

The Organic Farmer



The magazine for sustainable agriculture in Kenya

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New centres to help farmers

You have problems getting information on organic farming including essential inputs such as organic fertilizers? Soon *The Organic Farmer* will put up information centres known as *i-TOF* in a few selected areas in the country. In these centres farmers will have easy access to information, training and even buy essential organic inputs for their farms. Read more about this initiative on page 6.

Most agrovet shops are stocked with chemicals but rarely sell organic inputs



Diseases reduce passion fruit yield

Despite being a high value crop, farmers are getting low earnings from passion fruits due to diseases.

The Organic Farmer

There is a huge demand for passion both in the local and export markets, but farmers have been unable to exploit this opportunity due to poor yields caused by increased fungal diseases. There are two factors responsible for this problem:

- Farmers do not take the trouble to buy certified planting material from reputable seedling suppliers. If the planting material is diseased, farmers transfer the diseases to their farms.
- Another reason for the declining production is poor management by farmers which has led to the spread of diseases. Farmers rarely observe field sanitation; all diseased leaves, vines and fruits should be removed and burned or buried in a pit to stop the disease from spreading to the healthy plants. Old unproductive shoots and deadwood must be removed. All the equipment used for pruning should be disinfected to avoid spreading viral



A healthy passion fruit (above). Below is a fruit affected by alternaria fruit spots.



Photos: Infonet-Biovision

infection from one plant to the other.

To avoid a build-up of soil-borne diseases, passion fruit growers should ensure that they practise crop-rotation. Passion fruits should not be grown on the same piece of land for 2- 3 years to keep it free of diseases. A wide range of vegetables can be intercropped with passion vines such as beans, cabbages, tomatoes, potatoes, beetroot, Swiss chard, carrots, strawberries, leeks and head lettuce. However, plants in the pumpkin family (cucurbits) such as pumpkins and squash should be avoided as they bring in diseases such as woodiness and fruit flies. *Page 3*

Dear farmers,

Kenyan farmers are slowly beginning to change from the traditional method of relying on only one crop to a more diversified range of high value crops that earn them more income. It is encouraging to see that farmers are no longer waiting for other people to come and solve their problems for them; they are taking their own initiatives to better their income.

We are saying this from what we have observed in the past few months. We have received dozens of questions from farmers who want to diversify into new high value crops and keep livestock in a professional manner. One example we can give is the large number of farmers who have gone into the production of passion fruits; others have begun poultry keeping as a business, as you can read on pages 5 and 6. These farmers can count on the increased demand and the good prices these products fetch in the market.

However, this new interest at diversification should be matched with a will to adopt the best production practice that enables them to attain the desired yields. But the situation is quite the opposite on the ground. Although most farmers have gone into production of these high value fruits and vegetables, their poor management methods have led to low yields: For example passion fruit production in the country is declining. The main cause for low production is the increase in fungal diseases. With crop rotation and field sanitation, farmers can effectively prevent and control these diseases.

Our farmers are really struggling to better their income, and they are hard working. But working hard is not enough; they need to have the right skills to do things the correct way. Since farming is a business, farmers have to adopt the best methods to increase production and avoid incurring losses. This not only needs an intensive search for more knowledge on how to grow crops such as passion fruits. But it also requires effort to look around for certified seedlings. To buy them from roadside nurseries might be the easiest way; they are near and one can avoid the transport costs to well known and recognised nurseries. But this short cut will cost them dearly, because even the best farmer cannot expect to get a good crop when the seedlings are already infected with disease.

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Medicinal plants bring fortune to farmers

Mondia and ocimum kilimandscharicum plants are a source of income for Kakamega farmers.

Anja Bengelstorff

Before they started conservation work in Kakamega forest in western province of Kenya, it was just one of the fast disappearing tropical rain forests in Africa, exploited for firewood, timber, charcoal and building posts. But now the African Insect Science for Food and Health (ICIPE) must be proud of their conservation efforts. They have not only managed to save the forest, they have also shown the surrounding farming community the benefits of conserving its rich biodiversity while exploiting its resources to improve their livelihoods.

