



NOTES ON THE CONTROL OF HORSETAIL, (EQUISETUM SPECIES) WITH ROUNDUP PRO BIACTIVE

Background

Horsetails are a family of weeds not to be confused with Mare's tail, (*Hippurus Vulgaris*), which is an aquatic plant of an entirely different species.

The Horsetail family consists of a single genus of a lower order of plants which has survived since the time the coal measures were laid down and can be seen fossilised in ancient rocks ! It is a perennial with creeping, rhizomatous stems, which penetrate at least 1 metre into the soil.

Much of the spread of the plant is vegetative by these rhizomes, but a sexual fruiting stem carrying a sporulating fruiting body emerges in the spring to about 25 cm in height. It is brownish white and hollow terminating in a cone-like structure bearing sporangia on their scales. The spores are ripe in April when the sporangia burst, liberating their spores before dying down.

Barren, pale green, jointed stems then emerge to 30 - 60 cms in height and bare slender, simple branches in place of leaves in whorls of up to 12. It is these stems which are increasingly seen as a problem in waste ground, non-cropped areas, gardens and Set-Aside land.

E. Arvense, (Common Horsetail or Field Horsetail) is the most widely seen but there are marsh, (*E. palustre*) and woodland, (*E. sylvaticum*) variations.

Most species of *Equisetum* are poisonous to livestock by virtue of alkaloids and the enzyme Thiaminase, which destroys Vitamin B1 and causes animals to suffer from Vitamin B1 deficiency. Horsetails should therefore, not be fed to livestock in hay or silage.

CONTROL METHODS

Drainage in wet areas, liming where necessary and repeated cutting of the vegetative shoots can all contribute to controlling the weed. In practice frequent cutting would take years to exhaust the rhizomes. Cutting of the spore-bearing shoots before sporulation also helps minimise new plants.

MCPA and 2,4,D give control of aerial shoots but re-growth from rhizomes occurs the following year. Asulam also gives some control. Sowing intervals need to be carefully observed with these herbicides.

Some residual herbicides like sodium chlorate and dichlobenil give control of *Equisetum* but cropping is restricted or excluded after their use.

CONTROL WITH ROUNDUP PRO BIACTIVE

Due to the thick waxy layers and very minimal leaf area, combined with a large area of underground storage organs, this weed is usually classed as resistant or only moderately susceptible to glyphosate.

To maximise control in areas where an alternative residual weed control is not possible or where re-cropping of the area is planned it may be necessary to use a non-residual, environmentally acceptable herbicide and the following will optimise control with Roundup :-

- Use a Biactive formulation of Roundup with its superior wetters and consider adding up to 2% Mixture B or Ethoxylated Tallow Amine wetter.
- Wait until the vegetative shoots have reached maximum height (60cm), usually July.
- Bruise the stems lightly immediately before treatment. This will break the waxy layer and allow much better penetration of the glyphosate. To achieve this small areas can be brushed with a stiff broom, field areas are best with a Cambridge roller. (The bruising must not be severe enough to break off the stems !)
- Apply the highest rate of Roundup Pro Biactive recommended - i.e. 10 l/ha in 100-200l water with a droplet size on the finer side of medium. In a knapsack this rate is 50 ml per litre of water sprayed to just before run-off.
- A weedwiper with 1 part Roundup Pro Biactive to 2 parts water could also be used and the effect of wiping itself can help in the bruising process.
- On small areas or where the weed is encroaching amongst other desirable plants the use of a weed wiping glove,(like the Cromptex™ Glove), can also prove a very successful method of bruising and application at the same time.
- Monitor and retreat the sites as necessary over a period of three years.

For more information telephone the Monsanto Hotline on (01223) 849540

Roundup Pro Biactive contains glyphosate.

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ALWAYS READ THE LABEL: USE PESTICIDES SAFELY

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