

Milk Report



Kenya tops three billion litres

Milk production in Kenya has grown by 36% in the last four years. The country's livestock minister, Joseph Munyao, said that production rose from 2,8 billion litres in 2002 to 3,8 billion last year. Dairy farmers in the country are now reaping increased income from milk after the revival of the New Kenya Cooperative Creameries and the Kenya Meat Commission, Munyao said while presiding over celebrations at World Veterinary Day at the Cheptongei market in Marakwet district.

The minister said the reopening of the two institutions by the government, had created an expanded market for livestock farmers. Milk intake by processors has also increased from 143 million litres to 362 million litres during the same period, representing a growth of 153%. Milk prices have also gone up from a low of Sh8 per litre to a high of Sh18 per litre. —*The Nation*

Free milk for school pupils

The Tanzanian government plans to supply free milk to all government primary school pupils in the county, according to Tanzania's livestock development minister, Anthony Diallo.

This long-term strategy will help create local markets for livestock products and will also help create jobs. The new initiative is aimed at influencing changes in behaviour right from childhood.

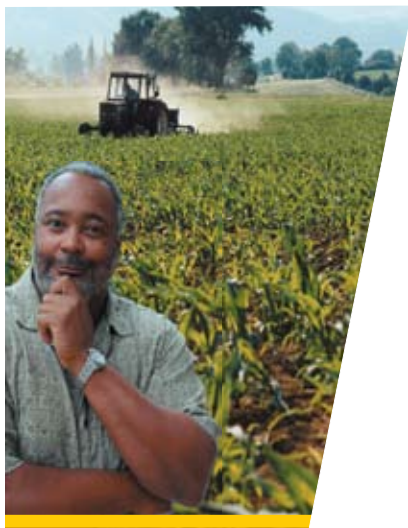
He said pre-implementation preparations were in the final stages and the ministry was busy looking for funding to implement the project as soon as possible. The programme will create about 400 000 direct and indirect jobs in the country. "It will also sensitise people to modern farming methods as opposed to the current mode of farming, leading to higher quality of the products," he added.

Processed milk will be bought from factories and not from farmers. The reason for this is to create a bigger market for factories and thus encourage people to invest in the industry. "A law prohibiting dairy hawkers making house-to-house milk sales will be implemented to the letter, because retailers are supposed to sell to dairies," he added.

The minister noted that the activities of both peasants and pastoralists were causing environmental degradation and called for a gradual switch to modern farming and animal



www.monsanto.co.za



Grow your future with pride

*If you really want to make a success of your farming, you have to make successful choices. With **DEKALB**, you have a wide variety of choice with high quality maize and sunflower seed for high quality yields.*

Make the right choice by choosing the right partner.



DEKALB, give wings to your growth.



MONSANTO +27 (0) 11 790 8200

Your CHOICE supplier for large herd equipment requirements:

- » Hoofcare products
- » Udder care products
- » Calf-rearing equipment
- » Calving equipment
- » Diagnostic equipment
- » Large animal veterinary practice equipment

INSTA— —VET

Import & Export (Pty) Ltd
Reg.1996/009350/07

AGRI CONNECT © 2007

CONTACT YOUR INSTAVET REPRESENTATIVE FOR MORE INFORMATION:
 Martiens Booysen +27 (82) 449 9541
martiens@instavet.co.za OR visit our website:
www.instavet.co.za

Upper Marketing P1609002

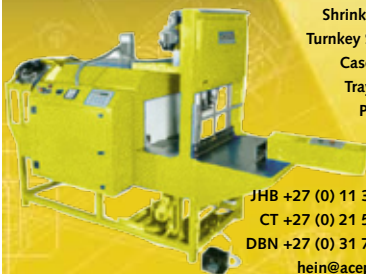


**QUALITY
END-OF-LINE
PACKAGING
EQUIPMENT**

Proudly build in South Africa since 1967.

Please contact us at ACEPAK for your shrink wrapping needs.

