

# The Organic Farmer

The magazine for sustainable agriculture in Kenya



Nr. 69 February 2011

## Dairy goat feeding and housing

Poor management and negligence in feeding and housing are responsible for low milk production in dairy goats. They require balanced diet, clean feed, water and space to move around. The picture shows a bad example of a dairy goat shed, where does (female) and bucks (male) are kept together.



### You want TOF in 2011 ?

Deadline 15th March 2011

We still have a problem: TOF has more applications than available printed copies. That is why we sent, in the November issue, a short questionnaire to all the farmers' groups and institutions on our mailing list. We would like to know if our targeted readership, the small-scale farmers, are getting our magazine.

Many institutions and farmers' groups have responded. Many have not sent us back the questionnaire. Maybe they never took it seriously, or it was just lack of interest. We would like to extend the deadline so that the information is sent back to us. On page 6, you find the questions which should be answered. Use a piece of paper, write the question according to the numbers, add your answer and send it immediately to our office: *The Organic Farmer*, P.O. Box 14352 – 00800 Nairobi. All farmers' groups and institutions, which do not respond by 15th March 2011, will be deleted from the mailing list. *The editors*

### TOF on internet

Many farmers ask us for old copies. Unfortunately, we no longer have past issues of TOF. But you can go to internet and download back issues as well as the latest one. Just go to [www.organicfarmermagazine.org/alltofs/](http://www.organicfarmermagazine.org/alltofs/)

## Can farmers' groups work together?

A farmers' group in Central had a promising opportunity to supply the market in Nairobi with organically produced eggs. After an excellent start, they earned Ksh 360'000 monthly. Three years later, the group collapsed. Why is it so difficult for many small-scale farmers to cooperate as a group, even if they know that they have more to gain by working together than individually? *Page 4 & 5*



Where to get tree seeds and seedlings. *Page 2*

## The type of chickens matters in egg production

In poultry keeping, the difference between producing eggs on free range, organic or from indigenous chickens is largely on the choice of bird, not the method of production. *Page 4*



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## Dear farmers,

On page four of this issue, we write about a farmers' group which began a very promising project of organic egg production, raised quite a good income for all members – but failed after three years. Of course, selfishness played an important role. But it would be too simple to blame this as the main reason for the collapse of the group. Similar failures are reported to us every week. In 95 % of the cases, financial issues are the root cause of the problems.

Farmers' groups may work together quite well for some years. But as soon as money comes in, the problems start. Why?

1. Farmers' groups very often lack clear legal structures and a binding description of their goals and how to attain them.

2. At times, members who are very vocal or successful assume leadership, using their eloquence and financial might. Rarely do members question the capability of such leaders, neither do members probe the past behaviour or willingness of such leaders to work for the common good of the group.

3. The duties and competencies of the committee members are not clearly defined. At times, these are high-handed members and consider their positions as a personal power base.

4. Many farmers' groups or CBOs lack mechanisms to control the work and to remove errant leaders if they do not serve the interest of the whole group.

Lack of clear administrative structures, transparency, fairness and workable control mechanisms usually lead to problems, aggravated by human factors such as jealousy and selfishness.

All these situations are quite regrettable!

Right now, there are numerous opportunities available to small-scale farmers working harmoniously as groups, such as access to loans, support for common projects, not to mention the possibility to market their produce together to raise required volumes.

We can blame a lot of factors for the poverty ravaging many small-scale farmers, such as small land sizes, lack of inputs, lack of credit for investment or even weather conditions. Many of these disadvantages could be easily overcome if only farmers would be able to work together.

# Quality seeds the starting point in agroforestry

*Farmers need to select seeds carefully for proper growth of the planted trees.*

## The Organic Farmer

After starting the series "our trees – our future" we got quite a lot of calls from farmers asking us for places where to get seeds and seedlings. Even if we are aware that one can find a nursery in nearly all regions of the country, we publish below some addresses where farmers can go to.

However, farmers can build up their own nursery. It is advantageous if they plant trees that do well in their area. When collecting seedlings, pick equal number of seeds from each tree, this avoids inbreeding in future generations. Collect seeds only when the tree is at the peak of seed production; store the seeds in a cool, well-ventilated room.

### Pre-treatment of seeds

Before planting your seeds, find the best way to prepare each seed type. Some seed in nature will only germinate after a fire burns them or after being eaten by animals. A farmer can imitate these conditions in order to

### Tree action box

After reading the December 2010, TOF, I have decided to plant over 100 trees on top of the 150 that I had planted. Right now I have more than 250 seedlings in the nursery in my shamba in Subukia Valley, Peter Kamau 0724 848 856

Stephen Weru Kariuki of Miti Mingi location in Elmentaita, has pledged to plant 212 trees in 2011. 0725 880 696

I support The Organic Farmer magazine in its tree planting campaign and the United Nations in declaring the year 2011 as the year of the forests. Wellington Njeru 0720 996 322

I will plant 50 trees on my land in Trans-Nzoia and 400 on my family land in Bungoma. Geoffrey Tumwa in Kitale 0713356281

encourage seeds to germinate. Ways to do this include:

**Water treatment:** soaking the seeds in cold or warm water

**Mechanical method:** Nicking (making a small cut on seed to ease germination), piercing, chipping, cracking, dewatering, burning.

