

PUBLISHED BY THE COMMERCIAL FARMERS UNION OF ZIMBABWE

AgriZim



Volume 1 Number 9



In this Issue:
Green Manures
Embryo Flushing
Adding Value to Crops



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Partners For Success

AgriZim

Volume 1 Number 9

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ON THE COVER

*Elephant at sunset -
Spurwing Island, Kariba
Photo Kerrie Scott*



FOR MORE INFORMATION CONTACT:

Richard Taylor, Commercial Farmers
Union, Agriculture House,
Cnr Adylinn Rd/Marlborough
P.O. Box WGT 390, Westgate,
Harare, Zimbabwe.
Tel: (+263-4) 309806-19
Fax: (+263-4) 309849
Email:rtaylor@cfuzim.org

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QUOTE, UNQUOTE...

*"Farming looks mighty easy when your
plow is a pencil and you're a thousand
miles from the corn field."
- Dwight D Eisenhower*

Don't Quit

When things go wrong as
they sometimes will,
When the road you're
trudging seems all uphill,
When the funds are low and
debts are high,

And you want to smile but
you have to sigh,

When care is pressing you
down a bit...

Rest if you must—but don't
you quit.

Life is queer with its twists
and turns,

As every one of us sometimes
learns,

And many a failure turns
about,

When he
might have won
if he'd stuck it
out.

Don't give
up, though the
pace seems slow

You may
succeed with
another blow.

Often the
goal is nearer
than

It seems
to a faint and
faltering man;

Often the
struggler has
given up

When he
might have
captured the
victor's cup,

And he
learned too late,
when the night

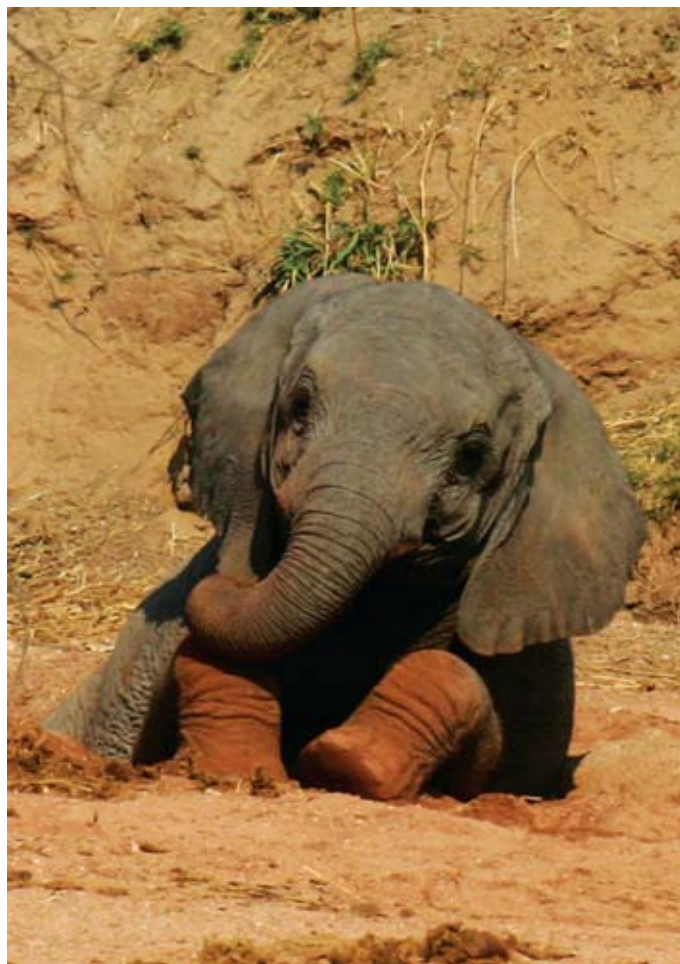
slipped down,
How close he was to the
golden crown.
Success is failure turned
inside out,
The silver tint of the clouds of
doubt,
And you never can tell how
close you are.

It may be near when it seems
afar.

So stick to the fight when
you're hardest hit,

It's when things go wrong
That you mustn't quit.

- Unknown Author



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We are actively working:

- To alleviate the situation of our poor elderly through ZEST (Zimbabwe Elderly Support Trust),
- To re-establish direct contact with all former CFU members and build a strong , unified and well informed membership,
 - Compiling business and consultant data bases,
- Looking out for projects and opportunities that can engage members skills constructively,
 - Advising members on compensation claims.

**Contact Shayne or Ben: arac@cfuzim.org
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In The News

South Africa - Shock Rise in Farming Diseases

By Bobby Jordan

South Africa is in the grip of an agricultural disease crisis due to dwindling government resources and skills.

The “big five” of the country’s worst plant and animal diseases have all been diagnosed in local animals and crops in the past six months - leading to calls for emergency government intervention.

Farmers say the problem is mainly due to failing state agricultural infrastructure, such as veterinary and quarantine services and lax border controls.

The country’s agricultural exports have already been affected, including a temporary ban on the export of race horses, chicken, and ostrich meat.

This week the Sunday Times established that:

Stock farmers are reeling from the country’s worst-ever outbreak of foot and mouth disease, resulting in the emergency vaccination of 25000 cattle.

The Western Cape vaccinated 200000 livestock to prevent the spread of Africa Rift Valley fever into the province after an outbreak last year in the Northern Province. Cases are still being reported countrywide.

Farmers culled 5000 ostriches last month following an outbreak of a strain of avian influenza (bird flu), H5N2, on five farms near Oudtshoorn in the Western Cape.

The Western Cape province has set up a task team to investigate government assistance to thousands of ostrich farm workers who stand to lose their jobs due to an expected ban on ostrich exports - worth R1-billion per year.

The South African racehorse industry has lost its “free status” with the World Organisation for Animal Health following an outbreak of African Horse Sickness in Mamre in the Western Cape, which killed several horses

Fruit farmers have reported an upsurge in the number of crippling pests.

Despite several attempts the Sunday Times was unable to get comment from the national Department of Agriculture. Western Cape Minister Gerrit van Rensburg said the province had embarked on a vaccination and quarantine programme.

“It is the responsibility of government to provide

the necessary animal health guarantees in order for an industry to trade with other countries. It is also the responsibility of government to adhere to the prescribed protocols in managing disease outbreaks in order for markets to open up again as soon as possible,” he said.

Government quarantine services officials met with farmers in Stellenbosch on Thursday to discuss the escalating problem. The crisis has drawn fierce criticism from producer organisations.

Red Meat Producers Organisation chairman, Gerhard Schutte, said government was warned about a possible foot and mouth scourge several months before the latest outbreak in February in northern KwaZulu-Natal. “It is a capacity problem at this stage - it is just not acceptable.” He said disease was spreading due to multiple



failures within government service, including a lack of animal health fences between South Africa and Mozambique, a shortage of state vets, and major decline in investment in the country’s biological products, such as vaccinations.

“Two years ago we had already identified all these problems. The outbreak in the northern part of Natal is not a once-off. The red lights are on everywhere,” Schutte said.

“Our worry is that any disease can have an impact on international trade. We have lost our (free) status now with the OIE (World Organisation for Animal Health) for at least the next three years, and it will take a long time for us to get it back,” he said.

The OIE has also revoked the “free status” of South African race horses after an outbreak of African

In The News

horse sickness in the Western Cape, said Racing SA chief executive Peter Gibson.

The R350-million-a-year industry is now applying for permission to export horses to Europe during the disease-free winter months. “If we are not successful in our application for direct imports during winter months, fewer horses will be exported ... which results in significant loss of revenue for South Africa,” Gibson said.