The forest is host to many medicinal herbs; among these are the *mondia* and *Ocimum kilimandscharicum*. For centuries the local communities had used these plants to treat various ailments. But it was not until the ICIPE came to the area that the community realised that they had been sitting on gold; the medicinal plants could be processed and sold in the markets, locally and abroad. A powder developed from *Mondia whytei* is used as a revitaliser, appetizer and clearer of

hangovers: A group of farmers who have domesticated the "highly threatened" medicinal plant, known locally as "Mkombela" (*Mondia whytei*), used to collect and sell the roots locally. The plant is widely distributed in tropical Africa. In Kenya, it is more prevalent in the remnant tropical rain forest of Kakamega. *Mondia whytei* is also known as *mondia*, or Whites's ginger. It is a vigorous climber (3-6 m high) with attractive heart-shaped leaves and a vanilla aroma.

Remedy for flu

Another group of farmers is involved in the domestication of the medicinal plant *Ocimum kilimandscharicum*, commonly also known as kilimanjaro basil, camphor basil, hoary basil or feverplant. A leaf extract from the plant is used in the manufacture of a balm and an ointment used to treat flu, cold, chest congestion, aches, pain and insect bites.

Ocimum kilimandscharicum is one of the species of the genus of the *Ocimum* plant that is native to East Africa. It is an evergreen aromatic perennial under shrub. It thrives as a natural rounded, woody shrub that can grow to a height of up to 2 m. It has an efficient rooting system and perennial habits which prevent soil erosion where it is grown. The plant requires little management in the field and no pesticide control.

"We believe the project has a major role to play as a model for conservation or biodiversity and in the improvement of the livelihoods of communities living near the forest," says Wilber Lwande, ICIPE leader of the Applied Bioprospecting Programme. "It is also one of the ways of enabling indigenous traditional knowledge to be useful to humankind before [that knowledge] is entirely lost." According to ICIPE, this is a new venture that is developing a sustainable financing plan and with measures to increase farm productivity to enable farmers to exploit the potential markets. The total asset base for both community groups amounts to Ksh 7.5 million, including buildings and equipment.

Communities living near the forest relied on it for firewood, building materials and various herbs. However, since commercial cultivation and processing of

the medicinal products began about eight years ago, reliance on the forest has decreased, allowing better forest conservation.

Community enterprise

James Ligale, assistant administrator of the *Mondia* community enterprise, said

a group of 30 farmers, known as the Muliro Farmers, were involved in the initial domestication of the *mondia* plant, which takes six months



Mondia whytei

to mature. These farmers have since encouraged outgrowers to cultivate the plant, which is processed at the factory MFCCG Enterprise Shinyalu, built with financial assistance from international donors.

Products of these medicinal plants that are currently available at supermarkets like Nakumatt are Naturub Balm and Naturub Ointment (30 grams, Ksh 179, against muscular aches and pains), made of Camphor from *Ocimum kilimandscharicum* as the main ingredient. The root barks of *mondia* are processed wholly to make *Mondia Tonic*.

Additional income

The farmers harvest the plants three times a year and earn three times more from *mondia* or *Ocimum kilimandscharicum* than they did cultivating crops like maize and tea. On average, a farmer makes Kshs 35,000-40,000 a year from one acre. The cultivation of *O. kilimandscharicum* does not involve external inputs like fertilizers, pesticides or insecticides. However, Evelyn Ndenga from ICIPE's Applied Bioprospecting Programme points out that farmers around Kakamega forest still grow maize, beans and other food crops. Cultivating those medicinal plants was meant to provide supplementary income and reduce dependency on the forest, she says. Currently, nearly 1,500 farmers within four districts around Kakamega forest grow the two plants.

Ligale said those who previously lived in grass-thatched houses now have better homes; awareness about environmental conservation has improved. Many local people now seek computer and business management skills to improve their production and marketing.



Ocimum kilimandscharicum

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How to control passion fruit diseases

Farmers can increase passion fruit production and income, if they can be able to identify and prevent fungal and bacterial passion fruit diseases.

