

The Organic Farmer

The magazine for sustainable agriculture in Kenya



Nr. 59 April 2010

TOF celebrates, hongera wakulima!

By the Editors

Five years ago, we started our magazine *The Organic Farmer*. We are still very much active and eager to continue with TOF in order to serve our fellow small-scale farmers with information on sustainable agriculture.

However, we cannot fulfill our earlier promises, to publish in the names of the winners of the competition marking 5 years of TOF. Not that we are lazy, to the contrary! We are just overwhelmed by the big response: More than 150 farmers took part in the competition! So we raised the number of the first prizes from 5 to 15, as an appreciation of the interest farmers have shown towards the competition.

But we are serious people too. All entries went through a strict vetting process by our hawk-eyed judges. And we found some pretenders, for instance a lady "farmer", who wrote us a touching article of how she used information from TOF to put up a biogas unit. Visiting her farm, we discovered the article was actually written



by a man using the name of his Standard 8 daughter, and of course, there was no biogas-unit!

So, farmers, be patient and give us more time! In our May issue, we will include the names of the winners. To celebrate the 5 years, we can only say Hongera TOF! Page 4 & 5

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Dear farmers,

When we launched *The Organic Farmer* in 2005, we had only one target: To reach farmers who lack information on sustainable agriculture in order to broaden their knowledge and to improve their income and livelihood.

Five year down the line, we can confidently declare that we have fulfilled this mandate. Every week we receive an average of 50 questions which we answer directly by phone calls, SMS or through the magazine. Farmers work hand in hand with us because they have used our information and seen that it works. They therefore trust us. We are also available to them when they need us; they call us early in the morning or late in the evening and over the weekends.

To cater for a growing readership, we have raised the number of copies from 10,000 in 2005 to 20,000 by the end of last year – and these are still inadequate. Farmers not only impatiently await the issues of TOF; agricultural extension staff, schools and NGOs rely on the magazine as a highly valued resource material for training. Our two additional programmes, TOFRadio (on Thursdays, 8.15 pm on KBC Kiswahili Service) and the i-TOF information and input centres, have the same target as TOF: To offer and spread knowledge on organic farming and sustainable agriculture. We are grateful to Biovision, the donor, and icipe, the publisher, for their continued support.

One question remains: Is this knowledge really applicable for farmers, and do they actually adopt and practise what we teach them? We can clearly tell from farmers' enquiries, from questions and from the entries we received for our farmers' competition that quite a good number of farmers are using technologies that we promote.

As you can see, we have done some little changes in the design. But the content remains the same, TOF remains TOF: A source of information that helps you to ensure successful organic farming at all times.

Damaging fruit flies

This insect is the fruit fly *Bactrocera invadens*. It not only attacks mangoes, but also other cultivated fruits such as oranges, tomato, banana, guava, custard apple and avocado. Page 2

Photo courtesy Georg Goergen



Discover the benefits of neem trees

TOF – In the first issue of *The Organic Farmer* we wrote an article on the neem tree. In subsequent years, many times we have mentioned neem products as useful for organic farming. Neem has a lot of different effects on a wide range of plant-feeding pests.

In the last few weeks we got a good number of questions from farmers on this wonderful tree, we tell you how to make your own extracts from neem and how to use them. Page 3



Neem tree with ripe fruits

What can farmers do against fruit flies?

Fruit flies cause huge losses in mango production. There are various methods of controlling these pests.

Sunday Ekesi *

Mango production is continually gaining recognition for its potential as a major source of income especially for small-scale farmers. The total area under mango production in Kenya alone is estimated at 16,000 ha. Mango exports from Africa are estimated at 35-40 thousand tons annually and worth around Ksh 3 billion (US \$ 42 million). The EU remains the largest destination market for exports from Africa. The biggest threat to mango production is the fruit fly; the female flies lay their eggs under the skin of mango fruit. The eggs hatch

* Dr. Sunday Ekesi is senior scientist at icipe - African Insect Science for Food & Health; Head, Plant Health Division & Leader, African Fruit Fly Programme.

into whitish maggots that feed on the decaying flesh of the fruit. Infested fruit rot quickly causing considerable losses.

Traditionally, yield loss on mangoes in Kenya, Tanzania and Uganda due to the fruit fly can range between 30-70% depending on the locality, season, and variety. This problem has been aggravated by the invasion of the fruit fly *Bactrocera invadens* with damage increasing to 40-80% especially in lowland areas where it is now the dominant fruit fly pest. Quarantine restrictions on fruit fly-infested fruits is severely limiting export of fruits to large lucrative markets in South Africa, Europe, the Middle East, Japan and USA, where fruit flies are considered as quarantine pests.