The horse-racing industry employs 17000 people. The R9.5-billion combined annual horse betting turnover contributes about R450-million in taxes to government.

The disease crisis is equally prevalent in plant crops, according to fruit farmers.

Phillip Fourie, chairman of the industry liaison committee set up to consult with government, said: “We have discussed all the issues on the table and I am positive that all problems will be solved. However, The DoA (Department of Agriculture) needs time to discuss these issues and return with solutions.”

Land Ownership Can't Be End in Itself

South Africa's land reform needs a pragmatic approach

Business Day

ECONOMIC Development Minister Ebrahim Patel noted at the recent World Economic Forum on Africa that the domestic agricultural sector has underperformed relative to its peers in the Brics group of major developing countries.

This admission was made in the context of discussions over job creation and the government's plan to focus on labour-intensive industries such as agroprocessing as part of its New Growth Path.

There is much to be said for efforts to beneficiate SA's bountiful resources, be they of the mineral variety or the agricultural kind.

This is easier said than done, of course — the apartheid government was also constantly trying to find ways to beneficiate locally to replace dollar-denominated imports, and when it did succeed it was usually at great cost. But it is no good focusing our efforts on this level of production if the primary level is struggling to remain viable and continues to



shed jobs. This too applies as much to mining as to agriculture.

To be sure, both industries have been adversely affected by global factors beyond SA's control, but the government has also managed to shoot itself in the foot.

Its handling of the mineral rights allocation process is a case in point, as is the direction land reform has taken. The former appears to be back on track after a plunge in investor confidence forced the government to put a moratorium on granting new rights.

The latter is, regrettably, still mired in the swamp of racial politics, with African National Congress Youth League president Julius Malema's recent call for the scrapping of the “willing buyer, willing seller” concept and for farm land to be expropriated without compensation only adding to the confusion.

The trouble is that Mr Malema is right in one sense: land reform has been a miserable failure, with only 4%-5% of agricultural land being transferred to blacks since 1994, a long way off the government's target of achieving 30% black ownership of farms by 2014.

His solution — forcing white commercial farmers to give up 80% of their land — would undoubtedly help to achieve the target, but ignores the fact that the majority of productive farms transferred so far are no longer operating due to neglect, a lack of skills, a shortage of capital, or all three.

Simply accelerating the land transfer process using the existing land reform model, or Mr Malema's

In The News

Zimbabwe-style land grabs, would be disastrous for agricultural production which, as Mr Patel noted, has already dipped as the number of successful commercial farms declined. This would be the case regardless of whether white farmers were compensated for their land.

By adopting an accelerated business-as-usual approach, food security would be severely compromised. Agroprocessing is also destined to fail as a job-creation strategy if all those new factories have nothing to process.

The government recently revealed that it is reviewing its BEE policy for companies because the focus on black equity ownership has resulted in a relatively small number of beneficiaries being enriched while the vast majority of black workers remain impoverished.

It is time a similar pragmatic approach is adopted towards land reform. The 30% target has become an end in itself, as if all the supposed benefits of owning a farm will automatically kick in once enough of SA's white farmers have been persuaded — or forced — to give up some of their land.

The racial profile of land ownership is in any event more complex than the ruling party would have us believe. It is common to hear politicians say that “83% of agricultural land is still in the hands of whites”.

That is patently nonsense, since it classifies the national parks, land owned by the state and its agencies, vast tracts owned by the mines and other listed companies whose shareholders include significant numbers of blacks and foreigners, as white-owned.

The government owns substantial amounts of agricultural land, much of it leased to black farmers. In fact, much of the land that has been bought for land reform purposes has not been transferred to black recipients in the form of freehold title, which continues to skew ownership figures.

According to the results of research conducted by Agri Eastern Cape, agricultural land in the hands of the government and privately owned by black farmers amounts to more than 30% of the total land available, and since 80% or more of it falls in the high rainfall

zone or is irrigable, its agricultural potential is far greater than is being achieved at present.

Much could be done in land reform, in other words, by using state-owned land more efficiently, providing better support for land reform beneficiaries, making use of joint ventures to keep experienced white farmers involved, and modernising farming methods in places such as the former Transkei and Ciskei, relatively high rainfall areas that could almost double SA's agricultural output were the land used to its full potential.

None of this suggests that the status quo concerning land ownership in SA is acceptable, or that black people who want to till the soil should not be given every opportunity to do so.

However, if the aim is real empowerment, rather than merely playing a numbers game, there are better ways of bringing many more people into the agricultural economy than fixating on an arbitrary target.

Mr Malema's Zimbabwe-style land grabs would be disastrous for agricultural production.



Accommodation Wanted

We are constantly receiving requests from evicted farmers to search for suitable, reasonably priced, accommodation in the main centres, mainly Harare. Often the farmers have been forced off their farms and out of their homes at very short notice and become refugees with nowhere to go.

We also have a number of farmers who have moved to town who can no longer afford the high rentals being asked, which are often being increased to prices far beyond their means.

Should you know of any suitable accommodation available please let us know so we can keep a record to assist affected farmers.

Please contact ARAC arac@cfuzim.org

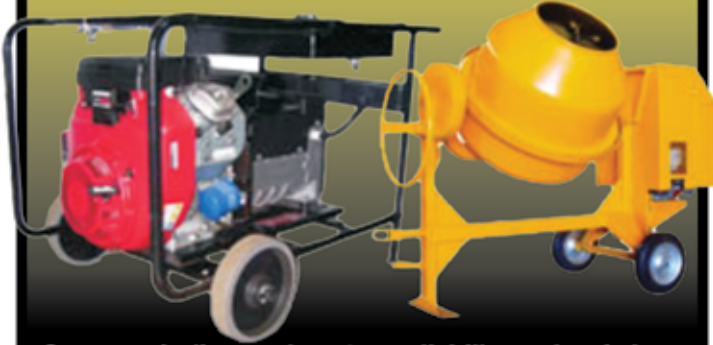
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Embryo Flushing

By Dr. Neil van Zyl

Basic Information Regarding Embryo Transfers

Part 1

An Introduction to Embryo Transfers

It is acknowledged worldwide that the fastest and most economical method of genetic multiplication is by way of embryo transfer. In both dairy and beef cattle it is of great value to increase the top genetics of a herd. In beef cattle genetic improvement can not be measured to the same extent as with dairy cows (milk production) and therefore the economic value not as easily evaluated.



In the same way that semen collection multiplies a bull's genetics, embryo transfer is regarded as the most economic method to increase and preserve cow genetics at this stage.

The donor cow receives hormone injections in order to produce more ova (eggs). This cow will be impregnated with bull semen of choice. The fertilized egg cells will develop

into embryos and flushed from the donor cow after 7 days. The embryos will be transferred into the recipients (one embryo per recipient) that are of genetically lesser quality. The recipient serves

as bearers, supplies the embryo of the needed nutrition and raises the calf.

The donor cow can be flushed repeatedly every 7-8 weeks or be inseminated to get pregnant again. Most breed societies takes this period that a cow is kept for embryo flushing into consideration when calculating the cow's intercalving period or lactation for milk recording.

Selecting the donors

The selection of donors is very important. Use the knowledge at your disposal as well as that of recognised experts to help you make the right choices.

Guidelines for donor selection:

- * Use an old cow or a debilitated cow that can no longer calf or breed.

- * Use a cow that proved herself as a good breeder. For instance the mother of a show champion or the mother of an AI bull.

- * A heifer with valuable genetics can be flushed to shorten the generation interval.

- * A very valuable cow's offspring can be increased.

- * The ability to choose and increase specific genetic lines.

- * Very expensive/rare semen can be used to achieve more pregnancies.

