

The Organic Farmer

The magazine for sustainable agriculture in East Africa



Nr. 78 November, 2011

Organic farming and food



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Dear farmers,

Whenever Kenya is faced with food shortage as is the case now, our agricultural experts give many solutions. Some say the answer lies in the increased use of chemical fertilizers because resource poor farmers use less fertilizer and therefore get poor yields. Others suggest the use of quality seeds together with latest agricultural technologies such as GMOs, as the only way we can increase agricultural production.

We should be able to look for solutions from within our own farming systems and find out what is ailing African agriculture. For example it is common knowledge that the greatest threat to food security in Africa are the poor soils, which are deteriorating at a very fast rate. Instead, our policy makers, donors and even development organisations advocate increased use of chemical fertilizers and pesticides. As we write this, an acre of land that used to produce 25 to 30 bags of maize 20 years ago can hardly yield 7 bags due overuse of these fertilizers.

Crops grown on fertile soils tend to do better, they are resistant to diseases and even pests. Fertile soils give better yields and more income to the farmer, which creates food security for the country. One of the principles of organic farming is the maintenance of soil fertility throughout the crop production cycle and beyond. We say "feed the soil to feed the plant". One of the methods we can use to increase soil fertility is the fertilizer tree system (see page 4). What is urgently needed now is to help farmers with appropriate information.

Two crucial international meetings are set to be held in Nairobi this month. One of them will focus on the role of extension and advisory services in crop and livestock production. The other will be on ecological organic agriculture as an alternative form of food production. We hope the deliberations at these two meetings will reawaken African governments to see the important role that information dissemination and the adoption of sustainable agriculture can play in addressing the problem of food insecurity in the continent.

TOF - This month, Nairobi hosts two major international conferences: Innovations in Extension and Advisory Services, Linking Knowledge to Policy and Action for Food and Livelihoods on 15-18th November, 2011 at Hilton Hotel, and the conference on Ecological Organic Agriculture, The Agricultural Alternative for Africa on 15th-16th November, 2011 at the UN Headquarters. The conferences are expected to highlight the role of extension and advisory services that accelerate agriculture, especially food security, and rural development.


To sustain ecologically sound agricultural production, systems and practices must be made accessible to the small-scale farmers. Biovision's Farmer Communication Program

(FCP) targets them with two magazines, *The Organic Farmer* and *Mkulima Mbunifu*, supported by TOFRadio programmes. In addition, the FCP-extension workers across the country help farmers through training and practice of various technologies in agriculture.

The Swiss foundation Biovision has created a comprehensive information platform for farmers, infonet-biovision. It is available as CD as well as online (www.infonet-biovision.org) and enhances access to relevant agricultural knowledge for small-scale farmers in Kenya and Africa at large.

The Organic Farmer magazine takes this opportunity to welcome all participants and wishes them fruitful deliberations that can help small-scale farmers in Africa. *Page 8*

Our trees Our future



Fertilizer trees double maize harvest.

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Fleckvieh Artificial insemination providers in Kenya.

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Kenya pushes the Warehouse Receipt system

TOF - The National Cereals and Produce Board (NCPB) is buying maize for its Strategic Grain Reserve (SGR) worth Sh1 billion this harvest season at a price of Ksh 3,000 for a 90-kilogramme bag. Kenyans consume about 25 million bags of maize annually, the NCPB has the capacity to store up to 21 million bags of maize. The Board has only three million bags of maize

stored in its depots countrywide. The NCPB wants farmers to make use of its storage facilities under the newly introduced Warehouse Receipting System (WRS). Farmers can use the receipt as security to get bank loans while waiting for the prices of maize to go up. The Warehouse Receipting System is already operational in Uganda for last few years.

New method to help farmers sell maize

Farmers can now use warehouse receipts to get loans while waiting for maize prices to go up.

Peter Kamau

Delayed payment has often discouraged many Kenyan farmers from selling their maize to National Cereals and Produce Board (NCPB), the country's main buyer of maize and other cereals. The parastatal has for many years played a very important role in stabilising maize prices: It would buy maize for the government Strategic Grain Reserve at a better price than that by millers and middlemen and then sell to interested buyers at a reasonable price.

Following non-payment however, most small-scale farmers, over the years have had no option but to sell their maize to millers and middlemen who frequently offer lower prices. Often, farmers can hardly recover their production costs, leave alone make a profit.

