



AVOIDING RESIDUES IN MILK

Keeping antibiotics and other medications out of milk

What happens when you treat an animal with a medicine / chemical?

Whenever you give a medicine (e.g. antibiotic, tick treatment) to an animal, some of the chemicals in the medicine are absorbed into the animal's body. These chemicals help to make the animal better / stop it from having worms or ticks, but also need to be removed (excreted) from the animal's body.

How long does it take for a chemical / medicine to be removed (excreted) from an animal's body?

Different medicines and chemicals stay in different parts of the animal's body for different lengths of time. Many of the medicines / chemicals given to dairy animals can be **found in the milk** for hours or days after the last treatment.

The bit of the chemical / medicine found in the milk (or other body parts) is referred to as a **RESIDUE**, e.g. antibiotic residue, pesticide residue.

Why don't we want milk with antibiotic or pesticide residues in it?

- Antibiotic residues in milk affect what can be done with the milk, e.g. it is not suitable to be made into fermented products such as yoghurt or mabisi.
- Antibiotic or pesticide residues in milk can be harmful to humans. They can cause allergic reactions and contribute to anti-microbial resistance (AMR).

What is anti-microbial resistance (AMR)?

Antimicrobial resistance is when bacteria (infections) become resistant to antibiotics. This is because the bacteria (infection) has become used to an antibiotic and is no longer killed by it, i.e. it is resistant to that antibiotic.

Why is antimicrobial resistance (AMR) important?

AMR can potentially result in fatal consequences when bacterial infections can no longer be treated effectively. It is a particular problem for people with weaker immune systems, such as infants, some elderly and those with diseases such as TB and HIV.

What can we do to prevent antibiotic / pesticide residues in milk and AMR?

1. **Respect the withdrawal periods of medicines** The **withdrawal period** is the number of hours / days after the last treatment with a chemical / medicine that it takes until residues of the chemical / medicine are no longer found in the milk. Each chemical / medicine has its own withdrawal period which should be printed on the bottle / packet and also included in the



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information leaflet (data sheet) which comes with many medicines.

- 2. When treating an animal for any disease, get advice from a vet / vet assistant** Follow the vet's instructions, especially regarding the drug required, dosage, method of administration (injection, by mouth, etc) and length of treatment. Ensure that the animal is given the correct dosage for its size / weight and that the medicine / chemical is not beyond its **expiry date**.
- 3. In Zambia, only buy your medicines and chemicals from a licensed Agro Vet Shop** All Agro Vet shops in Zambia should be registered with the Zambia Medicines Regulatory Authority (ZAMRA) as per guidelines issued under the Medicines and Allied Substances Act No. 3 of 2013 of the Laws of Zambia.
- 4. Keep records of treatments given to each animal** Records allow you to see which animals are being treated with which medicines and chemicals. They can also help to highlight if animals do not respond to treatment with a certain medicine / chemical or have a bad reaction to it. Records also act as a reminder for routine treatments, such as deworming, or tick prevention. Below are some examples of records to help calculate milk withdrawal times.

Name / ID of animal	Date of 1st treatment	Date of last treatment	Medicine / chemical used	Dose	Route of administration	Notes	Day when milk is safe to supply
15601	1/12/18	14 hrs on 3/12/18	Procaben - LA	15 ml	Intramuscular injection	Mastitis. Vet gave 2 x injections 48 hours apart. Cow got better.	3 days after last injection, i.e. after 14hrs on 6/12/18
Emily	9 hrs on 1/12/18	9 hrs on 1/12/18	Butachem - 50	10 ml	Intramuscular injection	Vet diagnosed Corridor disease Cow much better after injection.	2 days after injection. i.e. after 9 hrs on 3/12/18
Brown cow	12hrs on 1/12/18	12hrs on 1/12/18	Vermofas	125ml	By mouth (drench)	Deworming	36 hours after last treatment, i.e. after 1 am on 3/12/18

- 5. Always follow the withdrawal period and if in doubt, ask your local vet or authorised Agro Dealer**

And **REMEMBER**, withdrawal periods for **milk** are different from withdrawal periods for **meat**. If you are going to slaughter your animal for meat, ensure you keep to the **meat withdrawal period**.

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).