Criteria of flushing the donors

Not all cows are good donors, and therefore they must first be flushed in order to determine their potential as donors. We recommend that a cow must be flushed at least 3 times because there are so many factors that determine the success of the flushing. This will enable us and the breeder to sort out any problems and possibly try another super ovulation program. Problems can arise systemically in



The common question is how many times and how regular must the cow be flushed? A cow can be flushed every 7-8 weeks as long as embryos are produced. The production of the cows in the long run normally differs a great deal.

the cow, problems in the uterus, stress on the cow, management on the farm, environmental factors like climate and rain, nutrition, semen quality etc.

The quantity of embryos from the donor cow differs greatly according to:

1. Breed

- a) Crossbreeds like Bonsmara, Simbra and Beefmaster produce good number of embryos.

- b) Most European breeds are also good producers

- c) The problem with dairy

breeds is normally lactation stress and produces fewer embryos.

- d) Indigenous breeds and Zebu breeds produce less embryos (avg. 4-6 embryos per cow)

2. Age

- a) Heifers produce fewer embryos.

- b) First calver cows are normally under stress and also produce few embryos.

- c) 3rd up to 7th lactation cows are the best producers of embryos.



Conserving valuable genetics – a 5-month old Boran embryo heifer calf with a loving beefmaster recipient mother. The donor cow was born in 1993 (17 years old). She calved every year until 2007 (14 years) when she skipped once. To quote from Mr Adriaan Rall – Senior Boran Breed Inspector – “You don’t understand, there are only +/- 500 of this type of Boran left in the world!”

d) Old cows vary tremendously, depending on their genetics and the production stress she has endured in her life.

3. Stage of lactation

a) Between 70 and 100 days after given birth is the best time for flushing embryos. This is after a complete involution happened of the uterus and just before milk stress starts to play a major role.

b) Between 100 and 200 days after given birth, milk stress plays a major



Donor cow selected by Senior S.A. Boran Breed Inspector Mr. Adriaan Rall, with her naturally-bullied 3-month heifer calf. She produced 11 embryos.

role. Some cows can cope with it but a smaller quantity of embryos can be expected.

c) After 200 days in lactation, milk stress decreases and the cow will start to super ovulate better again.

d) A dry cow is by far the best donor, because of much less stress.

Because all the donors react differently to hormones in terms of the above-mentioned framework, we suggest putting at least 3 cows in the program. If one does not react, the other two can make up the number of embryos produced. It happens very seldom that all three cows will not produce as donors. If only a single donor is flushed and she doesn't produce, all the money and effort would have been wasted.

The common question is how many times and how regular must the cow be flushed?

A cow can be flushed every 7-8 weeks as long as embryos are produced. The production of the cows in the long run normally differs a great deal. Some cows can be flushed up to 30 times and still produce embryos while other cows stop producing after 3 flushings and then they can only be flushed again after having calved down.

To get a cow pregnant again after being flushed 2 or 3 times is rather easy and no problems should arise from it. If a cow was

flushed more than 8 times, you can expect to battle in the case of some cows.

Injuries to the genital tract of cows in an embryo program

should not occur if you use a reputable embryo transfer veterinarian to do the job.

*In next month's issue we will look at the handling of donors.



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Green Manures

Article submitted by PRIME SEEDS

Cover Crops and Green Manures

What are green manures?

Green manures, often known as cover crops, are plants which are grown to improve the structure and nutrient content of the soil. They are a cheap alternative to artificial fertilizers and can be used to complement animal manures.

Growing a green manure is not the same as simply growing a legume crop, such as beans, in a rotation.

Green manures are usually dug into the soil when the plants are still young, before they produce any crop and often before they flower. They are grown for their green leafy material which is high in nutrients and protects the soil.

Some points to consider:

When should I plant a green manure crop?

Look at the seasonal aspect, and ensure that you plant a green manure crop that will grow in the season you require it to.

1. Warm Season September to February
2. Cool Season March to August

What is available to plant in each season?

Warm Season

Legumes - Sun Hemp, Velvet Beans, Cow Peas, Dolichos Beans.

Non Legumes - Sorghum-Sudan Hybrids, Various types of Millet.



Cool Season

Legumes - Grazing Vetch, Common Vetch, Clover.

Non Legumes - Saia Oats – (Black seeded variety), Forage Oats – (White seeded variety), Stooling Rye.

Are there other crops I can use?

There are — but, these ones above are the most popular and most cost effective. They are also the ones with the most research work having been done on them. Seed is also readily available.

What type of Land prep has to be done before I plant?

It is recommended to kill the preceding crop to ensure a sterile seed bed approach. This helps to break the pest and disease cycles associated with the main crop. This can be done physically or chemically. Once the crop has been eradicated a light disc, KKK or any other tillage implement may be used to form the seed bed.

How do I plant the green manure crop seed?

The most simple and most widely used method is the use of any one of the “spinning disc” type implements. Vicon, Lilly Spreader etc. Other methods used are seed drills, lime boxes and hand planting.

Do I need to cover the seed once I have applied it?

Yes—it is always better if the seed is covered to ensure good “seed to soil” contact after germination.

How do I cover the seed?

There are a number of ways. A light or shallow discing. Using a KKK tillage implement. Pulling a spike tooth harrow, tractor tyre, thorn tree, piece of railway line or anything that will move a small amount of soil over the seed.

How much fertiliser should I apply?

As cost minimizing is a factor to consider, fertiliser is generally not applied. If the crop is being used to generate some form of income - i.e. Oats being used for grazing, then it is recommended to follow a recommended fertiliser program.

How long should I leave the crop before incorporation?

This varies from crop to crop. Usually 75 to 90 days after germination. The main factor here is ensuring adequate time for breakdown of the crop prior to planting of the next income generating crop. Speed of breakdown is influenced by temperature.

When do I incorporate the crop?

Assuming the crop has had reasonable growing conditions and it has grown out well.

Legumes – when they are at 10% flower – have the maximum amount of Nitrogen fixed in the root nodules and the plant. If incorporated at this time the nutrients may be immobilized and mineralized by the soil microbes.

Other crops – manage and incorporate before they go to seed. This eliminates the possibility of the cover crop becoming a weed.

What rate of seed do I need?

Warm Season

Legumes - Sun Hemp 50kgs/ha, Velvet Beans 50kgs/ha, Cow Peas 50kgs/ha, Dolichos Beans 50kgs/ha.

Non Legumes - Sorghum-Sudan Hybrids 50kgs/ha.

Cool Season

Non Legumes - Saia Oats 50kgs/ha, Forage Oats 50kgs/ha, Stooling Rye 50kgs/ha.

Legumes - Grazing Vetch 25kgs/ha, Common Vetch 25kgs/ha, Clover 25kgs/ha.

What about mixes Can I use them?

Mixes of similar growth habit varieties are encouraged to provide biodiversity, as well as use the unique properties of each crop. For example Sun Hemp – fixes N – Mixed with Forage Sorghum – has a natural nematicide – Mixed with Pearl Millet – recycles nutrients efficiently.