Warehouse receipts to get loans

The NCPB has now launched an initiative to help farmers: The Warehouse Receipting System (WRS). Through the WRS, farmers can now deliver their maize to the board for storage; they are given a receipt showing the amount of maize delivered and its value. Farmers can use the receipt as security to get loans or to pay school fees, buy inputs and meet their other financial needs while waiting for prices of maize to improve.

Warehouse storage rates

Month	Storage Days	Charge (Ksh)/ 90 kg bag
1	0-30	75
2	31-60	92
3	61-90	109
4	91-120	121
5	121-150	143
6	151- 180	160

Other storage charges: Ksh per Bag

1. Intake (once) 60/=
2. Storage/maintenance/bag hire 17/= (2nd month onwards)
3. Discharge (once) 15/=



Here is how the system works: Cheruiyot, a farmer in Baringo has 300 bags of maize, which he wants to deliver to NCPB. The board will take the maize if it meets the minimum requirements in terms of quality. Cheruiyot will then be given a warehouse receipt showing that he has delivered 300 bags of maize and the value of each bag, which depends on quality of the maize and the price set by NCPB at the time of delivery.

The warehouse receipt is like a share certificate. Cheruiyot can use the receipt as security to apply for a loan at any bank; all the bank needs to do is to verify with NCPB if the receipt is genuine before giving out the loan. The amount of money handed out by the bank will be a proportion of the total value of the maize (A bank can for instance give a farmer up to 80 per cent of the value of their maize).

When the market prices improve, Cheruiyot can sell his maize to a buyer who is instructed to deposit the money into the farmers account at the bank, which gave the loan. The bank then deducts the loan including the interest, while the NCPB recovers the storage charges while the balance is given to the farmer.

Less damage and maize insured

The most important aspect of the Warehouse Receipting System is that the farmer retains the ownership of the cereals throughout the period it

is stored at the NCPB. Farmers can store their maize at NCPB warehouses for a maximum of six months, where it is safe and cannot get damaged by weather or even pests. Kenyan farmers incur a storage loss of between 28 to 30 per cent due to damage by pests and weather. According to the NCPB operations Manager Ernest Ogwora, the stored maize is also fully insured against fire or flood damage or any other peril.

The Cereal Warehousing system was started last year as a pilot project in 17 maize depots in Kenya. Ernest Ogwora says that farmers in those areas delivered 50,000 tons of maize to NCPB depots under the warehousing system at an initial price of Ksh 1,800 a bag in September 2010. Farmers who waited until May this year sold their maize at between Ksh 2,500 and Ksh 3,000 a bag.



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A self-sustaining credit & saving system

The Mavuno saving system relies on members' initiative and ability to practise farming as a business.

The Organic Farmer

A group of small-scale farmers from Mali travelled to Kenya early this year to study the Mavuno saving system, which was launched in Kenya in the year 2007 by Swisscontact, a development organisation from Switzerland; within few months, 89 Mavuno saving groups had been founded in Mali, with a total of 2,089 members. Next year, a delegation from Burkina Faso will come to Nairobi to gather more information about Mavuno. What are the characteristics of this Mavuno saving system that is attracting even small-scale-farmers and people running small businesses from West Africa?



"The primary purpose of a Mavuno group is to provide simple savings and loan facilities for a community with

limited access to formal financial services", explains Helen Masinde, the Mavuno project manager at Swisscontact.



bly, guided by the core values of transparency, respect, accountability and integrity.

The functioning and success of the savings and credit system is based on three pillars:

- The strong relationship within the group members; a typical group has between 15 and 30 members.
- The strict rules, regulations and the accurate and transparent record keeping that is laid down in the group constitution.
- The power of the membership assem-

How the Mavuno system work

Each group has to undergo training and operate under an elaborated constitution, tailored more or less on a model constitution offered by Swisscontact. This constitution describes the policies and procedures on membership criteria, savings amounts and frequency, interests to be charged, meetings etc. This constitution is binding and has to be signed by all group members.

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Even small amounts count

Here is a theoretical accounts table for Bee hive mavuno group, where members pay monthly contributions of Ksh 500. It supposes that all the savings at the end of each month are lent out to the group members.

