

# The Organic Farmer


The magazine for sustainable agriculture in Kenya



Nr. 61 June 2010



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## Dear farmers,

Farmers in Kitale are faced with a new phenomenon: An invasion of tomatoes by thrips. According to them, the incidence of thrips must be caused by the climate change, since they have never seen such a huge number of thrips before.

We are not so sure whether their suspicion is right. It is very easy to blame the climate change for everything. However, many of us realise that the weather patterns have changed, and that the rainy seasons are not as reliable as they used to be.

Of course, small-scale farmers are not to blame for the sharp increase in greenhouse gases responsible for climate change. At the same time, they do not have any means to influence the weather situation. One thing, however, seems to be clear: Farmers can no longer practise farming the way they used to, and they will have to adapt their farming practices to the changing conditions.

What should we do? The first thing is to take action against damaging practices on our shambas. We need to embrace sustainable farming methods that conserve the environment.

We need to take better care of our soils. We have to feed them with more organic material in order to improve fertility. It is common knowledge that in fertile soils plants grow better and are less vulnerable to diseases and pests such as thrips and nematodes.

Planting of trees needs to be enhanced, since trees help to maintain the rapidly diminishing water resources.

We also have to pay more attention to the quality of seed we use. Right now, the country is suffering from a serious lack of potato seeds ( see pages 5 & 8). This situation is evidently caused by the government, which has failed to provide the necessary quantity of potato seeds. This trend is worrying. If we are not even able to produce certified seed at "normal" times, how will the government handle problems associated with climate change?

## Potato sector on its knees

TOF - Kenya needs 60,000 tons of certified potato seeds per year, but only 600 tons are available, about 1 percent; 96 percent of farmers use their own harvest for replanting due to lack of certified seeds. The consequences: a dangerous spread of bacterial wilt, other diseases and a meager harvest; imported seeds worsen the situation as they would introduce new diseases. In Europe, a farmer harvests 40 - 50 tons/

ha. In Kenya potato yields average 7 tons/ha, but this is declining at a rate of 11 per cent every year due to poor seed quality.

Even though potato ranks as the second most important food crop after maize in Kenya, the potato sector is badly neglected. Ignorance, lack of political will and land-grabbing have interfered with the production of certified potato seeds. *Pages 5 & 8*

## Crop protection

How do you protect your crop against aphids, cutworms, stemborer, thrips or even Diamondback moth? There are many control methods that farmers can use. Do you know why we use soap as an ingredient in plant extracts? Find the answer to these and other useful tips on crop protection in this issue. *Page 2 and 3.*



More winners page 6

## Buyers want certified organic products

*A new initiative by traders can push the expansion of Kenya's growing organic market.*

### The Organic Farmer

In the past issues of The Organic Farmer magazine, readers could see the advertisements of organic foodstuff traders, for instance Su Kahumbu's Green Dreams or Kalimoni Greens. These traders are urgently looking for farmers who are producing vegetables and fruits organically, since the demand is higher than the supply.

This arrangement poses one challenge: Traders and customers have to be sure that the products are grown naturally and without the use of chemicals. This means the farmers and suppliers need

to be certified as organic farmers. The mode of production should be verifiable. Initiated by Su Kahumbu, three trading companies and a restaurant, in co-operation with the Kenyan certification company EnCert, have found a way of assisting organic farmers get the certification

The farmers can pay the certification fee in instalments: From each delivery of products to one of these companies, 10 percent of the proceeds will be deducted and transferred at the end of the month to EnCert as an installment to the yearly costs of the certification fee. As soon this fee is paid, the farmer gets the full amount for their products, obviously better priced since they are of a higher value than conventional products. *Page 4*

# Use plant extracts against pests, diseases

Plant extracts help to control common pests such as thrips, aphids, mites, caterpillars, and even diseases.

**Theresa Székely**

TOF encourages the use of plant extracts. They are cheap, can be prepared by farmers themselves, and are often less toxic to humans and farm animals than conventional insecticides. Synthetic pesticides often eliminate beneficial insects too, making pest control even more difficult in the long run, especially if pests get used to certain pesticides.

The first step in pest control is to ensure healthy, fast growing plants; they will resist pest attacks much better than weak ones.

## Preventive measures are important

- Provide adequate fertilization and irrigation throughout the growing season.
- Plant early enough to ensure quick establishment before the cessation of rains.
- Sustain soil fertility and crop health by applying organic fertilizers like compost, manure and mulch.
- Practise crop rotation and intercropping to prevent accumulation of dis-

eases, pests and weeds that are associated with every crop.

