

# The Organic Farmer

The magazine for sustainable agriculture in East Africa



Nr. 74 July, 2011



## The perils of pesticides

The European Union has imposed strict restrictions on importation of farm produce with chemical residue. The move is likely to affect local farmers who export conventionally produced vegetables and fruits to the EU. In this issue we give farmers a range of natural pesticides they can substitute for chemicals. Page 8

## Diversify and work together

TOF - Farming is a business. It requires foresight, good planning and initiative. If farmers would respect more these three characteristics, they could improve their earnings. Most farmers experience great hardships simply because of failure to plan their farming activities. Good planning involves the right choice of crops, proper timing and the ability to look for the right market before you begin to produce.

The trend where all farmers grow the same type of crops is one of the reasons why it is hard for them to improve in farming. They should think more about diversification and go for crops which can give them good returns. One of

them is the production of snow peas (see page 4). It takes a short time to grow, is a high value crop with good market prospects and can be exported to Europe. Other farmers, however, take the initiative and look for a creative way for getting an income, as a woman in Ukambani does (page 5). One of the biggest problems for small-scale farmers is lack of credit. On page 2 we have carried an article of a farmers' group in Kimilili, Western Kenya. They have managed to get credits as a group and are already engaged in various income-generating activities. Farmers should learn from this group: They can achieve a lot if they work together.



## There is no maize

The milling companies have closed down operations due to lack of maize. The Kenyan government claims to be holding about two million bags of maize in storage. But it is for emergencies. The shortage proves what we said in June: Farmers were not hoarding maize as the government claimed. We can only rely on imported maize for now. Meanwhile, farmers should now prepare for the short rains.

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## Dear farmers,

*Most farmers may have already given up on the possibility of getting any significant harvest this year due to failure of the long rains. This disaster did not come as a surprise, because our weathermen rightly predicted at the beginning of the season that rains would be erratic. Indeed, we are not sure if the problem will persist during the rest of the year. The unpredictability of the weather is coming with such a frequency that farmers should now be prepared for difficult times like this.*

*As we approach the short rains, it is important that farmers plan what they intend to grow in such a way that they reduce the risk of losing the next crop. One of the steps they can take is to grow drought resistant varieties of maize or, what we would call, early maturing crops. Despite the warning that the long rains would be depressed in most parts of the country, there was a scramble for late maturing types of maize at the beginning of the planting season. The late maturing ones require a lot of rain, which means that those who planted these varieties now have wilted crops. They will have little or no harvest.*

*The right thing to do for now is for farmers to make the best of a bad situation. Those with livestock for example can cut the maize and convert it into fodder. Green maize stalks can make good quality fodder for dairy cows. By conserving these fodder, farmers can still recover some of their lost income by feeding their animals and selling the milk. The income from the milk can be used to purchase cereals.*

*But the real solution in fighting drought, as we have mentioned before, lies in the proper management of our water resources. Farmers should be at the forefront in adopting water harvesting technologies that would reduce their dependence on rain-fed agriculture. All the excess rains that we received last year went to waste because most farmers did not have storage facilities.*

*Additionally, there are many simple technologies that reduce water loss such as mulching, minimum tillage, drip irrigation and use of greenhouses, which if properly applied, can reduce our reliance on rains. It is only those farmers who adopt new ideas and technologies that will survive in farming, in future.*

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Earning income from agroforestry: Women in Kitui show the way.

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# Our article enables group to access credit

*A farmers' group in Bungoma worked together, got loans and invested in income-generating activities.*

**Hilary Mwenda, Kimilili**

When Ibrahim Wakayula opened the January edition of TOF magazine 2010, he never knew he was opening the door to success for himself and Maeni Development Group, located in Kimilili, Bungoma county. The group was started in the year 2002 by Wakayula and other farmers in the area, and now has 22 farmers. But as much as the group wanted to empower its members, they did not know how to raise money to start project activities that could help them.

## Contact with Juhudi Kilimo

An article in the TOF issue changed the group's fortunes. The magazine had carried a story on a farmer by the name Maina Nguru. It explained how Juhudi Kilimo, a private microfinance company, had empowered Nguru and other farmers by giving them money to purchase livestock and farm items to facilitate farming. Just below the story was a contact of Juhudi Kilimo Company Ltd, which came in handy for Maeni group. "After I agreed on the issue with my 21 colleagues, we

decided to contact Juhudi Kilimo head office", says Wakayula, "they sent us to the Juhudi Kitale office."