### Use cuttings

If you prefer cuttings, take care that you

get them from woody branches which are at least a year old; they do better than soft, freshly grown branches. Cut them in the rainy season and plant them quickly to avoid drying out. Do not forget to label them!

(There is a good Book for reference: GROWING TREE AND GARDENS FOR LIFE published by the World Agroforestry Centre P.O. Box 30677, 00100, Tel. 020 722 4000)

## Where to buy tree seeds and seedlings

Good quality tree seeds and seedlings are not easy to get. In our series on trees, we have found it necessary to provide information to farmers on where they can buy tree seeds:

### Kenya Forestry Research Institute

Kenya Forestry Seed Centre P.O. Box 20412-00200, 0724 259 781/2

Email: kefri.seedcentre@yahoo.com website: www.kefri.org

**Coast Regional Research Centre- Gede,** P.O. Box 1078 80200, Tel. 042 320 22, 223,863, 358 Email: cdgede@kefri.org

**Londiani Regional Centre,** P.O. Box 382, 20203, Londiani Tel 052 64028

**Maseno Regional Research Centre,** P.O. Box 25199 4080, Otonglo, Kisumu Tel. 573 51164, 0713 687 975

**Gatukagwe offs Group,** Gatundu North Contact person: Samson, 0727 674 059

**Mataara Forest Friends,** Gatundu North Contact person: Moses Migwi, 0722 823 085

**Kangungi Environmental Network,** Contact person: Salesio Kinyua, 0711 130 369, Embu

**Kagaari Munyange Self Help Group,** Contact person: Earnest Njue 0729 922 657, Embu

**Save Mount Kenya Forest from Extinction Group,** Meru South Paul Murithi 0720 795 274 Email: Info.mtkenya@gmail.com

**Thuita Environmental Network** Meru South James Mumbeere 0712 932 765, 0712 932 765

**Kiangondu Environmental Network** Meru South: Pst. Kenya 0714 937 055

**Mawaida Na Kazi Development Organization,** Kericho

Contact person: Ann Koech 0722 750 494 mawaidhanakazi@gmail.com

**Dove Christian Fellowship,** Nairobi

Contact person: Eric Mangala 0726 396 420

Email: mangalapa@gmail.com

**Hassan Mwadima,** Kwale

Contact Person: Hassan Mwadima Tel. 0721 527 169

Email: mwadimahassan@yahoo.com

**Kanyoni Dairy Farmers,**

**Gatundu North**

Contact person: Mr. Mugo 0723 966 650

**Forests For Life**

Embu

Zephaniah Njiru 0726 746 405

**Gatundu South**

Contact person: Daniel Chege 0721 461 484

Email: danielmuoria@yahoo.com

**Nyeri**

**Pamoja Community Development Forum**

Contact person: Jesse Kioria 0722535987

Email kioriaj@yahoo.com

**Moi's Bridge,**

Ben Saina, 0724 971 350

**Nakuru**

David Mugi, 0723 686 960- Ngorika,

**Kitengela Arboretum,** P.O. Box 23058, 0713 564 768, 0723 706 680

(desert tree seedlings, eucalyptus, Acacia seedlings)

**Fruit tree seedlings**

Lugano Horticultural Enterprises

P.O. Box 323, 30200, Kitale, 0733 990 574, 0733 391 907



**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.

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of icipe.

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# Take more care of your dairy goats

*Feeding, housing and general management is still a big problem among dairy goat owners.*

**Peter Kamau**

Poor management of dairy goats is one of the main problems facing the dairy goat sub-sector in Kenya. Although farmers spend a lot of money buying dairy goats, it is a pity when one visits their homesteads and sees the condition of the goats, including the goat sheds. Selective breeding is important, but farmers should know that breeding alone cannot give a good quality dairy goat.

To explain it in an easier way: Breeding accounts for only 33 per cent of a goat's productiveness. Nutrition and management accounts for 66 per cent, while a farmer's entrepreneurship accounts for only 10 per cent. This clearly shows that proper feeding and general care of a dairy goat are the most important areas in dairy goat production. That is why it is important that farmers know how to feed a goat and the best way to house it.