- Choose varieties that are not prone to pests and diseases.
- Encourage natural enemies and avoid aggressive pesticides. Predatory mites, spiders, lady beetles, pirate bugs, ground beetles, lacewings, and many other species can effectively help to control pests.

## Thrips and nematodes

TOF has received several questions seeking advice on thrips and nematode control. Both pests are widely distributed and attack a wide range of crops. These queries are good examples demonstrating the importance of cultural measures.

### Thrips

These pests are a problem in the hot dry season, when plants suffer from water stress.



- Rainfall and irrigation reduce the number of thrips.
- Biopesticides that are effective against thrips include neem extracts and neem oil, pyrethrum, tephrosia, garlic, chillies, insecticidal soaps.

### Parasitic nematodes

Nematodes are best controlled through cultural measures.

- Rotate nematode resistant crops (all grains and grasses, cassava, sesame, onion, leek and garlic) with susceptible crops (most vegetables except the cabbage family and sweet potatoes).
- Maintain high levels of soil organic matter by mulching, manuring, composting and reduced tillage.
- Neem cake powder can be incorporated into planting holes.
- Incorporate plant material from neem, sesame, marigold, castor bean, papaya, crotalaria etc. or drench the soil with extracts from these plants.
- Rotation and intercropping with marigolds reduces nematodes.

## Which extracts for which pests?

Plant extracts often contain a whole set of compounds with insecticidal properties. Their effect is therefore complex, and it is difficult for insects to develop resistance against them.

Most plant extracts are effective against a wide range of insects. Below, find a list of pests and plant extracts that are recommended in organic farming and sustainable agriculture.

Pests	Biological control
Aphids, whiteflies	Repeated sprays prepared with most plant extracts, soap spray.
Banana weevils	<ul style="list-style-type: none"> <li>• Dip suckers in neem seed extract (20% crushed seeds, 80% water) after paring</li> <li>• apply 60-100g neem cake or neem seed powder at planting and after every 4 months</li> </ul>
Caterpillars (e.g. army-worm, bollworm, cabbage webworm)	Neem, pyrethrum, garlic, and other plant extracts.
Cabbage looper, cabbage moth, cutworms, diamondback moth, leafmining flies	The larvae of these pests are best treated with neem extracts, but also other extracts can be used. Apply 3 to 5 treatments at weekly intervals.
Mealybugs	Neem extracts, soap spray, vegetable oils and mineral oils
Spider mites	Neem oil and neem extracts, extracts from pyrethrum, chilli and garlic, Tephrosia, soap spray
Stemborers, stalkborers	Use neem powder, Pymack, or maize flour / maize bran mixed with pyrethrum extract. Place a pinch of the powder into the funnel on top of each maize plant. Where rainfall is irregular, a liquid neem seed extract should be sprayed into the funnel. Do 3 treatments, starting 2 weeks after emergence of the plants. After the 5th week, the treatment will not be effective anymore because the borer larvae will have moved into the stems and ears.
Termites	<ul style="list-style-type: none"> <li>• Neem oil, neem seed extract</li> <li>• Wood ash: Heap regularly around tree trunks and mix into seedbeds.</li> <li>• Tephrosia leaves: Work into the soil to repel termites</li> </ul>

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# Efficiency of plant extracts

*tsz* Home made plant extracts are natural products. Their content of pesticidal ingredients can vary widely and depends on plant variety, soil, climate, growing conditions, season, preparation etc. In addition, tested and proven recipes with effective dosages are hardly available. There will always be an element of trial and error when using home made extracts. Start with a weak concentration, because extracts that are too strong may burn sensitive plants. You may also experiment with mixtures of different plants.

**Note:** All plant extracts are most effective when used immediately after preparation.

## African marigolds

• Chop 1 kg of the whole uprooted plants and put them into a pot of boiling water. Let it cool down, strain the liquid and add enough water to obtain 10 litres of solution for spraying.



• Plant a marigold crop in cases of severe nematode problems. You may slash and leave the plants as mulch before planting the next crop.

## Castor oil plant



**Caution:** castor bean seeds are very poisonous!

• Pound and soak 1kg of green seeds

### Soap as spreader and insecticide

All sprays spread more easily on the plant surface if you dissolve 1 teaspoon of soap or a detergent like dish-washing liquid per 5 litres of solution.