Various types of fruit fly

Different species of fruit flies are responsible for mango damage across Africa but the 4 most important ones are:



Bactrocera invadens

***Bactrocera invadens*:** Currently the most important. In addition to mango (which is the primary host), the insect also attacks other cultivated fruits such as oranges, tomato, banana, guava, custard apple and avocado.

***Ceratitis cosyra*:** Also cause significant damage on guava, custard apple and marula. The insect has been gradually

Continued on page 6

Insects as biological control agents

The wasp *Fopius arisanus*

One of the methods of controlling fruit flies is the use of beneficial insects or parasites also called parasitoids. One of an efficient biological control agent is the wasp *Fopius arisanus* which is very effective at controlling the fruit fly *Bactrocera invadens*. It attacks the eggs of the fruit fly and develops through the larval stages of the fruit



The wasp Fopius arisanus

fly thus killing it. It is therefore highly efficient against the control of the fruit fly and can be used together with other control measures to reduce damage to mangoes.

icipe together with KEPHIS, KARI and the Ministry of Agriculture have started releasing the parasitoid across

Kenya. The parasitoid is self-perpetuating, works for free and does not require additional input from the grower. However, for the parasitoid to work effectively, the growers must minimize cover spray of pesticides in their orchard or the parasitoids will be killed.

Weaver ants

The weaver ant *Oecophylla longinoda* can be used to protect mango and citrus fruits from damage by fruit flies. The weaver ant has been known to disrupt the fruit fly from laying eggs on the fruits, thereby reducing fruit fly damage. To be effective, the ants have to be effectively conserved in the mango orchard by reducing the use of chemical pesticides that can kill the predator or use of less harmful pesticides. Host trees must have food for ants such as homopterans honeydew or plant nectar that the ants feed on.

To retain the weaver ant during the dry season, farmers can provide dried fish, which the ants can feed on, to meet their energy and nutritional requirements. Farmers can tie ropes

between mango trees in an orchard to facilitate the movement of the ants from one tree to the next. Existing weaver ant colonies can also be harvested and introduced to other trees in the orchard where they are not present. The weaver ants technology are being promoted in many countries of West Africa, in Tanzania and in Asian countries. (Sunday Ekesi)



Weaver ants on a mango tree (photos courtesy Georg Goergen)

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.

The Organic Farmer is sponsored by BioVision, a Swiss-based foundation for the promotion of sustainable development.

www.biovision.ch

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Neem protects your crops against pests

Products from the neem tree are important insecticides in organic farming worldwide.

Theresa Székely

The drought-resistant neem tree (*Azadirachta indica*) grows in semi-arid to sub-humid areas of the tropics including Kenya. It can reach a height of up to 40 m and an age of 200 years. Over 100 compounds with pesticidal properties have been detected in the neem tree. The best known, azadirachtin, is found in all parts of the tree, but it is most concentrated in the fruit, especially in the seeds. A neem tree may yield up to 50 kg of fruit per year.

How do neem products work?

Neem has a wide range of different effects on a wide range of plant-feeding pests. As a broad-spectrum repellent, it makes plants unpalatable to insects. As an insect poison, it makes insects lose their appetite and stop feeding. As an insect growth regulator, it hampers the insects' ability to moult and lay eggs, or causes deformities in the insects' offspring.

Neem extracts can even be taken up by plants through their roots and leaves into the plant tissues. Neem can therefore help control pests like leaf miners feeding inside leaves, which are usually not affected by sprays applied on the leaf surfaces.

In spite of their broad-spectrum action, neem products generally do not harm natural enemies seriously.

Important: Insect pests are not killed immediately, and the effects are often visible only 10 days after application. For satisfactory results, neem extracts

should therefore be applied at an early stage of pest attack.

Ground neem seeds or kernels

- Ground neem seeds or kernel powder (before or after oil extraction) are effective against nematodes.

- Neem dust applied to the soil where plants are growing can protect crops like grains, sugar cane, tomatoes, cotton, or chrysanthemums from insect damage for several weeks, even during heavy rains.

- Neem powder can protect stored roots and tubers against the potato moth for several months.

- Neem powder can protect stored roots and tubers against the potato moth for several months.

Plant extracts

Plant extracts from seeds and leaves are excellent against beetle larvae and caterpillars, and good against stalk borers and adult beetles.

Products with oil content

Oil-based neem products can be toxic to plants and cause burnings. They should therefore be applied with restriction.

- They are effective against aphids, whiteflies, bugs, beetles, leafhoppers, grasshoppers and others.

- Neem oil protects stored beans, cowpeas, and other legumes effectively.

- Neem oil based emulsions or extracts can also have a preventive effect against plant diseases such as mildews and rusts.