Please visit: www.acepak.co.za



Shrinkwrappers
 Turnkey Solutions
 Case Packers
 Tray Packers
 Palletisers

Tel

JHB +27 (0) 11 393 1110
 CT +27 (0) 21 552 5999
 DBN +27 (0) 31 701 6742
hein@acepak.co.za

husbandry. He said his ministry was focusing on traditional fodder conservation methods for the sustainability of grazing areas and environmental conservation. – *The Guardian*

Heifer project improves lives

Dairy farming on the densely populated slopes of Mount Elgon, Uganda, can be a difficult job for many people. But, for James Nagwere and his wife Sarah, whose livelihood entirely depends on the sale of milk, keeping exotic dairy cows can still be possible.

Nagwere is making a fortune from the sale of milk and still does all his farming on a very small piece of land. He says in 2001 he realised that only growing crops on his half acre piece of land would not help him progress in life.

"Together with my wife, we joined Bugusege Dairy Farmers Cooperative Society with a membership fee of 10 000 Ugandan shillings. We received a cow as a gift from one of the members. We named it Maureen." In less than a year, Nagwere says Maureen calved and started producing 25 litres of milk daily.

Nagwere says he gets 60 litres of milk from his cows per day and sells them to hotels, restaurants and kiosks in Mbale and Sironko. He earns about 720 000 Ugandan shillings per month. Nagwere has acquired four acres of land on which he grows his pasture and plans to build a more beautiful structure for his family. The cooperative society's policy requires him to give Maureen's first offspring to another member.

Jane Magombe, the chairperson of Bugusege's dairy farmers cooperative society, says Nagwere's is one of 413 households in Sironko which have benefited from the heifer project. The farmers' society started in 1985 with 35 members and had only nine cows in 1990. Today, there are over 700 members and the number of heifers has also increased to 826.

"Each of these cows produces an average of 10 litres of milk daily and this has given us the potential to produce 8 260 litres of milk every day from our members," says Magombe. Each member presently earns between 120 000 Ugandan shillings and 800 000 Ugandan shillings per month.

As a result of the heifer project, there is visible improvement in housing, nutrition and the general health of the farmers. Food security at household level has grown by about 75%, says Magombe. Besides the increasing demand for more exotic cows, the group is currently limited by lack of a vehicle to transport milk from the various milk centres to the markets in Mbale and Sironko.

Farmers in the district also say the pasture they are growing on their small pieces of land is presently being attacked by a rare infection. Dr Charles Okori, the Sironko district veterinary officer, says the rare disease is a fungal white spot infection which has reached alarming levels, affecting productivity. This infection is said to be worse in central Uganda and just spreading to Sironko.

– *New Vision*

Agriculture holds the key

The overall economy of most African countries, and their potential for achieving the millennium development goals, depends significantly on how seriously they take agriculture, according to the Director of Food Security and Sustainable Development at the Economic Commission for Africa (ECA), Josue Dione.

Dr Dione said this was because of the strong backward and forward linkages between agriculture and other productive and service sectors of the economy. He said, however, that in spite of the strong evidence of the role of agriculture for spurring economic growth and reducing poverty in Africa, the sector has been neglected, if not undermined, over the last 3-4 decades.

According to official figures, about 46% of Africans live on less than a dollar a day and more than two-thirds of those people live in rural areas where they depend on agriculture and agriculture-related non-farm activities for their livelihoods. Dr Dione said that while Africa was spending \$25 billion annually on food and agriculture imports, and receiving \$2 billion yearly in food aid, "nearly one-third of the total population still suffers from chronic hunger." – *The Daily Monitor DMA*

Cold room cleaning

by Isabel Basson



The cold room or refrigerator plays a crucial role in the business of any dairy processor. It is therefore of utmost importance to properly maintain and clean these appliances in order for them to work efficiently and save on energy bills. The maintenance of these commercial refrigerators is very technical and lies mostly in the hands of your supplier. There are, however, a few things you can check yourself.

Some preventative maintenance measures include lubricating door hinges and latches at least once a year, checking all hardware and fasteners, and tightening them if necessary. You can also check that all condensing unit drain lines run free and clear. The condenser coil must also be kept free of dirt at its in- and outlets.

Shelves

Do not overload shelves, as this will interrupt the flow of cold air through the system. It is also important not to push food up against the fans. This will not only have a negative impact on the flow of cold air, but will also cause the fans to run faster than it should, which in turn could lead to earlier replacement.

It is also important that stock be rotated to prevent food spoilage. The general rule is “fiffo” – first in, first out. Make daily checks on perishable foods in fridges. Stock rotation also helps to maintain correct stock levels.