Soap sprays are prepared with 0.5 to 2% soap. Use plain, potash-based soap (e.g. gun soap). They work best on small, soft-bodied insects such as aphids, mealy bugs, spider mites, thrips, whiteflies, and small caterpillars.

Dissolve 1 to 3 teaspoons of soap in 1 litre of water and spray directly onto the insects. Spray up to 2 times a week in the evening.

and leaves in 5 litres of water for 24 hours, filter and spray.

• Boil 4 cups of crushed seeds in 2 litres of water for 10 minutes; add some soap, dilute to 10 litres and use immediately against cutworms.

• Work chopped seeds, leaves or oil cake into the topsoil against nematodes and termites.

## Chillies

Follow the same procedure as for garlic using fresh chillies, or use a mixture of both.

## Garlic bulbs



Garlic is effective against a wide range of insect pests and can also kill beneficial insects. This is because the smell of garlic will stick to plants for some time. Therefore avoid spraying near harvest time.

• Grind, pound or grate 100 g of garlic (half a cup), mix it into 1 litre of water and allow it to stand for a few hours. Strain, dissolve some soap and add enough water to obtain 10 liters for spraying.

## Neem tree



Neem is one of the best plant pesticides. For recipes, refer to TOF No 59 of April 2010

## Pyrethrum flowers

Pyrethrum is a very efficient insecticide that can also kill beneficial insects. Prolonged contact with the skin should be avoided. Dry the flowers in a shade and store them in a dark place. Pyrethrum works best at lower temperatures.

- Pour 1 litre of boiling water over 5 cups of chopped, fresh flowers (or over 1 cup of powder) and soak for a few hours. Strain, add some soap and dilute with 5 litres of water. For best results, spray in the evening.



## Application of plant pesticides

• Applications must always start at an early stage of the pest attack to be effective. Therefore, keep a keen eye on your crops!

• The treatments must be repeated several times, usually 2 - 3 times a week depending on pest pressure.

• Apply plant extracts in the evening, as many of them lose their efficacy quickly in the sunlight.

• Take care to treat the underside of leaves too.

• Do not spray wilted plants that suffer from water stress.

• Home made extracts are not standardized – you may have to adjust application rates.

• Avoid direct contact with plants and extracts when preparing and using them. Their toxicity levels should not be underestimated.

## Papaya leaves

• Pound or shred 1 kg of papaya leaves and soak them in 10 litres of water for 1 day. Strain,

dissolve some soap and spray against insect pests and fungal diseases.

• Chopped papaya leaves worked into the soil

are effective against nematodes.



## Tephrosia

• Pound and crush 1 kg of fresh leaves and soak them in 5 litres of water for several hours. Filter, dissolve some



soap, and spray late in the evening to control insect pests.

• Tephrosia leaf mulch is useful against termites.

## Other useful plants

Insecticidal effects are also evident in cassava tubers and the leaves of black-jack, tomatoes, sweet potatoes, lantana, rhubarb, tea. *tsz*

## Farmers prefer individual certification

*Since certification costs can be paid in instalments, farmers vote for individual certification.*

### The Organic Farmer

It was a short but interesting meeting organised by Su Kahumbu at the end of April this year. Four main buyers of organic vegetables and fruits in Kenya met with 18 farmers and suppliers of foodstuffs. At the meeting, one point was evident. The traders and consumers are increasingly insisting on formal certification: The suppliers can only be able to sell when they are certified as organic farmers.

### Problems with groups

The charges for the certification were not the big issue. All 18 participating farmers had undergone the certification process as a group. But problems set in when the groups fell apart. Consequently, the costs have become too high for the remaining group members to cover. For the 18 farmers, the message is clear: They simply do not want to operate anymore in a group structure.

The main question in this meeting was therefore the mode of payment for the individual certification. The application fee is Ksh 2'000, while the yearly certification fee is pegged on the size of the farm, but on average it is Ksh 14,000. This fee covers the controls and the record keeping of the farm done by EnCert.