Neem pesticides in Kenya

- *Neemros® and Neemroc®*: Saroneem Biopesticides Limited. Babadogo road, opposite Catholic Church. P. O. Box 64373-00620 Nairobi. 0728 592 478 Email: saroneem@yahoo.com

- Achook: Made in India, available in Agrovet shops.



A fully grown neem tree can produce upto 50 kg of seeds in a year.

Prepare neem water extracts

1. Collect fallen neem fruits from underneath the trees.
2. Remove the flesh from the seeds and wash away any remaining shreds.
3. Dry the seeds and store them in a dark and airy place to avoid mould formation.
4. For the preparation of extract, shell the seeds.
5. Grind 500 g of neem seed kernels in a mill or pound them in a mortar or grate them finely. Mix the crushed neem seed with 5 to 10 litres of water. Soak them overnight.
6. Strain the liquid before use.

Application of neem water extracts

- Spray the neem water directly onto the plants using a sprayer or straw brush.

- Neem works fastest during hot weather. Heavy rains may wash off the protective cover of neem on plants. Repeat the treatment if pest infestation is high.

- Neem water will remain effective for 3 to 6 days if it is kept in the dark. All neem preparations lose their power rapidly when exposed to sunlight.

Take precautions!

Leaf or seed extracts can easily be prepared by small-scale farmers. Although they are almost non-toxic to mammals, seeds or seed extracts are poisonous when consumed. Therefore, take the following precautions:

- Place neem extract out of reach of children and pets while preparing, using and storing it.
- Avoid direct contact with the extract at any time.
- Do not use utensils and containers for food preparation and for drinking for the preparation of neem extract.
- Clean all the utensils well before and after use.
- Always wash your hands after handling the plant extract.
- Always test the plant extract on a few infested plants first before going into large scale spraying.
- Use protective clothing when applying the solution.



Most farmers take the tree *Melia Azedarach* (left) which grows in most highland areas in Kenya for the neem tree (right). The two trees are different—so be careful when buying seedlings.

A lively exchange with farmers

Use of simple language in explaining technologies has made TOF popular.

The Editors

We always smile when farmers write to the "TOF management". We are actually a tiny office with three people, two editors, and an office assistant who does all the paper work and the distribution. In close cooperation with the producer of TOF*Radio* we plan the issues of TOF, with assistance from a few contributors who write for us some of the articles, for instance Su Kahumbu, William Ayako, Anja Bengelstorff or Theresa Székely. We also rely on the creative work of our Graphic designer James



Wathuge and the printing company Regal press, which prints the high quality magazine.

Copies not enough

Gradually, we have increased the number of copies to 20'000, reaching around 170'000 readers per month. To ensure copies are fairly distributed, only registered farmers' groups now qualify for free copies of the magazine; we reach about 1900 farmers' groups whose members share the magazine.

We know, of course, that all farmers would like to keep their own copy, but this is not possible for financial reasons, (as you can see in the box below). Still we are unable to meet the demand – many farmers' groups are on the waiting list. By the way, this focus on farmers' groups has nice social side-benefits: We know that hundreds of groups are meeting once per month to discuss the articles in TOF and to share their experiences; and we know as well

A good investment

A lot of financial resources have been invested in this project: TOF costs around Kshs. 12,5 million per year. In this regard we would like to thank Biovision Foundation who have continued to support us for the last five years. Their money has been put to good use as demonstrated by the success of the project.

More and more farmers would like to get their own copy and are willing to pay for it. The annual subscription fee is Ksh 980. At the same time we would like to request our fellow farmers to report to us any change of address. It is very discouraging when we send out the magazine and the Post office staff send it back with the remark: Return to sender; Box not paid and closed.

that nearly 200 farmers' groups have been founded with the aim getting a magazine; these farmers are now working together in starting and sustaining organic farming.

Farmers show great interest

Are we successful in the sense that farmers do adopt our ideas? It is difficult to measure this. When we started the magazine in April 2005, one of the questions at the back of our minds was if it would bring any change to the way agriculture is practised in the Kenya and in East Africa. Looking back we can say, with certainty that TOF has achieved its main objective of educating farmers on ecologically sound methods of crop and animal production, which has improved farm productivity and income for the majority of the farmers.

Production of a magazine of this nature is a very demanding task. First, we have to research for relevant material, which we have to explain in simple language that farmers can understand and apply. Second, we also strive to answer all questions sent to us by farmers through letters, SMS, direct calls and even e-mails. This kind of interactive dialogue with our fellow farmers is not only very interesting, it is also fruitful in the sense that many of their questions enable us to write articles about this or that subject that are relevant to farmers' needs.

