of protein, potassium and nitrogen. Sweet potato vines can be fed to cattle as a supplement. It has the following benefits:

- increases growth rate of calves;
- promotes rumen development;
- is good for recently calved and sick animals;
- increases milk yield; ■

Sweet potatoes are vitamin A-boosters

Sweet potatoes are very useful plants, since they produce Vitamin A. Sub-Saharan Africa suffers Vitamin A deficiency more than any other continent. This does not kill its victims directly. Rather, it weakens the immune system, leaving the person susceptible to deadly diseases such as measles, malaria, and diarrhoea. Those most severely affected are young children and pregnant and lactating women.

Many types of fruits and vegetables, as well as meat and milk, are rich in Vitamin A. If consumed in sufficient quantities, these foods can eliminate or greatly reduce the impact of Vitamin A deficiency. However, according to scientists at the International Potato Center (CIP), the orange-fleshed sweet potatoes are higher than any other plant in beta-carotene — a chemical that the body uses to produce Vitamin A. CIP-studies indicate that the consumption of just small amounts orange-fleshed sweet potatoes, usually less than 100 grams per day (roughly half a cup), can eliminate or greatly reduce vitamin A deficiencies in both children and their mothers.

Some years ago, the Center for Science in the Public Interest compared the nutritional value of sweet potatoes to other vegetables. Considering fiber content, carbohydrates, protein, vitamins A and C, iron, and calcium, the sweet potato ranked highest in nutritional value. According to these criteria, sweet potatoes earned 184 points, 100 points over the next on the list, the common potato. (PAN)

Indigenous chickens need feed and care

*Indigenous chickens **fetch** good prices in the market; they can improve farmer's income if they are kept well.*

The Organic Farmer

Almost all Kenyan households keep chickens, mainly of the indigenous variety. Very few farmers, however, have ventured into commercial production of indigenous (kienyeji) chickens for income generation. This is despite the fact that keeping indigenous chickens can be turned into a highly productive enterprise that can improve a farmer's income. Furthermore it does not require much space to practise. Farmers can earn more from indigenous chickens than exotic ones; currently an indigenous chicken egg costs Ksh10 in the market, while that of an exotic hrn goes for Ksh 4.00. A kilogram of indigenous chicken meat goes for between Ksh 250–300 while exotic poultry meat costs Ksh 150 a kilogram. The high prices offered for indigenous chickens is due to the good taste of their meat.

Another advantage of indigenous chickens is that they are adapted to all climatic zones in the country. They also cost less to maintain and feed. One of the reasons why farmers do not get good returns from their indigenous chickens is that the birds are left to scavenge for feed. They are not provided with enough feed to improve their quality and weight. The chicks are also left to scavenge and compete for feed with adult birds. Many farmers do not even bother to provide the birds with adequate water.

Good shelter needed

Sheltering for birds is very important, to ensure they are not exposed to predators, thieves and bad weather. Hens need to have a good place to lay their eggs, away from any disturbance. If they are not provided with adequate food and water, brooding hens are often forced to leave their nests frequently to look for feed. Due to poor management in many households, 8 out of 10 chicks tend to die within the first two months after hatching.

Improved management

To increase their weight and be able to lay more eggs, indigenous chickens need to be provided with supplementary feeding as they are allowed to scavenge for feed in the free-range system. Chicks also need protein-rich feeds such as balanced starter feeds or simple supplementary feeds such as omena fish or even termites. Provided with the right conditions, an indigenous hen will lay her first egg at 28 weeks. In one year an indigenous hen should be able to lay 30 to 60 eggs. Hens start laying eggs at the age of 22-32 weeks depending on the breed, feeding, health and overall development. Laying hens should have easy access to calcium sources and may be supplemented using limestone, bonemeal or crushed eggshells.

Feeding: Feeding should be on a clean and hygienic surface or feeders such as the Naivasha feeder. Feeds should be provided every morning and evening. Clean water should be provided at all times.