1st Month	
Members contributions 20 x Ksh 500	10,000
5 members take a loan, Ksh 2,000 each	10,000
2nd Month	
Members contributions 20 x Ksh 500	10,000
Loan repayment (5 x 2,000)	10,000
Interest rate (10 % of Ksh 10,000)	1,000
Savings at the end of the 2nd month	21,000
9 members take a loan of Ksh 2,000, 1 member of Ksh 3,000	21,000
3rd Month	
Members contributions 20 x Ksh 500	10,000
Loan repayment (9 x 2,000, 1 x 3,000)	21,000
Interest rate (10 % of 21,000)	2,100
Savings at the end of the 3rd month	32,100
8 members take a loan of 3,000. 3 of 2,000, 1 of 2,100	32,100
4th Month	
Members contributions 20 x Ksh 500	10,000
Loan repayment (9 x 3,000, 3 x 2,000, 1 of 2,100)	32,100
Interest rate (10 % of 32'100)	3,210
Savings at the end of the 4th month	45,310
Loans given out	45,310
5th Month	
Members contributions 20 x Ksh 500	10,000
Loan repayment	45,310
Interest rate	4,531
Savings at the end of the 5th month	59,841
All savings are lend out	59,811
The activities go on well; in the following months, all savings are lent out. At the end of the cycle (ie 12 months) the record of the two financial assistants look as follows:	
12th Month (end of the cycle)	
Members contributions 20 x Ksh 500	10,000
Loan repayment (these are the savings as at the end of November)	183,165
Interest rate	18,316
Savings at the end of the cycle	211,484
The Beehive Mavuno Group will continue, the members decide to accumulate the savings into the next cycle of 12 months and to share out only the earned interest rate of Ksh 92,044. The profit for all members:	
Contribution from each member during the cycle (12 x Ksh 500)	6,000
Divided interest rate, share for each member	4,002
Profit	66 %

Training is paramount

Members of a Mavuno saving group have to undergo training. The basic Mavuno curriculum is a six-day, two to three-hour training with the following modules:

- Self-screening and group member selection
- Group formation and leadership
- Group Fund Development: Groups learn how they can build their own fund, and why they should charge interest on their own money
- Importance of a constitution
- Record keeping
- Entrepreneurship: Group members need to assess their entrepreneurship potential as individuals. This module teaches the groups on how they can come up with business ideas so that they can borrow money from the group and invest.

How to apply

Swisscontact does not give any financial capital, but brings farmers or small-business people in contact with trained Community Based Trainers (CBTs). The groups have to pay the trainer an amount that is collected and paid after 6 or 12 months. Farmers and small-business people, willing to form a Mavuno saving group, apply in writing to:

The Organic Farmer, P.O Box 14352 00800 Nairobi, info@organickenya.org, SMS 0715 916 136 or call 0717 55 1129, 0735 390 715. TOF will collect the applications and hand them over to Swisscontact who will connect the groups to the nearest CBTs. The next trainings will start in the first quarter of 2012.

Fertilizer trees enrich degraded soils

Farmers in Southern Africa are boosting yields by using the so called fertilizer trees system.

The Organic Farmer

Trees on farms have many benefits, as we have shown in our magazine since beginning of this now ending year. We have explained in some articles that the leaves of trees are enriching the soil.



A recently released study by the World Agroforestry Centre proves that trees can be planted with a particular aim in mind, namely to improve soil quality and to boost yields and income – simply by using fast growing trees and shrubs to

naturally fertilize the fields. The most common trees and shrubs planted were *Sesbania*, *Cajanus cajan*, *Tephrosia vogelii*, *Gliricidia sepium*, *Leucaena* spp. and *Calliandra calothyrsus*.

Improved maize production

The study, an analysis of two decades of work, focuses on the rapid adoption of fertilizer trees by farmers in Malawi, Tanzania, Mozambique, Zambia and Zimbabwe. In eastern Zambia alone, the use of fertilizer trees grew from a pilot project in the early 1990s that involved only 12 farmers to adoption by 66,000 farmers as of 2006. In Malawi, there are now 145,000 farmers using fertilizer trees. The end of the

Need for more fertilizer

The fertilizer trees system produces high-quality leaf biomass, but the trees are capable of fixing only nitrogen, which is the most limiting major soil nutrient. The trees can recycle the soil's phosphorus (P), calcium (Ca), magnesium (Mg) and potassium (K), but these macronutrients must be sourced externally. The report of the World Agroforestry Centre proposes the use of mineral fertilizers.

Apart from the high prices for commercial inorganic fertilizers, organic farming does not allow to use them. Organic farmers have many possibilities to add the needed nutrients to the soil:

Phosphorus can be provided by the spreading of rock phosphate. It contains calcium as well and reduces soil acidity when it dissolves in the soil. Rock phosphate should always be mixed into composts in generous amounts while setting up the heap.