Solidarity

In the farmers' competition, one farmer wrote to us: "I am proud to be an organic farmer and to belong to you fellows". This is a compliment well said, and we can only reply: We are proud to serve the ever-growing organic farmers' community with our magazine. It gives us a good feeling to share information with farmers.

A future for all

By **Andreas Schriber**,
CEO Biovision Foundation, Switzerland

Whenever people ask me how we are progressing in our promotion of ecological development in Africa I am tempted to quote an African proverb: "Grass doesn't grow faster if you pull it!"

But since I am a science-journalist by training, I usually stick to tangible facts. And often, I proudly present the results that derive from The Organic Farmer, Kenya's most resourceful agricultural paper!

It is globally recognised that crucial tasks and services literally lie in the hands of small-scale farmers. But when it comes to the field of information dissemination among those who work the land, the need to enhance information flow is obvious. I am very proud and glad that the Biovision Foundation has essentially assisted in the launch of TOF and has sustained this amazing venture ever since.

TOF responds to a demand expressed by farmers who want to know more about how to run their enterprises in a sustainable way. E-Mails, SMS, letters and phone calls from readers reach the editorial team on a daily basis. This shows, metaphorically speaking, that the grass is growing! – Not because it is being pulled, but because the message is finding its way to the roots.

Biovision's focus on strengthening knowledge-sharing about ecological methods for the 'small farmer' community in Africa means that we are dedicated to maintaining our contribution to appropriate farmer communication in the years to come. And whatever media may prove to be right channel for this –TOF magazine is the foundation which will anchor more bridges that connect people and their knowledge – towards a future for all, naturally.

Biovision – Foundation

for ecological development, is a Swiss based non-profit organisation, founded by Dr Hans Rudolf Herren. For over ten years, the Foundation



has been promoting the development, dissemination and application of ecological methods so that people in developing regions may improve their livelihoods by their own means. TOF has been funded by the Biovision Foundation since its inception in 2005.

“It is finally time to organize ourselves!”

By Su Kahumbu

After going through the responses from the TOF competition (see page 1) I gain the impression TOF has had considerable contribution to agriculture in the country the past five years. Testimonials from farmers are pouring in about the progress they are making using the new technologies recommended by the magazine. It seems that the organic wheels are turning and organic production is picking up in the countryside.



However, it is sad that the sector, though developing in the field, is not making the same sort of progress at a national level. Policies and awareness in both the private and Government sectors are still lacking. From where I stand, the bigger part of development of the organic sector looks like it is driven by donors in a top-down approach.

Organic mark not necessary

To some extent, this situation leads to confusion in the industry. One issue in mind is the ‘Kilimohai Mark’ (a national label for local organic products). It has been already forced upon the organic industry without thought as to whether the industry needs it or is even ready for it at this stage of its development. We are being told it is good for us even though we cannot

see how it is anything else other than an additional costs. No farmer needs additional costs if they can avoid it.

Confusion in organic sector

In normal circumstances, stakeholders are expected to table their proposals, which are then taken up by the bodies mandated to do so. But what happens when the stakeholders are spread over an entire nation, disconnected by communication and distance? The challenges of representing a scattered stakeholder network are enormous. This results in a situation where both the stakeholders and their representatives do their own things without any coordination. This is a waste of time and turning around in circles and I feel that it is not a good representation of the organic sector in Kenya.

But in order to change this unfortunate situation, we have to recognize what needs to be done. The sector has to be driven through a bottom-up approach where the farmers develop a platform from which they can speak, since they are the core of this sector.

Need for an association

It all comes back to the formation of an association. An individual cannot be able to convince the government to take notice of problems on any sector. This is especially for small-farmers who in the eyes of many have no say. However, once we are organised and represented as a serious organisation we will have some power. We will be able to influence those that hold office in our interest to perform their duties. We will be able to eradicate the



Well-informed farmers improve their livelihoods. Our picture shows a group of farmers after a TOF training

‘theory of assumptions’ that currently develops programs for our industry. We will be able to take the responsibility ourselves and pride in driving the industry forward.

Organic sector will develop

TOF started with 10,000 copies 5 years ago and currently prints and dispatches 20,000 copies all over the country, it runs a radio program and information centres. This is a milestone in the development and support of small-scale organic farmers in Kenya. With a clear focus and drive, the organic sector can develop into a movement recognised at the household, national and at international level. To reach this target needs only one thing: Your commitment.