The Organic Farmer

A major problem facing passion fruit farmers across East Africa is an increase in fungal and bacterial diseases which have forced most growers to stop production altogether. To help farmers, we have compiled a list of the most common diseases, how they can identify them and measures they should take to protect their crop. We hope farmers will use the information to prevent the diseases and improve on passion fruit production:

Brown spot disease (*alternaria passiflorae*)

This is the most important disease in the passion fruit production in the world today. Its symptoms are brown spots on leaves, vines and fruits. The spots can be up to 10 mm in diameter on the leaves often extending along the veins and drying out in the centre. On the stems, spots are up to 30 mm long. When they occur at the leaf edge, they may kill the vine, resulting in "dieback" appearance. On the fruit, the spots are light brown, light and sunken; they often merge, covering large areas and produce large brown spore masses. Spores produced on the leaf, stem and fruit, are dispersed by wind-blown rain. Warm moist weather favours the disease's development.



Preventive measures

- Planting disease-resistant varieties such as yellow passion and its hybrids is one way of avoiding this disease.
- Collect all diseased leaves and vines and ensure the field is free of any fruit residue.
- Prune vines to reduce density and humidity that encourage the disease.
- Spray copper-based fungicides. An interval of 2 to 3 weeks should be observed in order to protect new shoots.

Septoria spot (*septoria passiflora*)

The disease attacks leaves, stems and fruits. Brown spots up to 2 mm with tiny black dots develop on leaf surface. Infected leaves fall off (the diseased vines have no leaves). Light brown spots with tiny black dots can be seen on the fruit. Spores produced by the black dots are blown by wind to other vines during wet, windy weather further spreading the disease. The disease is spread by rain, dew and overhead irrigation. Warm moist weather favours the development of the disease.



Preventive measures

Preventive measures are the same as those of the brown spot disease.

Fusarium Wilt (*Fusarium oxysporum f.sp passiflora*)

Symptoms consist of yellowing of leaves, collar region of affected plant at soil level turns brownish and vertical cracks. The vines wilt, followed by a complete collapse of the plant.



When the stem is split, its vascular tissue shows brown discolouration.

Preventive measures

- Affected plants should be removed and burnt. Snap off the affected parts or remove the affected plant manually.
- Do not cut affected plant tissue and then use the same on other healthy plants.
- Keep the base of the plant clear of grass and weeds which encourage fungal development.
- Grafting to wilt-resistant yellow passion fruit rootstocks is the most effective way of controlling the disease.

Phytophthora blight (*phytophthora nicotianae* var. *parastica*)

Affected leaves are water-soaked and light brown in colour. They fall easily leaving the vines without foliage. The affected areas of the stem are first purple and later brown above the graft union. They may completely girdle the stem causing wilting and collapse of the vine. The fruit shows large, water-soaked areas and the diseased fruits fall off easily and are later covered with a white fungal growth. Another strain of fungus (*phytophthora cinnamoni*) causes root rot. The yellow and purple varieties have different patterns of susceptibility. The yellow vine is affected by the fungus *p. cinnamoni* and the purple vine is susceptible to *P.nicotianae*. Both fungus strains attack both passion fruits and can cause root rot, wilt, damping off and leaf blight. Fungal spores are initially produced in wet soil beneath the vines and are splashed up to lower leaf canopy. Wet windy weather encourages the disease.



Preventive measures

- Observe good field sanitation
- Prune and keep the ground covered with grass to reduce the possibility of disease spores being splashed on the lower leaves
- Graft with resistant varieties
- Apply copper-based fungicides every 2-3 months during the wet season to reduce disease incidence. Wounds on the stem can also be painted with copper-based fungicides.

Passion fruit woodiness Virus (PWV)

Passion fruits affected by viruses in this family show light and dark green mosaic pattern often with light yellow speckles. At times small, yellow ring spots may develop on upper leaf surface. Infected fruits are small and misshaped with very hard rind and small pulp cavity. When the affected fruit is cut, the inside rind tissue may have brown spots. Some strains of the virus cause cracking of the affected fruits. The viruses are spread by aphids and pruning knives. It is also found in bananas, pumpkins and many other weeds



Preventive measures

- Farmers are advised to use clean planting material
- Use clean pruning tools
- Use resistant rootstocks such as yellow passion fruit.
- Remove diseased vines from the field
- Ensure the passion field is free of weeds.
- Do not plant bananas or pumpkins near passion fruits.

