



Giant buttercup

Why is it a weed?

Invasive in pastures grazed by cattle and horses. Spreads quickly in late winter-early spring when ryegrass growth slows, colonising pasture and reducing its quality and quantity.

Where is it found?

Common nationwide, especially a problem in South Auckland, Hawkes Bay, Taranaki, Manawatu, South Wairarapa, Horowhenua, Nelson Bays, West Coast, Southland.

Is it toxic?

Protoanemonin toxicity can affect cattle.

Other uses

Bright yellow, scented flowers provide nectar for bees and other insects.

THERE ARE three common buttercups in New Zealand. In spring, when so much pasture turns bright yellow, I'm reminded how widespread they are in paddocks grazed by cattle and horses.

Sheep aren't as fussy. I find they'll happily graze buttercup, but pickier cattle and horses will eat around the plants, allowing them to dominate.

Hairy buttercup (*Ranunculus sardous*) and the more common creeping buttercup (*Ranunculus repens*) are quite invasive. But the most aggressive is giant buttercup (*Ranunculus acris*). A dense population of giant buttercup can occupy up to 50 percent of pasture cover by late spring. At worst, there may be no grazable plants left.

Giant buttercup originates in Europe and is now common in many temperate countries across both hemispheres. Seeds were brought to NZ by early settlers.

The short-lived perennial grows from



a rhizomatous root system and crown (unlike creeping buttercup which spreads using stolons). New plants grow from late autumn to late spring, germinating from seeds spread in hay, clothing, and machinery.

How to control it

The best form of control is to not over-graze pasture, and to avoid pugging, where the top layer of soil is churned up and then compacted (usually by heavier livestock such as cows and horses). It destroys the soils' pores which keep it oxygenated and help water to move through it.

Grazing sheep (or goats) may also help.

There are several herbicides available that can selectively kill buttercup in pasture, but only a few are clover-safe. Unfortunately, buttercup is showing increased signs of resistance to these herbicides. Spray when the first flowers emerge in late winter-early spring for the best control.

The toxic effects of giant buttercup

Giant buttercup (and other Ranunculus family members) produce an acrid-tasting glycoside called ranunculin. Once eaten, it forms a volatile chemical compound called protoanemonin. It can cause health issues in cattle, although there's no record of stock being poisoned in NZ.

SYMPTOMS INCLUDE:

- blistering of the tongue and lips;
- heart rhythm problems;
- intestinal disorders;
- respiratory failure.

Cattle and most other stock avoid eating giant buttercup. NZ research has found giant buttercup is less likely to be found on properties with sheep and goats. If there are plants, they tend to be small and stunted.

It is assumed this is due to:

- sheep and goats grazing it;
- a wider range of pasture plants on sheep and goat farms;
- different pasture management.

New research to be completed next year may also show strategic mowing of pasture can affect giant buttercup's regrowth. ■

About Gary

Gary Bosley works as PGG Wrightson's North Island technical specialist in agronomy. He and his family live on a 4ha lifestyle block south-east of Auckland. PGG Wrightson Ltd (PGW) does not warrant the information's accuracy, quality, outcome or fitness for any purpose.