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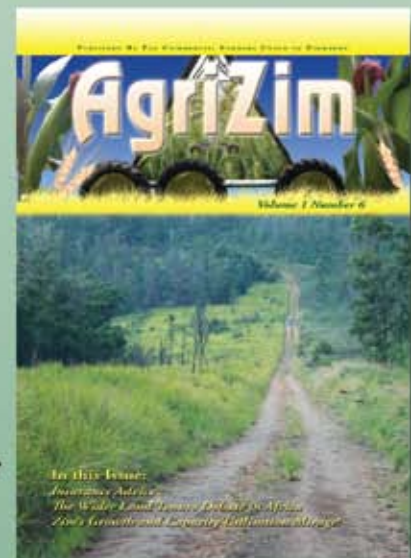
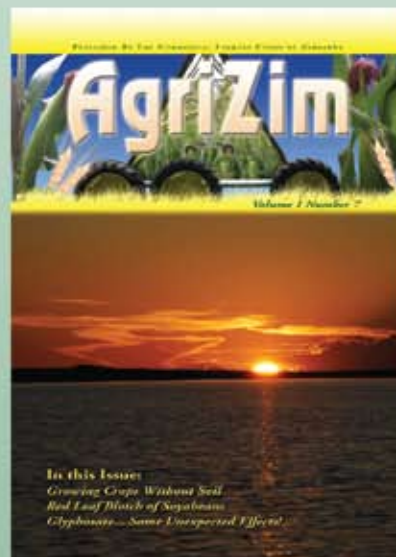
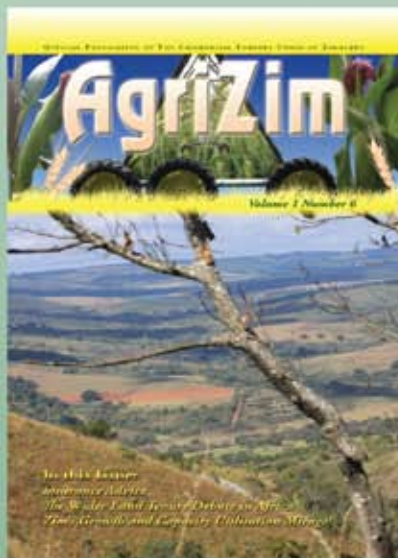
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The Way Forward

From Spore Magazine

Adding Value to Crops

Effective post-harvest handling is critical for maintaining the quality and freshness of crops from when they are harvested to when they reach the consumer. Practical technologies exist to slow the deterioration of produce. Some of them can also add value.



Kenyan maize farmer Pamela Akoth has a big family to feed, so it is a cruel blow when weevils or borers find their way into her grain supply. In the past, like many others in her community at Homa Bay, this mother of six has lost 10-20% of her harvest to pest infestations after just 3 months of storage. Now, with an interest-free loan, Akoth has purchased a metal silo able to store 20 bags of maize, the yield of her 0.7 ha

plot. Made of galvanised metal, the silo is airtight, so keeps out insects. “Since I started using the silo I don’t experience any loss of grain”, said Akoth, who was helped by a project headed by the International Maize and Wheat Improvement Center (CIMMYT) that trains artisans to make and sell the silos. “I have enough to feed my family and even some left over that I can save and later sell, when there is a shortage in the market.”

Each year, massive quantities of the world’s food harvest are lost to spoilage and infestations on the journey to consumers. In some ACP countries, where tropical weather and poorly developed infrastructure contribute to the problem, wastage can regularly be as high as 40-50%. From the moment an edible raw material is harvested, it undergoes progressive deterioration. The process may be very slow, as with seeds or

nuts, or so rapid that the food becomes virtually useless in a matter of hours. Bacteria, yeasts, moulds, insects and rodents are in constant competition with humans for their food supply. Foods are also subject to destruction by a host of variables, including temperature, light, oxygen, moisture, dryness and natural enzymes. Losses occur at all stages in the food supply chain from the moment of harvesting, during handling, storage, processing and marketing.

Post-harvest losses (PHL) can affect both quality and quantity. In the former case, the impact may be lower nutritional values or consumer dissatisfaction, an important consideration especially for export markets. But post-harvest damage may go beyond financial losses to the producer – it can also cause illness or even death to the consumer.

Inadequate research and support is partly to blame for the scale of the problem. “Farmer practices and farm management often receive insufficient attention when it comes to improving food security, yet they

are a vital component in the fight against hunger”, said Dr Trevor Nicholls, Chief Executive Officer at CABI. “Tackling pests, diseases and inadequate storage is part of the solution to improving food security.”

The whole chain

Given the massive impact of PHL on food security, there are calls for much more government involvement, with more cash and resources invested in research and plant protection units assisting farmers on the ground. Extension services should move post-harvest plant protection higher up on their agenda and make sure that their staff are well prepared to develop and deliver focused and effective solutions to farmers. Also important is training to improve handling, storage, packing, sorting and grading practices, so that improvements are made throughout the entire supply chain. A critical factor for reducing food losses is improved quality standards – and help in meeting requirements. In June last year, countries from the Eastern Africa Community – Burundi, Kenya, Rwanda, Tanzania and Uganda –

introduced processing standards for cassava and potato, a move expected to lead to less PH loss and more added value. In Papua New Guinea (PNG), the National Agricultural Research Institute is conducting trials with improved packaging, processing and storage techniques for sweet potatoes and other vegetables. Post-harvest handling of vegetables from the highlands to coastal markets of PNG results in huge losses. Unlike cash crops, the vegetable industry does not have a standard marketing system that encourages farmers to produce consistent quality.

In Kenya, Malawi and Tanzania alone, the 2006/2007 loss to national maize production from pests was estimated at US\$150-300 million (€110-240 million). Farmers who fear losing their maize to pests are frequently tempted to sell most of their harvest as quickly as possible, for whatever price they can get. All too often, they end up having to buy it back later at a much higher price. At villages in these three countries, CABI has been helping farmers improve PH management through farmer field schools, teaching producers to identify different storage pests and how best to manage them.

As climate conditions become more hot and humid, post harvest problems are likely to increase and farmers will have to prepare for new pests and diseases. Already, new insects are being seen for which there are no natural predators.

One secret of good post-harvest management is choosing the right crop for the right place. In Barbados and other Caribbean islands, farmers traditionally use the windrowing method to cure their onions. This involves lifting the plants and spreading them



If maize is kept outside in simple bags it must be sold quickly.

with the leaves of one row covering the bulbs of the next to ensure thorough drying and protection of the bulbs from sunburn. But many of the Texas Grano varieties now grown in the Eastern Caribbean are not adapted to local conditions and losses due to rotting and sprouting are high.

Storage solutions

Technical interventions can be relatively simple. Storage bins for grain must be cleaned out completely between seasons and disinfected before re-use; shade must be provided for perishable foodstuffs, together with appropriate containers for their transportation and marketing. In some cases, chemical pesticides are the only solution, but farmers need clear guidelines and regulations, and support in using them safely and effectively.

For rural storage, some of the most successful solutions are farm and village level technologies that use locally available construction materials and building designs that reflect social and cultural traditions. In the heat of Sudan, where tomatoes go off in just 2 days and carrots and okra are rotten after 4, the zeer pot is a simple fridge made of one earthenware pot set inside another, with a layer of wet sand in between. As the moisture evaporates, it cools the inner pot, keeping up to 12 kg of produce fresh for up to 3 weeks. Seeds need special conservation conditions if they are to keep their quality for the next season. In northern Burundi's Kirundo province, villagers are being helped to store their haricot



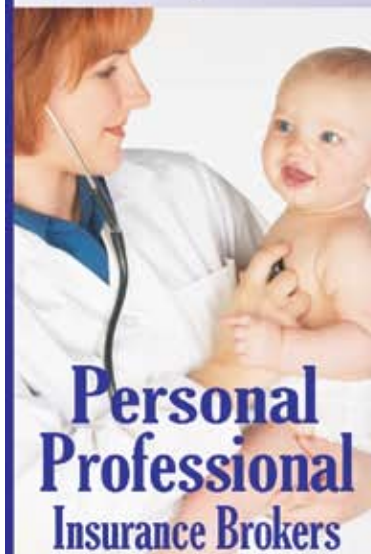
This hermetic metal silo protects harvests from pests.

and sorghum seeds in metal community silos, which protect them against pests and damage caused by changes in temperature and humidity.