## Feeding a dairy goat

To produce adequate milk, a dairy goat requires a well-balanced diet for both self-maintenance and production of milk. A dairy goat is very selective in what it eats. To encourage it to eat, farmers need to provide it with very high quality fodder. If the fodder is of low quality, the goat will refuse to eat it leading to wastage. A female goat that is being milked requires at least 1.25 kg of good quality dried grass or Lucerne in a day.

## Need for balanced diet

Goats tend to eat more if they are zero-grazed than when on free range. The farmer should chop the green fodder such as Napier grass to make it easier for the goat to chew; this reduces wastage. If more than one type of forage is available, goats tend to eat more. The fodder may include potato vines, maize stalks, sorghum or waste vegetables. Legumes such as Lucerne, green beans, purple vetch, acacia, leucaena, cotton seed cake, sunflower cake, soybean cake are a good source of proteins. Salt licks are needed to provide minerals.

It is important to know how a dairy goat's digestion works. The main difference between a goat and a cow or a



*Proper feeding increases a dairy goat's milk production and improves its health*

sheep is that the goat has a much bigger stomach in comparison to its body size compared to the other two animals. The stomach of the goat can be as much as 1/3 of the total body volume. This makes the goat a very efficient converter of rough feeds or browse, but the process uses up a lot of energy and there is also a need for minerals especially phosphorous. One reason goats prefer browse bushes and trees is that these plants are deep-rooted and bring

up many more essential minerals from deep inside the soil that the goat needs.

A large proportion of the feed it eats is converted into milk. A goat can convert more dry roughage into milk compared to a dairy cow, but the forage must be clean and dry all the time. The amount of feed a goat eats depends on its body size and also on the quality of the feed. From the different types of feed given, a farmer can tell which type of feed it likes most. Remove waste feed at least twice a day. If there is a lot of waste, this should tell you the goat is either being given too much feed than it can eat or it does not like type of feed. A 45 kg goat that is being milked should be consuming up to 7 per cent of her body weight (about 3.4 kg) of dry matter and can drink 4 to 5 litres of clean water daily.

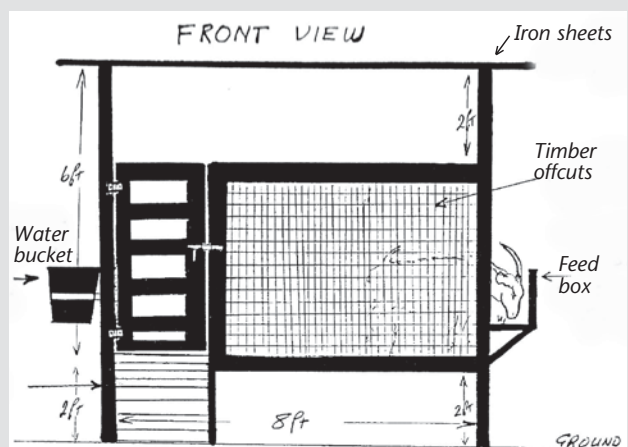
## Give concentrates

As in the case of dairy cows, the roughage part of the ration is rarely good enough to provide maintenance for the animal, let alone milk production. It is important to add the concentrate to the ration. Avoid giving barley as it can cause bloat or poisoning if fed in large quantities.

The more the amount of milk a goat produces, the more the amount of concentrate it should be given (table below). A small quantity of concentrate should be fed even when the goat is not being milked in order to help it in body maintenance and also in the development of her unborn kid when pregnant. A goat will normally go through a daily process of eat-rest-ruminate-eat-rest ruminate and so on.

## Hygiene and housing of dairy goats

Maintaining hygiene and keeping goats in proper housing is still a big problem with most dairy goat farmers. Unlike other domestic animals, a dairy goat prefers to live in a dry and clean place. A simple way to do this is to build a house with a raised floor. A floor made of timber pieces with spaces between (slatted floor) allows the urine and droppings to pass through the spaces



and leaves the floor clean and dry. The water and feeding trough should be placed outside the house (sketch). Goats should be protected from windy conditions especially during the cold season when they easily contract pneumonia.

Most farmers keep their goats indoors throughout the day. Most of the time, the goats can hardly move due to the small

size of the house. **All animals should be allowed to go out into open space where they can graze, exercise and get adequate light.** Organic farming standards stipulate that all animals should be allowed free movement to reduce stress and allow them to express normal behaviour.

### Dairy meal rations for a dairy goat

Dry female	0.5kg
Female milking 1litre	1.0 kg
Female milking 2 litres	1.5 kg
Female milking 3 litres	2.0 kg
Female milking 4 litres	2.5 kg
Female milking 5 litres	3.0kg

# Infighting destroyed a group of organic egg producers

This is the story of a farmers' group which started a promising organic eggs production project – and failed.