Housing: Poultry houses should be spacious and well-ventilated. Provide perches where the birds can rest. Indigenous chickens like dry places for dust bathing; ash and sand can be added to this area to reduce parasites.

Disease control: It is important to vaccinate the birds regularly to prevent diseases. Vaccination is done every two months to control diseases. Isolate all new birds and observe them for any signs of disease before introducing them to the flock.

More about chicken housing on page 8

Manipulate brooding and egg-laying

A poultry farmer can increase the production of their indigenous chickens by manipulating their brooding and egg-laying behaviour. With proper feeding, an indigenous chicken can lay 15 to 18 eggs in one cycle, after which it becomes broody (wants to sit on the eggs). When the eggs hatch, the farmer should allow the hen to stay with the young chicks for about a week; the chicks are then taken away. Since the hens are still in the brooding mode, they are given false eggs (some farmers use false eggs made of Kisii soapstone). When the other chickens have laid enough eggs, the false eggs are replaced with genuine ones and the hen continues brooding until the eggs hatch. Brooding hens should be provided with adequate feed and water. Hens that are not needed for brooding purposes should be released into the flock when their chicks are taken away. They often start laying eggs after 15 to 16 days. Each egg laid is clearly marked to indicate the date when it was laid — this prevents the poultry farmer from mixing freshly laid eggs with the old ones; alternatively, a farmer can confine the brooders and the layers in separate rooms to ensure they do not mix their eggs.

How to manage chicks

When chicks are separated from the mother hen, they should be kept in an artificial brooder. They should be kept warm with heat from kerosene lamps. In the artificial brooder they should be fed with chick mash mixed with glucose and provided with clean water at all times to promote fast growth. Temperatures in the brooder should always be monitored with the help of a thermometer to ensure they are not exposed to excessively high or low temperatures.

Nematodes can cause serious damage

Please help me fight nematodes. They have ruined my mobbydick flowers." G. Gitonga (Meru. 0735 566 220) is not the only farmer who is asking us to help him control nematodes. They really are a dangerous pest, but there are also control methods.

The Organic Farmer

Root-knot nematodes are widespread and among the most dangerous plant parasitic pests of tropical and subtropical regions. They occur as a pest on a very wide range of crops, particularly vegetables, but not on cereals, onions and all types of cabbages.

Su Kahumbu

has been invited by Biovision to a symposium in Switzerland. Where she is to give a speech on Small-Scale Organic Agriculture in Africa.

They average about 1 mm in length. The young nematodes penetrate the root tips and occasionally invade roots. Invaded nematodes initiate the development of giant cells in the root tissues and galling of roots occurs. Inside the gall are shiny white bodies of the female nematodes (about the size of a pinhead). At the root surface, shiny white to yellow egg masses are found. A closer look with a magnifier may show the adults, but mostly they are too small to be seen with the naked eye.

Severe nematode infestation results in stunted growth, yellowing of leaves, wilting and poor yield because the galls disturb the roots' ability to absorb water and nutrients. They also serve as openings for pathogens such as fungi and bacteria, which cause plant diseases.

Destroy affected plants

Root-knot nematodes are soil inhabitants. They do not move more than about 10 cm per year. They can suvive in nearly all types of soil but tend to do more damage to plants in sandy soil and in furrow-irrigated areas. The structure and fertility of the soil is therefore very important for the natural balance of nematodes pests. They are spread by transplanting infested seedlings or plant material, or from soil washed down slopes or sticking to farm implements and farm workers. They may also be spread by irrigation water.

Affected plants are stunted and yellow with reduced yields of poor quality. They have a tendency to wilt in hot weather Very heavily infested plants are killed. Other symptoms are those of general starvation and debilitation of the plant, often mistakenly assumed to be caused by waterlogging, bad soil conditions or viral diseases. If infested plants are pulled from the soil, the roots are severely distorted, swollen and have lumps known as galls or root knots. The galls range in size from smaller than a pinhead to 25 mm or more in diameter.