For more costly technologies, joining force with other farmers can offer a solution.

In Kenya's Rift Valley, where spoilage is a major problem for fruit farmers, many have grouped together to share costs for refrigeration. In Fiji, a farmers cooperative manages a Hot Forced Air Treatment chamber to treat papaya, eggplant, chillies and mangoes for export. Once fruit and vegetables go through the chamber, any post-harvest damage becomes visible, enabling better selection. In some cases, improved post-harvest management may turn into an income-earning opportunity. Farmer-turned businessman, Junghae Wainaina

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has set up Midlands Ltd, a potato cooling facility in Nyandarua, Kenya. The factory, which can hold up to 6,000 t of potatoes, is the only one of its kind in the East African region. A South African firm has introduced quick-build metal silos which can be customised according to the exact needs of a community, moved from one location to another and enlarged as required.

The value of processing

Improved technologies for drying fruits, vegetables and root crops do not only reduce losses arising from seasonal gluts. They can also add value. Drying, salting, pickling, sugaring and smoking can all prolong shelf-life and ensure that the product earns more money for the producer, as well as for the other actors in the supply chain. Some of the most effective technologies are small-scale, low-capital installations. Cereals, legumes, roots and tubers can be processed into flours that serve as indigenous convenience foods.

Solar driers are being taken up by growing numbers of farmers' groups as an economic and environmentally sound method of dehydrating anything from bananas to cabbages and from mangoes to traditional vegetables. As well as fetching a higher price, these products are also easier to package and transport and open up the prospect of new markets further afield.

In most rice producing



Traditional granary.



Metal silos.

countries, up to one-quarter of harvests is lost due to inefficient post-harvest operations. Farmers also lose potential income because they sell wet paddy immediately after harvest, missing out on higher earnings from processed products. In Burundi, Mozambique and Tanzania, the International Rice Research Institute is helping to make equipment such as pedal and engine-driven threshers available to farmers. In PNG, where rice is taking over from sago as the staple food, women in Kutubu, Southern Highlands Province, have taken delivery of two rice milling machines. In several West African countries, rice parboiling has been introduced as a means of extending shelf-life and increasing nutritional value. The process is carried out by local women, who have set up cottage industries. The figures for such interventions speak volumes. If post-harvest rice losses in sub-Saharan Africa were reduced by 50%, another 2 million t of paddy or 1.6 million t of milled rice would be available each year. That is equivalent to nearly 30% of total imports, with an annual cash value of \$700 million (€512 million).





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Water-wise Gardening

A regular supply of water to Zimbabwean gardens is not guaranteed during the cold, dry months. Even those of us who have boreholes are at the mercy of ZESA and lowering water tables. Water-wise gardeners have a few tricks to share.

Adjust your watering. In cooler months, plants need less water. It is best to water early in the morning, to minimise loss from evaporation and to ensure that excess water does not freeze on the plants at night. Avoid watering on windy days when evaporation is higher.

Use mulch. A 5cm deep layer of mulch (a protective layer placed around the base of the plant) will help to conserve water and enable you to water less frequently. It also protects the roots against frost, so that even if the leaves are damaged, the roots will shoot again. Organic mulch will decompose and give food to the soil. For this reason, leaves fallen from deciduous shrubs should be left on the ground. All grass cuttings and other organic materials can be used to make compost, which is an excellent mulch. Leave a small gap between the bark and mulch to prevent bark rot setting in.

Keep your trees! A shady garden obviously needs less water than a hot, sunny one. Do not waste water on deciduous trees that are dormant. A rim around the edge of planting holes and watering basins will hold water and allow it to seep in slowly.

Water deeply. Trees, shrubs



It is best to water early in the morning, to minimise loss from evaporation and to ensure that excess water does not freeze on the plants at night.

and perennial borders should have strong, deep root systems. Encourage this by watering deeply but less often.

Choose water-wise plants. Plants from drier areas need less water, so consider plants such as aloes, crassula, and gazania – your nursery will advise you. If plants of similar water requirements

are grouped together, then you can water each area according to its needs. Should your water situation become desperate, only water when plants show signs of stress (leaf drop, yellowing foliage, scorching, dieback).

Lawns. Most lawns prefer to be dormant during winter; this is their natural cycle. Should

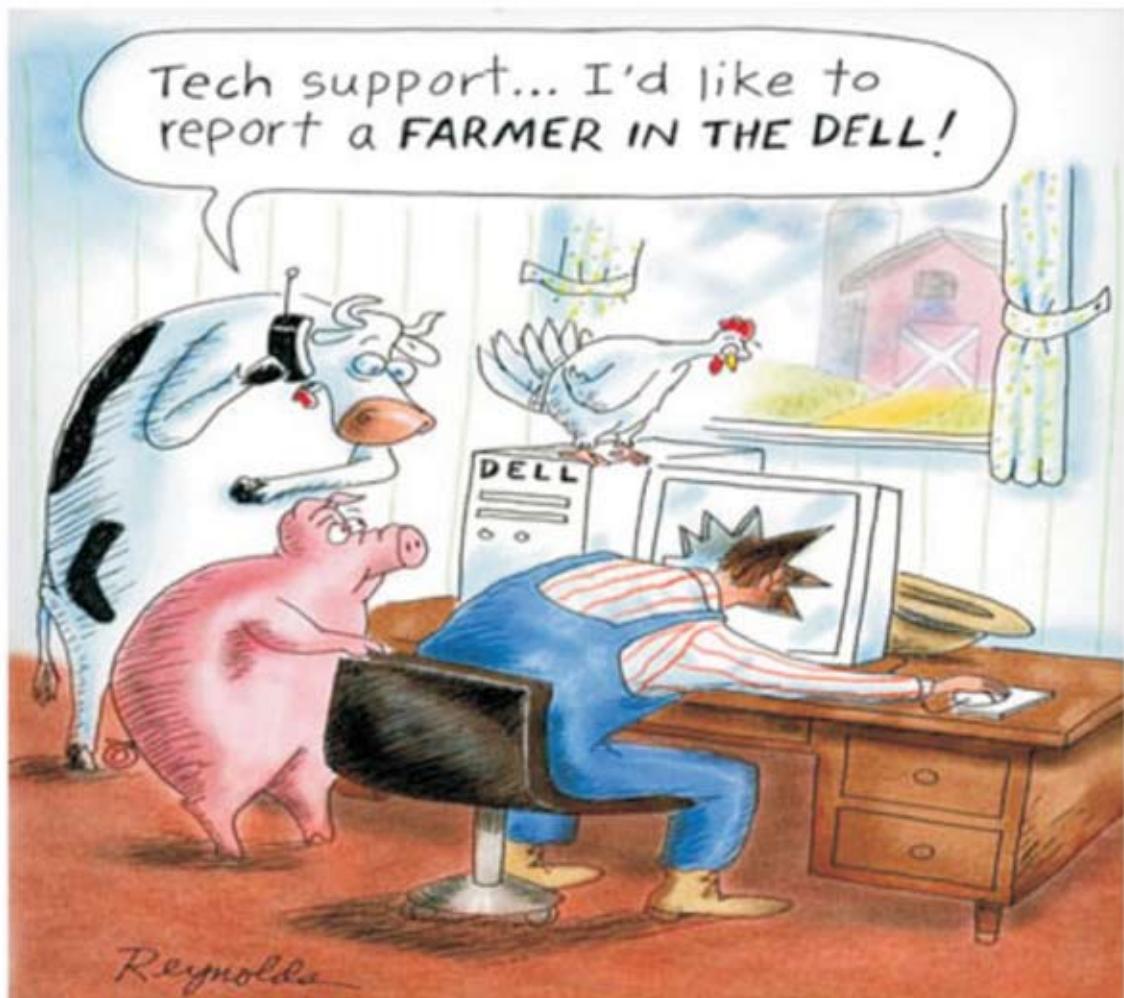
you need to keep your lawn in tip-top shape, only water when absolutely necessary. If footprints remain or the leaves become slightly bluish, then water deeply in the early morning. Try to avoid having shallow-rooted trees in the middle of the lawn, as they deprive the lawn of moisture.