## Su Kahumbu

I hope that this real life scenario will allow us to learn from others' mistakes. Bear in mind that there are no lessons learned without mistakes!

The farmers' group was formed in 2007 and consisted of 11 farmers located in Central province, 130 km outside of Nairobi. Six members purchased each 100 day old chicks with the intention of starting an organic egg production for a Nairobi market.

## Good beginning

When the layers matured and started producing eggs, the group organized the logistics of transporting the eggs to Nairobi, by the most cost effective public means, by matatu. The eggs were packaged ready for market in punnets of 6 eggs each and fetched a price of Ksh 6000 per punnet. The group delivered 100 punnets to Nairobi twice a week for the first few weeks, thus earning Ksh 12,000 weekly or Ksh 48,000 monthly.

Due to their good quality, market demand began to increase, and the group members began to invest in more layers. According to the market requirements, they even sought and were granted organic certification after a lengthy conversation period.

## Ksh 360 000 monthly

Two years later, the group was at its peak delivering 500 punnets 3 times a week, earning a weekly income of 500x60x3=Ksh 90,000 translating into Ksh 360,000 monthly.

One group member saw the opportunity of investing in a vehicle to cater for the transportation of the eggs to Nairobi. The group claims its gains from organic egg production were:

- Improving financial and economical status and affording them to better living standards.
- Enabling better education for their children
- Enabling to increase their flock
- Enabling better farm management
- Bank relationship: Their bank had confidence in them due to their cash flow hence enabling them easy access to loans.

The honeymoon is over

Today, three years after starting this successful and promising project, the group consists of two members struggling to meet the market requirements – only able to deliver 200 punnets into the market, and even this in an inconsistent supply! The market demand for organic eggs meanwhile has sky-rocketed to more

than 1000 punnets a week. **What went wrong?** There are a couple of reasons for this failure:

- The group dynamics began to change with an increase in income, resulting in some members choosing to leave the group and others to take the lead.
- As time went by, the remaining group members did not make timely investments in renewing their flock.
- One group member left his elderly flock under supervision of a friend as he went about other businesses which resulted in cessation of egg production due to poor feeding and management.
- Group members who left the group refused to allow the ongoing members to market their eggs.

## Lessons learnt

1) Firstly, that of group dynamics. Strong groups have very clear advantages as this group showed in the early stages. If farmers must operate in groups, it is important that the group's organizational structure is well defined and understood by all members. The finances of the group must be transparent and acceptable by all members in order to avoid conflict in the future.

2) It is imperative that the productivity cycle of poultry is well understood. The birds do not lay forever from the day they start. From day old, layers will start to produce eggs from 5 months of age and continue for about 12 months before they may go through a molting stage. The molting stage is when chickens prepare themselves for the next laying season and can be as long as 20 weeks. During this

## How to produce organic eggs with hybrid chickens

The difference in egg production using organic or free-range methods depends on the type of chickens.

### Su Kahumbu

It is possible to produce a free-range layer from hybrid layer stock as opposed to a kiyeji chickens. The difference being the hybrid chicken will produce more eggs. She is less likely to get broody after she has laid and will continue to produce

Conventional	Free Range	Organic
Barn raised or raised indoors	Raised outdoors but sheltered at night or during bad weather	Raised outdoors but sheltered at night or during bad weather
No access to outdoors	Continual access to outdoors	Continual access to out doors
Fed commercial mixes	Fed commercial mixes plus forage outdoors	Fed forage outdoors and organically produced grain mixes
Medicated often as a preventative measure	Medicated only when necessary and preferably homeopathically	Medicated only when necessary and preferably homeopathically
Force molting after first laying season	Force molting after first laying season	Force molting prohibited



## How many chickens do you need?

**Calculation:** A sure way of calculating how many birds you will require is based on how many eggs you need. If you would like to sell 300 eggs a week, the calculation would be 300/7 = 43birds x 30% =55.8 approx 56 birds.

**Replacement:** Daughters can be bred with the father but not sons to mothers. Introduce new bloodline to flock every 2 years by introducing new roosters

**Storage:** Eggs can be kept for up to two week at 10 C before you hatch/incubate them thus you can accumulate late enough eggs over this period of time.

**Temperatures:** Layers do not like cold conditions and reduce laying when temps are down as they spend their energy on trying to stay warm.

In order to continue to satisfy the market, one can plan for a second flock to be at its optimum egg production stage at the time of the first flock molting.

3) The final lesson is in the figures: There is an unfulfilled market for organic eggs in Nairobi, where the demand is about 1000 punnets a week!

## The differences between producing eggs free range, organic and indigenous chickens is largely in the choice of bird, not the method of production. In all three breeds the production is similar. The choice, based on economics is determined by the quantity of eggs required and over what time frame.

The quality of free-range, organic and kiyeji eggs is largely the same, excellent deep orange yolks that attract the best market prices.

