

Operating Procedure

STANDARD OPERATING PROCEDURE (SOP) FOR DOWNER COWS

Introduction

The issue of Downer Cows was a subject of discussion and prompted some research into current practice. This proposal is derived from the responses received from school farm managers. Additional information has been added from veterinary advice received during its development and consultation feedback.

Standard Operating Procedure

This SOP applies to both beef and dairy cows.

Key principles

1. All decisions are to be guided by the need to alleviate the suffering of the animal. Vigorous intervention is most likely to be successful within the first 12 hours of going down.
2. A decision on whether or not to euthanase the cow must be made within 24 hours of first observing that the cow is down.
3. The cow must never be left in lateral recumbency because it will bloat very quickly leading to death. The cow should be propped in sternal recumbency with small hay bales or tyres and checked regularly. Two or three people need to assist in this operation to sit it up safely.
4. No animal is to be left 'down', unless veterinary advice has been given. If the vet advises this, then a timeframe needs to be clearly defined by the vet within which, it will be determined if the animal is a realistic candidate for saving or whether it should be humanely destroyed.
5. If euthanasia is deemed necessary, it must be done within 8 hours, it must not be delayed to accommodate the schedule of the local pet food contractor.
6. Surviving calf/calves must be cared for appropriately.

Process to be followed in the event of a (downer) cow not getting up as expected

1. The appropriate Technical Officer-Agricultural Instruction (TO) inspects the animal, administers whatever first aid may be deemed to be appropriate and attempts to get the animal to its feet.

For example, if a cow goes down with a metabolic disorder such as milk fever (a common cause) or trauma, such as calving paralysis:

- It is preferable to avoid moving the cow, if possible. Care and treatment should be instigated in the paddock unless protection from the heat, cold or predators is not possible. If the cow needs to be relocated to a more suitable area, use a tractor with a platform. This should be done by experienced and competent operators only.
- Sit the cow up so it is in a comfortable position (see Key Principle 3 above). It should be sitting on its sternum, hind legs positioned underneath body, being turned side-to-side at least 3 times per day. A dry environment with dry, soft bedding on a non-slip surface is preferred with protection from predators, the cold and wind. Beware of hypothermia.
- Ensure good hygiene is maintained by removing dung as required.
- Treat the cow for **milk fever** - 500ml to 1 litre of calcium borogluconate using a 16gauge needle. This is available commercially as Calcigrol Plus or Minbal

- 4 in 1. Both preparations contain magnesium as well and are useful as metabolic diseases sometimes involve multiple deficiencies, especially if the cow has not been eating and it is lactating or in late gestation.
- Although these preparations act more quickly if given intravenously (IV), only a suitably qualified or trained person should do this. IV is NOT advisable unless the heart of the cow is monitored with a stethoscope as the drug is administered. The calcium can cause cardiac arrhythmias and death. If the cow is down and distressed, give preparation slowly by IV AND monitor the heart. If the heart begins to skip, cease administration until normal rhythm returns.
 - It is much safer for a lay person to administer the preparation subcutaneously (SC). The best place is over the ribs, not over the skin of the neck as fat deposits hinder absorption. Give up to 2 packs (1L) initially and then administer additional packs later if required.
 - If the diagnosis is correct, most cattle will respond to this quantity, bearing in mind that other causes of downer cow, such as calving paralysis can lead to secondary metabolic problems.
 - If the cause of the downer cow syndrome is trauma, such as **calving paralysis**, and is not metabolic, it is important to instigate anti-inflammatory medication within 24 hours of injury to have effect. It is essential to differentiate between calving paralysis (and possibly secondary metabolic problems) and milk fever or grass tetany.
 - Offer food and water at least three times a day and provide shade during summer. As a rough guide:
 - i) Food - feed good quality meadow hay, approx 16kg dry matter per cow daily.
 - ii) Water - make available cool, clean and fresh water up to 10% of bodyweight daily. This will depend heavily on weather.
 - Allow the cow some time (about 1 hour) to recover before trying to pick it up with hip lifters (if available) or a sling. Lifters are only to be used by staff that are experienced and competent or under the supervision of a competent operator.
Hip lifter availability: <http://www.bainbridgevet.com.au/index.php?catID=104>
 - If the cow responds, lower it down, sit it up and repeat the process a few hours later (they should not be applied for more than 10 minutes twice per day).
 - If the cow does not respond, the veterinary advice should be sought regarding the need to administer any other drugs or to visit the cow.
2. If the animal is unable to rise to its feet or stand un-aided, then the TO will immediately contact the Farm Supervisor or assistant Farm Supervisor who will inspect the animal and make a decision as to whether the animal needs to be euthanased or if veterinary assistance/advice is warranted.
 3. If the TO is unable to contact a Line Manager, they are authorised to immediately contact the local vet and seek advice and/or assistance. In this case they are to be guided by the advice of the vet as to the appropriate course of action or treatment regarding the downer animal.
 4. From the time of finding the downer cow, the TO will need to address care of the surviving calf/calves. A process to follow could be:
 - Remove the calf to a sheltered place (shed), protecting it from weather extremes and predators, to decrease the stress on the cow.
 - Draw off some colostrum from the cow to ensure calf has access to its mother's first milk benefits. Store additional colostrum in the freezer for feeding to the calf over 2-3 days.

- Bottle rear the calf until either the cow improves sufficiently to return the calf to the cow or if that is not possible, until the calf is weaned from milk.
- Make available calf rearing pellets, hay and/or fresh grazing ad libitum through to weaning when a more appropriate feeding regime is made available to the weaned calf.
- Monitor its health, growth and development regularly.

Management practices to proactively avoid/reduce the risk of Downer Cows

The following practices are especially significant with dairy herds, but are just as applicable to beef herds:

- Ensure heifers are mated at minimum recommended age/weight for the breed using easy calving, smaller breed bulls or their semen.
- Maintain comprehensive herd records that enable best practice decisions to be made to minimise risk to calving cows.
- Make daily, preferably twice daily, herd checks, especially near calving.
- Move springers near the dairy/yards/homestead for closer observation.
- Feed the 'springing' cows to help avoid milk fever. For dairy cattle, "lead" feeding with a low calcium diet is useful and supplementing with magnesium helps in suspect years, eg during a cold, wet autumn/spring. The latter can be achieved with a supplement of Causmag on hay at peak lactation (i.e. 6 weeks post calving).
- As a last resort, due to ethical implications and a higher risk of less viable calves, calving induction may be used in consultation with the veterinarian as a salvage operation for young heifers that have been mated too early.
- Record notable calving difficulties to assist with selection of future breeders
- Manage calves born to downer cows to ensure best chance of survival.

Sources of information

- Responses from Agricultural schools and colleges, September 2008;
- Downer cow management – Sue Hides, DPI Victoria May 2007;
- Lisa Clarke, Veterinary Surgeon, Denmark; and
- Di Evans BSc BVMS Mphil, Snr Veterinary Officer – Animal Welfare, Department of Agriculture and Food Western Australia.