

# LANDMARK

an AWB company

## GRAZING MOISTURE STRESSED CEREAL & CANOLA CROPS

The first thing to keep in mind when grazing or making hay out of either cereal crops or canola crops is the withholding periods of any chemicals that have been used on the crop either pre or post emergent. WHP are a serious issue and need to be obeyed.

### **Canola Crops**

Canola is a Brassica and the same sought of animal health issues apply when grazing canola. Small numbers of deaths have been observed with animals grazing canola crops. The two main causes of death and sickness were nitrate poisoning and deaths due to a toxin called S-methyl cysteine sulfoxide (SMCO) causing haemolytic anaemia.

Nitrate poisoning is more common in stunted plants that have a purple discolouration and on soils that are high in nitrogen. Cloudy, rainy and frosts can also increase the incidence.

Some other health issues associated with feeding canola and other brassica's are;

- Photosensitisation
- Goitre
- Digestive disturbances
- Respiratory problems
- Blindness
- Pulpy kidney
- Bloat

Animals should not be slaughtered within 1 to 2 weeks of grazing a Brassica crop due to problems with taint.

### ***Prevention***

- ✓ Don't put hungry stock into suspect crops. Give them a feed of hay before putting them onto the paddock
- ✓ Introduce the animals slowly onto the at risk crop as the rumen bugs can handle small amounts of nitrates and you can slowly increase the amount given over time.
- ✓ Supply a carbohydrate source as the energy source helps the bugs better utilise the nitrates.
- ✓ Can introduce a small number of stock and closely monitor to see if you see any signs and remove immediately if any unusual signs are seen.
- ✓ Monitor stock regularly when grazing suspect crops

- ✓ Try not to graze pregnant animals on the suspect crops as nitrate poisoning can cause abortions
- ✓ Do not graze crops until WHP's have been checked
- ✓ Animals should receive a 5 in 1 vaccination before going onto crop as the change in diet can induce pulpy kidney.
- ✓ Feeding

Information obtained from NSW Ag Note on "Risks in grazing or feeding canola"

### **Grazing Moisture Stressed Cereals**

Many of the animal health issues associated with grazing moisture stressed cereals are similar to grazing cereal crops with some of the issues of higher risk. They include nitrate poisoning, grass tetany, milk fever and calcium deficiency.

Pulpy kidney can also be an issue because of the change in feed source. A 5 in 1 vaccination is recommended before introduction to the crop (preferably 14 days prior).

The awns on certain cereal crops can be an issue when grazing or making hay out failed crops as they can cause mouth injuries to animals eating the feed.

#### ***Grass Tetany (Hypomagnesia)***

Grass Tetany is caused by a shortage of magnesium in the body. The signs of magnesium deficiency are muscle twitching, trembling, aggression, eventually fall on side with legs extended and death. Cold snaps and handling can induce grass tetany in susceptible animals. Late pregnant, early lactation and older animals are more prone to grass tetany. Young animals can pull 30% of magnesium from their bones while older animals can only utilise 2% from their bones.

Treatment is only effective if animals are caught early and is by the administering a magnesium, calcium and glucose under the skin (i.e. 4 in 1 Flopak, etc). Prevention is better than cure. Prevention includes feeding a magnesium supplement such as causmag, magnesium loose licks and grass tetany blocks. Rumen boluses are also effective. Magnesium should be readily available during high risk periods especially for lactating animals as they have a higher requirement for magnesium.

If cereal crops are quite young when animals are put in to graze and potassium levels are high the risk of grass tetany is increased. This is especially so if there has been high levels of potash or nitrogen fertiliser used. Magnesium supplements are recommended in these situations. Supplementing magnesium and calcium were shown by the Grain'N'Graze trial in Southern NSW to improve growth rates of lambs grazing dual purpose wheat by 99grams/day (Unpublished data of G.McMullen, H.Dove & F.Gummer 2005).

#### ***Nitrate Poisoning***

Nitrate poisoning on cereal crops is similar to that of nitrate poisoning on canola crops. Crops that have had high levels of potash and nitrogen fertiliser are more prone to nitrate poisoning. Plants that have been moisture stressed may not be able to

convert the nitrates absorbed by the roots into plant protein resulting in a build up of nitrates in the plant.

When the ruminant animal eats a plant the following process occurs;

Nitrate (NO<sub>3</sub>)---►Nitrite (NO<sub>2</sub>)---►Ammonia (NH<sub>3</sub>)---► Microbial Protein---► Amino Acids

When higher than normal amounts of nitrates are consumed, the nitrates are converted to nitrites quicker than nitrites can be converted to ammonia, leading to a build up of nitrites in the rumen. The nitrites are then absorbed and nitrite poisoning occurs.

Lack of moisture, soil temperature and sunlight can all affect this process and cause nitrate/nitrite poisoning.

To prevent nitrate/nitrite poisoning see notes above.

If cereal hay is to be made out of stressed crops it is important to make sure the hay is properly dried. If large levels of nitrates are present and the hay is damp the nitrates convert to nitrite in the stack and when the hay is fed out nitrite poisoning occurs.

Making silage out of suspect crops are often a better option than hay as the fermentation process can reduce the nitrate levels.

### ***Scouring***

If you are grazing short crops it is important to provide an “effective fibre” source such as straw or course hay. The short crops are low in fibre and high in moisture and protein causing stock to scour. The hay or straw induces the animals to chew their cud which produces saliva that is high in sodium bicarbonate which aids in buffering the rumen for better function.

### **Suggestions**

- Check WHP on all chemicals used on crops before grazing or making hay or silage.
- Vaccinate animals preferably 14 days prior to grazing crops with a 5 in 1 injection (6 in1 or 7 in1 also suitable)
- Provide a readily fermentable energy source such as grain to help with utilisation of nitrates (please seek assistance on feeding programs and concentrates to reduce the risk of acidosis)
- A Vitamin B12 and a Vitamin ADE injection may also be an advantage especially if coming off dry feed.
- Feed hay before grazing suspect crops
- Ensure adequate cool clear water is supplied
- Provide a magnesium supplement loose licks are quite effective for example Provimins Hi Mag or Mid Mag, Weanemax, etc.

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