



ARTIFICIAL INSEMINATION IN CATTLE

AIM: INFORMATION ON THE BENEFITS OF ARTIFICIAL INSEMINATION TO GET COWS PREGNANT

- ✓ Profitable dairy farmers aim to have one calf per cow per year. This requires:
 - ✓ Good **feeding** and **animal health** so the cow is in good condition after calving. This helps the cow to show heat signs easily.
 - ✓ Good **record keeping** so you know when the cow should come on heat. Aim to inseminate at the start of the heat around 42 days after calving.

1. What is reproduction and Artificial Insemination (AI):

- Reproduction is the process of producing young calves using a bull or AI. Once a cow calves she produces milk. So, without reproduction a farmer will not get any milk and hence no income.
- AI makes a cow pregnant by artificially putting semen into her womb. It can be used on any breed of cow including local breeds.
- AI can help farmers to improve the quality of their herd:
 - AI semen is free of diseases that may be carried by a bull.
 - Healthy AI semen from good quality bulls can help produce better quality calves, which if fed and managed well can grow into good quality heifers and cows.
 - Using semen from a dairy bull can help to improve the milk production potential of the heifer calf.
 - 'Sexed semen' can be used to ensure calves born from AI are female (otherwise 50% of them will be male, as with natural mating). Note sexed semen is more expensive than 'unsexed'.

2. What do you need for AI to be successful?

AI is an efficient tool that farmers can use to improve productivity and profitability of their dairy business. To be successful you need:

- ✓ A trained and skilled inseminator with the correct equipment who is easily accessible, reliable and provides same day service.
- ✓ Good record keeping so you know when cows will come on heat.
- ✓ Farmers / workers who can detect heat on time. *Further information provided on the heat detection fact sheet.*



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3. Advantages of artificial insemination

- Semen from proven bulls means you can quickly improve the genetics of your herd – the heifer calf will be better than the mother;
- Avoid the spread of sexually transmitted diseases, e.g. vibriosis, trichomoniasis or Brucellosis;
- Cheaper than keeping a bull, see story below;
- Wide choice of semen - different semen can be used in different cows;
- Avoids inbreeding if you keep good records;
- Can help you keep accurate records. You know when the cow was inseminated and when you need to organise a pregnancy diagnosis (PD);
- Used at any time, even during a livestock movement ban.

Increasing milk production and reducing cost:

Mr. Makombe (right) started dairy farming in 2000. In 2002 he bought 2 dairy bulls from Staal's farm and mated them with his beef animals. His aim was to produce cross bred heifers which would produce more milk than his beef animals. He made slow progress, but by 2010 was delivering 35 litres per day to Chibombo MCC from 11 animals. In 2010 he was introduced to AI by Mr. Moomba a local AI technician. Mr. Makombe bought a tank to store liquid nitrogen and an AI kit so he could start using AI on his farm.



Increased production: In 2013, when his cross bred calves had matured and started milking, he was delivering 350 litres per day to the MCC from 17 animals. In four years, he was able to increase his average litres per day from 3 to 20 litres per cow.

Reduced cost: Before using AI Mr. Makombe spent ZMW 7,200 per year feeding his bull (ZMW 600 per month). He also factored in ZMW 35,000 as a replacement cost for a bull. Now, using AI he can service his 45 cows using ZMW 3,150 (ZMW 70 per straw) plus transport and liquid nitrogen.

REMEMBER:

- ✓ When using AI, **KEEP** bulls and sexually mature bull calves **AWAY** from the cows that have been or are going to be inseminated;
- ✓ **HEAT DETECTION** is critical for the success of AI. Ensure that you, your family or workers know the signs of heat and when to look out for them. *See heat detection fact sheet.*

When you see a cow on heat, call the AI technician immediately to come and service your cow.

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 on zdtpinfo@primeconsultants.net. Follow us on www.zambiadairy.com, Facebook (facebook.com/zambiadairy/) and Twitter (@DairyZambia).