Source Infonet-Biovision

Ticks pose a great danger to livestock

They look small, but they can cause heavy economic losses to farmers if not controlled on time.

The Organic Farmer

The worst of all types of ticks are the brown ear ticks. They harbour the parasite that causes the dreaded East Coast Fever (ECF). Ticks are masters of survival. Burning the pastures does not help as ticks hide up to 20cm deep into the soil, and they can survive for up to two years without food. Moreover, the main problem is that ticks are quickly getting resistant to chemicals; farmers should frequently change the chemicals they use to control them. Worse still, many agrovet shopkeepers are not willing or able to inform the farmers about the efficiency of acaricides (anti-tick chemicals). Very often, farmers dilute the chemicals too much in order to save money.

The most promising chemicals are those made from synthetic pyrethroids (chemicals that act in the same way as pyrethrum). They are applied in dips or by hand spraying. These chemicals also come in oil-based formulations that allow the farmer to pour on the animal's back. The oil spreads throughout the animal's body repelling any ticks.

Since the frequency of application is normally on a weekly basis, the cost of this control measure is too high for many small-scale farmers. Dipping for instance, costs 15 to 20 shillings per cow every week. It is unfortunate the Government stopped the management of cattle dips and handed them over to communities or private dip-owners. Very often farmers are cheated as the dip-owner does not apply the right and/or sufficient amount of chemicals which have made ticks to develop resistance to some of the chemicals.

With fencing, pasture management and rotational grazing farmers can avoid or reduce the damage caused by ticks; zero-grazing for instance sharply



A brown ear tick before sucking blood reduces the effect of ticks. Free-range chicken if allowed to roam in the cattle shed can pick and thus reducing the population of ticks in a cow.

Organic ticks control methods

Diatomite: This white powder of Diatomaceous earth is efficient in the control of ticks. The sharp edges of its particles perforate all body parts of insects and at the same time absorb the body fluids. This results in total

dehydration and eventual death. As it works physically rather than chemically there is no chance of insects building up an immunity, or resistance. It can be dusted on cattle, pigs, goats etc for control of ticks and fleas.

Pyrethrum: Pound 250g of dried flowers with little water into paste. Dissolve in 10 litres of water and boil for 20 minutes. Leave it to stand for 12 hours, then sieve and apply with a knapsack sprayer. Alternatively, one can mix 250g of dried flowers in 10 litres of water and let it stand in a dark room for 12 hours (always use protective clothing when handling pyrethrum).

Tobacco: Boil 1 kg of fresh tobacco plant leaves in 10 litres of water for 30 minutes. Allow to cool, filter and rub the preparation on the infested animal using a clean cloth. 5 litres of this solution are enough for an adult cow.

Plant extracts: There are some other plants that are efficient as repellents, for instance



A tick infested ear (above left). Areas affected by Brown ear tick in Kenya

The soft ticks that affect chickens

The chicken soft tick, (*Argas persicus*) is a serious pest in chickens and it causes a great loss to the poultry farmer. Although the parasites very seldom kill the chicken instantly, losses occur in terms of stunted growth, decreased body weight in broilers and layers and reduced egg production. Chicken soft ticks can cause economic damages, as the egg production of layers can drop to more than 30 percent. They can cause paralysis and can also transmit a disease called spirochaetosis, which is a gut condition that leads to diarrhoea.

In cases of an infestation, the larvae are found all over the cages day and night, while the adults hide in cracks and crevices during the day and emerge to attack the birds and suck blood at night. The female lays eggs in the cracks and crevices of the poultry house and under the bark of trees in batches of 100-250. Each female lays 4 to 7 batches of eggs in her lifetime.

Preventive methods

Efficient poultry management methods

assist materially in minimising parasites population.

- Sanitary measures (cleaning or fumigating the chicken house) should be properly carried out.
- Periodic removal of droppings as a source of breeding places for many insects and beetles should be practiced as some insects and beetles transmit chicken diseases.

Control methods

Diatomite: As mentioned in the article above, is a very effective method in soft tick control if dusted on the chickens. Dust chickens in diatomite daily and dust housing, change bedding etc. weekly as the ticks live and breed in the bedding and in cracks in the chicken house.

Pyrethrum: Dip chickens twice a week in a pot filled with the pyrethrum extract (preparation see article above).