Containers. Again, mulch the soil to retain water. Drip trays under containers will collect excess water, which the plant will draw up as required. It is better to under-water. Test the soil by poking your finger in up to the knuckle – if the soil feels damp and sticks to your finger, watering is not yet necessary.



During winter, should you need to keep your lawn in tip-top shape, only water when absolutely necessary.

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World Farmers Unite

In the wake of global food security concerns, over 50 national farmers' and agricultural cooperative organisations from all over the world met today to create the World Farmers Organisation and issue a declaration setting out its objectives. The Organisation represents the united voice of world farmers and cooperatives.



The Organisation's mission is to bring together national producer organisations and producer cooperative organisations to create policies and advocate on world farmers behalf, in order to improve the economic situation and livelihood of producers, their families and rural communities.

Chairing the meeting on behalf of the African delegation, Mr Taylor – Freeme said “Today marks an historic occasion. In view of increasing concerns over market volatility and food

security, this Organisation will bring together farmers and cooperatives from all over the world to exchange ideas and find common solutions. The Organisation aims to help world food security by facilitating

cooperation between organisations. This is particularly crucial given that world food demand is expected to increase by at least 70% by 2050. Agricultural investment needs to be stepped up”.

European Board Representative Martin Haworth said: “The Organisation also aims to improve farmers’ livelihoods and the viability of rural communities around the world. Without farmers living and working in rural areas, many people would leave these regions. And yet farmers face more and more challenges, such as climate change, and are being confronted with high input costs. Their return from the market is also shrinking given the huge buying power of supermarkets. We need to improve farmers economic viability and positioning in the food chain in order to ensure a dynamic, competitive agriculture sector throughout the world.”

Another aim of the Organisation is to ensure coherence with other agriculture related activities, such as forestry, aquaculture, the environment, trade, research and education. There is a constant need for improved research to find for example how we can increase production at the same time as protecting the environment. The Organisation will meet again later this year to further develop these issues.

For further information, please contact:

Pekka Pesonen

Secretary-General

Tél.: +32 2 287 27 27

Pekka.pesonen@copa-cogeca.eu

Amanda Cheesley

Press Officer

Mobile: + 32 474 840 836

amanda.cheesley@copa-cogeca.eu



DECLARATION OF THE WORLD FARMERS’ ORGANISATION FOUNDING MEETING

“The Need for Farmers’ Voice on World Stage”

Brussels, 29 March 2011

Farming organisations from all over the world came together on March 29 to highlight the need for the farmers’ voice to be heard on the world stage and to formally create the World Farmers’ Organisation. This is crucial in order to contribute to the on-going discussions concerning food security, climate change and the economic situation across the globe.

The Organisation’s mission is to bring together national producer organisations and producer cooperative organisations to create policies and advocate on world farmers behalf, in order to improve the economic situation and livelihood of producers, their families and rural communities.

One of the main objectives of the organisation is to improve farmers’ livelihoods and the economic viability of rural communities around the world. This is vital given that farming incomes are often 50% or less than average incomes. The second main objective is to contribute to world food security by facilitating cooperation between member organisations. It is crucial given that world food

demand is expected to increase by at least 70% by 2050 and market volatility is on the increase. Agricultural investment needs to be stepped up.

Other objectives of the organisation include facilitating the organisation of agricultural producers and enabling them to improve their positioning within the food supply chain. This will help farmers and agri-cooperatives to manage the extreme price volatility and get a better return from the market.

They also include ensuring coherence with other agriculture related activities, such as forestry, aquaculture, environment, trade, research and education. Finally, the Organisation aims to encourage farmers’ involvement in sustainable rural development, the environment and new arising challenges, such as climate change and the renewal of generations.

The next steps for the World Farmers’ Organisation include a General Assembly later this year where progress will be made on the main issues identified by the Organisation. The headquarters for the Organisation will be established in Rome.

A Trade-Off for Farmers

African farmers have first-hand experience of the impact of climate change, with erratic weather patterns seriously threatening their crops and livestock.

Carbon trading initiatives offer them some hope of improving their livelihoods while adopting more sustainable ways of managing land and increasing output. Isabella Masinde answers our questions.



What exactly is carbon trading and how does it work?

Carbon trading is an instrument used as an incentive to have communities conserve their forests and woodlands. It is a payment that the local communities receive in return for the sacrifice they make to forgo the use of their land for several years so that it can sequester carbon. Under this arrangement, we encourage smallholder farmers to practise agroforestry. That means they plant their food crops alongside trees. We also encourage farmers in a given area to surrender at least a portion of their land for tree planting.

How does this initiative encourage food production if farmers have to forgo the use of their land?

This initiative is not supposed to cause a decline in food production, but rather to increase both food production and forest coverage. We know that most farmers have small pieces of land. However, through education and proper information on the negative effects of climate change, most farmers have agreed to forgo portions of their land for trees. They then use the remaining part to practise sustainable agriculture. Food is plentiful in areas where we are now sequestering carbon.

What are the specific benefits to smallholder farmers?

AWF, which doubles as the implementing and marketing agency, selects communities to benefit from carbon trading. A trust fund is then established through which communities are paid. AWF contacts buyers in the developed world, who then transfer the money to the trust fund account.

Each member of the community gets cash payments.

Carbon trading is done in tonnes, and 1 t could be between US\$4 and \$5 (€3 and €3.5). The community gets 60%, a government entity to support conservation gets 20% and the implementing agency gets 20% for monitoring and evaluation and to ensure compliance. In Kenya, 120 farmers are benefiting from carbon trading, while in Tanzania, 200 farmers are on the benefits list. In the last 3 years, each farmer has received US\$300 (€220) to improve their livelihoods and also enhance their new farming techniques including agroforestry. In the next year and before 2013, more farmers – about 500 – will have benefited from the new trade-off.

Is it right that carbon trading in developing countries should compensate for continued pollution in industrialised countries?

The rich countries must be held accountable on their promises to reducing greenhouse gas emissions. It will be meaningless for developing countries to be told to plant more trees if the rich countries continue to pollute the atmosphere.

What prompted your carbon trading initiative?

We realised that forests contribute to either global warming when cut down, or to cooling when they sequester and store carbon. My advice to farmers in Africa is please, plant more trees to save our continent.

How are livelihoods changing for communities living within and around the carbon trading projects?

The African Wildlife Foundation (AWF), with other partners, is working to develop fair and equitable benefit sharing schemes that will ensure that

benefits are realised at household level. In addition, AWF is facilitating the development of alternative livelihood options that will bring economic benefits to the community.