Put dates on all newly-received products and work out a control system that suits your particular needs. It is also wise to pack stock above floor level, to reduce the chances of pests and to ensure that every product is properly cooled.

Temperature

Although most cold rooms and refrigerators are fitted with electronic thermometers, it is a good idea to regularly check the temperature of the appliance using a manual thermometer. Keep the temperature at between 0-5 °C.

Cleaning

As throughout the cold chain, hygiene is of utmost importance in the refrigerator. Start on the outside by regularly cleaning the area around the compressor if it is accessible. You can use a vacuum cleaner to get rid of dust and fluff build-up in this area.

Inside the fridge it is important to keep the floor surfaces clean. Immediately wipe up any spills with warm water and a mild detergent. Spills are not only unhygienic, but it can also be a safety hazard for those entering the refrigerator, as floors become slippery.

When cleaning it is important not to use caustic or abrasive cleaners. If you are not sure which cleaner to use, check with the manufacturer about which products will not react to the materials used. It is also important to never use high pressure cleaning machinery as it may damage the panel seals. After washing the fridge, you must dry it thoroughly to prevent ice build-up. You can clean the cooling coils several times a year and make sure that the condensation drain is not blocked.

Do's and do not's

Caterersearch.com sums up a few general guidelines for using your refrigerator.

Do's:

- Check and clean door seals weekly
- Clean up spillages immediately
- Visually check compressor fins and vents monthly
- Defrost freezers to manufacturer's instructions.

Don'ts:

- Overload the fridge
- Allow fans to be obstructed
- Leave the door open
- Put hot food in the fridge
- Slam doors. **DMA**

Mix Quality Matters

Get more from your rations - Change to a Klassik 6P

Introduced in 2003, the revolutionary Klassik 6P was jointly designed by engineers and nutritionists to:

- Chop fibre to the precise length
- Avoid over-processing and under mixing
- Produce a uniform mix

Dairy and beef cattle consistently produce more output from eating the same diet and level of feed due to the superior mixing capabilities of the Klassik 6P.



Model represented is a Klassik 280

"No other Mixer does it like a Keenan"

Call Lynne on: (033) 33 03 135
or email: keenan@netfocus.co.za

Subject to availability. Model shown is for promotional purposes only.

Keenan[™]
a different kind of mix



Fresh products demand fresh ideas and Nampak, in conjunction with our world-class Research and Development facility, continually **leap at the opportunity to evolve packaging solutions** that complement the industry's passion for innovation. If you are interested in what we have to offer, please give one of our conveniently located branches a call today!

Bloemfontein

Tel: 051 435 3815
Fax: 051 435 3824

Durban

Tel: 031 792 8300
Fax: 031 792 8340

Johannesburg HO

Tel: 011 249 5200
Fax: 011 249 5232

Polokwane

Tel: 015 223 5152
Fax: 015 223 7074

Vryburg

Tel: 053 927 1842
Fax: 053 927 4941

Cape Town

Tel: 021 507 3000
Fax: 021 507 3002

East London

Tel: 043 731 2285
Fax: 043 731 2286

Johannesburg Factory

Tel: 011 474 0231
Fax: 011 474 8221

Port Elizabeth

Tel: 041 486 1530
Fax: 041 486 2241

"As packaging supplier to a wide range of dairy products, we at Nampak are proud of our relationship with the South African dairy industry."



www.nampak.com



The risk of drug residues

by Dr Fredrick. Kivaria, principal veterinary research officer, Central Vet Lab, Dar es Salaam, Tanzania

The presence of drug or antibiotic residues in eggs, milk and meat is illegal and unethical. Unless drug residues are avoided to protect animal protein's reputation as a healthy, safe food, the market becomes jeopardised.

Approximately 5-10% of the general population is hypersensitive to penicillin or other antibiotics and suffers allergic reactions at concentrations as low as 1 ppb penicillin. There is also concern that small amounts of certain antimicrobial agents may significantly shift the resistance patterns in the microbial population in the human intestine.

Introduction

Veterinary drugs are used to treat animal diseases and improve their health in the same way pharmaceuticals are used by humans. Since the discovery and development of the

first antibiotics prior to the Second World War, these drugs have played an important role in veterinary and human medicine.

