Tordon™ PastureBoss™
A PERMANENT SOLUTION TO DOCKS
HERBICIDE
Docks are frequently found, and thrive in, the best flat paddocks on New Zealand farms. Trials have shown that they can occupy up to 75% of the paddock area, severely limiting pasture production. Older dock plants contain plant tannins and acids that make them unpalatable to stock. Established plants have large tap roots which allow them to easily survive mowing, cultivation and application of some herbicides.

Dock seeds are readily spread by wind and water, or when attached to stock or machinery, and will lay dormant for extended periods until conditions are ideal for germination. Seedling plants grow rapidly whenever bare areas appear in pastures. A perennial weed, docks will also produce new plants from root chips.

Application of many herbicides to pastures, including glyphosate at pasture sprayout, will not control docks. However, research in New Zealand has shown Tordon™ PastureBoss™ will provide reliable, long term control of docks – without damage to pasture grasses.

Tordon PastureBoss is a new generation herbicide designed and developed by Dow AgroSciences, in New Zealand, specifically for weeds in New Zealand pastures. Tordon PastureBoss contains two active ingredients (aminopyralid & triclopyr) that are particularly effective at controlling regrowth from perennial weeds with large root systems.

Tordon PastureBoss:

- Provides the highest levels of dock control.
- **Is safe to pasture grasses** which rapidly “fill in” gaps left by weeds and restore pasture productivity.
- Stops weed growth within hours.
- Controls many other hard to kill broadleaf weeds e.g. Californian thistle, buttercups and oxeye daisy.
- Moves in the sap stream to the growing points to prevent re-growth from roots.
- Sterilises developing seed.
- Provides residual control of germinating seedlings for a few weeks after application.
- Can be undersown with new pasture grasses to rapidly restore pasture productivity.
Dock plants seven days after application of Tordon PastureBoss.  
Note new grass growth replacing dying weeds.

**Docks (Rumex spp)**

While broad leaf dock is the most common dock species in NZ pastures; curled, clustered and fiddle dock are also found and are easily distinguished by the characteristic size and shape of their leaves and seed heads. Sheep’s sorrel is another close relative to docks. Broad leaf and curled docks especially will cross breed very easily to create hybrid plants that are even more competitive in pasture.

Originating in Europe, docks are now established in most parts of the world. Containing tannins and oxalic acid, they have been used for a range of purposes from curing nettle stings to “detoxing” livers and cleaning skin. Sickness in livestock has been reported from stock grazing on high levels of dock.

**Biology of docks:**

Docks are perennial weeds with a basal rosette of leaves growing above a large tap root. The branched, flowering seed heads are usually produced after the first year of growth. While initially green, mature seedheads are red-brown in colour. Docks will grow from both seeds and root fragments. Plants grow up to 150 cm tall with leaves 35 cm in length.
Roots:
Docks have a large tap root that will grow up to 2 metres long. At the top of the taproot is a transition zone (stem) approx 5 cm long which produces the large characteristic dock leaves one at a time. Because the transition zone always remains protected below the soil surface, the stem will regrow after treading or mowing. Compound crowns with multiple tap roots can form and present challenges for many methods of control.

Seeds:
Mature docks grow branched flowering heads that produce up to 60,000 seeds per year per plant – which equates to an average of 13 million seeds per ha in heavily infested paddocks. Seeds will remain dormant in soil for many years – indeed trials have shown seed viability of more than 120 years! Seeds occur in clusters of two or three in a light, rough, seed coat. When removed from the plant while green, seeds will ripen and maintain their viability.

Conditions that favour docks:
Docks do not like acidic soils, but enjoy damp, high fertility soils, particularly where nitrogen and potassium are at good levels. Therefore, they are frequently found in dairy pastures. While seedlings require bare patches (created by grazing or pugging) to germinate, plants regrowing from root chips are competitive even in dense pasture.
Docks 7 days after an application of Tordon PastureBoss. Note the high level of knockdown.

Heavy dock infestations will overgrow and kill pasture grasses. Dead grass killed by docks can be clearly seen in this photo after removal of the docks. Undersowing with new highly productive grasses will rapidly restore pasture productivity and reduce germination of new dock seedlings.
New Zealand trials for dock control with Tordon PastureBoss.

% Knockdown after 14 Days

% Control after 62 Days
Dow AgroSciences trials conducted in 2012 that showed Tordon PastureBoss gave 100% knockdown of docks within 14 days while thifensulfuron-methyl showed only 5% knockdown. At 62 days, Tordon PastureBoss gave 100% control compared to thifensulfuron-methyl which only gave 70% control. Plots treated with Tordon PastureBoss showed greater grass vigour and were preferentially grazed by the stock. A wide range of other broad leaf weeds were also controlled. Due to rapid plant knockdown, it was interesting to note the lack of dry, stiff, unpalatable dock seed heads remaining above the pasture in the Tordon PastureBoss plots.

**APPLICATION RATES**

**Application rates of Tordon PastureBoss for dock control:**
Always read the product label for more specific information and detailed instructions prior to the use of Tordon PastureBoss.

**Boom application:**
Apply 2 litres per ha to actively growing docks.
Ensure thorough coverage.
Recommended water rates are 200 litres per ha.

**Knapsack and Bike Sprayer Application:**
Mix 6mls per litre of water.
Apply as a wetting spray to actively growing dock plants.
BENEFITS OF TORDON PASTUREBOSS

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Tordon PastureBoss will remove clovers in pastures swards.

In young pasture, where clover establishment is desirable, 2,4-DB offers effective control of **seedling** docks and will slow the re-establishment of docks in areas with a history of dock infestation.