# Proper maize seed selection

Selection of wrong maize varieties or fake seeds can cause farmers' great losses.

## The Organic Farmer

Every year, our magazine gives tips on seed selection, and every year we hear of farmers who choose the wrong variety. So we repeat it again: Farmers have not been careful enough in the selection of the right seed variety.

## Late maturing varieties

Late maturing varieties cannot be planted in areas with less rain as they may not grow to maturity. Such varieties do well in high altitude areas (1500-2300 metres above sea-level) with well distributed rainfall of 1500 mm and more. Late maturing varieties give more yields than medium altitude varieties. Suitable late maturing varieties are H614D, H626, H625, H629, H6210, H6213, and H9401 from Kenya Seed Company and WH699 from Western Seed Company.

## Medium maturing varieties

Medium maturing varieties are more suitable for mid to high-altitudes, which have two rainy seasons: there-fore they can be grown two times in a year. Medium maturity seed varieties include H513, H515 and H516 from Kenya Seed Company and WH403, WH502, WH504 and WH 505 from Western Seed Company.

## Early maturing varieties

In much of the semi-arid and lower potential areas, rainfall is very unreliable, diminishing gradually towards the end of the year. In these areas, early maturing varieties should be grown. Sometimes, depending on the rainfall pattern, two crops can be grown in a year. Early maturing varieties comprise PH1, PH4, Katumani B, DLCT, DH01, DH03, DH04. Western Seed Company has WS103, WS909 and WS202.

## Controlling diseases

In mid-altitude areas most of the maize varieties are prone to diseases such as Maize Streak Virus (MSV). This virus for instance can cause close to 80 per cent maize loss. In these areas farmers are advised to go for varieties that are tolerant to MSV. Western Seed Company has released varieties that withstand this disease. These are WH403, WH502, WH504 and WH505.

## Controlling Striga

Some areas such as in Western province and South Nyanza are prone to the stubborn striga weed. Farmers in these areas who are not practising push-pull are advised to buy striga resistant varieties such as WH502 from Western Seed Company or KSTP from KARI which have shown some tolerance to striga (under medium to low

weed pressure). Alternatively farmers can plant Ua Kayongo H1 which can kill germinating weed seeds including striga, leaving the maize to grow.

## Seed selection service

To assist farmers in seed selection, some seed companies and government regulatory agencies such as the Kenya Seed and the Kenya Plant Health Inspector-ate Service (KEPHIS) have launched an information service.

Farmers can use their mobile phones to get this information by using the following guidelines:

## Kenya Seed Company Varieties

Go to message → Write the word MAIZE → Your Division → Send to 3000. You will get a reply on varieties suitable for your division, their qualities and how long they take to mature. Farmers can also call the company on Tel numbers 0716 647 693 or 0733 854 713.

## KEPHIS Information Service

Write the message: maize/name of your division, SMS to 2964 using your safari-icom, Zain or Orange lines. If you cannot get the information you need, you can call KEPHIS personnel on 0722 516 221 or 0733 874 274.

## Do not be cheated on seeds

To get quality seeds, farmers should note the following:

- It is advisable to buy seeds, which you already know can do well in your area. If you want to try a new variety plant it in a small part of your shamba. Observe it at every stage of growth, check the quality of grain at harvest and the total yield before growing it in large-scale.
- **Yabu maize** seeds from licensed stockists. Confirm that the seed shop has a licence from KEPHIS.
- **Yabuopen** any seed package, check to ensure it has a tag or label from KEPHIS inside the bag.
- **Yabu** seeds early before the planting season starts. Popular seed varieties are always in short supply due to the huge demand from farmers. This is the time when fake seeds flood the market when unscrupulous businessmen rush to cash in on the short-age.

**Avoiding** your seeds from hawkers who move from place to place during the planting season claiming they have genuine seeds. The hawkers claim that they have bought the seeds from producers. Such seed is not genuine and can cause farmers' great losses.





Information Centre of The Organic Farmer magazine

## i-TOF centres expand their reach

Following the increasing demand from farmers for our training and information services, we would like to inform farmers that we have expanded our i-TOF services in the following regions: Our extension officer in Gatuto is now covering Muranga, Kirinyaga, Nyeri and Nanyuki. From, Kangundo, we are now offering training in Mwala, Makutano and Myondoni.

In Western Province, our extension officer, Alfred Amusibwa, has moved from Buyangu in Vihiga district. He will now be based at Kamukuywa in Kimilili region. From the new station, he will be able to serve farmers in the outlying areas of Mt Elgon, Kiminini, Trans-Nzoia, Turbo, Lugari district, Moi's Bridge, Moiben in addition to the areas he has been serving in the larger Kakamega region. We would like to inform farmers in the new regions

to make use of this training service in order to learn more about sustainable agriculture and organic farming. Interested farmers' groups in the new areas can now book for training in the desired topics.

