

MECHANICAL DAMAGE BY PLANT PARTS

Dittrichia graveolens enteritis (mechanical damage)

Sources:

Dittrichia graveolens [= *Inula graveolens*] (stinkwort, stinkweed) Family Asteraceae; weed of temperate Australia (WA, SA, Vic, NSW), New Zealand, South Africa introduced from the Mediterranean region (Parsons & Cuthbertson 2001)

Toxicity:

sheep; cases also recorded from South Africa (Schneider & du Plessis 1980)

other effects of *D. graveolens* recorded:

intestinal damage causing intestinal atony may predispose unvaccinated sheep to

Clostridium perfringens enterotoxaemia (Bennetts 1931, 1932; Kabay 1998)

contact dermatitis (McBarron 1977)

tainting of milk and meat (McBarron 1977)

exacerbation of carbon tetrachloride toxicity in sheep (Setchell 1962, 1964)

vomiting in working dogs exposed to dense populations (Parsons & Cuthbertson 2001)

Mode of action:

mechanical damage only

no known toxins are involved – Seddon and Carne (1927) failed to reproduce the condition by feeding *D. graveolens* vegetative material with finely-ground pappus hairs, not mature seed heads

bristles from the pappus (mature seed) detach from the seed after partial digestion in the intestine and penetrate the intestinal mucosa, introducing bacteria and causing mechanical irritation

Conditions of poisoning:

plants are unpalatable and eaten only when other feed is very scarce or absent

mature seed heads are present on the plants in autumn-winter

ingestion of mature seed is required for induction of intestinal damage

Clinical signs:

inappetence

weight loss

severe diarrhoea

severely-affected animals will die

Pathology:

dark bristles embedded in the intestinal mucosa (grossly visible)

intestinal wall oedema & haemorrhage with multiple white nodules (Reuter 1988)

pyogranulomatous enteritis; histologically, bristles + bacteria in the mucosa and submucosa with neutrophils, macrophages & foreign body giant cells (Reuter 1988, Philbey & Morton 2000)

Diagnosis:

differentiation from common causes of diarrhoea is required

access + intestinal pathology/histopathology

Therapy:

there is no specific therapy available

remove affected flocks from access (removal reduces severity of signs and promotes recovery)

Prevention & control:

prevent access to dense populations with seedheads

access to the plants is usually safe if adequate quantities of other feed is available

vaccinate against enterotoxaemia

control of *D. graveolens* can be effected through promoting competition from more vigorous pasture, the use of herbicides or both.

References:

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Grass awns

Strictly-speaking a mechanical injury, not an intoxication, but included for convenience.

Examples include

- triticale (variously classified as X *Triticosecale*, X *Triticale* or *Triticum aestivum* x *Secale cereale*) fed as hay after seedhead maturation causing stomatitis through the penetration of the buccal mucosa by the awns on the seeds (McCosker & Keenan 1983)
- *Stipa neesiana* (Chilean needle grass) [present in NSW (Barbara Vanselow, personal communication 14 May 1997)] seed awns penetrate the skin causing subcutaneous and intramuscular abscesses and granulomas (Kellerman *et al.* 1988).

References:

- Kellerman TS, Coetzer JAW, Naude TW (1988) *Plant Poisonings and Mycotoxicoses of Livestock in Southern Africa*. Oxford University Press, Cape Town. p. 222.
- McCosker JE, Keenan DM (1983) Ulcerative stomatitis in horses and cattle caused by triticale hay. *Aust. Vet. J.* **60**:259.