## Group gets training

"When they visited us at our Kitale office, we had a small chat and they invited us to Kimilili to see what they were doing," says Janet Mumbu, the Juhudi Kilimo representative. "We agreed to the meeting, and after a short while, we met at Wakayulas' home. We explained to them, how we operate and then we got into business," she adds.

As a requirement of the microfinance company, the 22 Maeni Group members, who had by now joined the Kimilili Livestock Co-operative Society Limited, started saving Ksh 100 per week. At the same time they underwent training, mainly focused on record keeping, managing funds and ways of improving farming. This took two months, beginning May



Maeni farmers' group at a local milk cooling plant.

2010. Since June 2010 the group began meeting once a week as required by the microfinance company.

## Loans of Ksh 632,108

At the end of May 2011, the group had a total savings of Ksh 160,330 with the microfinance company. This savings are used to guarantee the loan, together with the personal guarantors and the assets, which were bought with the funds. Up to now, 17 group members have received loans, amounting to Ksh 632,108. They have so far repaid Ksh 204,872, the outstanding balance is Ksh 427, 236. The microfinance company charges an interest rate of 18% per year.

Group member John Chikati got a loan of Kshs 50,000. He bought a cow. "I get seven litres of milk from the cow daily. This is the money that I use to repay the loan and cater for my family's financial needs. The Organic Farmer's training modules have, together with Juhudi Kilimo training officers, really educated me on better methods of farming", Chikati says.

## Project give hope to farmers

Sarah Simiyu, the loan manager in the group, is very much happy. "In the past, farmers in this region have come up with a lot of initiatives, but unfortunately most of them failed because of fake schemes. The magazine has shown us the way to success!" Simiyu has also taken a loan with Juhudi Kilimo and bought an ayrshire cow, which is in-calf. Ibrahim Wakayula, who brought up the idea of working together with Juhudi Kilimo, used the loan to buy a cow. With the milk she produces, Wayakula can repay the loan.

## Juhudi Kilimo's credit scheme

The Juhudi Kilimo company is a social enterprise that provides technical assistance to smallholder farmers throughout Kenya. By lending loans, the company enables farmers to purchase agricultural assets that offer immediate and sustainable income. These assets act as alternative form of collateral in case of default.

There are some conditions that farmers must meet to be awarded the loan:

- They have to own a piece of land.
- They have to save Ksh 100 per week; the money is kept in the farmers's account as their savings.
- They must undergo training provided by the microfinance company.
- They need to be organized in a group of 15 or more people who have to be registered with the Department

of Social Services at their district's headquarters.

The credit scheme is well designed to meet the farmers needs. It is because of this that very few farmers default on the loans. The loan recovery rate according to the company is 98 %.

Juhudi Kilimo provides funds for various assets such as dairy cows and goats, poultry, pigs, rabbits, fish, as well as agricultural equipments that improve efficiency, for instance motor-bikes or other vehicles specifically for transporting farm products. Groups interested in acquiring loans can contact the company at the following address:

Juhudi Kilimo company Ltd, Head office K-Rep Centre, 7th floor, Wood Avenue, off Argwings Kodhek Rd, P.O Box 10528-00100 Nairobi, Kenya, Tel: +254 020 396 000

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# Healthy hooves essential for animals

*Farmers give little attention to their animals' hooves; this causes deformation and infection.*

**Aineah O. Musumba,**

The condition of the feet and legs on all hoofed animals should not be taken lightly. A cow with sore feet feels uncomfortable and may reduce her milk production, diminished breeding efficiency and decreased salvage value in the case of severe lameness. Periodic hoof trimming is necessary for cows, goats and sheep to reach their full genetic potential. If a farmer is not able to trim the hooves of their animals, they should engage the services of a veterinarian or an experienced hoof trimmer. We are often disappointed when visiting the *shambas* of experienced organic farmers: The gardens are professionally managed, but the shelters of the animals look terrible, some animals appear lame due to unattended hooves.

## Labour intensive

Hoof trimming is a very labour intensive exercise, which is why many times it is neglected. If you decide to trim the hooves yourself, you must understand what the correct shape is. The 45° angle of the hoof gives the greatest amount of shock absorption through the pastern yet provide plenty of heel depth (see figure). The overall goal of hoof trimming is for the bottom of the hoof to be flat and parallel to the hair line at the top of the hoof. A good way to get an idea of a correctly shaped heel is to look at a young calf's hoof (1-2 months old). Toes of each hoof should be of equal length, with all four feet approximately the same shape. The hind feet are likely to get longer on the toes than the front feet, and may need trimming more often.

