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Photosensitization (“Photo”) of Cattle

Overview

Photosensitization or ‘photo’ in cattle can be either primary or secondary photosensitization.

Primary photosensitization (most common cause of ‘Photo’) occurs when there is a sudden increase in green pasture in the diet that contains photodynamic agents which enter the cows blood stream and reacts with sunlight at the surface of the animal’s skin and causes thermal damage to the skin. Commonly seen in spring. Commonly seen in spring grazing ryegrass, lucerne, clover and brassica crops.

Secondary photosensitization occurs when the cow has liver damage which prevents the liver from removing the breakdown product, phytoporphyrin, of chlorophyll (green pigment in plants), which then accumulates in the animal’s blood. Phytoporphyrin is a photodynamic agent that reacts with sunlight at the surface of the animal’s skin and causes thermal damage to the skin. Common causes of secondary photosensitization included ingestions of pyrrolizidine alkaloids containing plants such as Heliotrope, Patterson’s curse and ragwort or ingestion of sporidesmin (fungus that causes liver damage, which the condition is called facial eczema). If the condition is caused by secondary photosensitization, the prognosis is poor for the affected cattle.

To determine if the photosensitisation is primary or secondary, a blood tests are generally required. However, the grazing history of the affected cattle can aid in making a provisional diagnosis.

Presentation

Photosensitisation primarily affects non-pigmented (white or pink) areas on the animal. These areas include head (nose, 3rd eyelid, eyes and ears), middle of the back, inside legs, udder, teats and vulva.

Affected animals initially seek shade, appear restless and may lick affected areas. Some animals are extremely irritated, that they will kick at their udder/ abdomen and show signs of colic which looks like a severe abdominal condition.

The non-pigmented (white or pink) areas on the animal appear raised or swollen, reddened and overtime the areas will ooze and slough to expose the sensitive tissues under the skin.

Treatment

Treatment is non-specific and is aimed to relieving the irritation experienced by the affected animal.

- Antibiotic course to protect against secondary bacterial skin infections.
- Anti-inflammatories for pain relief.
- Antihistamine course.
- Keep animals in a shed in darkness or under shaded areas during daylight hours
- Allowed affected animals to graze pasture at night.
- Areas of skin peeling/ bleeding can be dressed with sunblock or zinc based products.
- It may be required to dry off severely affected lactating cows.

*A common long-term effect of the affected skin is to become scale-like or horn-like projections (hyperkeratosis).