It is important to ensure chicken are released to run around the compound and have enough space for movement, this helps to reduce the build up of pests in chicken house.

Series on parasites

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



Chickens require good care to be productive

We are receiving many questions from farmers regarding poultry keeping. This is a clear indication that they regard poultry keeping seriously and as a good source of income. However, disease control and general poultry management are some of the challenges farmers are facing. Proper

housing, feeding and sanitation are important in any poultry keeping enterprise. In this issue, Su Kahumbu attempts to answer some of the questions we have received in the past few weeks; we have answered many other questions directly by phone.

My hens are not laying eggs!

Kitui Children of God Relief Institute is rearing Kienyeji (indigenous) chickens, we have 130 of them since January 2009. My worry is that they have not been laying for all that long. Please advice.

Ann Tel. 0725 085 184;

Hi Ann, I would need to know the ages of the hens to answer this question, layers normally start laying at around 7 months of age. It could just be that your hens are young? Also do not expect them to lay, all at the same time and as they are kienyeji types, they may have a few days interval between laying. If they are not the same age, you will get some laying while others may take time to start laying.

Sometimes we make the mistake of expecting 130 chickens to produce 130 eggs. This would be ideal, and would be a 100% production. But, more often than not, only 70% of your brood will be actively laying at any one time. In your case, the fact that they are kienyeji and could perhaps be of mixed age it is hard to tell how many should be laying.

Unless the birds are looking unwell, with ruffled feathers and sunken eyes, I would not be worried. Make sure they have access to ample clean water, feed, sunlight and enough space for roaming around. Keep them happy and you shall be rewarded.

Kenbro chickens in big demand

Dear Su, I am a month old Kenbro Poultry Farmer. Please give contacts of farmers of the same. I need to learn from them. Thank you. Anna, Ruai Tel. 0722 388 949.

Dear Anna, I do not currently know of any farmers producing Kenbro at the moment. I produced them myself and found them to be so much fun. They seemed more alert than the normal white meat producing chicken, almost like a cross between a layer and a broiler. They seemed to be more resistant to disease, I reared mine free range so that during the day they were outside in an enclosed area, but during the night they were in an indoor secure area. This meant that they spent a lot of time running around enjoying the outside. They seemed much more active than broilers and this could be why they gained weight at a slower pace. They seemed to be roughly 3-4 weeks behind the growth weight of white broilers of the same age. Physically they also had longer legs and when slaughtered, had a redder meat than the white broiler which has very white meat.

I also noticed that as they grew up, they seemed to mature quite quickly and we soon had very clear ideas which were female and which were male due to their crown size and calling sounds. The males had large crowns and started waking us up in the morning as roosters normally do!

Another very interesting observation was how they were so hardy when they were chicks. We had 1% mortality with the Kenbro's whereas we had 4% with the white broilers. I hope this information helps and would encourage any readers who are rearing Kenbro's to call you so that you can compare your production experience.

A broody hen changes its behaviour

I would like to venture into poultry farming. How will I know that a hen wants to incubate eggs? Tel. 0727 599 114.

This is a good question, and the answer largely depends on the type of chickens you have and also sometimes the character of the chicken.

Hybrid chickens like the commercial red and black layers are extremely bad

continued on page 6



If provided with good care all chicken breeds will lay eggs.

Photo Kamau

Preventive medication for chickens

Which is the most effective medicine against early mortality in chicks? Can it also prevent them from getting diseases (both Turkey and hens)?

Tel. 0712 249 845

Poultry chicks normally suffer from coccidiosis which can lead to death. This disease can be detected when you notice the chicks starting to have a loose stool, at first a brownish colour that soon changes to a bloody colour. There are many sulphur-based remedies available from agrovet shops that you can mix with the drinking water. Another solution is EM effective micro-organisms. A teaspoon of EM in 5 litre of drinking water helps to prevent this disease, as does a teaspoon of vinegar in the drinking water. It is also a good

idea to add some vitamin drops to the drinking water when the chicks are unwell.