Calcium and potassium are available in every well done compost, which is a good mixture of livestock manure and organic matter. Wood ash, a good source of calcium and potassium, should always be mixed into compost.



Caption:

project report of Zambezi Basin Agroforestry Project revealed that about two-thirds of the roughly 400,000 smallholder farmers had adopted this soil improvement system in the five countries.

The researchers have documented a doubling of maize yields on farms employing fertilizer trees compared to those that did not, especially in sites with low-to-medium potential and under good management. This has dramatically increased both incomes and food security. In Zambia, for example, incomes for farmers using the fertilizer trees averaged from \$233 to \$327 per hectare, compared to only \$130 for unfertilized fields. And the increased yields provided between 57 to 114 extra days of food.

Enhance soils

Through biological nitrogen fixation, fertilizer trees improve the soil's physical properties through the addition of litter fall, root biomass, root activity, biological activities, and roots leaving macropores in the soil following their decomposition. The trees also improve soil aggregation, thereby enhancing water filtration, which reduces water



runoff and soil erosion. Over the years, different types of fertilizer trees systems have been developed including sequential fallows, semi-permanent tree/crop intercropping, annual relay cropping and biomass transfer.

Given the increasing awareness for food production strategies, the scientists see good prospects for spreading fertilizer trees to other zones. They propose as well the expansion of the fertilizer trees systems on high-value crops as most research carried out to date has focused almost exclusively on maize.

Replenish soil fertility

Low soil fertility is widely recognized as a major obstacle to improving agricultural productivity in sub-Saharan Africa. In most regions of Africa, soil fertility degradation is caused by three interlinked factors:

- The breakdown of the traditional fallow system as a result of an increase in human population and decreasing per-capita land availability, which forced farmers to crop continuously and encroach on marginal lands in search of more fertile lands;
- Inadequate adoption of soil management investments such as conservation or crop residue incorporation;
- Sub-optimal use of fertilizers by a majority of smallholder farmers due to high cost and constraints to access them.

The situation became more challenging after the removal of farm input subsidies. Given the strong linkage between soil fertility and food insecurity, addressing the decline in soil fertility remains an important challenge for those faced with formulating Africa's development policy agenda.

There is a need for technological options that replenish soil fertility as quickly as possible for a range of ecologies and agricultural systems and that are suitable for different types of farm households. Fertilizer tree systems (FTS) are one option that has been developed to meet such challenges.

Handle *kiangazi* with silage

Silage is good fodder for dairy cattle in the dry season; the only challenge is the fermentation process.

The Organic Farmer

"I tried to make silage", wrote Paul Maina a short while ago to TOF, "but when I opened the bag, it was smelling terrible, I had to throw it on the compost. What went wrong?" It is not easy to give a simple answer, Paul, and you are by far not the only one who has to make his experience. May be the fermentation process failed, or the bag was not closed airtight, or the grass was not wilted enough. However, that is one reason why we advise farmers to begin with plastic bags, made by plastic tubes; if one bag is spoiled, the silage in the other one might be usable. One problem is the availability of plastic tubes with 1000 gauge; but nowadays many agrovet and hardware shops offer this strong plastic tubes.

Silage can be prepared from excess grasses, fodder legumes, maize, sorghum, or sugar cane tops. Plants have to be green and of good quality. Addition of molasses (2 to 10% of the fodder weight) improves preservation and quality. If you mix up to 30% legumes into the fodder grass, the silage will contain more proteins and increase milk yields.

Some tips for preparation

Grass for silage must be wilted: Cut grass for silage at a young age, when it starts flowering. Then spread it in the field to wilt for about one dry day to reduce water content. Fine, short young grass should be wilted in the sun only for

about 3 to 5 hours.

Molasses and silage moisture: If you use molasses, it is important that the silage material is rather dry. If you take a hand full of it and squeeze it, there should be only a slight feeling of moisture in your hand. Otherwise the silage may seep too much after addition of the molasses solution.

Coarse plants must be chopped: Napier grass, maize plants, sorghum plants etc. need to be chopped. Try to organize a chaff-cutter, as it provides the finer material than if you use a panga.

