

Weed alert: Horsetails ...have you seen these plants?



Scouring rush horsetail (*E. hymale*). Photo: M. Kahler



Scouring rush horsetail in a garden. Photo: B. Verbeek



Common horsetail (*E. arvense*). Photo: B. Trounce

Horsetails (*Equisetum* spp.) are primitive, non-flowering perennial plants that are highly invasive. Horsetail is the common name used to refer to 30 species in the *Equisetum* genus, 12 of which are considered weeds around the world. Common horsetail (*Equisetum arvense*) and scouring rush horsetail (*Equisetum hyemale*) are of most concern in Australia. All *Equisetum* species are declared noxious in New South Wales and are nationally recognised (on the Alert List for Environmental Weeds in Australia) as a threat to the environment and biodiversity. In high densities they also reduce crop yields by producing inhibitory substances that depress the growth of neighbouring plants. All except the common horsetail are toxic to livestock.

Horsetails have been grown and sold as ornamental plants in Australia and there are two known infestations in New South Wales near Leura in the Blue Mountains and Warringah in north Sydney. Horsetails have been reported growing as potted plants around NSW and from Tasmania to Brisbane in both cultivated and naturalised conditions.

Horsetails naturally occur in cold to temperate regions with temperatures ranging from 5°C to 20°C and rainfall between 100 and 2000 mm. They are mostly found in wet areas such as the banks and edges of swamps, rivers and lakes. They tolerate low nutrient levels and grow on many soil types.

Common horsetail will grow in most places where there is sufficient moisture below altitudes of 300 metres. It usually grows in damp conditions in open woodlands, pastures, stream banks, embankments, arable land and roadsides. In Australia it has become invasive in areas with rainfall of around 1400 mm.

Scouring rush horsetail also prefers moist environments and infestations have occurred in New South Wales in areas below altitudes of 620 metres with annual rainfalls of 1100 – 1500 mm.

World status

Horsetails are native to the northern hemisphere including Europe, Northern America and Asia. Horsetails are now naturalised in New Zealand, Madagascar and parts of South America. Common horsetail is used for medicinal purposes as a silica supplement and the buds are eaten as a vegetable in Japan and Korea.

Growth and spread

Plants nearly always spread by rhizomes that produce new stems (shoots) throughout the growing season from spring to autumn.



Inconspicuous leaves look like whorls of black teeth. Photo: M. Kahler



Fruiting cones (10-40 mm long) produce spores. Photo: B. Trounce



Infestation of common horsetail up to 80 cm in height. Photo: B. Trounce



Sterile, branched hollow stems. Photo: B. Trounce

Small parts of the rhizomes from mature plants can break off and grow into new plants. Horsetails also produce spores that require prolonged periods of moist conditions to germinate successfully. Most spores die from moisture stress.

New infestations can result when garden waste containing rhizomes is dumped or when plants are sold illegally for ornamental or medicinal purposes.

Identification

Horsetails are non-woody herbaceous plants. Depending on the species, heights vary from 5 to 120 cm with scouring rush horsetail up to 120 cm and common horsetail up to 80 cm high.

Two types of stems are produced: pale-brown, unbranched stems that produce fruiting cones and then die back to the ground; and green, branched, hollow stems which do not produce fruit. The stems of common horsetail usually die back to the rhizomes each year, but in other species the above ground growth may survive over winter. Stems break easily at the joints and feel hard and rough due to their silica content.

Horsetails have inconspicuous leaves on the main shoots that grow in whorls of 6 to 18, joined at their edges to form a black-tipped sheath of teeth around the stem.

Fruiting cones are found at the ends of the stems and produce pale-greenish to yellow spores. The cones are 10-40 mm in length.

The root system consists of rhizomes which can extend horizontally for up to 100 m below the ground.

Control

Your local council Weeds Officer will provide assistance and control advice if you think you have found this plant.

Control can be difficult. Silica in the plants limits herbicide penetration into the stems, and the extensive rhizome system also limits herbicide effectiveness. Mechanical controls such as slashing, mowing and excavating are likely to leave rhizomes that will regrow. Digging plants out by hand is effective over small areas if care is taken to find and remove all rhizomes and plant material.

WATCH OUT FOR AND REPORT ANY FORM OF HORSETAILS:

If you find these plants contact your local council Weeds Officer; your nearest NSW Department of Primary Industries office; the NSW Weeds Hotline 1800 680 244; or email weeds@industry.nsw.gov.au

Acknowledgements

Authors: Charlie Mifsud

Prepared by: Elissa van Oosterhout

Reviewers: Melissa Kahler, Andrew Petroeschovsky, Birgitte Verbeek

References

CRC Weed Management (2003) Horsetails - *Equisetum* species Weed Management Guide