Prevention

- Do not locate seedbeds where vegetables have been grown previously. After preparation of the seedbed, burn the topsoil using dry leaves or other waste plant material.
- Practise crop rotation
- Weed regularly
- Uproot entire plants from the field after harvest and destroy crop debris.
- Mmaintain high levels of organic matter (compost and manure, particularly chicken dung) in the soil.
- Incorporate neem cake powder into the soil if it is available. Best results can be obtained by mixing Neem cake powder with organic fertilizers like farmyard manure or compost.
- Mustards can be used as an intercrop on infested fields. As soon as mustards are flowering, they are mulched and incorporated into the soil. While incorporated, plant parts decompose in a moist soil and do kill nematodes. Two weeks after incorporating plant material into the soil, a new crop can be planted or sown.
- Mixed cropping with marigold can also minimise root-knot nematode damage. Leave marigold to grow for a season as a lush weed-like cover and plough (dig) it back into the soil before it goes to seed. This is one of the most effective plants against nematodes.
- Earthworms generally feed on soil and organic matter that has started to decompose; some even feed on nematodes. It has been found that the nematode population may decrease by as much as 60% when earthworms are added to soil.

Plant extracts control nematodes

These methods have a long-term effect. If you need to control nematodes with a short-term effect, you can use some plant extracts as shown on this page. ■

Control methods

Cassava

1. Obtain juice by crushing the roots/tubers. Dilute 1:1 with water, spray immediately, using 4 litres diluted extract per square meter.
2. Use cassava peelings as a mulch against nematodes.

African Marigold

1. Crush 100-200g leaves, roots, flowers. Pour on 1 litre boiling water, soak for 24 hours, then add 1 litre of

cold water, spray on plants or into the soil.
2. Grow marigolds in rotation with crops to control nematodes.

Papaya

Common spray: Add 1 kg of finely shredded leaves to 1 litre of water, shake vigorously. Add 4 litres of water and a little soap (20 g or ml). Spray or water into the soil for nematodes.

Neem seed extract

Remove the shells, pound seeds gently. Place in a pot, add 10 litres of water. Cover the mouth of the pot securely with the cloth and leave it as such for 3 days. Strain to get clear extract. Dilute 1 liter of this extract with 9 litres of water, add 100 ml of soap, stir well. Spray on the infested plants or into the soil around the infested plant.

Photo: Toptropicals

Letters to the editor

Your advice on silage was timely

I salute and thank the team involved in the production of your magazine. I am glad I did follow your advice on silage making and did not buy Napier grass during the dry spell last year. Thank you Tel. 0724 868053

It has good advice

I would like to commend you for the February issue of *The Organic Farmer* magazine which was given to me by a friend. You are really helping the farmers with good advice. I am a new farmer dealing with horticulture and food crops and I would like you to assist me with monthly copies of the magazine which I will pass on to other farmers. I would also like to request you to assist me with any other documents which can be of help to me in farming. Irene W. Thuku, P.O Box 288-00901, Ngewa, Ruiru

We need book on drip irrigation

Kosirai Small-Scale Farmers Group take this opportunity to sincerely thank you for including our name in your mailing list. We received your June/July issues and are looking

forward to receiving future copies. *The Organic Farmer* magazine is very informative and educative, in the August 2006 issue, drip irrigation was discussed at length, We would like to know where we can purchase RELMA's publications on drip irrigation and how much it costs. Suleiman Magut, P.O Box 3384, Eldoret

RELMA's publications can be obtained from the World Agro-forestry Centre (WAC/ICRAF) P.O. Box 30677-00100 Nairobi, Kenya Tel. 20 722 4000 email: relma@cgiar.org

Magazine is invaluable

I take this opportunity to thank you most sincerely for your magazine. We came across it recently through our divisional office and found it had good reference material for small-scale farmers like us. We have a lot of interest in farming and we are sure we will benefit a lot reading *The Organic Farmer* regularly. Our group is registered by the Department of Social Services and has 50 members based in Lugari. The aim of writing to you is to request for monthly copies of the newspaper. We hope you will consider our case. Also please remember our group whenever you organize farmers tours or training. Thank you Chairman, Mbumbere S.H.G, P.O Box 48, Lugari