A trick I learnt for spraddle leg (this is a condition where they cannot stand and their legs seem to grow at funny angles from the knees) which is very common in broilers is to add a few drops of cod liver oil to their drinking water once a week from the time they are 4 days old. On average I would get at least 5 chicks with spraddle leg, I swear by this remedy of cod liver oil. Be careful not to use too much as it will give the chicks loose stools. Also be sure to start early as once the knees are affected it is almost impossible to cure as the birds gain weight and put more pressure on their joints.



brooders infact they do not brood. They lay an egg a day for a period of about 18 months if they are given a good layers feed. Once the egg is laid they get up and go. They very rarely stay for longer than a few minutes before they are on their way. If they happen to lay the egg in an open field and not in a nesting box, they more than likely will not come back to it, though they may lay another egg in the same place the next day. They do not get broody or defensive and do not hide their eggs very well.

A *kienyeji* chicken on the other hand does not lay every day, and when she starts she finds a secretive spot if possible. She will continue to lay every day for about 12 days and then she will start to brood her clutch in the most protective manner. As she builds up to this stage you will notice her behaviour change. Where she may have been very normal she suddenly becomes secretive and at times you may think she is lost as she hides for long periods of time.

Observe carefully

An easy way is to watch your hen and see where she is laying her eggs. If she is a *kienyeji* type, leave an egg or two where she is laying her clutch. You may take some away for safety, however when she sits to incubate the last one return all the eggs to her. Be careful when doing this; wait until she is off to feed.

If you would like to brood many eggs a combination of a few red layers with *kienyejis* and some cockerels is good. Hopefully the cockerel will mate with both types of hens and fertilise all the eggs which you can brood under the *kienyeji* hens. On the character of chickens, sometimes you get the odd hen that is expected to brood but decides not to and vice versa. Observation can be very enlightening and a lot of fun.

Serving farmers with information and inputs

Since we started the publication of *The Organic Farmer*, we have always mentioned a number of organic inputs that farmers can use in organic production. However, most farmers cannot be able to get these inputs in every part of the country. Every week, we receive enquiries from farmers: "TOF, where can we buy diatomite powder, neem or pyrethrum-based insecticides? Our local agrovet shops do not stock them." This is an indication that many more farmers would like to go organic but it is difficult for them to get the right inputs.

Another serious problem is training and information. We are really committed to uplifting the standard of farming and raising incomes in rural areas. To achieve this objective, we have decided to set up four farmer information centres in selected parts of the country; They will be called *i-TOFs* (since they are connected to and managed by *TOF*). These centres will have two basic functions: Transfer of knowledge and assisting farmers to get organic inputs.

1. Transfer of knowledge: The information centre will be a library of sorts that will provide farmers with a bulk of information they need. All issues of *The Organic Farmer* since we started publication in 2005, will be available in one big volume for farmers who would like to make a reference. The centre will also be equipped with a computer which has all information on farming from the infonet-biovision project (you remember the cartoon of the farmer sitting at a computer)? Each of the centres will have an organic agricultural extension officer. He/she will be in the centre for two or three days in a week to assist farmers who may need some information or advice. The remaining days of the week, the extension worker will visit the various farmers groups to train them on organic farming technologies such as making plant extracts, compost making or visit a farmer who may be facing a pest problem or disease. These services will be offered free of charge.

2. Organic input scheme: One main problem as we have mentioned above is the lack of organic inputs in almost all parts of the country. There are about 15 organic inputs that farmers really need in organic farming, because much of the material used in organic farming is available on farm. After a lot of discussions with farmers, agrovet shops and manufacturing companies on how we can make the inputs available to farmers, we came up with the following solution: The *i-TOFs* will be connected with a local agrovet shop, which will stock organic inputs in a section of the shop. It is from this shop that farmers can get the organic inputs they need; of course they have to pay for it! *TOF* will produce a small leaflet on how to use the various inputs in the correct way.

Make use of centres

The four centres are a kind of a pilot project. They offer farmers a good opportunity to get information, to talk together and to share experiences – the *i-TOFs* could become a sort of a market place. At the same time farmers will have an agrovet shop where they can buy organic inputs. If they expect the agrovet shops to stock them, they have to buy the inputs. No shopkeeper can keep or buy stock which they cannot sell, in the same way that no farmer will grow a product which they cannot sell or eat. Depending on the success of these centres, the project can be expanded to other parts of the country.