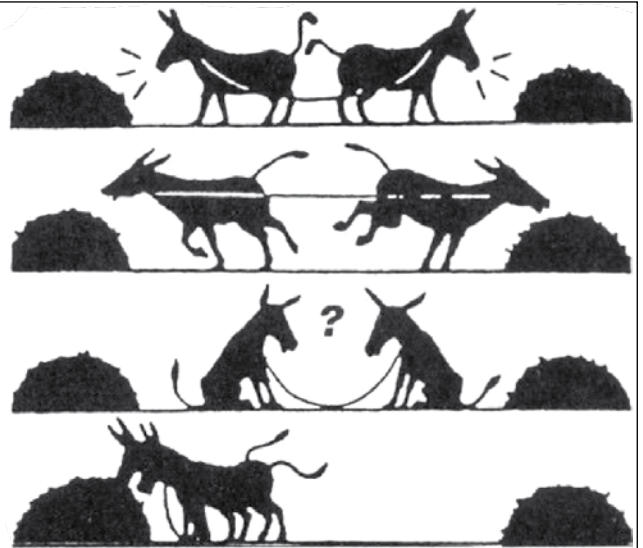
### Monthly deductions

The way out as agreed during this meeting allows payment in instalments. The individual farmer signs an agreement with EnCert that binds them to an instalment plan of payment. The deductions are made at the point of sale: For each delivery to a buyer, the farmers are deducted 10% of the consignment. The buyer then forwards the deductions to EnCert every month. As soon as the certification is paid, the deductions stop. EnCert, upon receiving a downpayment of Ksh 2,000, starts inspection and certification procedures. In the case of already certified farmers, the certification body issues a certificate after adherence to the plan for two months. There are also penalties if farmers default or cheat.

### More income for farmers

"I think this development is hugely important for the industry", Su Kahumbu says. "It should inspire many farmers to market their organic products without having to worry about a large capital outlay to begin with. The economies of scale will drive more products to the market and will result in more income for farmers, and in so doing push organic businesses towards sustainability," she counsels.

Why is it so difficult for farmers' groups to pull in one direction, so that all members can benefit?



Dear Editors,

*About two years ago, we founded a farmers' group. All went well, until we began to sell our products as a group. Some committee members tried to make their own business without the knowledge of the members. Now the group has collapsed. I ask you if you could write an article about how a group can take the necessary precautions to avoid conflicts like the one we are faced with now. Thank you.*

J.N. Kamau, Nyeri

**TOF** – Quite often, we get letters like this one from farmers, complaining about internal problems within groups. Every month, we have to change the address of some of the groups because they collapsed and we have to send the TOF magazines to another address. Why is it so challenging for a group to solve the conflicts peacefully and to work together for the benefit of all group members?

### Important: Clear structures

A farmers' group needs clear structures. Of course, the cooperation must be built on trust. But it needs regulations as well, a transparent control and record keeping system and a democratic structure of the group's leadership. Trust is good, but put in place clear regulations to avoid conflicts. They should be written down in a Memorandum of Understanding which has to be signed by all members who are now subject to the regulations.

First of all, a group should write down its targets. The targets should be realistic and understandable to each member. The Memorandum of Understanding should contain clearly the duties and the rights and plights of each member and especially of the office bearers.

### The critical point: The leadership

This is the most sensitive part of every group. It needs a leadership with clear formulated duties, and it needs control mechanisms so that no member of

the committee can use his position or the group as a whole for his/her own benefit - at the expense of other members. Normally, a group will require some committee members and the following office bearers:

**The chairperson:** He/she has to make sure everyone in the committee is performing his or her duties and to steer the group towards its objectives.

**Treasurer/accounts person:** It has to be a trustworthy person who keeps all financial records. When it comes to money, problems begin. That means, all the financial affairs need transparency so that all members can see what their money is spent on and that no one in the group is using the group's money for personal benefit.

**Administrator/secretary:** He/she should be able to keep the records of the group in order, to write the minutes of each meeting (members meeting of committee meeting), and who should be able to represent the group, including any other duties.

### Choose the leaders wisely

Vet the person you elect carefully. To ensure a democratic choice of office bearers, 'terms of reference' should be drawn up for each office bearer. The skill sets required must be included in the terms of references to ensure qualified people hold these offices in the interest of the group at large. Elections of group office bearers should be held democratically and in transparency - choosing the best person for the job.

Often the oldest or the richest person holds the most important position in a group purely out of respect and sometimes fear. Often they neither have the ability or time to guide the group. The members should ensure that they choose the office bearers wisely. The Memorandum of Understanding as well the terms of references must have a provision to remove the committee members if they do not perform. If possible draw up performance contracts for them and pay them to do their duties after all, they are providing a service to the group.

# Know about bacterial wilt and control it

*Bacterial wilt in potatoes has reduced yield countrywide, causing great loss to farmers.*

## The Organic Farmer

Potato production in the country is threatened by two things: the lack of certified seeds (page 8) and bacterial wilt, a disease which has now spread to all potato growing areas in the country. It is very unfortunate that, up to now, a big section of farmers do not know about the disease or even how to control it.