However, the potential for widespread use of veterinary antibiotics to provoke development of antibiotic-resistant bacteria has stimulated intense debate. Antibiotic-resistant strains of bacteria known to be food-borne pathogens, including *Salmonella* spp, *E. coli*, and *Campylobacter* spp, have been isolated from farm animals. These resistant bacteria could cause human diseases that are difficult to treat.

Even if the antibiotic-resistant bacteria in food producing animals are not human

YOUR farm

Every farm is different, every farmer unique. That's why DeLaval wants to help you to run your farm your way.

For more than 100 years DeLaval has been out there on the farm with you. And we're still there today as a recognised leader in dairy farm systems.

Farmers need to know they have the tools to make the right decisions. DeLaval's range of farm systems give you more power to achieve your business and personal goals.

We have the tools you need for your business.

one solution - **YOURS**

 **DeLaval**

DeLaval has led major developments in dairy farming since 1887.



pathogens, they may pass their resistance genes to other, pathogenic bacteria. Moreover, there has been some concern about carryover of veterinary drugs into meat, eggs, and milk and the possible adverse effects of residues on people consuming these foods.

Sources of drug residues

Remnants of drugs used to treat sick animals, such as pesticides and antibiotics found in eggs, milk and meat, are called as drug residues. Many drug and antimicrobial residues in eggs, milk and meat are caused by not following the label on medications and feed additives.

Withdrawal periods, ranging from a few days to a few weeks, are recommended for approved animal drugs. These times vary according to the drug used, dosage, route of administration, and animal species and are defined as the time required for 99% of the animals in a population (treated according to label instructions) to be free of drug residues above the tolerance level. Failure to adhere to these recommended periods is reported to be the primary cause of illegal levels of veterinary drugs in food.

However, many drugs are retained in the animal body for longer times than indicated by label discard times. Consequently, animal product samples test/remain positive for residues. A good example is penicillin with a milk-withdrawal time of 72 hours. However, penicillin residue has persisted in milk for as long as 18 days.

Adverse effects

A number of possible adverse health effects of veterinary drug residues have been suggested. These include:

- Allergic/toxic reactions to residues
- Chronic toxic effects occurring with prolonged exposure to low levels of antibiotics
- Development of antibiotic-resistant bacteria in treated animals. These bacteria might then cause difficult-to-treat human infections
- Disruption of normal human flora in the intestine. The bacteria that usually live in the intestine act as a barrier to prevent incoming

pathogenic bacteria from getting established and causing disease.

- Antibiotics might reduce total numbers of these bacteria or selectively kill some important species.