Storage and use of silage

- Store silage in a safe place, away from rodents, direct sunlight or rain.
- The silage will be ready for use after one month. It can be stored for as long as the bag is air tight.
- The silage should have a quite pleasant smell of fermented material.
- Once you opened a bag, you have to use it up immediately, as it deteriorates quickly.
- If the silage looks and smells mouldy, the material was too dry, or the bag was not airtight. If the silage has a very unpleasant, foul or rancid smell, it may have been too wet. In either case, the silage has to be composted.
- Each time you extract silage from the bag, expel the air from it and tie it tightly again to avoid spoilage.
- A dairy cow can eat up to 35 kg of silage per day. To ensure that the milk has no smell of silage, feed it after milking or at least 3 hours before milking. Feed fresh grass, hay, legumes and concentrates before and during milking.

Prepared for the dry season

We get so many questions from farmers on how to produce silage. Even if we had various articles on silage in TOF, we respect these farmers' questions and explain again the method how to make silage.

But there are also other ways to be prepared for the dry season!

Tumbukiza

Napier grass planted in holes (the tumbukiza method) or trenches needs labour, but it pays: One bucket of water per week for each hole will keep the Napier grass growing even in the dry season.



Hay making

Drying grass and other fodders is a very good, cheap and simple way of conserving feeds. Cut the grass when it starts to flower, or 4 to 6 weeks after the last grazing or cutting. Allow to dry for two or three days and store it safely in a shed to protect it from the sun and rain. The digestion of dry fodder requires large amounts of water, or milk production will be restricted by insufficient water.



Crop residues

If not fed while still green, crop residues can only provide nutrients for body maintenance, but not for milk or meat production. Poor storage and poor processing add to rapid quality decline during the dry season. Crop residues are poor in minerals. To sprinkle them with mineral salt is therefore useful and increases intake. You can also chop maize stovers and soak them over night in water mixed with molasses.

Fodder trees

Leguminous fodder trees (Glirizidia, calliandra, Leucaena etc) provide protein rich material that improves milk production of dairy animals. Be careful not to feed more than 12 kg of fresh leaves per day to a cow (or 2 kg to a goat or sheep) as they contain substances which disturb digestion. Always mix them with grasses, hay, or silage.



How to prepare silage

Prepare silage in bags has the advantage that in case of failure only small quantities of fodder must be disposed of. For this method, plastic tubing (1.5 metres, 1000 gauge) has to be available. If the plastic material is thin, several layers may be used.

1. Spread a big sheet (*chandarua*) or canvas onto a flat surface.
2. Mix 2 - 3 litres of molasses in 3 litres of water.
3. Chop the forage finely to pieces not longer than one inch. Fine, soft, short grass must not be chopped.
4. Place 2 or 3 gunny bags of the fodder (about 100 kg) on the sheet and spread the material.
5. Sprinkle the diluted molasses evenly onto the forage and mix well.
6. Tie one end of 2.5 metres plastic tubing tightly to make a large bag.
7. Place the mixed forage into the polythene bag and compact it as much as possible.
8. Always be very careful not to make holes into the bag. Making silage only works when the bag is air tight.
9. Repeat point 2 to 7 two to three times. Try to compact the forage thoroughly within the bag.
10. When you tie the bag tightly, as little air as possible should remain inside.



Fleckvieh Genetics AI service providers in Kenya

The article about Fleckvieh had a huge response, many farmers wanted to know where they could get Fleckvieh semen. Below is an updated list of all Fleckvieh AI services providers across the country. For further infor-

mation, farmers can also get in touch with the company through their correct telephone number. Head office: Fleckvieh Genetics (EA) Ltd. BOX 19055, 00501 Nairobi, 0712 095 555, 0734 095 555, 0727 665 885, 0738 441 798, 020 246 3393

Town / Agent	Contact number
Bungoma Ronak Agrovet	0712 277 416 / 0710 277 777 0717 109 046 / 0722 434 333
Bomet: Mr Langat	0720 990 280 / 0710 213 332
Eldoret: Moses Kiptanui	0722 745 688 / 0721 950 312/0728 806 066/0715 550 304/0721 950 312
Karatina: Karatina Vet services	061 72 829, 0726 976 543
Kericho:Rerimoi breeders	0722 147 484
Kericho: Dr Njoroge	0722 751 663
Kerugoya: Ukulima Agrovet	06021942, 0722 566 917
Kiambu: Simuka Vet Centre	0725 438 631
Kiambu, Gachie Kikuyu Githunguri, Limuru, Ruaka: Omoga, Kihara	020 246 3393/0712 095 555/0733 970 975
Kisii: Dr Encok	0712 085 605 / 0733 991 920
Londiani: Brian Koech	0727 145 436
Meru: Meru Vet Centre	0721 295 957 / 0720 423 855

