



FILMATIC'S FILLERS FOR NICHE PLAYERS



Pneumatic assist semi-automatic inline level filler for big bottles - up to 20 bpm.



Economical pouch filler for 100ml - 1000ml pouches @ 2000 pph with optional conveyor.



Rotary index filler / capper / labeller. Bottle range from 200ml to 5L.



130 Jan van Riebeeck Drive, Paarl, South Africa
PO Box 828, Huguenot 7645, Paarl, South Africa
Tel: +27 (0) 21 862 2192, Fax: +27 (0) 21 862 4605
sales@filmatic.com • www.filmatic.com

New maize breeder for Monsanto



Rob Dunlop is Monsanto's new maize breeding lead for Africa

Rob Dunlop recently took over the reigns as Monsanto's head of maize breeding for Africa. He has taken over from JD Rossouw, who is settling into his new role as Monsanto's maize breeding lead for the Asia Pacific region.

Rob joined Monsanto in September 2004, after spending 12 years as a tree breeder and programme manager with the Institute for Commercial Forestry Research. In 2005 he assumed the role of commercial breeder, leading the RSA Corn Testing Team and conducting permutation breeding and pre-commercial hybrid evaluation.

He is a member of the SAF Corn Crop Team and represents the Corn Breeding Group on the Monsanto HR Engagement Committee. Rob holds a BSc in Chemistry and Applied Chemistry, and a BSc (Honours) in Genetics, both from the University of Natal. He has submitted his Masters dissertation in Forestry for examination at the University of KwaZulu-Natal. **DMA**

A group of approximately 15 people, including men and women of various ages, are standing in front of a building. The building has a red brick facade and a white sign with blue text that reads "Marirangwe M" and "Ce". The people are dressed in casual to semi-formal attire, including jackets, sweaters, and hats. The scene is outdoors, and the lighting suggests it is daytime.

Marirangwe M
Ce

It is quality that counts

by Fidelis Zvomuya

For smallholder dairy farming to succeed, there is a need for resources to be available, an increase in production levels, quality production, good management practices, market facilities and a socio-economic environment conducive for farmers to operate in, says Gumisai Chipunza, deputy chairperson of a Zimbabwe smallholder dairy farming project.

Chipunza says dairy farming is a demanding

business that requires proper farming skills, co-operation by all stakeholders and commitment from farmers. "We must not make excuses based on the economic and production challenges that our country is facing at the moment. This is not a passport to bad and poor milk production. As farmers we need to come up with measures that will see our products improving during these trying times, through the introduction of good professional farming practises," he said.

Milk Collection Centre



Members of the Marirangwe Milk Collection Centre

Milk collection

The 36-member Marirangwe Milk Collection Centre was established in 1984 by a government-run dairy development programme (DDP). The project collapsed due to poor technical support, lack of funding and the unavailability of proper generic breeds.

The NADF took over the project three years ago and started providing the remaining 24 farmers with all the necessary support, including a

restocking programme. Each farmer has an average of seven milk cows that give them about nine litres of milk per day. During peak time, especially during December to March, the farmers supply the centre with a total of 950 litres per day which is then delivered to Kefalos Cheese Products.

Best quality

According to Chipunza, at the moment they are not concerned about quantity, but quality. "It doesn't

make an economic sense for you to have cows that give you 30 litres per day of poor quality milk, which will fetch very little or will be refused on the market. It is better for our cows to give us little good quality products," he said.

“Milk quality is very important and getting such a product from emerging farmers is an encouraging development, considering what farmers are going through at the moment”

Michael Manyanya, Kefalos factory manager, said that Marirangwe delivers some of the best quality milk, much better than some of the commercial farms that have been in business for a long time. Manyanya said that as a processing plant, they are happy that small-scale farmers are above the required quality considering the current economic hardships and shortages being faced by the country's farmers.

“Milk quality is very important and getting such a product from emerging farmers is an encouraging development, considering what farmers are going through at the moment,” he said.