### How the disease is spread

Bacterial wilt is a devastating disease that affects potatoes when the soil becomes contaminated by disease causing bacteria. The disease is spread when diseased potato seed is replanted or when farmers plant potatoes on infected soil. Consequently, the affected plant stems die while potato tubers also rot. Although bacterial wilt has no known cure, it can be controlled to some extent if farmers can follow simple rules to manage it; the safest method is crop rotation.

### Positive seed selection

With lack of certified seed coupled with the spread of bacterial wilt, small-scale farmers have few chances to get good quality seed. However, there is a very simple method a farmer can produce their own "clean" seeds; it is known as positive seed selection. With this method a farmer can increase their potato yields by half and also reduce diseases such as bacterial wilt.

#### Important steps

- Walk around your potato garden looking for all diseased plants and uproot them alongside surrounding soil, burn the plants.
- Mark all the healthy potatoes that show no sign of disease with a stick. Marking can be done at the time of flowering when it is easy to identify healthy potatoes and diseased ones.

#### Regular control is important

- Two weeks before harvesting, cut the leaves of the selected plants to allow them to harden.
- Harvest the selected plants separately. Select the best ones, usually those of the size of an egg. Avoid bruising the potatoes to prevent infection.
- Store these potatoes properly in a cool dry place for use as seed for the next season.
- During the planting season, select a portion of your farm that, at least for four years, has not been planted with potatoes of any other crop of the potato family. Plant your crop in this area. **TOF**

Bacterial wilt can be spread through several ways: infected crop residues, contaminated surface run-off water or even water used for irrigation. Farmers can spread the disease through farming tools such as hoes (*jembes*) or forks when contaminated soil attaches itself to the tools. Insects or soil-borne pests such as nematodes spread bacterial wilt into potatoes' plant roots.

### Signs of the disease

Farmers can see the signs of bacterial wilt by observing the potato plants. If there are plants that are drying up or wilting, they can dig potatoes from such plants and split the tuber into half. If the potato tuber has a black ring with white spots, then the plant is infected

with bacterial wilt. Sometimes it is difficult to identify the disease if the potatoes do not change colour. But if the leaves turn yellow in the long term, this is evidence that the plant is infected. Sometimes the potatoes may appear stunted, sections of the diseased plant may wilt completely and dry up while part of the plant looks healthy.

#### Control measure: Seeds

- If available, farmers should buy seeds at certified seed growers or seed multiplication centres working with KARI's National Potato Research Centre, Tigoni in Limuru (see the addresses below).
- If you use your own seed, plant whole undamaged tubers.



*This sign of bacterial wilt is often mistaken for lack of water*

- Avoid buying potato seed from your neighbours. If such seeds are infected, they transfer the disease to your shamba.

#### Control measure: Uproot

- Diseased plants should be uprooted alongside surrounding soil and buried far away from the potato field (see box below: positive selection).
- Affected plants should never be included in a compost heap; you have to burn them.

#### Control measure: Crop rotation

- On a field with affected potato crop, farmers should never replant potatoes or any other crop in the potato family such as tomatoes, bananas, eggplants, capsicums, chillies and ground nuts. Affected fields should not be planted with these plants for a period of up to 4 years.
- To "clean" this field, farmers should plant other crops such as beans, maize, cabbages, peas, lettuce, cucumber, sorghum, wheat, onions, potatoes, carrots sweet potatoes or grass.

#### Control measure: Place

- Avoid planting seeds in low-lying or waterlogged areas. - If your piece of land is sloping, use the upper sections of the farm.
- Stop run-off water from flowing into your potato fields. Such water could be contaminated with bacterial wilt.
- Remove potatoes that grow on their own (volunteer potatoes) from your farm. Such potatoes could be infected.
- Proper and regular weeding can control bacterial wilt. Many weeds serve as hosts to the disease.



