The Herb Society of America's Notable Native™ 2019

Equisetum L., Horsetail species

Family: **Equisetaceae**
Latin Name: *Equisetum* L.; 11 species and 4 hybrids in U.S.
Common Names: Horsetail, Scouring rush
Growth: Herbaceous reed-like perennial; vigorous
Hardiness: Zones 3-11, by species
Light: Full sun to partial sun
Soil: Moist to wet; occasionally in drier soils; some in nutrient poor, slightly acidic soil
Water: moderate to abundant rainfall
Use: Culinary; ornamental; medicinal; ceremonial
Propagation: Rhizomes, spores

Equisetum hyemale, horsetail, scouring rush. The cone-like tip is the fruiting body.
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History

Equisetum spp., or horsetails, are related to a similar plant growing 350 million years ago, at which time, based on the fossil record, they reached heights of 16 to 60 feet. Today, most US species are in the range of 1 to 4 feet tall. A shoot of modern horsetail and a fossilized stem from the Carboniferous Period share the same characteristic features; an arrangement of branches in rings or whorls along the stem. Consequently, horsetails are often referred to as "living fossils."

Horsetails are arguably in the plant Subkingdom Tracheobionta, Division Equisetophyta. *Equisetum* is the only Genus in the Family Equisetaceae. Some still refer to them as Pteridophytes and they are among the oldest of land plants after non-vascular Bryophytes (mosses, hornworts and liverworts). *Equisetum* are seedless vascular plants that reproduce by means of spores—as do ferns.

Description

Rather than producing flowers and seeds, *Equisetum* spp. reproduce in the sporophyte stage in which a stem with vertical ridges (15—60 depending on species) is topped with a cone-like tip (strobilis, photo to right) that produces spores for the next generation. The dark green stems are whorled at nodes with dark brown scale-like microphylls (single leaf veins) fused at the base and that lack chlorophyll; they bleach out with age.

Photosynthesis takes place in the stems.

Support for the stem is from the epidermal cells or outer layer of cells on the stem. These cells contain silica, from which comes the plants use for "scouring."

Culture & Habitat

With the exception of *E. ramosissimum*, and *E. arvense*, these plants do best in moist to wet soil, some growing in water but with most parts above the water line. Many will grow in almost any soil, preferably slightly acidic, but need water to thrive.

E. arvense, reported from every state except LA and FL, also grows in drier areas. It is more common in northern and western states than southeastern states. *E. hyemale* grows is every state.

Uses

Medicinal: A decoction is used for kidney and bladder ailments, as a diuretic, eyewash, and for treatment of venereal diseases and for skin sores. Decoctions are used in veterinary medicine as a drench for horses.

Romans called horsetail "the hair of the earth" and created a healthful medicinal tonic from the plant stems.

Native Americans used horsetail for polishing arrowheads, crafting jewelry and personal adornments.

Horsetail has long been used medicinally to heal wounds and to stop bleeding.

Scouring material: Bundles of stems, with their high concentration of silica, were used to scour pots, shine metals, and smooth wooden surfaces. Gerard tells us that in his time it was employed for scouring pewter and wooden kitchen utensils, and thence called Pewterwort and that fletchers and comb makers rubbed and polished their work with it. Long after his day the dairymaids of the northern counties of England used it for scouring their milk-pails.

Fiber: Roots and stems were used in basketry and weaving.

Ceremonial: Used as a food in ceremonies. [Due to the high silica content, moderation is advised.]

Other: In earlier days gardeners simmered horsetail in water to make an organic spray to treat a variety of fungal diseases on plants.

Horsetail extracts are used in a variety of consumer products such as shampoos, hair conditioners, skin cleansers and nail strengtheners.

Equisetum can absorb minerals better than most plants and is used by agronomists to check for mercury and other pollutants in soils.

Propagation

As with ferns, new plants develop from spores, often spread by wind in spring. Plants can be propagated by division, lifting at least a 6" length of rhizome, best done in the spring, which has several nodes. Planted in moist soil and kept moist, new shoots will develop from the rhizome nodes.

Mature, above-ground stem cuttings with multiple nodes may be taken from the plants' main stems or branches. Stem cuttings require constant moisture

Horsetail plants propagate naturally via spores. Green spores with long, thin strips known as "elaters" appear during the plants' spring growth season, lasting only a few days. Minute changes in humidity cause the elaters to interlock, making the spores extremely sticky to the touch and difficult to sow evenly. In the wild, these spores usually germinate in damp mud or clay.

Most species thrive in warm climates with full sunlight exposure. It prefers wet soils, often thriving at watersides, in bogs and in ditches. Horsetail flourishes in soils with a pH range of about 6.5 to 7.5.

E. telmateia, giant horsetail, is considered a noxious weed in MI, CA, OR, WA, and ID. Many others are considered pests by gardeners who plant them directly in the ground only to find them spreading almost out of control. In containers without drainage holes, or otherwise closely watched and rhizomes escaping from drainage holes clipped, they can create a lovely screen along a driveway or on a patio edge.

Plant Sources

Wholesale:

Hoffman Nursery hoffmannursery.com 800-203-8590

Equisetum arvense ©Zeynel Cebeci . CC-BY-SA- 4.0

Landcraft Environments landcraftenvironment.com 631-298-3510

Retail:

Pond Megastore pondmegastore.com 330-488-2115

TN Nursery tnnursery.net 931-692-4252

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Horsetail in the landscape. Bok Tower Garden, Hammock Hollow Children's Garden, Lake Wales, FL.

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