

Zambia Dairy Transformation Programme

AUGUST 2020 NEWSLETTER



Welcome to the latest edition of our monthly newsletter, which summarises activities carried out under the Zambia Dairy Transformation Programme (ZDTP) in August 2020.

Left: Mr Godwin Muyambango knew he'd come across a great opportunity when he found out about the ZDTP through the Milk Collection Centre in his area. "When preparedness meets opportunity, there's success," he says. ZDTP Extension Officer Beatrice Mwilima visited the Muyambango farm multiple times after that, providing technical advice on feeding and other aspects of dairy farming. The first thing Mr Muyambango learnt was how to make silage from maize he had grown himself. He also learnt the importance of stockpiling feed, "just like an ant", for later on when the grass is brown. "During the rain season, [ants] are not seen. They collect their feed [and] go underground. When the rains come, they are under there... they are eating."

Read more on page 4.

Photo: Scotty Zeppelin Photography.

Annual survey of ZDTP farmers shows pleasing results

Analysis of data from the ZDTP's Year Four Annual Benchmarking Survey (ABS) shows that more than 70 per cent of households across its six target cooperatives have implemented one or more of the practices being promoted by the programme. The survey was carried out between 30 April and 30 June 2020 by six members of the ZDTP extension team. The team visited 593 households in Bamakasi, Liteta, Chibombo, Fisenge, Kwanshama and Mufulira and interviewed farmers who have access to extension services from ZDTP, as well as farmers who have attended training events who are either waiting for a 'pass on' animal or have lost animals and are looking forward to re-entering the dairy business. The survey captured numerous positive changes amongst farmers, including the adoption of one or more farming practices promoted by the ZDTP by 71 per cent of households after year three of the programme, compared to 42 per cent of households after year one. The results also found that 61 per cent of farmers who had milked during the previous twelve months had adopted one or more improved feeding practice, e.g. silage making, making concentrates from crops grown on farm, or using structures to reduce feed wastage.

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ABS survey results pleasing

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Farmers are also reporting increases in individual animal lactation yields and gross profit in addition to reductions in cost of production. Given the solid adoption of improved feeding practices and understanding that improved feeding provides more 'milk for less or the same cost', areas of focus for the extension team during 2020/21 will be:

- Supporting farmers to have easy access to forage choppers;
- Improved calf and heifer rearing, plus timely reproduction to ensure 'one calf per cow per year';
- Supporting the continued adoption of milk quality related practices; and,
- Continued uptake of the RTM (Real Time Monitoring) to improve record keeping and 'farming as a business'.

ZDTP Programme Country Manager Tania Thomson says: "We're very pleased at the steady progress being made and the positive feedback from farmers who have tried one or more of the approaches we're promoting. Feeding animals to optimize milk volumes and minimize cost of production is starting to become a 'norm' as is regular use of the Sunlight Rapid Mastitis Test. As with last year, the results of the survey have been shared with cooperative members to help them to appreciate the achievements being made and encourage further changes."

New fact sheets available on best practices for calving



Calving is an important part of dairy farming because healthy female calves will go on to become replacement stock for your milking animals.

To help inform this process, we have prepared a farm advice sheet (R02, available at www.zambiadairy.com), detailing what to do during the preparation and delivery stages of calving.

When your cow is approaching calving, it is important to inspect her frequently – ideally, at least every 6 hours. Our tool (R02B, also available at www.zambiadairy.com) will help you estimate the date when your cow will calve.

To make regular inspection easier, you should bring her close to where you are working and make sure she has a clean, dry and quiet place to calve, sheltered from the sun, wind and rain.

It is a good idea to have the number of your local veterinary officer or other animal health professional on hand in case it is needed. You'll also need a well-ventilated calf pen ready for when your calf arrives (see the note on calf sheds to the left).

It is important to let your calf drink colostrum from its mother as soon as possible after birth, i.e. within the first 24 hours after birth.

Colostrum is referred to as 'gold' not only due to its yellow colour but also because it provides calves with disease resistance and supports improved growth rates.

Also remember, that once a cow's colostrum is finished calves require 4 litres of milk per day for the first three months of life (see farm advice sheet F04 at www.zambiadairy.com).

Finally, make sure you record details of the calving for future reference, such as the date, tag number or name of its mother, sex of the calf, status at birth (i.e. alive or dead) and whether calving was assisted or unassisted.

For full explanations of what to do during the preparation, delivery and 'after care' stages of calving, check out our farm advice sheets R02, R02B and F04, available at www.zambiadairy.com.

Calf shed tips

- Calves need shelter from hot, cold, windy and wet weather; calves will grow faster when energy is not being spent on keeping warm or cool.
- Calf sheds should be well ventilated to let air circulate, which prevents calves becoming sick from respiratory diseases.
- Remember to put bedding (wood chips, straw or similar) on concrete floors so calves have a warm, dry, clean bed.
- The shed must be built on free-draining sites to stop waterlogging - this is especially important in the rainy season.
- Concrete areas used for feeding must be able to be washed with water to remove faeces, urine and spilt milk or animal feed.