Trim the feet of animals that show excessive hoof growth or signs of lameness. Regular hoof trimming prevents hooves from over-growing and keeps



*Poorly trimmed hooves interfere with an animal's movement and production as well.*

animals walking properly. Depending on the environment and nutrition, some animals need it more often than others; for example, hooves of animals in a rocky environment must be trimmed less. While trimming, different animals are handled in different positions. Sheep are held in a sitting position; goats are tied firmly on a wall or fence.

## How to trim

Excessive dirt should be removed from the hoof before trimming, using a hoof pick or the tips of the trimmers. Dirt within the hard wall of the hoof or pockets of dirt or infection should be cut out. If the hooves are dry, it is advisable to apply water to make them soft for cutting. Avoid cutting too deep. Generally, it is better to under trim than over trim. If you see any pink tissue, stop before you draw blood. Bleeding can be treated with a "blood stop" powder. A disinfectant or antiseptic can also be used.

## Do not injure the foot

After the sole is sufficiently trimmed and no problem area is spotted, use the nippers to shorten the toe and shape the hoof. Cut from the underside of the hoof. Take small bites so you do not injure the foot. The finished hoof should be slightly concave so most of the weight is supported by the outer horny wall. The hoof should set flat when placed on the ground. A common mistake is to trim too much from the toe, leaving a rounded bottom to the hoof. It is advisable to rasp the rough areas so there is no area for bacterial growth.

## Trimming prevents diseases

Some conformation or structure problems can be addressed with corrective trimming. For example, if an animal walks more on the outside half of the hoof than the inside half, the inside half could be trimmed shorter than the outside half to discourage rolling to the outside. Similarly, improper hoof trimming, especially infrequent trim-

ming, affects the animal's walking. Negligence in hoof trimming as well as lack of hygiene in the cow shelter are responsible for a number of infections and diseases, for instance foot rot, laminitis, hoof abscesses and painful swellings (granuloma).

## Common hoof diseases

The most common is laminitis. This is the swelling of the sensitive tissue beneath the hard walls of the hoof, causing pain, lameness, and eventually founder. Founder is a condition where the hoof wall gets thick and overgrown, often with the toes turning up. In some cases, permanent hoof damage can occur. Possible causes of laminitis include sudden or extreme changes in the diet, for example too much grain, trauma, or severe bacterial infections.

## Maintain hygiene in cowsheds

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 on animals that contract the disease.

One of the main causes of foot rot and the above-mentioned infections is lack of hygiene in the cow shelter. Zero-grazing units are especially neglected: The animals are made to stay in sheds containing a thick layer of manure mixed with urine. Such dirty shelters are not only a breeding ground for infections but also harbour many disease-causing organisms.

Wet floors soften the soles of the feet, making them susceptible to sole abscesses and other injuries. Sole abscesses are usually a result of a puncture wounds from a nail or a sharp object. They are also caused by cows walking on overgrown hooves. This causes bruising and results in an abscess.

From this point of view, regular hoof trimming is an opportunity to control the condition of the hooves of cattle, sheep or goats. Hooves hot to the touch for instance indicate an infection.

## Tips on hoof trimming

1. Keep cattle areas dry. Wet floors tend to keep the sole soft, so they are subject to more mechanical injuries and foot rot.
2. If you discover foot rot, use a copper sulphate footbath to help control foot rot.
3. Allow the cows and goats plenty of room to exercise so they wear feet down.
4. Do not turn freshly trimmed cows out on rough ground.
5. Use a well-balanced ration with an adequate amount of fibre; too much grain causes laminitis, a painful swelling beneath the hard walls of the hoof.
6. Seek out professional help if needed.

# Earn extra income from growing peas

*Peas are high value crops that take a short time to grow and can be sold easily and at a good price.*

**Peter Kamau**

Farmers in most parts of the country grow maize and beans. Another high value crop that can make good income for them is peas; they are in high demand because of limited supply. Farmers can sell the peas locally or to companies that export them in the international market.

Peas are very nutritious. Some like the snow peas are eaten whole (together with their pods) They provide vitamin A, C, iron and potassium- they are very popular especially in urban areas.

