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Residue risk management

Sale calves must be residue free



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- Develop treatment protocols for your farm
- Train staff about what to do when calves get sick
- Use electrolytes as a first option for treating scours
- Observe withholding periods if using antibiotics—use only as directed
- Keep sale calves separated from replacement calves
- Record every treatment, for every calf, every time
- Clean feeding equipment carefully—be meticulous!



Residue risk management

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Residue risk management

Managing the risk of selling calves exposed to antibiotics is the responsibility of every farmer and is important for the whole dairy industry. The benefits include:

- Compliance with legal obligations
- Continued access to the calf processing chain
- Continued access to world markets

Residues are prevented by avoiding contamination of non-treated calves and using products as directed.

Every year calves contaminated with antibiotics are detected at abattoirs across Australia.

- Many farmers think that most calf residues originate from a dam's dry cow treatment—not true
- Current analysis shows that over 80% of calves detected with residues are contaminated with antibiotics—used to treat some type of calf scours—the 'sulfa' (like Scourban™) or oxytetracycline drugs

Sale calves can be accidentally contaminated with antibiotics in a number of ways....



- Drinking from equipment contaminated with antibiotic residues
- Sucking on contaminated teat feeders
- Receiving treatment directly due to poor or incorrect identification or mistake
- Licking residues off the faces of other calves
- Eating bedding contaminated with a treated calf's urine or pizzle sucking

Could this happen on your farm?

Residue testing

Calves are tested routinely for antibiotic residues at domestic and export abattoirs. Calves are selected for testing at random. Meat processors do this testing as part of their food safety obligations and to ensure that the calves they receive are 'fit for purpose'.

- If calves have a positive test, then the abattoirs will test subsequent consignments of calves from that supplier
- Electronic calf tracking software under trial now enables antibiotic screening results to be forwarded to farmers within 48 hours

Over time, there will be greater scrutiny of calves going to abattoir/market and greater accountability to ensure that calf welfare and residue issues are managed effectively.

One antibiotic contaminated calf has the potential to destroy a market



Common 'sulfa' containing products

It doesn't take much to contaminate a sale calf!

A suckle from a teat feeder here...a lick of a calf in another pen there... The scenarios on the next page remind us that it doesn't take much to end up with sale calves that have antibiotic residues in their systems.

Most of the farms investigated kept treatment records or had a policy of not treating sale calves, but there was no guarantee and problems still occurred. You must know where the risks in your system are likely to be and manage proactively to avoid residue contamination.

Don't assume you'll be right because you have good records or don't treat sale calves.

Actively manage the residue risks.

Contamination scenarios: could this happen on your farm?

No-one sets out to deliberately contaminate sale calves but as the investigations that follow each incident reveal, farmers and their staff do make mistakes. The scenarios below are drawn from real investigations.

Scenario	How did contamination occur?
Calf given a liquid feed before travelling Fed using a bucket that had been used for feeding heifer calves with milk from a Trisoprim™ treated cow	<ul style="list-style-type: none"> – Residues in the bucket—lack of cleaning or ineffective cleaning
Sale and heifer calves kept in same pens Heifers treated for scours with Scourban™ but not identified in any way	<ul style="list-style-type: none"> – Highly likely that sale calves were also treated by mistake
Sale and heifer calves kept in pens next to each other Calves in heifer pen treated with Scourban™	<ul style="list-style-type: none"> – Sale calves probably licked faces of treated calves because there was no physical barrier between pens
Scouring heifer calves are treated with Streptosulcin™ tablets which are crushed and added to milk The same feeders are used for the sale calves	<ul style="list-style-type: none"> – Separate feeding equipment for sale calves was not used or ineffective cleaning procedures
Used Streptosulcin™ tablets to treat calves and did not realise they had a withholding period	<ul style="list-style-type: none"> – Failure to check the label to identify withhold period before use
Calves treated by relief milker instead of normal calf rearer—information not passed on	<ul style="list-style-type: none"> – Lack of training for relief milker? Lack of standard operating procedures? – Relied on verbal passing on of information instead of written records?
Heifer calves fed treated milk via teat feeders. Feeders are then cleaned Next morning sale calves are fed using same feeders	<ul style="list-style-type: none"> – Residues left behind due to ineffective cleaning—teats not thoroughly inspected – Remember, valves and cracks in the rubber teats can hold antibiotic residues

Where are the contamination risks?

Calves can become contaminated with antibiotics in a number of ways.

Sometimes risks are inherent in the layout of a calf shed. Often they exist because of calf rearing practices—things that happen or don't happen.

Some risks can be minimised by changing the physical environment but often they can only be mitigated by changing the way you do things. Occasionally, you might need to change your attitude to something!

Assessing the risk on your farm

Where is the risk?	Management
Dam is treated with dry cow but calves early	<ul style="list-style-type: none"> – This may mean that the withholding period has not been completed – Calves must be considered to be under the same meat withholding period as the dam
Dam is treated with antibiotics prior to calving	<ul style="list-style-type: none"> – Calves born to these cows must be considered to be under the same meat withholding period as the dam
Calves fed milk containing antibiotics	<ul style="list-style-type: none"> – Can be from injected or intramammary antibiotics – Calves consuming antibiotic milk must be managed according to the withholding period of the particular antibiotic—regardless of the dose consumed – Label containers, clean thoroughly and never use these containers for feeding milk or electrolytes to sale calves
A calf is given antibiotics to treat an illness	<ul style="list-style-type: none"> – Check the identity of the calf—if sale calves are sick, euthanize or treat and wait till withholding period is completed – Mark the calf and record the treatment – Adhere strictly to the withholding period
Use of oral drugs	<ul style="list-style-type: none"> – Consider using injections instead of oral drugs to minimise the risk of residues being left behind in equipment
Label not checked every time	<ul style="list-style-type: none"> – Relying on memory is not good enough – Check the label every treatment, every time
Dose rate is wrong or changed	<ul style="list-style-type: none"> – Overdosing changes the withholding period – The dose rate is based on weight so good estimates of calf weights are critical – Check the label, check equipment—dose correctly
Length of treatment is changed	<ul style="list-style-type: none"> – Changing the treatment period can affect the withholding period – Only alter under direction from your vet
Method of dosing is changed	<ul style="list-style-type: none"> – Changing the method of dosing from that advised on the label can alter withholding period – Only alter under direction from your vet