TOF is a good teacher

Amos Guadaru changed to organic farming in May 2005 – after reading the first issue of The Organic Farmer in April 2005. Mzee Amos, 67, lives in Subukia Valley. “TOF has helped me a lot: I built sheds for my goats and sheep, I am keeping bees, I control all pests with plant extracts, I feed the soil with compost, and eat healthy food”, explains Mzee Amos. “And who was teaching me all these? TOF!” He is proud that he belongs to the first readers of a magazine “which has trained thousands of farmers”, he adds, “and I do hope that it will go on in this way”.

TOF for our training

Daisy Rono, Agricultural Coordinator, Catholic Diocese of Nakuru. The Catholic diocese of Nakuru receives 500 copies of TOF that go to the six districts of Nakuru, Koibatek Baringo, Kericho Buret and Bomet. “The diocese has tailored its agricultural curriculum on the contents of *The Organic Farmer*, which follows the farmers’ yearly calendar”, Daisy Rono says, “since the magazine’s topics cover every aspect of farming with all details that her extension staff need to train farmers; they are now making compost, pest and soil management as we have trained them.”



“TOF contains all a farmer needs”

Mary Wanyonyi, Farm manager NYS-Centre, Turbo

Mary Wanyonyi came was given a copy of The Organic Farmer by an official from Etang (K) Ltd. She immediately applied and uses the five copies for training NYS recruits and farmers in the surrounding areas. The magazine has become an important reference material in her training programme. Mary Wanyonyi is happy that some of the farmers have adopted sustainable agriculture. “TOF covers every aspect of the agricultural enterprise from planning, budgeting and even the expected gross profit margins”, Mary says.

TOF makes our work easier

William Ndirangu, District Agricultural Officer, Rongo District, came across the magazine in the year 2006, when he worked as the deputy DAO, Kisii district. Ndirangu distributes 100 magazines in Gucha, Kisii, Gem and Rongo district. “Farmers often come to my office with diseased plants and pests seeking solutions, which I can solve using the infonet-biovision CD and TOF.” The magazine has enabled him to know many farmers groups who now consult him on various problems. About 20 agricultural extension officers from the 4 districts use the magazine to train farmers on different agricultural ventures.



>>> > from page 2 fruit flies

displaced at lowland areas by *Bactroera invadens* but they remain a threat to mango production in the highlands.

Ceratitits rosa and its close relative *Ceratitits fasciventris*: Attack a broad range of cultivated and wild fruits in addition to mangoes.

Control methods

There are several methods of controlling fruit flies. African Insect Science for Food and Health (icipe) promotes a combination of methods through the use of Integrated Pest Management (IPM) technique. The primary management techniques are:

Baiting techniques

The traditional method of fruit fly control is based on use of food baits mixed with a pesticide. The bait attracts the fruit flies from a distance to the spot of application, where the flies feed on the bait, ingest the pesticide and die. The bait after mixing is normally applied to 1 square meter spot on the canopy (away from the fruit) or on the trunk of each tree in the orchard on a weekly basis starting from when the fruits are about ½" in size and continues till the very end of the harvest.

A couple of commercial baits are available in the market such as Mazoferm, NuLure, Buminal and Solbait that can be mixed with pesticide such as Spinosad and applied as above. Another commercial product is GF-120 (success). This bait is already pre-mixed with pesticide (Spinosad) and can be applied using the on-label information on the container.

Although pesticides are not permitted in organic farming, the principle of pot application either on the canopy away from the fruit or tree trunk permeate the principles of organic farming.

Research at icipe has shown that a protein bait from brewer's yeast obtained as industrial by-products when applied in low volumes as spot spray to 1 square metre of mango canopy or to mango trunk provided good control of mango infesting fruit flies. Research is however continuing at formulating the bait to enhance its attractiveness to fruit flies and should be available as alternative to imported product in the very near future.

Orchard sanitation

Poorly managed or abandoned orchards and a variety of wild hosts can result in high population build up of fruit flies.



An augmentorium attracts fruit fly predators

Orchard sanitation, which entails the collection and destruction of all unwanted fruits containing fruit fly maggots on the tree and on the ground, can contribute significantly to reduction in damaging fruit fly population in the orchard. This is a very laborious exercise but can be quite effective if the fruits are collected regularly and destroyed twice a week for the entire season. The collected fruits should be placed in an Augmentorium (See picture).

The Augmentorium which can be locally made serves the dual purpose of field sanitation and conservation of natural enemies of fruit flies. It is a tent-like structure that confines fruit flies that emerge from fallen rotten fruits that are collected from the field and deposited in the structure while at the same time conserving their natural enemies by allowing parasitoids to escape from the structure through a fine mesh at the top of the tent.

Mechanical fruit protection

Wrapping or bagging of individual fruits with newspaper or plastic bags to prevent adult fruit flies from laying eggs on the fruits is also a practice of producing fruits that are free from fruit flies.