## Climatic requirements

There are several varieties of peas that do well in various parts of the country. Among them are snow peas, sugar snaps or garden peas. All peas do well in cool weather, provided there is adequate soil moisture. The best temperature is between 19 ° C and 23° C. They tend to do better in areas with high and well-distributed rainfall (400 to 500 mm per cropping season).

**Land Preparation:** The land should be well prepared through ploughing and harrowing for farmers using tractors. Ensure there are no grasses or weeds. Furrowing and ridging is recommended before planting.

**Spacing:** Peas should be spaced at the length of 7 cm between one seed to the next. They should be planted in rows that are between 60 cm to 70 cm wide.

**Inoculation:** Before planting any legume crop, inoculation is very important. This is the process of mixing peas and other leguminous crops with a nitrogen-fixing bacteria called rhizobium; this enables the plant to take in more nitrogen from the atmosphere when it is growing. It is possible for farmers to get rhizobium from seed companies or agricultural institutions near them. Alternatively they can take soil from a field previously under beans and mix it with the seeds to inoculate them.

**Fertilizer application:** Although peas can do well in most soil types, the soil should be well drained and contain high amounts of organic matter. The crop cannot tolerate high acidity. Peas like fertile soils. Farmers can use well-prepared compost at planting time. If this is not available, they can apply organic fertilizers offered in agrovet shops.

**Planting:** Peas should be planted at the onset of the long or short rains. Farmers using irrigation systems such as drip irrigation can get very good yields and even prices – especially at times when production of peas is low



*Snow peas or sugar snaps (above) have to be supported to grow well and are eaten whole. They are harvested before the beans form. However garden peas (below) can only be eaten or sold only after the beans have formed.*



due inadequate rains. Peas should be planted at the rate of 16 to 20 kg per acre. Farmers can obtain seeds from agrovet shops near them.

**Staking:** Snow peas and sugar snaps require support to prop them up when growing. The farmer should therefore use sticks and twine rope running along the planting lines to support them while growing. Snow peas or sugar snaps take up to six lines to support them to maturity. Garden peas do not require staking.

**Weeding:** Regular weeding is recom-

mended to reduce competition for moisture and nutrients. Weeds also harbour pests that transmit diseases and damage the growing peas; damage caused by pests or diseases reduce the quality of peas, affecting pricing and marketing).

**Pests and diseases:** Farmers who use plant extracts to control pests and diseases can cut down their production costs considerably. The peas produced without use of chemicals is of better quality and will be in great demand in the market.

**Harvesting:** Snow peas should be harvested just before the pods start setting the beans. Farmers should remain alert to ensure that the harvesting date is observed to ensure the crop reaches the market at the right time and quality. Snow peas can be harvested from the 10th week onwards after planting. Other varieties take between 3 and 4 months to get ready. For garden peas, harvesting is done when green or when beans are dry depending on how the farmer wants to market them.

**Marketing:** Most of the snow peas and sugar snaps grown in the country is exported. Farmers growing these two varieties of peas are usually contracted by export companies. To qualify, farmers have to belong to a registered farmers' group. The companies provide farmers with some of the inputs such as seeds and technical training and later buy the produce from them.

Alternatively, farmers can grow the peas and sell in the local supermarkets and to middlemen but the price offered is lower than what the exporting companies pay. Before going into production, farmers should first identify a market where they intend to sell the peas. A Kilogramme of snow peas and sugar snaps is currently going for Ksh 120. Green garden peas are selling at Ksh 70 for a kilogramme. One acre of land can produce between 3.5 and 5 tons of snow peas, sugar snaps or garden peas depending on management.

## Benefits of diversification

Apart from growing crops for food, farmers should always focus on growing crops that can fetch good prices in the market in order to boost their income. Another good farming practice is to grow as many varieties of crops as possible. Farmers who diversify their crops face less risk of incurring losses. When the market price of one crop falls, the prices for the others may remain stable or even go up. Crop diversification also reduces disease incidence and even pests.

# Tree planting transforms a women's group

*Kyanika group has turned the region into a greenbelt through their tree planting campaign.*

*The Organic Farmer*

Jemima Kimonyi and members of Kyanika Adult Literacy Group had started several income generating activities for their group, but none of the members had any idea that planting trees could be beneficial to them both as a source of income and in restoring the environment.