### i-TOF Centre Western Province

Location: Kamukuywa (near Kimilili)  
Extensionist: Alfred Amusibwa,  
Contact: 0724 331 456  
Email: itof7@organickenya.org

### i-TOF Central Province

Location: Gatuto/ Kagio  
Extensionist: Peter Murage  
Contact: 0724 331 375  
Email: itof2@organickenya.org

### i-TOF Eastern Province

Location: Kangundo town  
Extensionist: Victoria Mutinda  
Contact: 0724 331 405  
Email: itof1@organickenya.org

## You want TOF in 2011?

### Dear Farmers,

Do you wish to remain on our mailing list and continue to get TOF every month? If you have not returned to us the filled questionnaire, we sent to you with November TOF issue, here is another chance for you to mail it back to us.

Take a piece of paper and answer each of the following questions. Send the paper back to:

*The Organic Farmer*, P.O.Box 14352, 00800 Nairobi.

Farmers' groups and institutions, which will not have given us a response by 15th March 2011, will be removed from our mailing list without any further notice.

### Questions for farmers' groups

1. Name of the farmers' group?
2. Place of registration? Year of registration?
3. Location?
4. Postal address?
5. Number of members? Male ... Female ...
6. How many copies do you get every month? And, since when did you

start receiving (year)?

7. How many people share the copies?
8. Name, position and telephone numbers of the committee members?
9. Name of members including their mobile phone numbers?
10. Signature of the contact person.

### Questions for institutions (NGOs, schools & colleges)

1. Name of the institution
2. Date of registration?
3. Location
4. Postal address
5. How many copies do you receive monthly? Since when did you start receiving TOF (year)?
6. Who are the readers of the TOF copies you receive?
7. How many people share each of the TOF copies?
8. Name, position and telephone number of the contact person?
9. Signature of the contact person.

You can also send us the questions with SMS via 0715 916 136 or by e-mail: info@organickenya.org

*Charles Munyari (standing) distributes The Organic Farmer magazine in Subukia valley. Most farmers' groups in Subukia have already sent back the questionnaire.*



## about rabbits...

### Rabbits: Stress affects fertility

What causes infertility in Rabbits? Virginia Mugure, farmer in Gatari, 0724 126 710

This is a tricky issue. Bucks sometimes have underdeveloped sex organs, please check to ensure that your buck has both testis. Bucks can also be infertile due to injuries when fighting each other, they aim at the testis of each other and this could lead to extensive injuries that can lead to infertility. Does are spontaneous ovulators i.e they are ready to mate when introduced to the buck. Some does are uncomfortable with this arrangement and resist at first, you should withdraw and try again some time later. Infertility might also be caused by infections to the reproductive system, this might not be easy to detect, but inspection of the rabbit might reveal swelling or blood in urine etc. The last reason is stress and fat, if the does is overfed then she will not respond well to mating. Ensure that the does are on a balanced diet and if stressed use a multi-vitamin before serving her.

### The litter was too big

My rabbit kindled ten kits which are one month old. Three of them died instantly within a period of three days without showing any signs. Please advise. Alice Wambui Mwangi, Kiganjo, 0727 486 241.

A fryer can survive for 3 days without feeding from the mother, but beyond this, if the litter box is not warm enough they will die. Young rabbits are called fryers not kits. This behaviour is not normal. A rabbit can potentially take care of 12 or even 10 in a litter. They might not be very strong but they have a chance to survive, the main reason is that if the doe is not having sufficient feed (concentrate + hay + water) then her body will not produce enough milk for the entire litter. Does undergo a stressful moment when delivering, it's important that you ensure that they are well fed and that you replenish their feed with supplement salts (Phosphorous, calcium, iron and other trace minerals).

### Take care of the doe

My doe has developed a habit of eating the litter, please advise. Jacob Mwangi, Kiganjo, 0712 031 217.

Rabbits like many wild animals clean their new born with their tongues. The taste of blood encourages cannibalism, which leads a doe to bite and eventually eat the new borns. This is mainly due to lack of minerals in the food, always ensure that you have mineral supplement salts in your farm and introduce them into the feed regularly and not excessively; a good programme would be to do it once a week but not more than twice.