To be effective, the fruits must be wrapped or bagged well before fruit fly attack, at least one month before harvest. Although laborious, it is an effective method for expensive fruit species produced for export or fruits produced in backyard gardens for family use.

Inoculate with fungal pathogen

During development mature maggot of fruit flies drop from the fruits to the ground, burrow into the soil and form a resting stage called the puparia. An important part of fruit fly suppression research at icipe includes soil treatment with fungal pathogens to kill the mature maggot and puparia. The active ingredient in the granules is a fungus called *Metarrhizium anisopliae*, a naturally occurring fungus that is used worldwide as a biological pesticide for controlling different kinds of insect pests. The fungus is formulated as granules and can be manually distributed by hand and then raked into the soil under the mango canopy. Application is usually done once in the season at the onset of fruiting and the fungus can persist in the soil for over one year. Icipe is discussing with a commercial company that may be willing to commercialize the fungus in the near future.

Dr Sunday Ekesi & M.K. Billah have produced a book on the control of the fruit fly and related pests: *A Field Guide to the Management of Economically Important Tephritid Fruit Flies in Africa* (icipe)- ISBN 92 9064 209 2 (Nairobi, 2010).

Answers in brief

Dry season Sukumawiki

Please advise me on a variety of Sukumawiki seeds that can withstand dry season. Edwin Okello, Fort Ternan 0713 458 363.

Most varieties of sukumawiki require water to grow well. Perhaps you can try Kale 1000 head that has some tolerance to drought.

Spacing for pawpaws

I would like to grow pawpaws. What is the best spacing? Wellington Njeru Tel. 0720 996 322.

The planting holes should be 60 cm x 60 cm. Spacing will determine the number of plants to be planted. 2.5 m x 2.5 m will accommodate 1600 plants. 2.5 m x 3 m will take 1332 plants and 3 m x 3 m, 1110 plants. Well-composted manure should be mixed with the topsoil and the holes filled with this soil mixture when planting.

Tissue culture bananas

I would like to grow Cavendish tissue culture banana varieties where can I get seedlings? Tel 0722 926 631

The common varieties being produced under the tissue culture method are the Giant Cavendish, Chinese Cavendish, Dwarf Cavendish. Farmers interested in buying these tissue culture bananas can contact the following organisation: Africa Harvest, P.O.Box 642 -00621, Nairobi, Tel.020 7124083/1/6/5/2.

Effective use of diatomite

Can diatomite be applied to grains already affected by weevils or any other pests and work effectively.

No chemical or biological control agent can kill pests already inside the grain. Once the pests get in, it is difficult to kill them until they come out. Diatomite and even the other chemicals used to control pests work by contact with the pest. So only grains that are not affected by pests are protected. But once the pest leaves the grain it is immediately killed. So you are advised to apply diatomite early enough before the pests set in.

Diatomite does not expire

Does diatomite expire in cereals? Shining Star S.H.G

Diatomite does not expire when applied in cereals. A farmer can keep cereals as long they like, some have managed to preserve cereals for as long as 3 years.

Using moisture bottle

Can we use any type of a bottle for testing moisture in grains or do we have specific one for this practice?

Both plastic and glass bottle can be used to test moisture in cereals; but it must be transparent so that one can see through the bottle to determine if there is any moisture in the grain to be stored

Use composted manure!

Is it advisable to use poultry manure directly to plant potatoes or any other crop? Peter Thiongo 0710 858 317

All fresh animal manures contain high amounts of ammonium which may cause "burning" of crops. Fresh manures may also contain pathogens that are dangerous for people. Composting eliminates both these risks and it is more pleasant to apply composted material. If you apply fresh manure, use only small amounts and spread it thinly on the soil surface around plants that are already established. Composted manure can be used for everything, e.g. for seedlings and at planting, and should be mixed into the topsoil.

Lablab and *dhania* related?

Does lablab share anything with *dhania* (coriander)? They both produce a similar scent.

There is no scientific proof that the two belong to the same species. So it is difficult to say if they have anything in common. Lablab is a leguminous plant, a bean, while coriander belongs to the Apiaceae family (together with parsley, carrots, and celery). These are two completely different plant families. But plants do not have to be related to have common properties. It may be possible that lablab and coriander produce a similar scent but this does not in any way show they are the same.

Stimulate the trees - but not too much!

I heard that you can hammer a nail into a fruit tree to force it bear fruits. Is it true? Farmer in Buyangu

A young tree will always try to realize its full vegetative potential and to grow as much as possible before it starts to bear and be reproductive. It may sound puzzling, but the more fertile the soil and the more favourable the conditions, the longer it will take until a tree bears fruits. Whereas a moderate supply of nutrients, or injuries (e.g. from nails) limit the vegetative growth of trees and they start to bear earlier. However, heavy injuries and very poor nutrient supply will have adverse effects: they reduce growth and tree size, promote diseases and shorten the lifetime of trees. So you have to be careful! Small, diseased and short-lived trees will not be able to give their owners a large harvest.