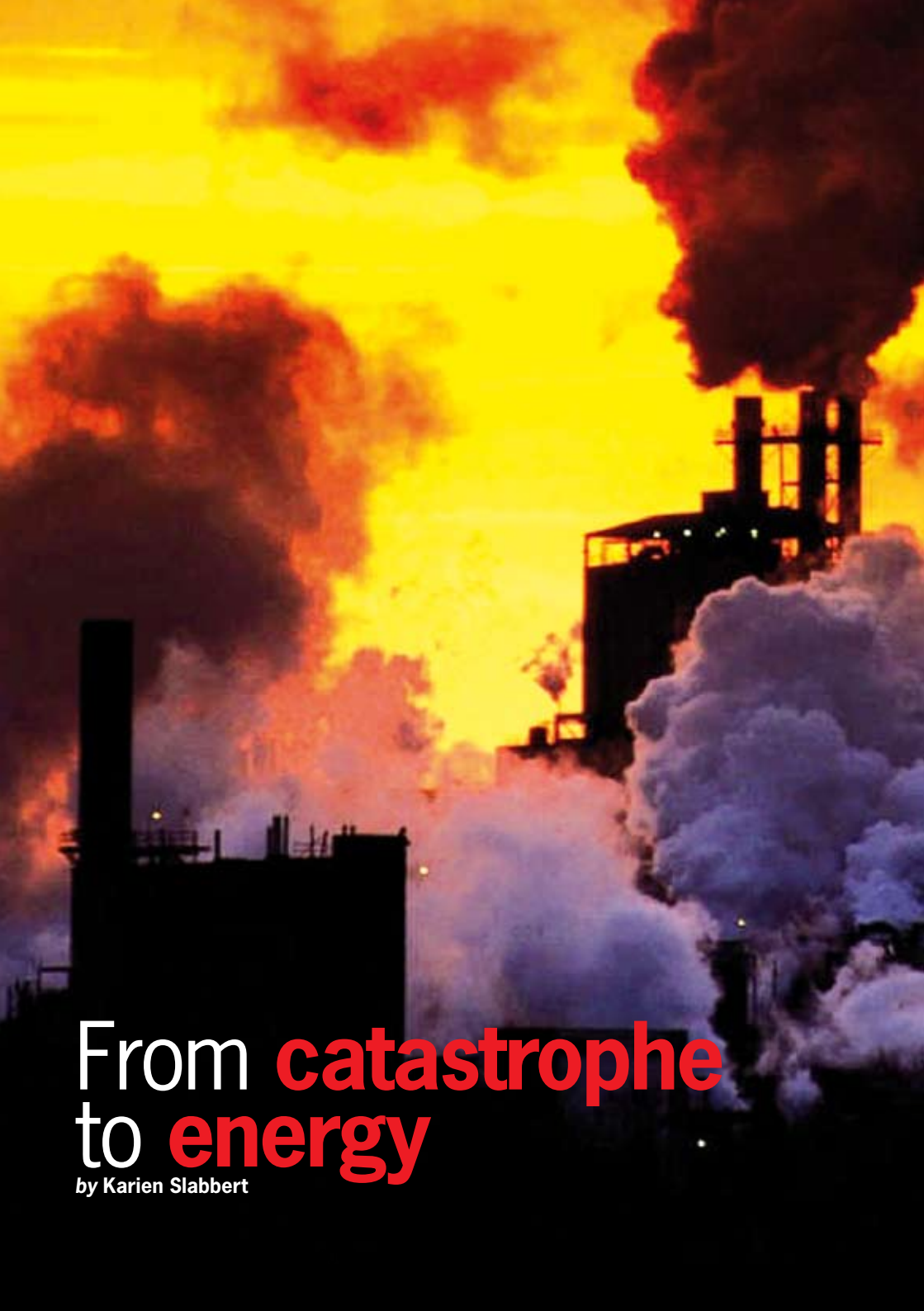
Although such reports are uncommon, veterinary drug residues in meat have been reported to cause toxic or allergic reactions in humans. A few reports indicate that sensitive individuals may experience allergic reactions to antibiotic residues, particularly penicillin residues, in eggs, milk and meat. Anaphylactic reactions have been reported to result from consumption of milk or pork containing penicillin. It is possible that some minor reactions, such as skin rashes, may also have occurred but these have not been reported.

Estimates of the prevalence of drug sensitivity vary, but are estimated to be about 5-10% in the general population. However, not all of these people experience severe symptoms and residue levels detected in eggs, milk and meat are likely to be below the threshold that would induce a hypersensitive response.

The avoidance of drug residues in animal products is a matter of moral and ethics on the part of producers. Consumers can do little to attain residue-free food. The producers and veterinarians have to recognise the need for:

- Safe, wholesome food supply
- Judicious use of drugs and chemicals
- Acceptable balance among the need to feed the world's hungry, wholesome food supply and humane production
- Also, the need to minimise use of drugs with good management.

Reading labels, keeping good records and paying attention to detail can help prevent drug residues in food. It is every producer's ethical and legal responsibility to do everything to provide a safe, wholesome product for the consumer. Consumers should always strive to source food of animal origin from trustworthy producers or suppliers. **DMA**



From catastrophe to energy

by Karien Slabbert

The effects of climate change would be felt globally, but would hit Africa, the continent with the least capacity to cope, the hardest. This is according to Sir Nicholas Stern, former World Bank Economist who authored the *Stern Review Report on the Economics of Climate Change*. African leaders, he said, had an important role to play in shaping the international debate.

The global average temperature has already risen by 0,74°C in the past century, according to a report by the UN Intergovernmental Panel for Climate Change (IPCC). Global warming has more than likely already contributed to droughts, heavy rains, flooding, heat waves and increases in hurricane and tropical storm strength across the world over the past 50 years, according to the first IPCC report for 2007, released in February.