Magazine suitable for farmer education

Much appreciation for doing a good job to educate and inform farmers on all aspects of the farming industry to make it a success. I am a service provider recruited by Kenya Agricultural Productivity Project (KAPP) to train farmers in Butere and Mumias divisions on mushroom husbandry. We request you to be sending us monthly copies of *TOF* magazine. I have been closely reading information on mushroom production but have the authors realized that the technique they offer is not adoptable because it is complicated, labour-intensive and expensive, rendering mushroom production a non-profitable venture? I have been in this undertaking for the last seven years and will share my experiences with others in later issues of TOF. Reuben Ogutu, Marama West Mushroom Growers, P.O Box 79, Lunza via Kakamega

Letter from Congo

My name is Mike Imani from the Democratic Republic of Congo (DRC). I am a small-scale banana farmer. I am very interested in agriculture and I believe I can get more information from you, Is there a variety of bananas that can produce within 6 months? Can you advise me how I can get it and provide me with tips on how to manage it? I grow bananas the organic way. I expect to hear from you soon

Mike Imani Tel. 243 81 056 74 82 Democratic Republic of Congo.

Thank you for your interest in acquiring a fast-maturing bananas variety. However we must advise that there are restrictions on the movement of plants

from one country to another. We will seek for guidance from the Kenya Plant Health Inspectorate Service (KEPHIS) on the procedure you need to follow to get the banana seedlings to your country

I have learnt more on tomato production

I recently attended a Farmers' Field Day at Kirinyaga Technical Institute and was lucky to obtain a copy of TOF No 26. I found the magazine very informative and helpful in my tomato farming. Could you please send me some past issues of this good magazine? James Mithamo, P.O Box 901, Kerugoya

Good for organic farmers

On behalf of all the department members, I wish to apply for copies of your monthly magazine. In our department, we have 30 active members. At the moment, we are undergoing an in-service training course on how to keep a productive dairy cow with the current limited piece of land. The series of teachings are normally done once a month after church service. One member introduced to us your monthly magazines, whereby every member became enthusiastic and wanted to receive monthly copies. We hope it will equip us with the necessary knowledge on sustainable of agriculture. Thank you in advance.

Paul Rotich, P.O Box 118, Bomet

Dear Farmers,

If you have any questions or ideas for articles, or if you would like us to publish experiences about your shamba or within your farmers' group, please contact us. We shall get back to you!

SMS ONLY

Tuma maoni yako! Asante.

tips and bits

from farmers for farmers

Biofuels compete with food crops

Since the price of fuel is rising daily, experts predict that the end of the fossil resources is not far away. Therefore people have begun to talk about biofuels. This is fuel produced from sugarcane, maize, wheat or other crops. Many governments now place great hopes in the production of energy from biomass. But at the same time, the opponents voice their concerns with increasing urgency. They point out that, above all, the energy crops will compete with food crops for limited land and water resources. Especially in Africa, where millions of people are faced with food insecurity, it is a crime to use land to produce biofuel while thousands of people are dying daily because of hunger.

Fueling vehicles instead of feeding children

Soil fertility affected

Adrian Mueller, a scientist at the Center for Corporate Responsibility and Sustainability at the University of Zurich (Switzerland) adds an aspect that usually receives less attention and that is important for organic farmers. Mueller says that large-scale production of energy crops contradicts the principle of sustainable organic agriculture in a very fundamental way. In particular, Mueller argues that organic agriculture seeks to operate within closed nutrient cycles: nutrients extracted from the soil are returned by applying compost, mulching or manuring.

By contrast, in crop production for fuels, nearly 100 percent of the biomass (sugarcane, maize, wheat, etc.) leaves the farm, making it necessary to bring in external inputs to counter the risk of soil fertility degradation, which would be disastrous for the traditional weak African soils. The global energy problem, however, cannot be overcome by shifting to biofuels. The only way out to meet this challenge is to cut energy consumption. (TOF)

Source: inforesources No.4/07. Interested farmers can order the study of Adrian Mueller at the TOF-office, write an e-mail to: info@organickenya.com

Market Place

Organic Farmers Market: The Kenya Organic Agriculture Network (KOAN) will be holding an Organic Farmers Market on Saturday December 15th in Nairobi City Park.