Therefore next time, before you lose your patience and nail a tree, try the following: Cut the roots of the tree all around its drip-line, where the tree canopy ends. Do this with a sharp spade or with the panga, about 20 cm deep. This will heal better than the wounds from nails driven into the

Use of avocado and Aloe Vera extract

Give us more information on the uses of avocados and Aloe Vera plants. They do well here in Bomet. John Koech Kenfap. Tel. 0725 033 900.

tsz - Avocado has many uses due to its high nutritional benefits. Like all fruits, it is rich in minerals and vitamins. It is recommended as a high-energy food for diabetics and people with high blood pressure. It contains a very beneficial and easily digestible fat.

Avocado cannot be cooked but should be eaten raw on bread and salads together with lemon juice, salt and pepper and sugar. It is also used as a flavouring in the preparation of ice creams, milk shakes and soups. Avocado oil is also widely used in products for skin and hair care and other cosmetics.

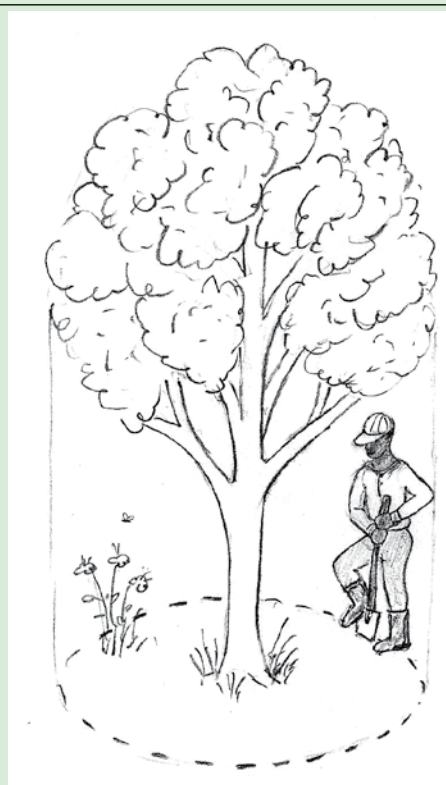
Aloe vera on the other hand has many medicinal properties. It is widely used in herbal medicine and beauty products because of its many benefits. In medicine, it is used to speed up healing of burns. It is also said to control heartburn, arthritis, rheumatism, swelling and even asthma. Aloe vera is said to be a good laxative, antifungal, immune system stimulant, antiviral, anti-bacterial as well as a nutritional supplement. Many poultry farmers in the country mix a few drops of Aloe vera gel with chicken drinking water to prevent poultry diseases.



NOTE: Pregnant women should never take aloe vera as it causes uterus contraction, which can create complications. Young children should also not be allowed to take it internally.

Recipe for a tasty avocado spread

2 large ripe avocados
12 boiled eggs
Juice of 2 - 4 lemons
Salt, pepper, parsley, coriander etc, according to taste.
Remove the shells from eggs and avocados, mash and mix them together with the lemon juice. Add salt and spices to taste.
Spread generously on bread, fill into tomato halves, eat with potatoes etc.



tree trunk and has the same effect. You may also bend and fix upright side-branches into a more horizontal position. This will as well stimulate flowering.

Theresa Székely

Stinging nettle

Can I use stinging nettle for plant tea?

tsz - Yes you can. Stinging nettle is one of the most preferred plants for making plant tea, as it has soft leaves and releases its nutrients quickly while decomposing. It can be used as top dressing or as foliar feed. Nettle tea is also used as a spray against aphids.

Nettle is a good natural remedy for many health problems. Nettle tea is a diuretic drug (it cleans bloods).

What is the English name for *cong'e*?

If *Oxygonum sinuatum* is *cong'e*, what is its English name and also names in other languages?

tsz - The English name for *cong'e* is double thorned weed. It is a common plant in Kenya, as the various names in local languages show:

Kiswahili: *Kindri*
Giriama: *Kimbiri*
Kamba: *Song'e*
Kikuyu: *Cong'e*
Luhya: *Namawa*
Luo: *Okuru*
Maasai: *Enkaisijoi*

Photo: Hyde, M.A. & Wursten, B. (2010). *Flora of Zimbabwe*





Rabbit keepers need knowledge on feeding, housing, breeding and also a market

Rabbit keepers are frustrated

Many farmers have gone into rabbit keeping without verifying the market's needs.