Muranga: Elika Agrovet	060 31 125 / 0723 367 525
Naivasha: Stephen Mwaura	0723 430 104
Nakuru: Menengai Agrovet	051 2214 087 0722 808 701
Nanyuki: Nanyuki Vet services	062 32 454 / 0722 899 470
Ngong Hills: Katherju agencies	0722 892 686 imutea@yahoo.com
Nyahururu: Country Agrovet	0725 262 265 0722 261 532
Nyahururu: Phillip	0720 168 040
Nyeri: Rose Wairimu	061 2034 645 0722 406 668 0721 932 092
Nyeri / Karatina: Eunice	0717 041 564 / 0712 095 555
Oi Kalou: Oriics Farm	0720 101 927 / 0724 301 520 0722 542 839
Rongai: Kihara	0722 844 144
Rongai, Machakos, Kiten-gela, Karen: Dr Wanangwe	020 2463 393 / 0712 095 555 / 0737 142 362
Thika: Thika Farmers Centre	067 21737 / 0733 787 977

>>> from page 3: Mavuno savings scheme

Let's explain how the Mavuno system works with an example of Beehive Mavuno Group. The group has 20 members. They have successfully completed training and have a constitution.

Leadership: The group elects a committee with a chairman, secretary, and treasurer, together with two so called money counters. Unlike the conventional groups such as savings groups (merry-go rounds) or even farmers' groups, the Mavuno system committee members have reduced power. The real power rests with the members: All transactions are carried out at meetings in front of all members of the group to ensure transparency and accountability. That means that no group leader can misuse the group for their own benefit, the committee cannot decide secretly about group issues. Even more, Swisscontact warns: "Members who hold public offices and who are perceived by the group members to have undue influence are not given committee positions."

Meetings: The Mavuno groups can meet weekly, fortnightly or even monthly. The Beehive Mavuno Group meets every two weeks. All members must be present in every meeting. According to the Beehive constitution, members who are late for meetings or are absent without apology, have to

pay a penalty of Ksh 100, which is put into the group's Social Fund (*explained below*).

Contribution: The groups themselves decide what the monthly contribution to the Loan Fund should be; Ksh 100, 200, 500 or 1,000. This amount will be kept for the entire Mavuno-cycle, typically 12 months. Most groups, in order to simplify their activities, choose to have a uniform contribution. The Beehive members agree on monthly Ksh 500.

Lending out: At the first official meeting, the 20 Beehive group members pay Ksh 500, the total Ksh 10,000 is recorded in the Loan Fund. Five members ask for a loan of Ksh 2,000 each. This is recorded. They have to pay back the loan within one month, together with an interest rate of 10 %. As the Loan Fund grows, members may opt to increase the loan term to no more than three months during the first cycle (12 months). In general, to avoid the risk of defaulting, individual members are not allowed to borrow more than 5 times the amount of their savings. Even if a member can pay back the loan within three months, he has to pay the constant monthly contribution to the Loan Fund.

Social Fund: All groups need to establish a Social Fund for the purpose of

emergency assistance, funeral contributions, group training expenses or for tea at the meetings. The Social Fund is recorded separately from the Savings and Loan Fund. The group decides what to do with this Social Fund. The Beehive Mavuno Group has a regular, fixed contribution to the Social Fund of Ksh100.

Time frame: The cycle of savings and lending is time bound and all loans must be repaid by the last day of the cycle (12 months). At the end of a cycle, the group has the following options:

- Sharing out only the interest earned and continuing to accumulate their savings into the next cycle;
- Sharing out all the interest plus a portion of their savings;
- Sharing out all of the interest and all of their savings, beginning the next cycle from scratch;
- Disbanding the group altogether.

Mavuno groups in Kenya

In Kenya, there are 678 Mavuno saving groups with a total of 14,960 members. In Uganda, 102 groups with 1,650 members, in Tanzania 30 groups with 650 members. Since the start of the Mavuno Saving Groups in Kenya, they have accumulated savings worth Ksh 16.4 million, and handed out loans worth Ksh 84,07 million.

More milk with fermented feeds

I heard from colleagues about the fermentation of concentrates. Is it safe to use this method?

Yes! Farmers in many regions of the country are adopting this new method of feeding their animals: Already prepared feed from fodder grasses and even dairy meal bought from shops are mixed with water and put in airtight containers for seven days, where

it undergoes fermentation. This is then fed to animals.