The report focused on the science of climate change and likely future temperature increases, and warned that global temperatures will continue to rise. It stated that the average global temperature could rise between 1,1-6,4°C by the year 2100. The scientists' best estimate is that temperatures will rise between 1,8-4°C. This climate shift will coincide with extreme weather events such as heat waves, droughts and floods.

In its 2001 report, the group said that this was at least 66% likely that humans were the main culprits driving global warming. In the second climate change assessment report for 2007, the IPCC panel concluded that it is "very likely" that human actions are to blame for rising temperatures. It emphasised carbon dioxides emitted from fossil fuel consumption. In its latest report, the panel elevated the certainty level to 90%, the strongest expression of certainty to date.

A more chilling picture

Significant changes brought about by rising temperatures are now apparent in ice masses,

water bodies, agriculture and ecosystems. Changes consistent with higher temperatures range from melting permafrost in the Arctic regions to shifting distributions of fish populations. Spring events, such as leaf unfolding, bird migration and egg-laying are arriving on our doorsteps sooner than we expected.

However, future events are potentially catastrophic. The report stated that global warming will cause sea levels to rise and water shortages to spread. Droughts and floods will become more frequent and increasingly severe. Up to 30% of all species are likely to be at an increased risk of extinction if global temperatures rise by 1,5-2,5°C.

Africa will suffer

For the first time the panel broke down its findings into regions. Africa, a continent mainly composed of less developed countries, will be hardest hit by changing climate patterns. "New studies confirm that Africa is one of the continents that are most vulnerable to climate variability and change, because of multiple stresses and low adaptive capacity," the report summary said.

By 2020, between 75-250 million people in Africa are projected to be exposed to an increase of water shortages. As a result of climate change, the area suitable for agriculture, the length of growing seasons and yield potential are expected to decrease. This will further adversely affect food production in a continent already suffering from malnutrition. In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020, the report warned.

The poverty-inflicted continent may also have to spend at least 5-10% of its gross domestic product to cover the cost of adaptation, since sea-level rise will affect low-lying coastal areas with large populations towards the end of this century. Many natural ecosystems are likely to be overburdened this



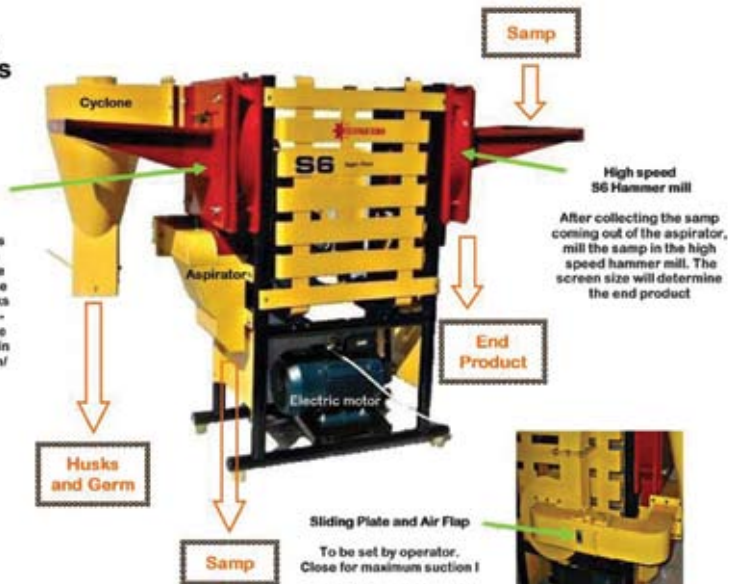
GET THE BEST REFINED MAIZE MEAL WITH S6 SUPERPLANT

The S6 Superplant is Drotsky's answer for Africa. The S6 Superplant was designed and manufactured after Drotsky had done many shows in Zimbabwe and Zambia where people wanted "breakfast" maize meal. It entails two hammer mills running from a 11 kW electric motor. It takes off the husk and germ through an aspirator, and the slow hammer mill produces samp that can either be sifted or milled. If the samp is milled through the fast running hammer mill, you will get a super fine white mealy meal.

THE AFFORDABLE MILLING PLANT

Operating instructions

Slow speed S6 Hammer mill
This hammer mill breaks the maize to loosen the husks and the germ. The product goes through the aspirator where the husks and the germs are separated from the samp. The samp must be collected in a separate collecting bin/bag. (Not supplied)



33 Barium Street, Alrode, Alberton. South Africa

Tel +27 11 864 1601 / Fax +27 11 908 2056

E-mail drotsky@iafrica.com / <http://www.drotsky.co.za>

century and other man-made consequences, such as pollution and over-exploitation of resources, could further turn up the heat on an already fiery situation.