In our July issue of *The Organic Farmer* we will inform you more about these *i-TOFs*, give you details where they are and how they will be operating. We shall repeat this information in our August issue.

In July and August, all our readers including farmers groups, agricultural extension workers and organisations working with farmers will be updated on this new service. The same will be aired through our radio programmes on KBC radio.

Do not play politics with maize

I am very disappointed at the way our politicians are playing politics with maize. This is happening at a time the country is facing a critical food shortage. The daily reports in the local press and the electronic media are very confusing to Kenyans. Quality is not

the work of politicians. I think this is very unethical, the government should come out and state its position regarding the quality of the imported maize. nobody can risk buying a commodity whose quality is questionable.

Mary Oduor, Nyanza

Select well-bred dairy cows

Please send me information on where I can buy pedigree dairy in calf heifer registered with the Kenya Dairy Recording Services.

Charles, 0738 397 977

Indeed, dairy farming as a business requires that farmers acquire good sources of breeding stock. Most livestock breeder farms are encouraged to register their animals with the Kenya Stud Book by the Kenya Livestock Breeders Organization. The Kenya Friesian Breeders society is a member of the Kenya Livestock Breeders Organization.

There are several Friesian dairy farms that are members of the two societies and are registered with the Kenya Stud Book. If you are interested in a Friesian in calf pedigree heifer, you can make enquiries about the availability



through your nearest District livestock extension office or by direct contact, to the under listed farms. William Ayako

Upgrading or replacing your dairy cows?

This list of farms with the best breeding stockist is very helpful. However, the cost of these pedigree cows is quite high (between Ksh100'000 to 200'000) and beyond the reach of many small-scale farmers, not to mention the high level of management, feeding and maintenance. The Kenya Dairy Board (KDB) together with a number of organisations in the dairy sector are

encouraging farmers to upgrade their dairy cows through selective breeding. Pokea Farm Njoro (Tel. 0733 555 621) has a training programme for dairy farmers who want to upgrade their milk herds. Farmers groups interested can contact this farm and arrange for training. The farmers have to pay a fee for these training, depending on their location and duration of training. **TOF**

Maize cobs are poor quality feed

What is the nutritive value of maize cobs in feeds? 0722 304 469

As much as maize cob is regarded by most farmers as an important feed resource during dry season in some parts of Kenya, it is generally of very poor quality in terms of the available nutrients it contains. Some studies done in Kenya as well as Tanzania in the seventies indicate that the crude protein value in the cob varied between 3-4%.

This value is too low to support the protein requirement of a dairy cow if offered as a sole diet. Other implications involved in feeding such a poor diet include low voluntary intake, poor digestibility and hence reduced production (growth or milk).

The metabolisable energy (ME) in the cob was reported in those studies to range between 1.60 – 1.80 Mcal/kg of dry matter. While the required ME for maintenance of a steer weighing 300 kg was 9.4 Mcal, the cob was found to contain 7.99 Mcal. Another negative attributes of maize cob include high fibre content estimated at about 30% of the dry matter. **William Ayako**

Some farmers wrote to us that they are using maize cobs as feed and that they never had any problems.

This is okay. But farmers, who need to use maize cobs because of lack of other feed are advised to incorporate ingredients with a high protein content such as soya bean meal, fish meal sunflower or cotton seed cake to make the feed more nutritious. **TOF**

Termite control is not easy

I planted 1000 seedlings of eucalyptus (South African variety) but I have lost almost all of them to termites. Please advice. Tel 0722 269 184

Termites are very difficult to control once they have established themselves in an area. But you can try spraying with a solution of bicarbonate of soda and dishwashing soap in water. The proportion should be 1 teaspoon-

ful of bicarbonate to 1 litre of water. Hot water poured into a termite nest can also eradicate them. Urine also repels termites especially if it is applied around the nest. Mulching material tends to attract termites because they feed on decaying plant material. Try and remove all these type of plant material around your seedlings and see if this will keep termites away. **TOF**