Challenges

Chipunza said the challenges they are facing are power cuts, sky-rocketing feed prices, transport and the lack of milk-drinking culture within their area. Access to high quality dairy breeds remains a challenge. Pure-bred animals are not readily available and when they are, the prices are too high.

“Due to the current national electricity blackout, at one time we lost close to 600 litres of raw milk. It all went bad before we could get diesel to transport it to the processor.

We don't have a generator at the centre and we cannot afford to buy one. Even if we had one, fuel is still a big problem,” he said.

The farmers, however, complimented the support they are getting from the NADF. “The farming association is providing us with technical assistance, training in milk production, handling, hygiene, record keeping, pasture establishment, animal health and quality control at our milk collection site,” Chipunza said.



Tractors are used to carry milk from smallholder milk collection centres to processing companies. Due to fuel shortages at time the milk is not collected and will result in being bad due to power cuts as smallholders cant afford to buy generators

NADF involvement

The NADF is assisting with three projects – Marirangwe, Tsonzo and Rusitu – which were previously managed by the now semi-dead government-run Dairy Development Programme. Farai Tinarwo, NADF extension officer, said his organisation's aim is to improve the productivity of smallholder dairy projects through the promotion of improved and innovative livestock feeding technologies.

Tinarwo said smallholder dairy farming has enormous potential. “It can contribute to family income, generate gainful employment, elevate living standards, fight malnutrition and can enhance processes of sustainable agriculture,” he said. Ajs Kirk, NADF chairperson, said one of their strategic goals as an association is to incorporate and develop small-scale producers. **DMA**



Milk Report

Bio-fuels can fight poverty

Reports that dairy farmers in New Zealand are cashing in on milk that is now being processed into fuel, should be great news to Uganda. A New Zealand newspaper, *The New Herald*, reported last week that farmers on this Indian Ocean island are reaping big from milk sales because the country adopted a policy of utilising milk by processing it into bio-fuel.

With more than a million litres of milk wasted in the land of milk in western Uganda, there could be no better news than this for a long time. The *Daily Monitor* reported that a local wild shrub, the jatropha plant, produces seeds that can be dried and crushed to produce bio-fuels. Britain, with all its energy resources, has already started on building a processing plant to generate at least 50 megawatts of electricity from this plant.

The benefits are many. Cheap energy would be produced. Farmers, as providers of the raw materials, would be direct beneficiaries and as such poverty would shrink. Above all, less foreign exchange would be lost to the oil producing countries, especially now that oil exploration in Uganda is at an advanced stage.

But this is only possible if the government demonstrates the will to exploit the opportunity of using bio-fuel as opposed to fossil fuels. The materials are available, the need is great. It is only for the government to take the lead and the energy problem will be history. – *The Monitor*

Milk can grow equity

The vast majority of the poor and malnourished in developing countries, live in rural areas and depend on farming and farm wages. Malnutrition here is pervasive among women and pre-school children.

Equitable growth strategies for poor countries foster inclusion of the rural poor into high-value agricultural markets. Dairy production presents an opportunity for smallholder households to become more integrated into such markets, while improving their nutrition.

Milk production is growing in importance in developing countries. Milk consumption in these regions is projected to increase by 3,3% per year through 2020, well above the rate of population growth. Moreover, milk is the most important and ubiquitous animal product that smallholders produce.



STRANGKO

Do you want to improve your milk measurement? Are you looking for improved initial performance and reliability without having to buy a new machine?

Phone us at Kwikelac for more information
Importers of dairy farm equipment

Bulk milk tanks for sale, all with sealing rings and in good condition

- 2 x 8 000 litre Roka
- 1 x 18 000 litre Roka
- 1 x 7 000 litre Roka
- 2 x 5 000 litre Roka

48 King Edward Street, Newton Park
Port Elizabeth, 6045

Phone our office on +27 (0) 41 365 7394/5 or fax +27 (0) 86 689 2907
Or chat to Barry on +27 (0) 82 652 9005 or Penny on +27 (0) 82 322 0714



Strangko
Boumatic company



Simple, sturdy and reliable!

