If the figures in Table 1 are considered in terms of fresh weight the nitrogen content of the 2 pastures is similar, whereas the irrigated pasture contains less than half the fibre content of the natural pasture. This difference may have induced a craving for fibre by the horses resulting in increased bark chewing.

Of the trees exposed, those most severely chewed were the spongy stringy barked types, *Eucalyptus microcorys* (yellow tallow wood) and *Eucalyptus robusta* (swamp mahogany), and the half barked *Eucalyptus tessellaris* (Moreton Bay ash). The gum bark *Eucalyptus tereticornis* (blue gum) and *Eucalyptus melliodora* (yellow box) were mildly chewed and the iron barked *Eucalyptus crebra* (narrow leaved ironbark) was only slightly chewed near the base.

These observations suggest that where horses are intensively grazed on irrigated pasture eucalypts should be protected and those of the spongy stringy barked types avoided when planting in areas to be grazed by horses.

References

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Pimelea neo-anglica poisoning of cattle

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Threlfall (1982), in a partial revision of the genus *Pimelea*, described 37 species from eastern mainland Australia. *P. neo-anglica* Threlfall 1982 is a newly described species occurring in open forest at scattered localities in southern and central Queensland and north eastern New South Wales. Everist (1981) believed that most species of *Pimelea* would be toxic if sufficient was eaten, but toxicity for cattle has been recorded only for *P. simplex* (McClure and Farrow 1971; Roberts and Healy 1971), *P. trichostachya* (Clark 1971, 1973; Kelly 1975), *P. simplexssp continua* (Kelly 1975) and *P. latifolia ssp. altior* (Rogers and Roberts 1976). No testing of *P. neo-anglica* has been done.

In July 1983 and September 1984, 2 cattle on a dairy farm 15 km south west of Toowoomba died with clinical signs and pathology suggesting possible *Pimelea* poisoning. Dyspnœa, oedema of the head and neck, excessive clear fluid in the thorax and abdomen, pulmonary oedema, mild interstitial pneumonia and centrolobular necrosis of the liver were recorded. Many *P. neo-anglica* shrubs were growing in the paddock in which the cattle died, so we performed a feeding trial to investigate the toxicity of the shrub.

*P. neo-anglica* stems, leaves and flower heads were collected from the farm and air dried (Queensland Herbarium Voucher No. BR1333332). Two weaned calves weighing 86 kg and 88 kg were housed in separate pens at the laboratory and fed grass chaff with water *ad lib*. Feeding of *P. neo-anglica* started 3 weeks after collection. Five grams of the dried shrub was mixed into the surface layer of their daily rations, and gradually increased to 30 g daily by day 4. After 6 days, feeding with *Pimelea* was stopped following the onset of severe diarrhoea. On day 14, feeding with 5 g daily was restarted, increased to 10 g daily on day 21 and continued at this level for the duration of the trial. Jugular blood was collected for haematology and plasma protein estimation twice before feeding *P. neo-anglica* started and then weekly. The calves were weighed weekly.

Calf 1 developed diarrhoea on day 4 of the trial. This continued until day 40, then resolved. Dehydration, reduced feed intake and weakness were noted by day 9, and became progressively more severe. A jugular pulse was first noticed on day 37, and quickly became pronounced. Excessive clear mucoid nasal discharge appeared on day 48 and persisted. Weight loss averaged 3.5 kg/week. The calf spent much time in lateral recumbency from day 49 and was killed on day 64. It developed anaemia, lymphocytopenia and mild hypoproteinaemia. Packed cell volume (PCV) fell from 37 to 24%, haemoglobin (Hb) concentration from 13.0 to 8.4 g/dl, lymphocyte numbers from 5.40 to 1.18 x 10³/μl and plasma protein concentration from 73 to 58 g/l. At necropsy, the carcass was extremely emaciated. No other lesions were found. Histopathological findings were mild atelectasis in some lung lobules, depleted splenic red pulp and some irregular expansions of capillaries in the kidney cortex. Liver, heart and bone marrow appeared normal.

Calf 2 developed diarrhoea on day 4 which persisted until it was killed on day 83. The calf remained bright until day 65, after which it ate progressively less feed and became weak and wasted. A jugular pulse and nasal discharge developed as in calf 1 as well as mild submandibular oedema. Weight loss averaged 2.2 kg/week. Anaemia developed, with PVC falling from 30% to 17% and Hb concentration from 9.7 to 6.0 g/dl. Lymphocyte count fell from 6.23 to 2.21 x 10³/μl. Total serum protein fell from 83 to 66 g/l by day 48, then gradually increased to 74 g/l by day 83. At necropsy the carcass was emaciated. There was an increase in pericardial fluid and slight dilation of the right ventricle. No other lesions were found. Histopathological findings in the lungs were some pulmonary oedema in the interlobular septa, hyperplasia of bronchial and bronchiolar lymphoid follicles and atelectasis. The liver was congested with dilation of portal veins and sinusoids with a mild mononuclear cell infiltrate. The intestinal mucosa was congested. No lesions were seen in the spleen, kidney, heart or bone marrow.

All the findings in this trial have been reported previously in cattle exposed to other species of *Pimelea*. The severity of these effects seems to depend on the quantity of plant consumed, the length of exposure and whether the plant is inhaled or eaten (Roberts and Healy 1971; Clark 1973; Kelly 1975). Our observations suggest that the toxicity of *P. neo-anglica* may be the same as that found in *P. simplex* (Roberts et al 1975) and probably present in other *Pimelea* spp toxic to cattle.

Our experimental results were not sufficiently like the findings in the field cases for the latter to be diagnosed confidently as *P. neo-anglica* poisoning. However, the relative ease with which cattle can be induced to eat *P. neo-anglica* and the small dose required to produce clinical signs indicate that *P. neo-anglica* poisoning should be considered as a possible diagnosis in animals with diarrhoea and a prominent jugular pulse after exposure to this plant.

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