The overall picture drawn by the second IPCC report showed that drought-affected areas will likely increase in extent, while frequent heavy rainfalls will augment flood risk. During this century, water supplies stored in glaciers and snow cover is projected to decline, leaving one-sixth of the world population at risk. Lake Chad is drying up and the glaciers of Mount Kilimanjaro are disappearing, increasing extreme weather, "climate wars" and exacerbated hunger throughout Africa.

Climate change can be tackled

In its third assessment, the IPCC looked at measures that can be taken to mitigate and prevent greenhouse gas emissions and how much it would cost. It says increased use of energy-efficient technologies, a shift away from coal, and agricultural reforms can prevent rising world temperatures.

Greenhouse gas emissions have risen by 70% since 1970, and will rise by between 25-90% over the next 25 years under "business as usual". The largest greenhouse gas culprit, according to the report, is the energy supply sector. That rise will mainly be caused by an expansion in the use of fossil fuels, which are set to continue as the world's dominant energy source.

The report suggests that if major climate impacts are to be avoided, global greenhouse gas emissions should peak and start declining within one or two decades. Experts agreed that the growth in these emissions can be curbed at reasonable cost. Boosting renewable energy, reducing deforestation and improving energy efficiency can all help.

Green energy heats up

Key mitigation technologies and practices that currently are commercially available, include improved supply and distribution efficiency;

fuel switching from coal to gas; nuclear power; renewable heat and power (hydropower, solar, wind, geothermal and bio-energy); combined heat and power; early applications of carbon capture and storage (CCS), such as the storage of removed CO₂ from natural gas.

Key mitigation technologies and practices projected to be commercialised before 2030 include CCS for gas, biomass and coal-fired electricity generating facilities; advanced nuclear power; advanced renewable energy, such as tidal and wave energy, as well as concentrating solar power, and solar PV.



Going green

Analysts are predicting a large growth in the renewable energy market. Green energy is said to be environmentally friendly sources of power and energy. This refers to renewable and non-polluting energy sources and processes, such as anaerobic digestion, geothermal power, wind power, small-scale hydropower, solar power, biomass power, tidal power and wave power. Some versions may also include power derived from the incineration of waste. Biofuels, said to be a greener alternative to fossil fuels, is also often included in the green energy mix. *DMA*



Water for AFRICA

by Lynette Louw

Water is very scarce in Africa. Although everyone in the country has the right to have access to water, other factors such as drought and pollution make water even more scarce and unfit for use. Water has become very expensive, because we have so little of it and because it costs a lot of money to clean dirty water. Therefore we all have to act responsibly and help to keep water clean. One way of helping, is by saving water. We are all able to do this, on our farms and in our homes.

Saving water in the home

- If you have running water in your bathroom, try to bath rather than shower. By showering, one uses up to 20 litres of water per minute.
- If you prefer to bath, don't fill the bath completely. One bath can use between 80 and 150 litres of water.
- If the bath water is not too dirty, more than one person can use the same bath water.
- Once everyone has finished bathing, the water can be carried out in buckets to water the garden or wash the floors.
- If you have a toilet that flushes, do not flush it unnecessarily. Every time you flush the toilet, it uses 12 litres of water. You can fill a two-litre bottle with water and sand to make it heavy. Close the bottle and put it into the

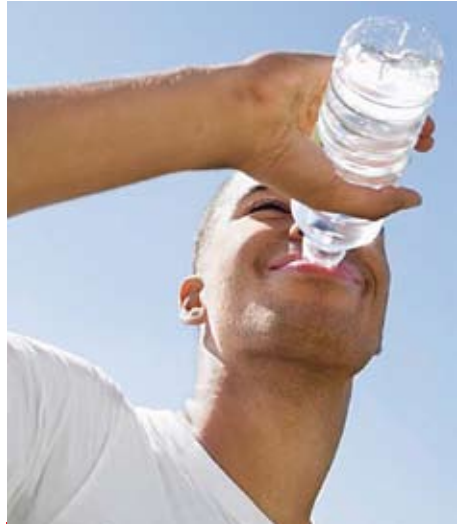
cistern of the toilet. Less water will then fill the cistern and you will use less when flushing.