The Organic Farmer

When a farmer makes a good return from a particular farming enterprise, most farmers rush into the same expecting to make good money only to end up being frustrated when the commodity floods the market. This reduces prices. Unfortunately, many farmers sometimes do not make any research before going into production. Market research is a very important aspect of any business.

This is exactly what has happened to rabbit production. Many Kenyans now face scarcity of land; rabbit keeping should be an ideal venture as they do not require a lot of space and initial capital to rear. They can also be a cheap source of protein in many rural households. It is therefore important that farmers who keep rabbits only rear a small number they can sell to fellow farmers and also use for home consumption. They can only produce in commercial quantities at such a time that they can find a reliable market.

Awareness creation important

The market for rabbit meat is not yet well established in Kenya. In many communities rabbits are still considered unfit for consumption, in such communities only children are allowed to keep rabbits and eat them. Most consumers of rabbit meat can only be found in urban areas, and this is a minority. Selling rabbit meat and skins is therefore a bit tricky and needs some bit of planning on the side of the farmer.

A big awareness campaign is needed to educate Kenyans on the benefits of eating rabbit meat. It is a white meat

that has no cholesterol and is therefore considered healthy. A large number of people would consume rabbit meat if they knew of these benefits, thereby increasing demand and a ready market for local rabbit keepers.

Not enough for export

A number of companies especially from China have expressed interest in buying rabbit meat and even skins from Kenya. However, rabbit keepers lack adequate quantities for a consistent supply to the external markets. Therefore rabbit breeders in every region need to work together to be able to raise enough rabbits whenever there is a market opportunity.

According to a prominent rabbit keeper, Godfrey Gichuhi, most farmers do not have the technical knowledge on how to prepare rabbit skins in the right way to maintain the required quality. He says most of the skins being offered by farmers are poorly done and therefore cannot get buyers locally, leave alone the export market.

It is important that farmers explore the possibility of selling their rabbits to fellow farmers in their area for the time being. From there they can explore potential markets and only rear the number of rabbits, which they can be able to sell. Gichuhi advises farmers to work in groups, this is one way they can share their experience and even be able to raise enough rabbits when the markets are established. There is a rabbit slaughterhouse in Gilgil but they only buy rabbits when they have orders. Farmers can contact the slaughterhouse on 0724 856 878, ask for Alice.

The ministry of Livestock and Fisheries Development has plans to start educating people on rabbit breeding, but the programme is yet to start.

In the May issue: More about skin preparation and breeding.

Green Pepper: I am looking for green pepper. Anyone with 200 kgs can contact me on Tel. 0722 848 305. Leonard Saitoti.

Capsicum market: I have organic yellow and red capsicums. Is there anyone who can buy these products? Frank Muriungi Tel. 0722 218 058

Chaff cutter: I have 5 head of cattle and require a chaff-cutter. If you have one for sale please contact me. Peter Wachira Tel. 0722 341 718, Meru.

Biogas units: If you have from 1-16 cows and have thought of installing biogas, now is the time to get it done. GTZ is offering various subsidies for construction of permanent small-scale biogas plants during the year 2010. The subsidies vary from contributions of Ksh 30,000 for the smallest plant to Ksh 55,000 for a plant with gas storage capacity of 7 cubic meters. In some cases this is as much as 30% of construction costs depending on the material used. The models are permanent in the sense that they are guaranteed to work for a minimum of about 50 years. One condition is that a GTZ-trained technician has to supervise the construction. Farmers can contact one of the technicians promoting this system, please call Mr Kamande from Thika Tel 0724 394 699 for details.

Dairy goats: We are looking for pedigree dairy goats to provide high quality milk for HIV/AIDS patients to be able to boost their immune systems and nutrition. Please give us their milk production rates and let us know if they can do well in South Rift Valley highlands. Joseph Koskei, Rural Projects Support Facility, CBO, email: e08kitur@yahoo.com

Cassava, bananas for sale: I have cassava and bananas for sale. Any farmer who needs these products can get in touch with me. Tel. 0718476260/ 0727502903, Oliver Wetete Masungu. email-olivermasungu@gmail.com

Rabbit Posters: Get to know the various rabbit breeds and their best commercial use e.g. meat, skins and for exhibitions. Get an A2 size poster for only Ksh 200 and a free rabbit management handbook. Farmers interested can contact James Wathuge 0720 419 584, 0733 893 300

Organic produce wanted: Green Dreams / Food Network East Africa Ltd is urgently looking for organic produce for its Nairobi stores. Farmers with vegetables, fruits, grains, etc can contact Triza on 0721 793 411 or Mwaniki on 0726 283 866 or email: info@organic.co.ke