Where is the risk?	Management
Antibiotics are not stored in their original container	<ul style="list-style-type: none"> – Risk of mistakes is high especially if they are stored unlabelled – Never decant antibiotics to another container
Antibiotics are used too much	<ul style="list-style-type: none"> – Not all calf illnesses require antibiotics but each time they are used, your risk of problems occurring goes up – Electrolyte treatment is often all that is required and has no withholding period – Only administer antibiotics on the advice of your vet
Blanket treatment of calves	<ul style="list-style-type: none"> – Using medicated milk to treat a whole group can muck up dosage rates and withholding periods – Treat individual calves wherever possible
Replacements and sale calves are penned together	<ul style="list-style-type: none"> – Makes treating individual calves more difficult. Increases risk of inadvertently treating a sale calf by mistake – If space limits physical separation, sale calves must be extremely easy to differentiate from replacements
Pens too close together	<ul style="list-style-type: none"> – Calves can make physical contact with each other and lick off residues – Separate pens or erect barriers to eliminate contact
The same feeders and equipment are used to feed replacement and sale calves	<ul style="list-style-type: none"> – Makes the need for meticulous cleaning of all parts of the feeding equipment absolutely critical – Invest in separate, labelled equipment if at all possible, otherwise - clean, clean, clean!
Equipment not cleaned after every use	<ul style="list-style-type: none"> – Traces of antibiotics can be left in feeders, tubes and teats – Clean thoroughly after every use—no excuses
Cleaning procedure are not meticulous	<ul style="list-style-type: none"> – Small amounts can contaminate – Clean all parts thoroughly—pay particular attention to teats and valves – Replace cracked/old equipment
Relief staff not clear about what to do	<ul style="list-style-type: none"> – Provide written instructions and leave contact numbers so they can check – Make sure sale calves are clearly identified
Procedures not written down	<ul style="list-style-type: none"> – Written procedures help relief and occasional staff to know how things are done – Laminate and display in a prominent spot
‘That little bit won’t hurt’ attitude	<ul style="list-style-type: none"> – This attitude may mean cleaning is a bit slack – Highlight to staff—it doesn’t take much to contaminate a sale calf! – It doesn’t take much to damage the reputation of the dairy industry
Treated calves not highly visible	<ul style="list-style-type: none"> – If they are highly visible it is harder to mistake them for a sale calf
Treatment records are incomplete or inaccurate	<ul style="list-style-type: none"> – Not worth keeping if they are not right – Record every treatment and every withholding period, for every calf, every time

Have a health plan in place

Develop a written plan with your vet. Include protocols on calf management and residue risk reduction.

Antibiotics should only be used under the direction of a veterinarian as they have a legal responsibility to control their use.

- By law, Prescription Animal Remedy (S4) or other restricted drugs can only be supplied by registered veterinarians
- Vets can only supply these to clients and for animals under their care

A good working relationship with your veterinarian is important to learn how to administer antibiotics effectively and correctly.

Veterinary advice should be sought when antibiotic use is being considered for treatment of a sick calf. This is particularly important when more than one calf is sick. Vets provide informed directions on:

- Alternative treatments
- The need for antibiotic treatment
- The dose required
- Risks associated with the use of a drug
- Duration of treatment and withholding periods

They also provide information on:

- Strategies to prevent disease in the first instance, like colostrum management
- Additional supportive treatments
- Methods and tests to investigate the cause of the problem
- Strategies to minimise the spread of the disease
- Actions that can prevent ongoing outbreaks of the disease

Many scour treatments contain antibiotics

Residue violation investigations reveal that many farmers are unaware that some scour treatments contain antibiotics

The confusion probably arises because scour treatments are not all the same. Electrolyte products can be very effective but they are not prescription items. Some commonly used scour treatments do contain antibiotics and withholding periods apply.

Any antibiotic calf scour treatment prescribed by a vet must have a specific drug label attached. Read the label and consult your vet if further information or advice is required.

Always check you know what you are giving your calves—find out if in doubt!

Residue risk management

Summary of recommendations

Actively manage the risks of residue contamination.

Use products as intended and avoid contaminating sale calves.

1. Develop a health plan and protocols for your farm—ask your vet for advice.
2. Make sure all staff receive training about what to do when calves get sick.
3. Use electrolytes as a first option for treating scours. Only opt for antibiotics after discussing the options with your vet.
4. Use antibiotic products carefully and only as directed. Observe withholding periods.
5. Keep sale calves separated from replacement calves—ensure no physical contact is possible.
6. Make antibiotic treated calves highly visible—segregate them from other calves.
7. Record every treatment, for every calf, every time.
8. Be meticulous with the cleaning of feeding equipment. Pay particular attention to teats and valves.
9. Invest in separate, labelled feeding equipment for sale calves if possible. If not—clean everything thoroughly.