Dairy cows, if fed these fermented concentrates, have shown increased production. Why? When a cow feeds on fodder grass or dairy meal concentrates, these feeds undergo fermentation when they reach the rumen (a cow's first stomach). The fermentation process produces carbohydrates and sugars which are absorbed by the animal's body to generate energy for body maintenance and production.

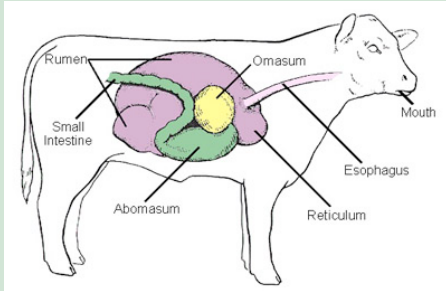
When feeds are fermented before being given to animals, this makes the work easier for the animal because it receives a ready made product; this helps to increase productivity in dairy cows. However, farmers should be very careful when fermenting feeds: The container with the feed should be closed completely to ensure no air goes in. If oxygen gets into the fermented feed, it starts decomposing and might encourage the growth of harmful fungi that produce aflatoxins.



Signs of mastitis

What causes the udder of a dairy cow to swell and have clots after calving or some days after calving?

When the udder begins to produce milk, the blood will circulate intensively and the lactiferous glands will work hard to produce milk. The swelling is due to milk production, and the clots may just be the blood vessels. But it may also be a sign of mastitis. Is the udder hot and does the cow give signs of pain when you touch parts of it? Please ask your vet on how to treat this. Mastitis is a disease that is also related to poor hygiene, so make sure you keep the udder and milkman's hands very clean before and during milking.



Ruminants swallow the fodder, it passes down the oesophagus to the rumen and reticulum. Here liquid is added; these chambers provide the main fermentation vat of the ruminant stomach.

Plant extracts solution against bean flies

What ratio of Sodom Apple fruit or leaves should I use to control the bean fly? Peter Okello, Sondu Tel 0729 518 628.

Bean flies, also called bean stem maggots, are serious pests in Africa. The adult is a tiny (about 2mm long) fly, shiny black-bluish in colour. The female fly pierces the young leaves to lay eggs and sucks the exuding sap. This leaves yellow blotches on the leaves, which are the first signs of bean fly attack and may serve as early symptom useful for monitoring the presence of this pest in the field. Maggots mine their way from the leaves down to the base of the stem.

Maggot feeding destroys the tissue causing the stem to swell and split. They can often be seen through the stem splits. Attacked plants tend to produce adventitious roots in compensation. Young seedlings and plants under stress wilt and die when attacked by bean flies. Damage is more severe in plants growing under poor conditions such as infertile soils and drought.

Prevention measures

- Provide favourable growing conditions with fertile soil (use organic fertilizers and well decomposed farmyard manure) and plant early in the season.
- Earth up the beans stems that are already affected by the pest, to allow the beans to send down secondary roots. If your field is seriously affected, lift and burn the beans. Bean flies are less prevalent during the rainy season, therefore plan your planting of beans accordingly. If a field or area has a high level of infestation with bean flies, rotate with another crop. Bean fly



maggots can persist in the soil for an entire season.

- Avoid planting beans near cowpea,

soybean and many other leguminous crops, that may be the source of bean flies.

Efficient insecticide made from plants

Use botanical insecticides such as neem. It has been shown that frequent foliar application with neem extract gives satisfactory control of this pest.

There are some plants which you can use for plant extracts against bean flies:

Sodom apple

Sodom Apple solution is made using 1 kg of fruit and leaves to 3 litres of water; crush fruits and leaves, add a little soap, soak it for one day, and spray the solution, best in the morning or late afternoon hours.



African Marigold

Crush 100-200g leaves, roots, flowers. Pour on 1 litre boiling water, soak for 24 hours, then add 1 litre of cold water, spray on plants or into the soil. By the way: Grow marigolds in rotation with crops to control nematodes on the farm.



Papaya

Add 1 kg of finely shredded leaves to 1 litre of water, shake vigorously. Add 4 litres of water and some soap (20 g), and spray.



Give the farmers knowledge

Information and communication technology (ICT) is playing an increasingly important role in extension and advisory services and contributing to the enhancement of agricultural and rural development in Africa and even the rest of the developing world. The fast adoption of mobile technology in rural Africa is good pointer to the way people in the developing countries are taking up modern technologies. In the same way, more and more people will come to rely on ICT in future to solve some of their day-to-day problems.