Few smallholder systems in the world have adjusted to the pressures of increasing population density and urbanisation without recourse to dairy production. Dairy production increases household income and improves its stability while furthering other high-value activities, such as intensive poultry and vegetable cultivation and small businesses. – www.irli.org

Taking the cow to school

Farmers' field schools began in Indonesia about two decades ago and have since spread to other parts of Asia, Latin America and Africa.

In essence, the idea is that a structured group of between 25 and 30 farmers meet once a week and conduct experiments and field trials to discover for themselves the best ways to manage their crops.

They decide what problems they need to address and, with the support of a facilitator, embark upon a programme of activities. Integrated pest management is a popular theme. Farmers' field schools are now well-established and well-known in Kenya. There are 500 or so in the eastern African country alone. – www.irli.org

Water and sanitation crisis

A global action plan under G8 leadership is urgently needed to resolve a growing water and sanitation crisis that causes nearly two million child deaths every year. Across much of the developing world, unclean water is an immeasurably greater threat to human security than violent conflict, according to a report titled *Beyond Scarcity: Power, poverty and the global water crisis*.

Each year 1,8 million children die from diarrhoea that could be prevented with access to clean water and a toilet; 443 million school days are lost to water-related illnesses, and almost 50% of all people in developing countries are suffering at any given time from a health problem caused by a lack of water and sanitation.

To add to these human costs, the crisis in water and sanitation holds back economic growth, with sub-Saharan Africa losing 5% of GDP annually – far more than the region receives in aid.

"Like hunger, it is a silent emergency experienced by the poor and tolerated by those with the resources, the technology and the political power to end it," says the report. With less than a decade left to reach the Millennium Development Goals (MDGs) by 2015, this needs to change, stress the authors.

The HDR 2006 recommends that, in addition to creating a Global Action Plan, the following foundations are crucial for success:

Make water a human right – and mean it: Everyone should have at least 20 litres of clean water per day and the poor should get it for free. The report advocates for all governments to go beyond vague constitutional principles in enabling legislation to secure the human right to a secure, accessible and affordable supply of water.

"Like hunger, it is a silent emergency experienced by the poor and tolerated by those with the resources, the technology and the political power to end it"

Draw up national strategies for water and sanitation: Governments should aim to spend a minimum of 1% GDP on water and sanitation, and enhance equity, the authors urge. Water and sanitation suffer from chronic under-funding. Public spending is typically less than 0,5% of GDP. Research shows that this figure is dwarfed by military spending: In Ethiopia, for example, the military budget is 10 times the water and sanitation budget in Pakistan, 47 times. – *Press release: United Nations Development Programme DMA*

Checklist for cooling tanks

by Isabel Basson

In the colder winter months farmers often neglect to properly check and maintain their bulk milk cooling tanks, since they seem to be in perfect working order. But once summer starts, the figurative pawpaw (in this case milk) hits the fan when milk is suddenly not cooled properly.

It is important to cool your milk as quickly as possible, particularly during periods of peak production. *Farmnotes.com* recommends that regular checks should be made to ensure that the cooling time is at least within 3½ hours from commencement of milking.

What the experts say

According to Rykie Visser, Sub-Sahara export and district sales manager of DeLaval, proper cleaning of the milk cooling system affords the opportunity to avoid infections and delay micro-bacterial growth. DeLaval offers the following cleaning tips:

- ▶ Clean the tank with water and cleaning agents
- ▶ Pay attention to the lid and rubber seals
- ▶ Clean the valve with a sweeper and check the condition of the rubber seals
- ▶ Check that inner surfaces are smooth and clean. If necessary, climb into the tank and

Proper cleaning of the milk cooling system affords the opportunity to avoid infections and delay micro-bacterial growth

clean it with a brush

- ▶ Check dark places and areas where fluids main remain behind in the form of drops
- ▶ Check the agitator wing.

According to *Farmnotes.com*, regular checks are required to ensure that the bulk milk tank thermometer is accurate. Use a calibrated thermometer and compare the results with the milk tank thermometer reading. Cooling time can be checked by recording when milking begins and when the refrigeration unit brings milk temperature to below 4°C.