*The black ring shows the presence of *Ralstonia solanacearum*, the bacteria that causes the wilting of potatoes (Photos PR)*

TOF

**Women winners**

Our women play a big role in agriculture and food security. In recognition of these, TOF would like to reward all those women who sent us good entries for the farmers competition. The following women will receive a consolation prize of a panga worth Ksh 650:

1. Grace Asami
2. Sally Jepkemboi Ronoh
3. Medina Luyayi Wanjala
4. Monica Njeri Macharia
5. Mary Wanja Mwangi
6. Charity Nyawira Kinyua
7. Hilary Gitau Thiongo
8. Lucy Anne
9. Beatrice Olwenya
10. Mary Kamene Wanyonyi

**7th Prize: Noah Ofundi**

"I take part in this competition to show my appreciation to whoever came up with the idea using a low cost, environmental friendly and high yielding farming approach," Noah Ofundi Maina began his letter to TOF. He is a successful poultry keeper in West Pokot. He got a magazine from his neighbour and realized that up to the time, he had done so many things the wrong way- and he changed! He took TOF's advice on how to manage chickens (for example mixing Aloe vera and tithonia in their drinking water to prevent diseases); and he learnt how to keep records in the right way. He even sent us a record of earnings from his 70 layers. Good luck, Noah!

**9th Prize: Lucy Kibe**

Lucy Kibe came across TOF Nr. 37 of June 2008 and learnt very useful tips on calf rearing and fodder production. From reading the various articles she has tremendously increased her knowledge on fodder crops such as beetroot, leucaena and pasture grasses. With a lot of commitment, Lucy puts into practice all that she has learnt. "My cows and calves now have quality feed which has improved their health and milk production. She now has the capacity to store enough fodder to see her cows through the dry season. This has increased my earnings. I also use Artificial Insemination services instead of village bulls," Lucy Kibe says.

**6th Prize: Daniel Bore**

Daniel M. Bore from Kwanza District really considers farming as a business - and TOF assisted him a lot! After reading the first issues of TOF in 2005, he planted cabbages and tomatoes according to our advice - and made a profit Ksh 115'000! With this money, he bought one acre of land. In 2008 he read about poultry keeping and bought 250 layers; he sold them, the benefits enabled him to buy another acre of land and two more flocks of 250 chickens each. Since the new land is a little bit swampy, he dug two fish ponds, and the fisheries Department assisted him put up a third pond.

**8th Prize: E. Chepkorir**

Emily C. Chepkorir really values her TOF magazines. It is in the magazine that she found the recipes on how to prepare plant extracts, which paved her way to becoming a successful tree tomato grower. When she planted the seedlings, she applied an extract of papaya leaves on the soil to control cutworm; and since then, she controls all pests and diseases with stinging nettle, marigold and other plant extracts she read about in TOF. Her first harvest of fruits enabled her to pay for her education as a nursery school teacher and also buy a cow. Impressed by this initiative, Emily's father has given her additional land to expand the tree tomato orchard.

**10th Prize : A. Kyengo**

It was not easy for Austin Mumo Kyengo, when he changed to organic farming in January 2007. The rains were inadequate in his semi-arid region, the Nzaui District, he had little material for making compost, and it was a challenge to get drought resistant seeds. But he did not give up. Using a well-structured crop rotation system and inter-cropping, he improved soil fertility; he learnt how to make plant extracts and realized that he spent less money on chemical fertilizers. "It was a learning process", Austin says. Other farmers within his group copied him; he is proud that he has managed to use the available resources to do farming the natural way.

**Answers in brief****Compost material**

Is it advisable to add more green materials during the compost turning? Purity Munene, in Kirunda

Adding more green material to your compost heap means that you will have to wait a little longer for the material to decompose to the same standard as the one you had prepared earlier. It is advisable to start a new compost heap every time you have new material so that the compost can attain a uniform decomposition and be ready for use at the same time.

**Bath water on crops?**

Can I use bath water to irrigate my seedlings in kitchen garden? David Muriuki Mararo, farmer in Mutira, 0729 989 243

Most household water can still be used to water some crops or to keep the compost moist. I would be cautious, with seedlings, though, because they are more delicate than plants that are already established. If the water contains only a little soap or dish washing liquid, there should be no problem, but if you use water that contains detergents like Omo, it may be toxic even to larger plants.

**Rabbits and heat**

How can I detect a rabbit on heat? Joseph Karo, Farmer in Kerugoya, 0714 448 890

Rabbits do not show heat signs, they are known to be spontaneous ovulators which means that they come on heat once they are introduced to a buck (male).

**Male and female rabbits**

How can you identify sex organs of kids and at which time do sexing take place? Margaret Wamutira, Ngaru

It's much of a gamble to try and sex rabbits when they are young. The best age to do this is at around 8 weeks when the organs are developed. The bucks have a roundish shape, since the sex organs take time to develop. While the does have a "v" shape. Even experts make mistakes in this area.