But a lot still needs to be done to ensure that the right infrastructure is put in place in Africa. Upto now, only a small proportion of the rural population has access to power in Kenya and much of Africa; this is a major impediment to the establishment and equipment of information centres in many parts of the country and the continent.

Involve vulnerable groups

To have the desired impact, ICT projects should target women, youth and other vulnerable groups in all rural areas. Their participation in packaging the relevant information will ensure they own the information. This will encourage them to use the content in their day-to-day farming and other development activities. The content should also be made simple for ease of understanding and application.

An important step that requires attention is the recruitment of more extension workers with ICT skills to help farmers in theory and practice on the various aspects of crop and animal production. A well-trained extension worker will help them retrieve, interpret and apply information on sustainable agriculture.



Biovision Foundation through its Farmer Communication Program (FCP) aims at advancing and improving access to information on sustainable agriculture through innovations that improve profitability, stewardship and quality of life by investing in carefully validated research and education.



The Organic Farmer (TOF) magazine: Publication of 21,000 monthly copies distributed to individuals, farmers' groups, schools, colleges and institutions in Kenya, Uganda and Tanzania. An ICT-based farmers question and answer system has already been developed and is being used to help answer farmers' questions in Kenya and the East African region. TOF has a readership of about 180,000 farmers, students and extension workers.



Mkulima Mbunifu: A bi-monthly publication of 7,000 copies distributed to individuals, farmers' groups, and institutions in Tanzania, Rwanda and Burundi.



TOFRadio: An organic farming radio programme (Kilimo Hai) broadcast in Kiswahili every Tuesday at 8.30 pm on Milele FM and Thursday at 8.15 pm on KBC to improve outreach to many farmers. The programme reaches an estimated 4 million listeners.



infonet-biovision: An information platform, offering trainers, extension workers and farmers quick access to up-to-date and locally relevant information on sustainable farming practices and technologies to improve agricultural production and rural livelihoods. The information package is available on CD as well as online (www.infonet-biovision.org)



i-TOFs: Community-anchored information and training service, which is currently, implemented in three areas; Gatuto in Central, Kangundo in Eastern and Kimilili in Western Kenya. The infonet-biovision project has computer-literate extension officers, equipped with a laptop and an information package tailored to the needs farmers. Farmer groups call and request training.



Modules: Detailed Information on various topics in organic farming and sustainable agriculture is available in 21 modules. Farmers interested in various topics pay a modest Ksh 50 for every module. Already the modules are in the process of being translated into Kiswahili for use by farmers who prefer Kiswahili and those in Kiswahili speaking countries such as Tanzania.

The FCP outreach programme employs various communication and learning tools to promote organic and other sustainable farming methods among farmers. The program is financed by Biovision, the Swiss foundation for sustainable development.



Who uses biogas?

In *The Organic Farmer* issue February 2009, we reported about biogas units made using plastic tubes. We are looking for farmers who are using this units for energy production. Are you cooking with biogas, or lighting your house with this source of energy? Then send us an SMS with your phone number and your address on 0717 551 129 or 0738 390 715. In return, you will get a token of one file with all the 22 modules about organic farming.

Small-scale technology

We are planning a new series about small-scale technology which can assist farmers and make their work more efficient on the farm. Please write to us and let us share the information with other farmers in the country. The technology could be in soil conservation, water harvesting, energy conservation, pest control, food preservation, fodder preparation, pest control, etc.

Selling & buying

Kenbro chicks for sale: We are selling 90 one-month old kenbro chicks at Ksh 300 bob each, fully vaccinated. Please call or SMS me on 0725-016-684. We are based at Nyahururu. Transportation to Nairobi customers is free.

Kenbro chicks: I have a few kenbro chicks going at Kshs 95 and 6-week old chicks at Ksh 300. 0723 619 238

Fish for sale: I have 3 ponds with around 3000 fish over 9-months ready for harvest, Location Nairobi O/Rongai. Call: 0723 626 318.

Water melons for sale: Sugarbaby watermelons now available at Shimba Hills.... 6 acres average weight of each 6kgs. Contact jt_talu@yahoo.com.

Biogas generator: Biogas Generator at Skylink Innovators Shop, NHC Building, Nyahururu, 0721 414 696. However, you will need a biogas digester. biogasexperts@yahoo.com. 0720 313 958.

Hay needed: I need 100 pieces of baled hay. Any farmer with the hay in stock in Kakamega, Bungoma, Busia, and Siaya: dedanbell@gmail.com

Dorper sheep wanted: I am interested in rearing Dorper sheep. If you have them, contact malik1890@gmail.com