Checklist

Wikipedia gives the following checklist for bulk milk cooling tank maintenance:

- ✓ Check the agitator motor for grease leaks, noisy operation, worn shaft shields and bearings. Replace leaking agitator motor seals. Tighten the bolts holding motor mounting brackets. Replace worn shaft shields and bearings
- ✓ Check the timer to be sure that it will start the agitation process and advance to the “off” position. Replace the timer if it is not functioning properly

- ✓ Check for thermometer accuracy – it should read 0°C when in ice water. Be sure that it is not sticking. Replace the thermometer if faulty
- ✓ Check the milk tank outlet valve for leaks and cleanness. Replace the valve's "O" ring if it is leaking
- ✓ Check the running time of the cooler. It should cool to 10°C within one hour of first milking and then to 4°C and hold that temperature after the second hour. The blend temperature of the second, third and fourth milking should remain under 10°C. If running time is too long, check and clean condenser coil. Also check the refrigerant
- ✓ Check for foam, churned and frozen milk on the milk surface. The presence of foam indicates air leaks in the milking system or excessive agitation of the milk. Churned milk (clumps of fat floating on the surface) is usually caused by excessive agitation and slow cooling of the milk. Check refrigerant and frozen milk on the surface or as layers of ice on the bottom of the tank. Freezing can be avoided by turning on the refrigeration when the milk level reaches the level of the agitator blades and setting the tank thermostat, so that the milk is cooled to 4°C
- ✓ Check the condenser coil for dirt or dust. Air must flow freely through the coil and exit into the atmosphere. If condenser coil is dirty, turn the disconnect switch to the "off" position, brush-wash with milk detergent solution, rinse with tap water from the fan side out and allow to drain for three hours before restarting
- ✓ Check the refrigeration unit and tubing for signs of leaks (grease spots) and contact the technician for assistance
- ✓ Check the refrigerant sight glass – after the unit has been operating for 15 minutes, refrigerant should be clear without any indication of foaming. If the refrigerant is foaming, some more has to be added by the technician
- ✓ Check the condenser fan motors. Contact the technician regarding any malfunction.

According to South African parlour regulations, bulk farm tanks must have a drainage incline

leading directly to the outlet point. It should also be fitted with an outlet pipe that is screw-threaded and fitted with a screw-on cap, permitting the end to be shut off.

The tank must be fitted with a stirring mechanism capable of mixing milk within five minutes of being put into operation. It must be fitted with a thermometer capable of measuring the temperature of the milk accurately to the nearest 2°C. The tank must be able to cool the milk to 5°C or lower within three hours, and then keep the cooled milk at a temperature of 5-10°C.

“Cooling time can be checked by recording when milking begins and when the refrigeration unit brings milk temperature to below 4°C”

The tank must be installed at a minimum distance of 0,5 metres from any roof, ceiling or wall. It should be sufficiently insulated so that the temperature of the milk in the tank shall not increase by more than 3°C in 12 hours if the surrounding temperature is 32°C.

The tank must have an incline leading to the outlet pipe, allowing the total contents of the tank to drain while the vehicle itself is in a horizontal position. There must be at least one opening fitted with a dust-proof lid through which the inside of such tank can be inspected.

All apparatus used for heat treatment, must be fitted with dial thermometers and thermostats that are accurate to 0,5°C in respect of the entire given series of scales. The apparatus must have flow-regulating and -averting valves by which milk that is not subject to heat treatment, is automatically redirected to the balance tank.

Milk containers and other fixed and unfixed apparatus and equipment must be washed and disinfected after use, so that they are clean, fats and milk residues are dissolved and removed, and the bacteriological count on surfaces coming into contact with milk does not exceed ten bacteria per 100 mm². **DMA**

Michael Manyanya, factory manager for Kefalos Cheese Factory in Marirangwe, taking samples of maturing cheese produced at Kefalos



The future looks bright for **Kefalos**

by Fidelis Zvomuya

Milk processing in Zimbabwe is in turmoil, as the country's 34 dairy processing companies are utilising only 30% of their operating capacity, processing 90 million litres of milk well below the national demand.