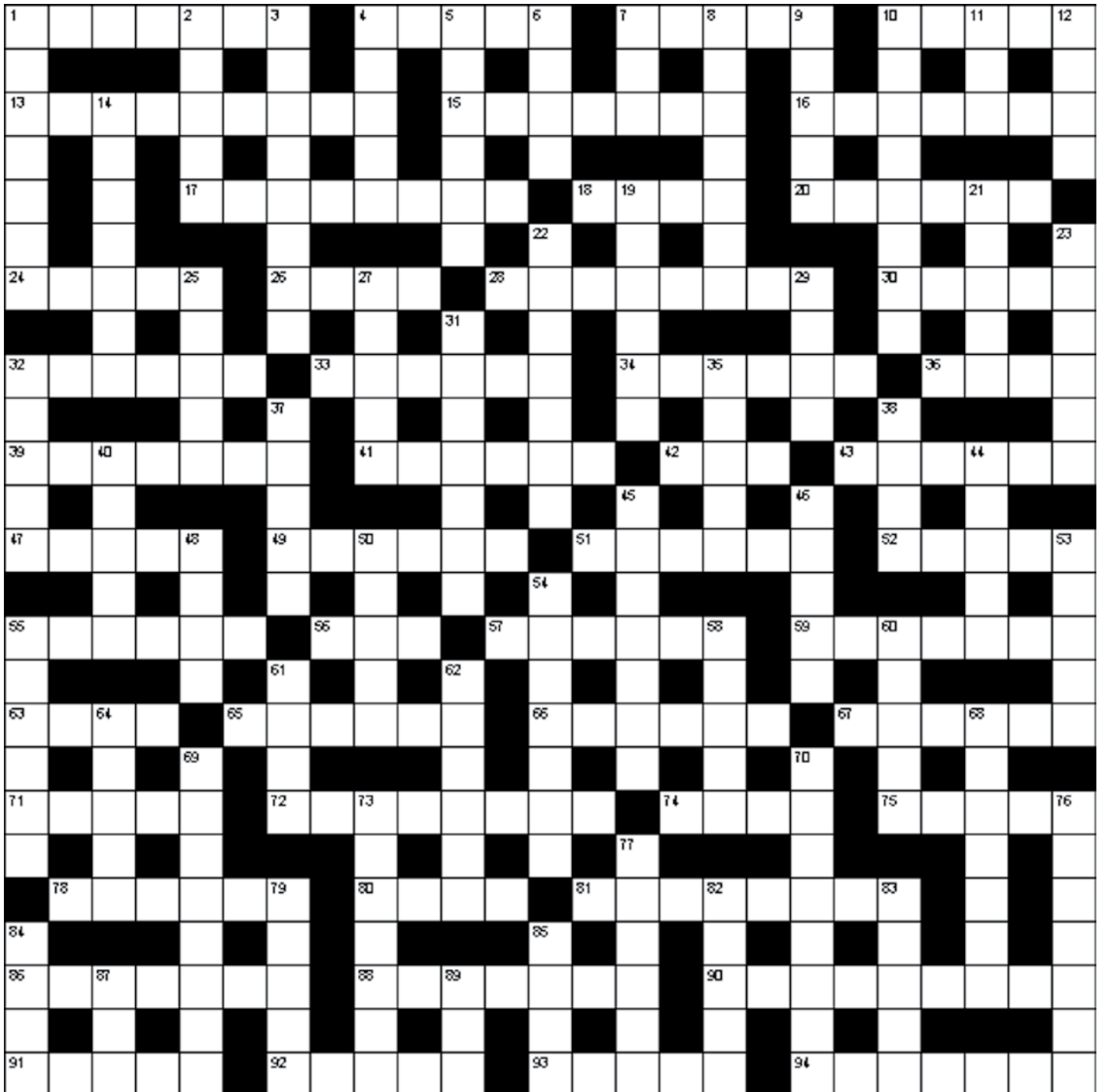
What are the challenges you face?

Carbon projects are very expensive to implement. They take a very long time. The idea of selling carbon sounds alien to most community members, but with the benefits that have started trickling in, they now know they have hope. However, the main challenge is land ownership. The majority of smallholder farmers have no land of their own, hence there is increased encroachment into forests and other designated areas.



For the past 9 years, ecologist and climate change expert Isabella Masinde has been offering technical advice to the African Wildlife Foundation (AWF), which has designed a carbon trading scheme to conserve resources and reward farmers in 16 African countries. She leads the Kenyan delegation to UN Climate Change talks.

Giant Crossword



ACROSS

- | | | |
|----------------------|---------------------------------|-----------------------|
| 1. Planet (7) | 16. Company of supporters (7) | 30. Meeting place (5) |
| 4. Type of bean (5) | 17. Joined the military (8) | 32. Larger (6) |
| 7. Garret (5) | 18. Boundary (4) | 33. Embellished (6) |
| 10. Jelly (5) | 20. Air-breathing arthropod (6) | 34. Strolled (6) |
| 13. Produce buds (9) | 24. Depart (5) | 36. Vend (4) |
| 15. Adage (7) | 26. Close (4) | 39. Rotted (7) |
| | 28. Muddled (8) | 41. Writer (6) |

Giant Crossword

- 42. Lively dance (3)
- 43. Figured out (6)
- 47. Avid (5)
- 49. Response (6)
- 51. Handy (6)
- 52. Flaw (5)
- 55. Overseas (6)
- 56. Charge (3)
- 57. Wildcat (6)
- 59. Affluent (7)
- 63. Joke (4)
- 65. Chemistry jar (6)
- 66. False (6)
- 67. Child (6)
- 71. Mass meeting (5)
- 72. Non professionals (8)
- 74. Marine mammal (4)
- 75. Legal (5)
- 78. Flee (6)
- 80. Matured (4)
- 81. Dressings (8)
- 86. Teller (7)
- 88. Crackbrained (7)
- 90. Maze (9)
- 91. Frighten (5)

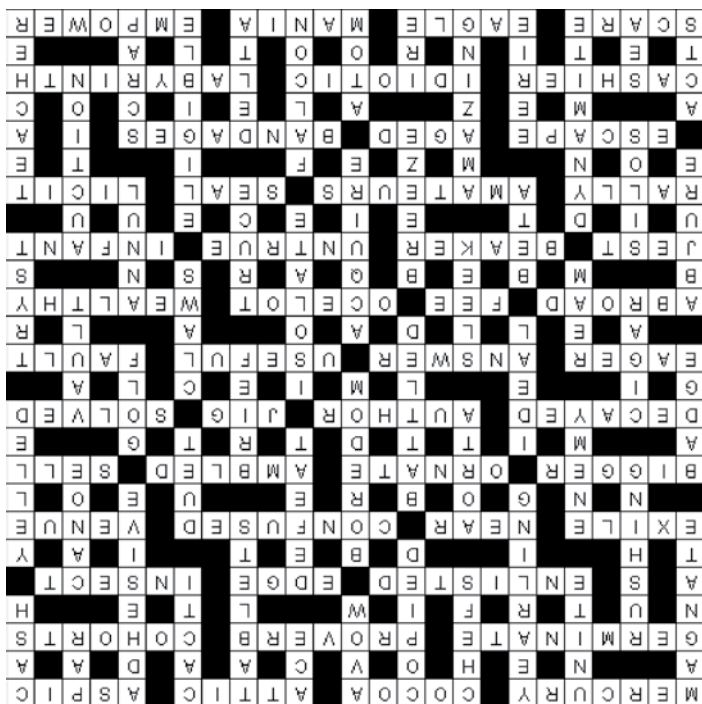
- 92. Bird of prey (5)
- 93. Craze (5)
- 94. Endow (7)

DOWN

- 1. Tycoon (7)
- 2. Merge (5)
- 3. Young racehorse (8)
- 4. Professional cooks (5)
- 5. Aped (6)
- 6. Affirm (4)
- 7. Expert (3)
- 8. Pills (7)
- 9. Desert plants (5)
- 10. Glue (8)
- 11. Golfing term (3)
- 12. Money (4)
- 14. Hurrying (7)
- 19. Vanquish (6)
- 21. Small boat (5)
- 22. Ennui (7)
- 23. Shouted (6)
- 25. Foe (5)
- 27. Main artery (5)