**Organic dewormer for rabbits**

What can I use as organic dewormer for rabbits? Milka from Tabuga. Chop croton leaves (*Mukinduri* in Kikuyu), put into water for 3-5 days, dilute the solution and give the rabbits.

**Agroleaf is not organic**

Is Agroleaf foliar feed from Scotts International Netherlands organic? Agroleaf fertilizers are conventional fertilizers. They contain NPK and some trace elements. Products from industrial countries are only organic if this is clearly stated on the package. The term "organic" is protected in these countries and cannot be used for products that are not produced according to organic rules and standards.

## Keep livestock away from avocado trees

Is avocado fruit good for dairy cows? 0724 997 722

Although avocado fruits are very good for human consumption, the whole plant seems to be toxic to most animals. Intoxication has been observed in cattle, goats, horses, rabbits, mice, dogs, birds, fish, and others. All parts of the plant seem to be toxic (leaves, bark, fruit flesh and skins, seeds).

Toxicity seems to vary depending on avocado variety, time of the year, and on other factors which are not even known. In intoxicated animals, fluids may accumulate around the heart, in the lungs and the abdomen, and the heart muscle may fail. In lactating animals, cells in the udder tissue inflame and die, and mastitis signs and drastic milk reduction will be noticeable.

Therefore, we recommend that farmers keep livestock out of avocado orchards, and to avoid planting avocado trees near animal enclosures.



There is growing interest in dairy cows. We are receiving many questions in this area.

## Never feed rotten maize to animals

Can I feed my chicken with rotten Maize? Symon Irungu, Farmer in Mwerua / Gatuto

Rotten feeds must never be fed to any animal. They are almost certainly contaminated with mycotoxins, poisonous substances created by mould fungi. Mycotoxins can be fatal to humans and animals! They affect the immune system, damage kidneys and liver, and some of them are strong carcinogens that cause cancers. Mycotoxins can contaminate most foods and feeds such as cereals, oil seed products (from cotton-seeds, sunflowers, sesame, soybeans etc.) or commercial poultry feeds when they are stored in a damp and warm environment. Poultry is very sensitive to mycotoxins, and they show reduced health and growth, decreased egg production or they may even die. Humans can be affected when they consume contaminated food, meat, and even milk from animals that have been fed with contaminated feeds.

## Blood in the urine is a very bad sign

My cow fell sick showing a clinical sign of blood in it's urine. I consulted the local veterinarian who later attended to the animal, but the problem seems to persist resulting in decreased milk production. Please advise me on the treatment measures.

Blood in the urine may be caused by various bacteria, parasites, viruses, tumors, or by poisoning. The kidneys, the urinary tract or the bladder may be affected, but the exact reason can only be diagnosed in a laboratory. Many of these conditions are serious or life-threatening, so consulting a veterinarian was the correct and best thing you could do. Did the vet not explain

to you what your cow was suffering from? Because there are just too many possible reasons for your cow's state, we regret not being able to give recommendations for your specific case.

The best we can do is to give general advice on how to keep dairy animals in good shape and how to strengthen their disease resistance:

- Provide as much high quality roughage, feeds and clean water as the animals will consume, even during the dry season.
- Keep the stables clean, dry and well ventilated. In a zero grazing unit, remove all manure and urine two times a day. Animals should never stand or

sleep in their own droppings.

- Provide enough space for exercise (at least 10 square metres for each cow or 4 square metres for each goat in a Zero grazing unit).
- Maintain very strict milking hygiene. Wash and dry hands, teats, containers and other equipment before and after every milking.
- Make sure the animals are not lame. Check and trim their feet before and after every rainy season.
- Follow a suitable de-worming and tick-control programme.
- Vaccinate your animals according to the recommendations given in your region.

## Coughing cow? See the veterinarian!

My cow has been coughing for the last one year. I have tried treating it with the drug Gerbil to no avail. What could be the problem? Which drugs are recommended?

The most common causes of persistent coughing in cattle are pneumonia, lungworms, and bovine tuberculosis. Although a slow and chronic course is typical of tuberculosis, the accurate diagnosis can only be made by a veterinarian. We urgently advise you to contact a vet if the animal is not healthy, or if it loses weight.

A few words on bovine tuberculosis: this is a notifiable disease, and suspected animals should be reported to the authorities immediately. Tuberculosis in cattle can not be cured! An infected animal is always a risk to human health, as people can contract the disease by consuming raw milk or by inhaling tiny invisible droplets

during close contact with the animal. This disease is life threatening and more frequent in Kenya than in most other countries of the world. Therefore always boil raw milk before you consume it! Preparing traditional fermented milk does not eliminate the tuberculosis bacteria.