Utilising locally available trees for supplementary feed

As well as clean water, adult dairy cows require access to good quality forage or 'roughage' at all times, including at night. This helps their digestive systems work properly and stops them being hungry, which can also stop them searching for other things to eat such as plastic and metal which can cause health problems. In addition, when cows are 'in milk', they need at least 20 – 30 kg of fresh forage or green silage to produce 4 – 8 kg of milk per day. At the ZDTP, we are always on the lookout for interventions that are practical, affordable and suitable to the Zambian farming context. One option when it comes to providing sufficient nutrition for milking animals is utilising fodder from locally available trees.



Kwanshama dairy farmers Webster and Mutale Kasamala feed their cows kapeta nsoufu, which is a readily available protein source with high nutritional value.

A selection of smallholder dairy farmers in Central Province and the

Copperbelt have started supplementing their animals' diets with locally occurring, nutritious plants. This includes a naturally occurring Napier-type grass in Mufulira and fodder from local trees such as kapeta nsoufu. Some farmers are also using wild velvet beans for concentrate production rather than soya bean or sunflower cake. ZDTP Programme Country Manager Tania Thomson says utilising local materials is helping farmers provide good nutrition to their animals and reduce their cost of production.

"Farmers should make best use of natural pasture during the rainy season, green fodder in the early dry season and silage during the dry season, whilst remembering to feed animals off the ground to avoid feed wastage" Ms Thomson says.

"As well as encouraging silage production, ZDTP's extension staff have been working with farmers to correctly manage and feed silage to ensure it doesn't spoil".

Producing 'cut and carry' fodder, such as bana grass or Napier grass is another great way to provide nutrition to cattle. Webster and Mutale Kasamala in Kwanshama have been working closely with the ZDTP since its inception, as Focus Farmers for the programme. In 2018, Mrs Kasamala came to the ZDTP with concerns about the low milk volumes being produced by her two animals.

ZDTP staff discovered her two cows were being provided with 10 bags of poor quality "shrubs" per day, with approximately 75 per cent being wasted or rejected by the cows. This was calculated to be 12.5kg of fresh fodder per cow per day, with a with a Dry Matter (DM) equivalent of 25 per cent.

This was insufficient to meet the animals' nutritional needs and was negatively affecting milk production. Mrs Kasamala was advised to start feeding her animals locally available materials, such as leaves from the kapeta nsoufu tree. Using a weighing scale, it was estimated that 10 bags of tree leaves would equal 60kg of fresh material for the two cows.

After starting to feed her cows kapeta nsoufu in September 2018, the Kasamalas' milk volumes increased. Ms Thomson says other farmers should take notice of the Kasamalas' success and look around to see what fodder trees are available in their area, ensuring amounts harvested link to the trees capacity for regenerative growth.



Another option is to check out Plant A Million, which is a social enterprise in Zambia that sells mostly indigenous tree species to fight deforestation and climate change. Plant A Million CEO Emanuel Chibesakunda says: “We see lack of knowledge around how one’s planted trees can feed livestock, especially in the dry season where feed becomes an issue.”

Trees also provide useful shelter / shade for animals and have environmental benefits, such as helping to reduce soil erosion and store carbon. The organisation has made a handbook available that contains information on the varieties the company has in stock.

ZDTP Dairy Farm Management Specialist Jørgen Henriksen says while fodder trees can produce small amounts of fodder, farmers should see them as “supplementary” rather than relying on them.

“It is always good to plant trees that can produce a small supplement of fodder; however, they will most likely never produce bulk amounts of fodder,” he says.

“They should be seen as a cheap protein supplement, on top of dairy meal or protein crops such as soya bean or sunflower. Using branches and leaves from the natural forest is an excellent option.”

For further information on feed planning in Zambia, including a feeding calendar, please see fact sheets F06 and F06A at www.zambiadairy.com.

Farmer spotlight: Mr Godwin Muyambango

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Mr Muyambango says his income from his six milking cows increased immediately after he started feeding them silage. “It rose from 4000 to 7000 kwacha that month.” It was the most money he had ever made from dairy in a month. “I am hoping to get more, my target is to move from 5000-7000 [at present] to 10,000 per month. Ms Mwilima also emphasized the importance of cleanliness in terms of animal health (i.e. preventing mastitis), milk hygiene (i.e. in the milking parlour) and in relation to water. “I used to not enjoy my animals’ milk but now I am enjoying it. Hygienically, [it] is quite nice.” Making his own Dairy 19 concentrate has also made a big difference to Mr Muyambango’s Cost of Production (COP) – bringing costs spent on feeding concentrates down from 300 kwacha per bag for commercial varieties to about 80 kwacha for the homemade equivalent. “They have taught us the cheaper way and I appreciate it very much,” he says. “My bosses are [my] cows, they are my employers. They buy diesel for my car, right now my car needs a service – they will give me money for it. I learnt we should love our animals like children ... and when you love them, they will love you.”



Check out an interview with Mr Muyambango at <https://vimeo.com/461641417>.

The ZDTP is focused on supporting dairy farmers to improve their productivity, milk quality and linkages to urban markets. The views expressed in this publication are those of the implementers of the programme and do not necessarily reflect those of the New Zealand Government. For further information, please contact ZDTP Country Manager Tania Thomson on tania@primeconsultants.net or +260 96 456 4206.