- 29. Song for two (4)
- 31. Fought (7)
- 32. Emblem (5)
- 35. Concise and succinct (5)
- 37. Paragon (5)
- 38. Sport (4)
- 40. Cheroot (5)
- 44. Strongroom (5)
- 45. Set apart (7)
- 46. Talons (5)
- 48. Quantity of paper (4)
- 50. Silken (5)
- 53. Assignment (5)
- 54. Get (7)
- 55. Recant (6)
- 58. Ceasefire (5)
- 60. Invalidate (5)

- 61. Greek letter (4)
- 62. Zephyr (6)
- 64. Cylindrical storage towers (5)
- 68. Public sale (7)
- 69. Explosive (8)
- 70. Qualified for (8)
- 73. Astounding (7)
- 76. Instructor (7)
- 77. Kestrel (6)
- 79. Spooky (5)
- 82. Geological formation (5)
- 83. Small fragment (5)
- 84. Performs (4)
- 85. Molecule (4)
- 87. Division of an ocean (3)
- 89. Anger (3)



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Mozzarella Meatballs and Spaghetti



INGREDIENTS

For the meatballs

- 500 g minced beef
- 50 g fresh breadcrumbs
- 2 cloves garlic, crushed
- 1 tsp salt
- 1/2 tsp freshly ground black pepper
- A handful of fresh parsley, finely chopped
- 1 tsp dried oregano
- 75 g mozzarella
- 3 tbsp rapeseed oil

For the sauce

- 1 small onion, diced
- 2 roasted red peppers, (from a jar)
- 2 tbsp tomato purée
- juice of 1 orange
- 200 ml beef stock
- 1 tbsp balsamic vinegar
- 50 g stoned green olives

METHOD

Mix the minced beef with the breadcrumbs, garlic, seasoning, parsley and oregano. Mix well with damp hands and make 10-12 balls. Cut the mozzarella into 10-12 chunks. Flatten each meatball and press a piece of mozzarella into the centre. Gather the meat around it and pinch to make sure it is sealed. Heat the oil in a large frying pan and fry for around 10 minutes, turning occasionally.

SAUCE

For the sauce fry the onion in the pan juices until softened. Add the tomato purée, orange juice, stock and vinegar. Bring to the boil, then using a hand blender, puree the sauce a little.

Return the meatballs to the pan and simmer for 25 minutes until cooked through. Just before serving add the olives.

Serve with spaghetti.



Farming Humour

Donkey In the Well

One day a farmer's donkey fell into a well. The animal cried piteously for hours as the farmer tried to figure out what to do.

Finally, he decided the animal was old, and the well needed to be covered up anyway; it just wasn't worth it to retrieve the donkey.

He invited all his neighbors to come over and help him. They all grabbed shovels and began to shovel dirt into the well. At first, the donkey realized what was happening and cried horribly. Then, to everyone's amazement he quieted down.

A few shovel loads later, the farmer finally looked down the well. He was astonished at what he saw. With each shovel of dirt that hit his back, the donkey was doing something amazing.

He would shake it off and take a step up.

As the farmer's neighbors continued to shovel dirt on top of the animal, he would shake it off and take a step up.

Pretty soon, everyone was amazed as the donkey stepped up over the edge of the well, and happily trotted off!

And the moral of the story...

Life is going to shovel dirt on you, all kinds of dirt. The trick to getting out of the well is to shake it off and take a step up. Each of our troubles is a stepping stone. We can get out of the deepest wells just by not stopping, never giving up! Shake it off and take a step up.

NOW... Enough of that crap. The donkey later came back, and bit the farmer who had tried to bury him. The gash

from the bite got infected and the farmer eventually died in agony from septic shock.

MORAL FROM TODAY'S LESSON:

When you try to cover your ass, it always comes back to bite you.



Helping your Father

A clergyman walking down a country lane sees a young farmer struggling to load hay back onto a cart after it had fallen off.

"You look hot, my son," said the cleric, "why don't you rest a moment, and I'll give you a hand."

"No thanks," said the young man. "My father wouldn't like it."

"Don't be silly," the minister said. "Everyone is entitled to a break. Come and have a drink of water."

Again the young man protested that his father would be upset. Losing his patience, the clergyman said, "Your father must be a real slave driver. Tell me where I can find him and I'll give him a piece of my mind!"

"Well," replied the young farmer, "he's under the load of hay."

I Flattened Your Cat

A bloke had been driving for many hours through desolate country when he passed a farmhouse when, before he could react, a cat ran out in front of him and... splat! He had flattened the cat. Out of kindness and consideration, he stopped, turned around and drove back to the farmhouse to notify the occupants.

A lady answered the door.

"Excuse me madam, but I just ran over a cat in front of your house, and assumed that it must belong to you. I know this might be hard to hear, but I felt it would be better to let you know, rather than just driving off!"

"How do you know it was our cat? Could you describe him? What does he look like?"

The man promptly flopped down on the ground, and said "He looks like this" as he gave his best shot at a dead cat impression.

"Oh no, you horrible man", she yelled. "I meant, what did he look like before you hit him?"

At that, the man got up, covered his eyes with both hands and screamed "Agggghhhhhhhhhhh !!!!!!"

How Are You Feeling?

Farmer Brown decided his injuries from a recent accident were serious enough to take the trucking company (responsible for the accident) to court. In court, the trucking company's fancy lawyer was questioning Farmer Brown.

"Didn't you say, at the scene

Farming Humour

of the accident, 'I'm fine?'" asked the lawyer.

Farmer Brown responded, "Well I'll tell you what happened. I had just loaded my favorite mule Bessie into the..."

"I didn't ask for any details," the lawyer interrupted, "just answer the question. Did you not say, at the scene of the accident, 'I'm fine?'"

Farmer Brown said, "Well I had just gotten Bessie into the trailer and I was driving down the road..."

The lawyer interrupted again and said, "Judge, I am trying to establish the fact that, at the scene of the accident, this man told the policeman on the scene that he was just fine. Now several weeks after the accident he is trying to sue my client. I believe he is a fraud. Please tell him to simply answer the question."

By this time the Judge was fairly interested in Farmer Brown's answer and said to the lawyer, "I'd like to hear what he has to say about his favourite mule Bessie."

Brown thanked the Judge and proceeded, "Well as I was saying, I had just loaded Bessie, my favorite mule, into the trailer and was driving her down the highway when this huge semi-truck and trailer ran the stop sign and smacked my truck right in the side. I was thrown into one ditch and Bessie was thrown into the other. I was hurting real bad and didn't want to move. However, I could hear old Bessie moaning and groaning. I knew she was in terrible shape just by her groans. Shortly after the


accident the policeman arrived. He could hear Bessie moaning and groaning so he went over to her. After he looked at her, he took out his gun and shot her between the eyes. Then he came across the road with his gun in his hand, looked at me, and said, 'Your mule was in such bad shape I had to shoot her. How are YOU feeling?'"

Gathering Chickens

The farmer's son was returning from the market with the crate of chicken's his father had entrusted to him, when all of a sudden the box fell and broke open. Chickens scurried off in different directions, but the determined boy walked all over the neighborhood scooping up the wayward birds and returning them to the repaired crate. Hoping he had found them all, the boy reluctantly returned home, expecting the worst.

"Dad, the chickens got loose," the boy confessed sadly, "but I managed to find all twelve of them."

"Well, you did real good, son," the farmer beamed. "You left with seven."



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