This perception of trees changed in 1991. An agroforestry official from the World Agroforestry Centre (formerly ICRAF) attended one of the group's learning sessions and talked to them about the benefit of trees. "He reminded us on the advantages of planting trees and their various uses", Jemima says. "He warned us that unless we embraced tree planting, all the trees in our region would soon disappear and the area would become a desert. We took the message seriously and asked him to show us how to plant trees."

After noticing the group's interest, the forestry expert arranged to visit them every two weeks to train them on various aspects of tree planting. He showed them how to set up tree nurseries, planting seedlings and general management of trees.

## Trees main source of income

Since then, the group has established tree nurseries which has become a source of trees in Kitui town and the sur-



*Jemima Kimonyi (right) and a fellow member of Kyanika Adult Literacy Women Group tend to young trees in one of the groups projects in Kitui. (Photo TOF)*

rounding areas. Each of the members' also owns a small tree nursery in their homesteads, which provides additional income. Excess seedlings are given to schools and other institutions in the area.



As income from tree sales increased, the group opened a bank account three years ago where all the savings are deposited. At the

end of the year, the group pays a dividend to each of its 26 members. The earnings have enabled them to buy two plots; on one of them they are building a resource centre. From the centre,

they will train other women and also sell various products from their other income-generating activities.

"Just like a farmer plants crops in their shambas, trees are a source of income. They have transformed our group completely and taken us where we never thought we could ever reach," says Kimonyi.

They have also learnt about sustainable use of trees. Each of the women's household now uses energy saving Jikos to reduce the wastage of firewood. The earthen cooking hearths use only two pieces of firewood at a time losing little energy when cooking.

To supplement their tree seedling business, the group also engages in other income generating activities such as decorating gourds, which they sell to tourists and visitors to their resource centre.

## Earning a living from indigenous tree seeds

*Sera Kavaya's efforts have enabled her village to save fast disappearing tree species in semi-arid Kitui region.*

To any person visiting Chyulu village in the outskirts of Kitui town, Sera Kavaya would pass for an ordinary village woman. But she has chosen a unique occupation that makes her occupy a special place among the residents of the village: She is the only one who sells indigenous tree seeds in the region.

Every morning, when the other women prepare to go to their farms, Kavaya picks up a long pole and heads to Nzambani forest. Here she spends the whole day looking for seeds. From the ground she collects the fallen seeds and often uses her long pole to pull seeds from the treetops. Back to the

*Sera Kavaya collects indigenous tree seeds in Nzambani forest*



village, she sorts out the seeds, drying them in the sun before splitting their pods and packing them in polythene bags, ready for her customers.

To meet her customer's demands, Kavaya often has to travel long distances to other forests in the region. "If a customer wants seeds from a particular tree, I have to look for it, sometimes it may take two or three days but I make sure I meet the needs of all my customers," Sera says.

## Well known in the region

Collecting seeds has made her famous in the region. Her customers come from parts of the district to buy seeds and seedlings from indigenous trees, since tree nurseries mostly sell seeds from exotic trees. Sera Kavaya says: "Indigenous trees do not die easily – even in periods of extreme drought; that is why most of the people in this region prefer indigenous trees." Her





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## Farmer excels in organic farming

Neighbours frequently visit Dennis Wambuthi, a farmer in Githima in Kirinyaga County. Wambuthi's banana plantation is well mulched with sugar baggase which he collects from the local market, and old banana stems to preserve soil moisture and to build soil fertility. This mulching material enriches the soil and releases nutrients.



This successful enterprise is the result of the training Wambuthi attended at the i-TOF training centre Gathuto. There he learnt how to keep the soil moist and healthy through adding a lot of compost and through mulching.

The farmers visiting him have a lot of questions, and are eager to find out the secrets behind his fertile soil and bumper harvests, which provide him with quite a good income. (Photo Peter Murage)

## Answers in brief

### Use tins, and not plastics containers

Why do you discourage the use of plastic containers in preparation of our pesticides in favour of tins?

**tsz** - We encourage you to use a tin. Plastic containers are just easily available and can be washed easily. Their disadvantage is that they break after a short time of use, and they do not degrade naturally; they are a burden to the environment.

### All about Napier grass

- What happens if you feed your cow with overgrown Napier grass?
- At what stage should we cut our Napier grass?

Napier grass deteriorates in nutritional value as it grows. Overgrown Napier grass therefore has less in terms of nutrients. Napier grass fodder should be fed to dairy cows when it is 1 metre high (at 6-8 weeks). If you allow your Napier grass to grow beyond this period (until it develops stems), then the nutritional value will have gone down completely, animals cannot even be able to chew it and therefore it is worthless as fodder.