Breeders

Kapsoen Farm, Box 1025, Kitale,
Mweiga Estates, Box 453 Nyeri,
Wangu Embori, Box 219 Nanyuki,
Tintawn Farm, Box 631 Karuri,
Pokea Farm, Box 157 Njoro,
Kenana Farm, Box 23 Njoro,
Sunset Farm, Box 13366 Nakuru,
Kimwatu Farm, Box 256 North Kinangop,
Nyara Tea Estate, Box 18 Limuru,
Amboni, Box 595 Nyeri,
Risa Farm, P. O. Box 641 Nairobi,
Chura Farm, Box 244885 Karen Nairobi
Deneside Farm, Box 72 Njoro,
Maradju Ltd, Box 362 Naivasha,
Fairview Dairies, Box 48592 Nairobi,
Chemusian, Box 86 Menengai West,
Kihumba's Dairies, Box 14827 Nakuru,
Homa Lime Company Box Private Bag Koru,
Ngamini Farm, Box 33 Njoro,
Ngera Fancy Farm, Box 1273 Nakuru,
Thengeini Farm, Box 611 Nakuru,
Egerton TDU Farm, Box 536 Njoro,
Bonbeef Farm Ltd, Box 17947 Nairobi,
Baraton University of East Africa, Box 2500 Eldoret,
Ngongogeri Farm, Box 140 Njoro,
KARI- Naivasha, Box 25 Naivasha,
KARI Ol joro orok, Nyahururu Private Bag Ol joro orok.

...answers in brief

Carrots

Which diseases affect carrots? Tel. 0725 652 290

The main disease that affects carrots is the leaf spot disease (*alternaria dauci*) whose symptoms include small spots on the leaves. This



disease makes the whole crop to turn brown especially during wet conditions. The disease can wipe out the whole crop if it is not controlled on time. You can treat the crop with copper based fungicides which are allowed in organic farming. Another common disease is the bacterial soft which can be controlled through crop rotation and maintaining crop hygiene.

Vegetables?

I would like to get information on vegetable dehydration. Kipsang Kirui Tel. 0729 594 704.

There are several simple driers that can be used for vegetable drying. We are yet to identify a suitable drier that is affordable for small-scale farmers. Soon we will write an article on various methods and equipment that farmers can use for dehydration.

tips and bits

from farmers for farmers

Plant trees and restore our fast disappearing forests

With the long rains having started in most parts of the country, this is the most appropriate time for farmers to start planting trees. The forest cover in the country has reduced from 10 to 2 percent in the last 20 years. One of the reasons for deforestation is largely due to human encroachment into our gazetted forest areas. Most farmers know that it is now very difficult to predict rainfall patterns due to climate change. This has affected food security and made it difficult for farmers to plan their farming activities. Our water sources have reduced and many former permanent rivers are now seasonal streams.

Farmers have been blamed for deforestation since most of the forested land has been turned into farmlands, but they can also be part of the solution if they embraced the tree planting on their farms. Trees have many benefits to farmers; apart from being a source of firewood and building material, they also prevent soil erosion. Farmers have many options on where to plant



Good seedling grow into healthy trees

trees. They can be planted on hedges or even along the terraces. Trees have many advantages, they can grow on hills and rocky places, they do not dry easily during times of drought and help protect fields and houses from wind. Agroforestry involves the planting of trees and crops or pasture on the same field. Farmers can choose to plant fruit trees and crops together; the trees in this case help the crops by drawing water from deep in the soil

while keeping the soil fertile and cool. But farmers need to be careful when choosing the type of trees to plant. Trees such as the eucalyptus or pines should not be planted near crops. The best trees to plant with crops are those that help fix nitrogen such as grevillea, leucaena or even sesbania.

The best way to plant trees is to do it in rows (also known as alley planting), using this method: Farmers can leave a space of 2 to 5 metres between the tree rows and then plant their crops between the rows. If the trees are nitrogen-fixing, they can provide the plants with nitrogen and mulch, which stores moisture and organic matter for use by the plants. Trees that are planted with crops should be fast growing varieties which can be pruned and be able to regenerate after a short period. Trees such as eucalyptus can also be planted in an isolated part of the farm which is not being used for crops. Such perennial trees are planted in a wood lot mainly for the purpose of providing firewood, timber or building material.

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To advertise contact: James Mwangi 020 356 4106, email: thefarmersclassified@mailnew.com



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