## Weak plants more affected by Botrytis

Some crops are attacked by pests during dry season. When it rains, the crops turn the colour of leaves into ash like substances and dust particles droplets like observed; what could be the problem, is it pest caused or lack of nutrients? (Buyangu)

If I understand you right, you noticed that after rain, the leaves of some crops start to be covered by a whitish dust. This would be a very good description of the typical signs of some fungal diseases. Fungi can grow very small structures that contain very small particles. This is the whitish stuff that can be seen on affected plant parts, and it develops especially under humid conditions. Winds can carry the small particles, which are similar to tiny seeds, very far. They may germinate on unaffected plants, infecting them with the disease, too. An example of this type of disease is gray mould (*Botrytis*) which can grow on many crops such as tomatoes, peppers, potatoes, beans, peas, cabbages, lettuces, melons, and others. Also on blight-affected crops such as tomatoes, a similar whitish dust develops. It is important to understand that once you notice the whitish growth, it is almost too late to do much because the fungus has already established itself inside the plant.

Where fungal diseases are a continuous problem, you may have to con-



sider your management. Plants that are weak, e.g. from lack of nutrients, lack of water, over-watering, or insect-infested plants are attacked more easily by fungi and other diseases. Ensure good drainage of the soil, give the plants enough space and air, and be careful with watering. Remove damaged plant material as soon as you notice it. You may protect your plants by applying fungicides whenever the weather is very wet. Copper fungicides, neem oil, or potassium bicarbonate may be helpful.



Characteristics of Botrytis are the grey spores

## Green manure works like compost

Can I make a balanced organic fertilizer without composting? If yes, what are the materials? 0713 725 034

If you take a close look at the way in which wild plants can grow in a natural environment, you will notice that there is a constant recycling of materials and nutrients. Old plant material dies and falls to the ground. Small organisms and micro-organisms break it down, and the nutrients inside it are released into the soil and taken up by plant roots to create new growth. To put it very simply: to grow leaves, a plant will need such nutrients as are contained in leaves. Besides this, a plant needs only water, air and light. This is the organic way. Organic agriculture tries to include these natural processes and to make use of them.

A very effective organic way of providing balanced nutrients in large quantities to crops without composting is green manuring or mulching. For this method, crop residues or a green cover crop grown especially for the purpose of fertilization are slashed and worked into the topsoil or left as mulch before planting a main crop like maize. Mulch can also be provided from hedges (e.g. *Tithonia*), trees etc. The material will decay organically and provide nutrients to the growing crop.

If you are thinking of preparing a mixture of organic materials that provide nutrients in a very concentrated form in the same way as synthetic fertilizers, this will be more difficult to realize. Organic materials are usually bulky, because the nutrients inside it are bound to organic matter. They have to go through a decaying process called mineralization before they can be taken up by plant roots. This process depends on the activity of soil micro-organisms, on moisture and on temperature. Nutrient content of organic fertilizers and nutrient release to plants can therefore not be predicted easily.

The first step should always be to optimize the nutrient management on your own farm. Livestock manures and crop residues should be regarded as very valuable and balanced nutrient resources. They should never be wasted! Remove fresh manure daily and store it in a place where it is protected from sun and rain until you use it. Residues should be given back to the soil as mulch or green manure rather than entirely be fed to animals. These resources also provide organic matter which is central for soil fertility.

**Some materials that could be used in making of fertilizer:**

- Nitrogen rich materials:
  - Blood meal, feather meal, horn meal (12-15% N)



Lablab



Mucuna



Crotonaria

- Poultry manure (1-2% N)
- Phosphorus rich materials:
  - Rock phosphate (20-33% P)
  - Bone meal (12-25% P)
  - Poultry manure (1-3% P)
- Potassium rich materials:
  - Rock Powders (obtain information for available specific rock materials)
  - Wood ash (3-7% K)
  - Livestock manures (1% K)

As you may see now, the availability of suitable materials can be a problem. Try to find out what kind of materials can be provided in your region. There are also some organic amendments and additives on the market which can help to optimize your nutrient management. Please inform yourself which of them may be useful to you.

# Rabbit keepers need a keen eye

James Wathuge\*

Most farmers who have contacted me as a rabbit breeder have the impression that rabbit farming will make them rich very fast. This is an unrealistic thought. Of course, rabbits multiply fast, but they also die very fast. Rabbits keeping need a keen eye, since they can contract diseases or get injured or even die before you refill the next pail of water. Many farmers also ignore my advice to begin their rabbit venture with a few rabbits; this would enable them to learn and understand their behaviour and needs.

## Core values

Dairy farming and cattle breeding are two very distinct areas of specialisation. The art of breeding is deeper than just feeding animals; it is a combination of passion and great interest to have better and improved animals for the future. Likewise, rabbit breeding is as well different from rabbit farming or rearing. My main interest as a rabbit breeder is to develop a fast growing rabbit with three qualities:

- The rabbits should gain weight fast (food to meat conversion).
- They should produce as little waste as possible (meat to waste ratio, normally 50% waste and 50% meat, in most rabbits except the dutch-brown grey)
- They should have large surface areas (for the skin market).