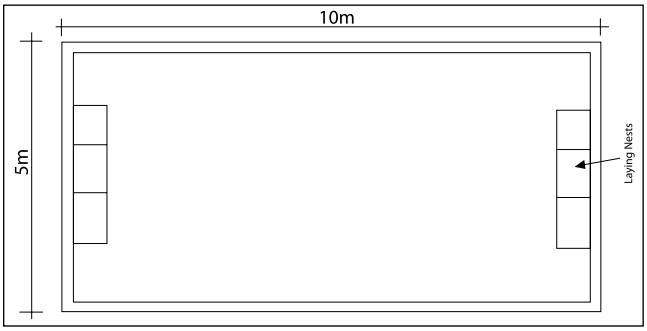
It will feature fresh produce, processed products, natural health and beauty products and green Christmas gift shopping. Entrance will be free. Entertainment will include live music, acrobats, Children's entertainment, an art gallery and a solar cinema showing environmental films. To exhibit at this exciting event, contact Samuel Ndungu at 0721-949546 or Wanjiru Kamau at 0733-573752, or send an email to koansecretariat@elci.org.

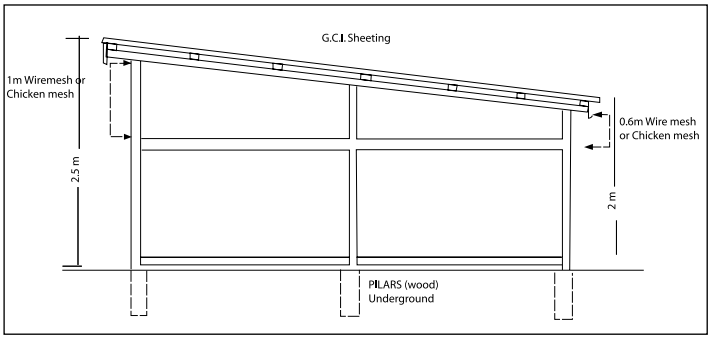
Questions? Go to Infonet!

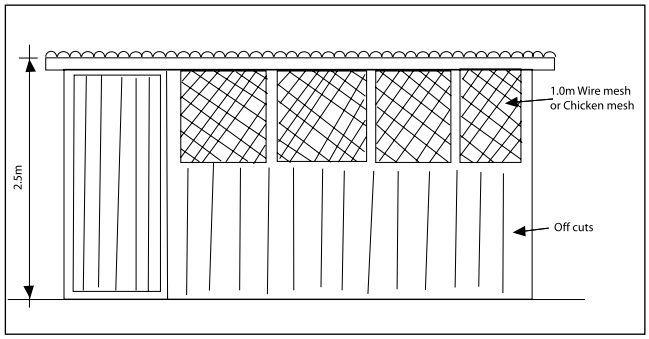
Infonet is an information platform for organic farmers. Whatever you would like to know about the ecological methods for the control of pests and parasite infestations of plants, humans and animals – Infonet will have an answer. You just go to the Internet, either at home or at a cybercafe and type in: www.infonet-biovision.org

A model poultry house

Many farmers have requested for a model poultry house. Most of the farmers rarely provide proper housing for their chickens. Chickens should be provided with spacious and comfortable housing that allows them room to move freely and exercise their normal behaviour. Congested rooms create stress which is to blame for pecking and cannibalism in flocks. A good shelter should be able to protect the birds from bad weather, predators and even thieves. The housing should have nesting room for laying eggs. *See page 5*







N.B: If the place is very cold at night it is advisable to hang gunny bags on spaces with chicken wire. In hot areas front ventiation should be made as big as possible i.e space with chicken wire can be 2 metres from the top.

Source: A Livestock Extension Manua, Revised Edition 2003.