### Changing Napier

How long should Napier grass be planted in a field before it is rotated?

With good management, Napier grass can remain in the same field for a long period of time (sometimes



up to 7 years or more). The only problem is that most farmers fail to apply compost fertilizer frequently, which may lead to depletion of nutrients in the soil; this can cause poor growth. Allowing animals into the Napier grass to graze, as is the practice during the dry season, tends to spoil it, reducing chances of regeneration, which may necessitate rotation with other crops.

### How to apply fertilizer

How should I apply slurry to my Napier grass after cutting?

Apply 60 kg of slurry in furrows (trenches between Napier rows) at planting time. Apply more slurry as frequently as you can to ensure the Napier has adequate nutrients at all times. Cover the slurry with mulching material to prevent loss of nutrients if the Napier grass is still too young to offer cover.

## >>> from page 2: Farmers' group get a loan

Apart from the money the group has saved with the microfinance company, there is an emergency account which has a total of Kshs 20,570. "This money is used to help those who do not meet the deadline, but one has to repay it with an interest", says Wakayula. "The emergency cash ensures the members

do not default." In addition, the group has a kitty where the members contribute on a monthly basis. This money is used to buy cereals like maize, which the members then sell to other farmers. The members share the profit from this small scale business depending on their contribution to the kitty.

## >>> from page 5: Earning a living from indigenous tree seeds

efforts have enabled the region save some of the most prized indigenous trees that are fast disappearing due to exploitation by the people.

Sera got by chance into this business. "Four years ago, I went to Nzambani forest and picked a few seeds from the Maongoa tree (Saba comorensis, mpira in Kiswahili). When I planted them, people started enquiring where I got the seeds from. I told them I could supply them with the seeds. I went back to the forest and collected more



The seeds of *Carissa edulis* (mutandambo in Kiswahili) have medicinal properties.

seeds of this particular tree. I sold them to the customers who also introduced others. I collected more seeds and made some good money from the business", Sera adds. "I have not looked back since then. It has become my main source of income."

### She survived a drought

In 2009, Kitui district was hard hit by drought. But Kavaya, a mother of 8 children was lucky. She intensified her tree seed business and sold more seeds, which saw her through the devastating drought. "I sold trees seeds worth Ksh15,000 which I used to buy maize and other cereals which helped my family avoid starvation," she says proudly.

The tree seed business has also enabled her to start a clothes business and send her daughter to college in Mombasa.

## Hot water treatment of seeds

Can hot water treatment of seeds be done on seeds already packed and certified by companies or it can only be done on locally found seeds?

Certified seeds are usually already treated with chemicals against diseases. This is one of the reasons for their high price.

### Heating or boiling?

You are not clear about hot water treatment of seeds on module No. 3 on pest and disease management. Should somebody boil seeds together with water at once or boil water first and later immerse the seeds for that specified period of time given? Please clarify.

We apologize if we were not clear. Hot water treatment is done like this:

1. Water is heated slowly until it has reached the specified temperature.
2. Then the seeds are immersed for the specified period of time.
3. The specified water temperature must be kept constant during the time the seeds are immersed.

Please note that the water is never boiled! Water boils at 100°Celsius. Temperatures for seed treatment range

between 47 and 55° Celsius, this is clearly above body temperature but still very far away from the boiling point. Temperatures above this can kill the seeds or reduce the viability of the seeds.

### Thermometer

Hot water treatment becomes complex to farmers with no thermometer and yet it seems to be the cheapest of all methods. How will I know about the degrees of heated water without a thermometer?

Unfortunately, there is no exact method that can work better than a thermometer. Usually, a temperature of around 50° C is required. At this temperature, you will feel water is hotter than normal if you submerge your hand in it, but you it will not burn you. But some people would say the same at 58 degrees, which is already too hot for most seeds.

Check at the chemists' for a thermometer to measure the temperature of liquids, it may be worth the investment. If you take good care of it, you may use it for many years. *tsz*



### Neem and parasites

Can neem water be given to animals to get rid of internal parasites?

*tsz* - In India, neem is traditionally and widely used for treatment of many diseases including malaria. Neem tea can help against intestinal worms in humans, and there is no reason why it should not help livestock. Unfortunately, almost no data or recipes are available. We also doubt that neem tea is effective against liver flukes or tapeworms. Heavily infested animals need an appropriate dose preferably prescribed by a veterinarian, a good and effective dewormer, and very probably also some changes in livestock management!