Good management practices help maintain your animals health

## Cow eating placenta

It is said that the cow's placenta contains some important minerals for our cows. Should the cow consume the placenta? Farmer in Kangundo

Many animals eat the placenta after giving birth. The reasons for this are not fully known. One explanation is that the mother is instinctively cleaning up all evidence of her birth. Calves will follow their mothers only after a few days. A placenta certainly gives some kind of smell and may attract predators, so eating it up protects the nest and helpless newborn animals from being detected. Some animals also eat the droppings of their babies for the same reason. There may be a nutritional benefit, but it has not been observed that not eating the after-birth is associated with any kind of deprivation. We suggest letting the cow decide herself. The only danger seems to be choking, but this is rare. *Answers tsz*



## Potato seed crisis persists in Kenya

*The government has no potato-policy and has no will to recover grabbed land meant for seed multiplication.*

### The Organic Farmer

The potato seed production system in Kenya is in a shambles. Despite several efforts by Kenya Agricultural Research Institute (KARI) and foreign donors to revive the potato seed production, the government has failed to implement various programmes aimed at improving the quality of potato seed. More than 800,000 farmers in the country cannot get adequate certified seeds. So most of them just buy from neighbours or recycle their own potatoes. The result is not only a declining harvest year after year (see page 1); the use of uncertified potato seeds has caused a rapid spread of diseases including the devastating bacterial wilt to almost all potato growing areas in the country.

### Land grabbing to blame

Lack of land on which to multiply seed for sale to farmers is largely to blame for the current crisis. Back in early 1990s, more than 19,000 acres of land that was previously used for seed multiplication were grabbed by senior people in the government leaving KARI with little land for seed production. More over, sources within the government indicate that powerful individuals who are beneficiaries of the grabbed land are frustrating all efforts to start any government run seed production programme. Why? The five-year master plan makes it very clear: A committed strategy to expand the acreage for potato seed production would force the land grabbers to give back the stolen land.

### Intensified training

Currently there are only 50 certified potato producers in the country. The meagre number cannot meet the demand for potato seeds from farmers across the country. Already two years ago, the German Technical Cooperation Agency (GTZ), the International Potato Centre (CIP) and KARI recognized this terrible situation. The three institutions had embarked on a training programme for 120 government extension officers in potato growing areas. The officials were expected to train selected farmers to produce certified seed in various regions in the country for sale to other farmers.

However, the officials were transferred to non-potato growing areas immediately after completion of training. So the whole programme was dis-

rupted. As this was not enough, efforts by KARI to get the Ministry of Agriculture to allocate funds for rehabilitation of storage warehouses in its outstations have not been successful.

### Potato seed plan rejected

All these problems led to the formulation of the potato seed Master Plan. The blueprint was jointly prepared by KARI together with stakeholders in the potato sub sector and donors: The American development agency USAID as well as GTZ and CIP. The proposed strategy would have streamlined seed potato production in the country and ensured that potato growers in all regions have access to quality seed at all times.

But the government has trashed this strategy. Differences emerged between the Ministry of Agriculture and other stakeholders including farmers at a meeting held at the Kenya School of Monetary Studies in Nairobi on March 30 this year. The meeting, which was aimed at setting up a Potato Council to oversee the implementation of the potato seed master plan, ended up in disarray. The government came up with a different plan of setting up a Root Crops Policy plan that would have involved other crops such as cassava, sweet potatoes, arrow roots etc.

### More private sector participation

Stakeholders in the sector view the government's proposal as an attempt to avoid sorting out the real problems in potato seed sub-sector. This is in consideration of the scandalous issue of recovering the stolen land meant for seed multiplication. If the problem is not resolved, plans to revive the sector will remain a pipe dream.

If the original plan was implemented, it would have seen the setting up of a model storage facility and a training centre in each of the 24 potato producing districts in the country. The plan would have encouraged more private sector participation in the production of potato seed including companies that would buy potatoes for processing. The adoption of new technologies such as aeroponics would be enhanced.

The master plan also proposes the training of 25 farmers in each of the districts who would produce certified or quality assured seed for sale to other farmers. This would reduce the transport costs for farmers who have to travel long distances across the country to buy seed from KARI centres or individual seed producers, including private companies.

### Agricultural Training

Baraka Agricultural College is offering the following courses on sustainable agriculture for interested farmers:

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