This is due to the country's economic meltdown that has left the dairy industry facing major production crunches. Most producers are faced with power cuts, lack of inputs, feed, water, and poor farmgate prices.

But despite these challenges, Michael Manyanya, factory manager for Kefalos Cheese Factory in Marirangwe some 40 km south of Harare, says he is positive that these trying times faced by the industry will pass and better days are to come. Manyanya says as processors they need to remain focused for them to build a better future that will see them not sinking in the same deep waters again.

"We need to make hay now, despite the business sun not shining on us. This phase has made us immune to some of the challenges



YOUR milk

For basic machine milking

DeLaval mobile milking unit MMU allows you to double your hand milking capacity, by milking up to ten cows per hour with just one machine. This durable, lightweight bucket milking solution reduces cow stress by providing a consistent milking routine throughout lactation, to help increase milk quality and yield.

Delivered complete with vacuum pump, trolley, pulsator, vacuum regulation and cluster – the DeLaval MMU is now available through your local DeLaval dealer.

For more information contact us on +27(31) 7161700 or e-mail rykie.visser@delaval.com

www.delaval.com

one solution - **YOURS**

 **DeLaval**

DeLaval has led major developments in dairy farming since 1887.

that may transpire in future. We need to find ways to achieve greater competitiveness through consolidation. And also to exploit the current depressed market opportunities through product innovation and exceeding our current performance," he says.

Manyanya says the general processing sector needs to be more adventurous, operating in an international market mindset so as to achieve a positive commercial future.

Kefalos Cheese Products was established in 1992 with the capacity of processing 96 000 litres of milk into cheese, ice cream, ice mix and yoghurt. Currently the plant is operating at 40% of its capacity due to under-supply and shortages of raw milk.

The company is owned by Ajs Kirk, Zimbabwe's National Association of Dairy Farmers (NADF) chairperson. Kefalos's milk comes from 13 commercial farmers and from the Marirangwe Dairy Farmers' Association, a smallholder dairy farming project.

Manyanya says his company has tremendous potential for growth, considering the national demand for dairy products and also a possible growth of the middle class. "We are focusing on value-adding just because the market is flooded with milk at the moment from other processors. Our main product is cheese," he says.

Zimbabwe has a growing demand for cheese, forcing manufacturers to concentrate on improving their quality. The country still needs to do a lot of consumer education about the importance of eating cheese.

"Future consumption trends will depend greatly on the development of the new middle and upper classes and an improved economic situation," he says. According to Manyanya, cheese quality does not only mean good tasting, but also cheese that complies with all the food safety requirements.

At the factory every load of incoming milk is tested for quality and milk is pasteurised to assure its microbiological safety. Of the 34

registered processing companies in Zimbabwe, they have the capacity of processing 400 million litres of raw milk *per annum*, which they are failing to meet. The country's national milk demand is 240 million litres *per annum*.

Milk production has declined from 256 million litres in 1990 to the current 90 million litres this year. This is due to the decline in the number of producers which went down from 514 in 1990 to the current 278, with the milking herd dropping from 104 000 to less than 33 000 currently during the same period. The average yield per cow is now at 14 litres per day, down from 25.

"We are focusing on value-adding just because the market is flooded with milk at the moment from other processors.

Our main product is cheese"

In order to consolidate the company's future growth, Kefalos has started a project to assist smallholder farmers with technical support, feed and improved cattle breeds. Bhara Bhara Farm and Ice Feed which are Kefalos's sister companies, have put in place measures that are meant to ensure that the milk delivered to the factory is of good quality and meet the required sanitary standards.

"To ensure quality and safety of our products, our sister companies are providing farmers with on farm animal safety, vaccines, technical support, high grade feed and pure breeds on a barter credit agreement. This project ensures that each animal that provides us with milk has safe, comfortable housing, nutritious feed, regular veterinary care and sanitary milking procedures," he says.

Unfortunately the effects of prices are also affecting processors as much as it is affecting farmers. Manyanya says they are now relying on South Africa to get most of their packaging materials. **DMA**