### Start with a small flock

How many birds am I recommended to start with when I want to start chicken keeping?

*tsz* - You may start with any number. Make a budget first – calculate all the costs that are involved before you start a new business. How many birds will you be able to keep and to sell? Do you have the space, the cash, and the market? Or will you have to sell to middlemen? Start with a small number and see how it goes. Increase your flock gradually if you see it working. Do not forget that overcrowding often results in health problems, thus higher production costs.

## The right proportions for making plant extracts

• Is it advisable to mix up different medicinal plants to come up with a strong plant extract that can be used as a pesticide? Will the mixing ratio remain the same, or must the concentrated solution be more diluted than the less concentrated one?

• Can I be able to mix all the available leaves meant for making fermented plant extracts pesticides to come up with a concentrated pesticide?

*tsz* - If several plants with pesticidal effect are available, it is possible to mix them. To prepare a solution that is not too strong and not too weak is always

difficult with home-made plant preparations, because the concentration of pesticidal compounds in plants is never known exactly and varies greatly depending on the climate, season, and type and age of the plant material. It is good to document the preparation of your plant extracts, to try different concentrations and to observe the effect they have on the pests. If you use different plants at the same time, it may be necessary to make the solution more concentrated, otherwise none of the compounds may be strong enough to be effective.

## Young chicks need warmth and clean housing

How can I keep my poultry house warm especially my chick raising area?

*tsz* - You are right, it is essential for young chicks to have a space that is warm and draught free. The best temperatures are 32° C during the first week, 28° C in the second week, and 24° C in the third week. After this, the chicks are at ease with temperatures around 20° C. As a heat source, you may use Kerosene lamps (one for 50 chicks), electrical infrared lamps (one for up to 250 chicks), or charcoal jikos (one for up to 500 chicks). When using kerosene or charcoal, take all precautions to prevent brooder fires!

Check regularly whether the chicks are at ease. If it is too hot, they will be panting and move away from the heat source. If they start to huddle and crowd around the heat source, it is too

cold. What you should do in addition

- Maintain a warm environment, put up walls around the area, about 60 cm high (from hardboard, wood etc.).

- Provide a thick layer of litter from dried grass or leaves, wood shavings, straw etc. for bedding. As the litter becomes soiled and moist, cover it with a good layer of new material. Young chicks are very delicate and susceptible

to diseases! Clean and dry bedding that keeps the chicken warm is also the best prevention against coccidiosis and other diseases.

- Make sure to offer sufficient clean and fresh feed (chick mash / starter mash) around the clock. Hungry chicks are more likely to cool out. Do not forget that clean water must be available to the chicks all the time.





# Biopesticides safe for EU imports

*Farmers who avoid the use of chemicals will have preferential access to the EU market.*

**Peter Kamau**

New regulations on pesticide residue levels in fresh produce exported to the European Union are set to make it harder for local exporters of fresh produce to sell it in the European union market.

The EU announced regulations last year on Minimum Residue Levels (MRLs) allowed on all produce sold in the market. Early last month, the EU began implementation of the regulations that sharply reduce residue limits on fresh produce.

## Lowest limit on chemical use

Going by the new regulations, farmers have to ensure that produce has no traces of pesticides that could be harmful to humans, especially common pesticides such as dimethoate. Although scientists argue that dimethoate is relatively safe, the European Union Parliament passed a vote that regulates the pesticide use reduces the residue limits from 5mg/kg to 0.02mg/kg.

Kenyan farmers targeting the EU market have been warned that their produce could be blocked from the market if they failed to comply with the regulations.

"This is now the lowest limit of detection, meaning that if a farmer uses this pesticide, chances of rejection are high, even when pre-harvest intervals of seven days are observed," says Dr. Mbithi, the Chief Executive at the Fresh Produce Exporters Association of Kenya (FPEAK) in an article in The East African last month. Small-scale farmers account for 60 per cent of total fruit and vegetable export produce that earned the country \$ 238 million in foreign exchange last year.

Other chemicals banned earlier include methomyl bromide and

oxamyl. FPEAK has directed growers to stop using the banned chemicals if they expect to access the European market.

## Use organic pesticides

The ban on the use of chemical pesticides is not surprising. Besides being a danger to human health, many of the chemicals used in pest and disease control in the farms have detrimental effects on the environment.