To realise these targets, one needs to know quite a lot about the behaviour of the various types of rabbits. My initiative has brought me success in the right way to feed rabbits bringing fast growth only after 3 years. Currently I am at the 9th generation of rabbits from my farm and still going. I specialise in cross-breeds.

No doubt, there is need for better breeds. Farmers in Kenya have embraced rabbit farming with a great zeal, and the Government has followed suit, this should be sustained. But no one is asking the big question: "If we invest so much money, where shall we

## Rabbits' urine

I was advised by a friend that rabbits urine can be used as organic round-up as it contain high acidic level and can easily eliminate couch grass when applied without being diluted, is it true? (Timothy Mbugua, Sabasaba, 0722 811 160)

This is true, but this is not really an organic solution. It has happened by chance that certain people noticed that rabbit urine was making their lawns turn yellow and eventually the grass would not survive. But yes it works against all grasses, not only couch grass.



A dutch brown grey with her young ones

get the quality and improved breeds to sustain the industry?" I have invested in feeds, drugs, housing and management to realize my goals, apparently I have also made some serious mistakes that almost cleared all my rabbits, but I did not give up.

## Market for rabbit products

It is common knowledge that the best dairy farmer is the one who drinks milk. Likewise, the best rabbit farmer is one who supplies meat to his family. Kenya is a potential market for rabbit products as well. The Government should stop telling farmers that they will secure overseas markets for their rabbit meat. It would make more sense to launch an awareness campaign in two directions:

- First: An information campaign for proper feeding, housing and management of rabbits.
- Second: A rabbit meat promotion for the local market.

Rabbit meat is known for its low cholesterol; the government should even encourage its institutions to buy rabbits from farmers within their neighbourhood.

## Value addition

Recently a rabbit farmers day in Thika town claimed farmers that the government had secured a 4- tonne rabbit pelt export market order from China; a nice order for sure, but does it help Kenya? Training institutions such as the Animal Health and Industrial Training Institute (AHITI) should start training people on how to process rabbit leather into finished products so that we can export shoes and jackets to Europe and the US. This will create jobs for our youth. After all, what will the Chinese do with the rabbit skins?

\* James Wathuge is a rabbit breeder, based in Kangemi, Nairobi. He has been breeding rabbits for the last 3 years. His contact is 0733 893 300, jwathuge@yahoo.com

In the next TOF issue, he will write about the challenges of rabbit management.

## We need your opinion

In these weeks of February, around one thousand farmers and readers of our magazine will get a phone call from the "Voice of the Farmer". This is a research method that collects feedback from farmers by asking them some few questions related to their farming activities and to their use of *The Organic Farmer* magazine. Farmers, your support in answering these questions will help us to know if TOF is meeting your needs.

## selling & buying

**Tree seedlings:** The German development agency GTZ is selling the following tree seedlings at the South Coast: 630 Jatropha Curcas, 250 Croton, 360 Moringa Oleifera, 720 Acacia Spectabilis, 810 Acacia Polyacantha. 130 Rough Lemons Seedlings, 180 Passion Fruits, 24 Un-Grafted Mangoes and 150 Paw-Paws. Contact information: Eng. Gunter Ullrich: gunter@gtwu.de , Mobile: 0725 946 033

**Dorper sheep:** I am interested in buying dorper sheep. Anyone with this breed of sheep can contact me. Simon 0722 960 038.

**Indigenous chickens:** We sell 2-week-old chicks of indigenous chickens breed at very good rates. Call Markir Wak Farms Ltd Makindu, 0714 636 614.

**Incubators:** I need good incubators with a capacity of 500 eggs or more call 0731 643 241 or 0723 619 238.

## Paraffin incubator:

I would like to buy a paraffin incubator but do not know where to get one. Anyone with information can get in touch with me, gaomondi@yahoo.com .



## Organic inputs for sale:

I have organic farm inputs such as EM, fungicides, foliar sprays, etc for sale to farmers. Call 0726 763 100

**Turkey eggs:** I need fertilized turkey and duck eggs. Email: zackmatere@gmail.com

**Amaranth seeds for sale:** I have 90 kg of white amaranth seeds for sale. Contact Mutanda Jua Kazi Organisation, Agricultural office, Likuyani 0721 223 104

**Dairy Cattle Training Manual:** Self-Help Africa (SHA), an NGO working with farmers in Nakuru County published an informative training manual for dairy farmers, unfortunately this manual is sold out although many farmers want it. We would advise farmers who want the manual and have access to internet to send an email to the organization ( email: kenya@selfhelpafrica.org) . Alternatively, we will photocopy the manual for farmers and send them the copies at production cost (photocopy and postage). Farmers interested can send us Ksh 250 in airtime to our numbers 0717 444 405 or 0715 916 136 and an SMS indicating "dairy cattle manual" including their full contact address.