- Always fix a leaking toilet. A leaking toilet can waste almost 100 000 litres of water in a year.
- When you boil water, boil only as much as you need. Don't boil too much, because it will go to waste and will use up more electricity or gas.
- Water is needed to generate electricity. If you have electricity in your home, do not leave lights on if you are not using a room. A normal 100 Watt light bulb uses almost three litres of water to generate power for 12 hours.
- If you have boiled too much water, used too much in the bath or poured too much into a bucket, find other ways of using it, for example watering the vegetable garden.

Using less water in the garden

- If you have a garden, vegetable patch or pasture, it is better to water it in the early morning or evening. That is when the sun is less harsh. If you water during the warmest hours (between ten in the morning and three in the afternoon) most of the water you give will evaporate.
- Do not plant unknown species. Foreign plants often use up a lot of water. Many indigenous plants that belong in the region, use much less water.
- If your roof has a gutter pipe, put a bucket at its end so that you can catch up all the water running down from the roof after the morning dew or rain. This water can be used for watering the garden or for your cows' drinking troughs. Do not use it in the home for drinking or cooking.
- Use leftover water after washing clothes or after bathing, to water the garden.
- Try to water your garden with buckets. A garden hose can use up to 30 litres of

water per minute. With a bucket you can control the amount of water that you use, and you can decide what parts need more water than others.



Important things to remember

- ! Drink only clean water.
- ! If your water comes from a source such as a borehole, it is important that you first filter the water by squeezing it through a clean cloth into a container. Add one teaspoon of household bleach to every 20 litres of filtered water. Let it stand for at least 30 minutes before drinking it.
- ! You can also boil water to make it safe for drinking.
- ! Boiled or cleaned water can become dirty again if left open. So cover your drinking water with a cloth or towel when you are not using it.
- ! Remember that your livestock also need clean drinking water. Do not give them bath or wash water to drink, as this might make them ill.

(Source: www.dwaf.gov.za) DMA



The biosecurity option

by Les Vermeulen

As herds and farms grow larger, the threat of disease increases. Germs know no boundaries! They lurk in housing facilities and get into pens on the boots of workers and visitors. Once they spread, these germs can lead to very serious illnesses. But there is a solution. It is called biosecurity and is also known as livestock disease intervention.

Successful biosecurity has three elements namely: vaccination and nutrition; cleaning and sanitation; diagnostics and quarantine.

Cleaning and sanitation is probably the most effective approach for disease prevention. A proper assessment must be made of the facilities. Identify the critical areas where pathogens can enter the farm. There should only be one combined entrance and exit to the farm. In this way there will be full control of who enters and who leaves the farm.

General farm hygiene

This is the responsibility of all the staff on the farm. All employees should know the farm's biosecurity policy and must be able to explain it to visitors. The farmer must draw up a written biosecurity plan that can include a foot dip policy between farms and buildings. It can also include disinfecting facilities for consultants, veterinary surgeons and other visitors. Such a plan should:

- Insist that all staff and visitors use the foot dip
- State that the milking parlour and other facilities should be clean and hygienic at all times
- Insist on clean and disinfected vehicles after transporting stock
- Indicate that visitors' vehicles should park outside the premises, or in a disinfecting bay.

Feed storage facilities

- Poor feed facilities encourage birds and vermin such as rats, which spread disease
- Clean out and disinfect feed troughs and feeding stances regularly
- Remove feed that is not eaten and dispose of it responsibly.

Keep stock separate

- Eliminate contact with neighbouring farms through good fences and secure gates
- Milk mastitis cows last and disinfect the parlour after use.

Quarantine

New animals should be isolated and checked for visible signs of illness. If they are ill, they must be treated immediately. If cows are in milk, the milk must first be tested to make sure that no contagious bacteria are present. It could be very costly if other cows in the herd are infected by these cows.

Vaccination programme

The local veterinarian can provide a yearly vaccination programme.

Vermin and rodent control

- An adequate rodent and fly control programme must be in place
- Animals and birds should be kept away from feed stores.

Biosecurity is the first step to a solid prevention programme. If you have a clean environment, you will have healthier animals. **DMA**