The chemicals not only destroy beneficial insects that control the pests naturally. Residue from chemicals used in agriculture remains in the soil harming important soil organisms. Much of the chemical residue is washed away by run-off water into rivers and lakes, affecting the water people are fetching, and harming fish and other aquatic life.

If farmers want to reduce reliance on chemicals, there are many other simple and natural methods they can use to protect their crops. The best methods to ensure the plants are strong enough to withstand pests, is to have healthy plants. Plants can only remain healthy if the soil on which they are planted is fertile. This is why organic farming puts emphasis on building soil fertility.

## Other natural methods

It is possible to reduce harmful pests by planting hedges around the crop fields to attract predators. The hedges also act as barriers that help keep off pests. Tithonia for instance is very good when planted on hedges as it can be used to prepare fertilizer.

There are many plant extracts that can be used to control common pests on the farm (read our plant extracts special TOF Nr. 17 September 2006). Plant extracts however do not work as fast as chemicals; farmers have to apply them as many as three times a week depending on pest pressure. Alternatively, farmers can buy environmentally friendly pesticides from agrovet shops near them. They are listed in the table below together with the contacts of the producers.

Product	Target pests	Company	Contact
Nimbecidine	Thrips, spidermites, nematodes, aphids, etc	Osho chemicals	020 531 428, 020 532 939 oshochem@oshochem.com
Pyegar	Aphids, mites, bollworms	Juanco	Juanco SPS 020 2088 793
Rootguard	Caterpillars, Diamondback moth		
Thuricide HP Delfin	Diamondback moth, Caterpillars, cabbage loopers	Farmchem	0722-520 837, 0733 520 837 farmchem@farmchemafrica.com
Tracer 480 SC	Spinosad, thrips, caterpillars, leaf miners.	Lachlan	020 207 391, 0722 209 474
Success Bait	Fruit fly in mangoes, melons and citrus fruits	Lachlan	lachlan@griculture.co.ke
Biocure	Bollworm, thrips, Diamondback-moth aphids White flies	"	"
Neemroc+	Nematode control	"	"

## High demand for the TOF modules

The 21 modules on various topics in organic agriculture contain all the basic information that farmers need to know. Interested farmers can send us Ksh 50/= in airtime for each module to the following mobile number 0717 444 405, or pay Ksh 700 via M-pesa for all modules, combined in a spring file. Please do not forget your full names and postal address.

## Selling & buying

**Nandi flame wanted:** This is Peter Benner from Mond Trading Company in Canada. We are looking for farmers who can harvest or gather 3 kg of the Nandi flame leaves or flowers? I need this in dried form.

Please contact Peter Benner, Mond Trading Co. 556 Queen Street West, Toronto, ON.M5V 2B5 Canada monteagle@webhart.net

**Indigenous chickens:** We have 200 kienyeji day-old chicks hatching in a week's time. Interested parties can call or text me through 0725 016 684, Kevin.

**Livestock for sale:** We have 5 goats. One of them gives 3-4 litres of milk. The others produce an average of 2 litres a day. I also have 100 Kenbro cocks weighing 5-6 kgs, selling price is Ksh1000 each, 6 dairy cows, 30 kuku kienyeji, 40 rabbits and 6 bee hives. I also plant baby corn maize for export I am based in Kerugoya email:sokohr@gmail.com mobile 0722 460 066.... facebook "soko huru."

**Seedlings for sale:** We are based in Kagumo town Kirinyaga District. We have the following varieties of seedlings: Avocados, paw-paws, oranges, mangoes, passion fruits, coffee, lemons, flowers, nearly all types/varieties of fruits. We will also show you how to plant and 'train' them on to trees. We also do landscaping. Contact Francis Greenland Nurseries-Kagumo on Mobile 0724 995 591.

**Irrigation technology:** Do you need more information on the irrigation process and the equipment involved? KULKER S.A.S will be in the Nairobi International trade fair (agricultural show) at the end of September 2011. So do not hesitate to visit us. We are experts in providing water solutions for Africa

**Greenhouse:** We have Kadogo greenhouses for sale (8x8 5x5 and 5x10 size range) from Ksh 40k to Ksh 80 call for more details.

Contact Oliver Ndegwa Agrotunnel 0722 520 083/0733 520 083

**Hay wanted:** I need good quality hay. If you have it or know anyone selling it please call 0738 487 402