

CONTROL AND MANAGEMENT OF HORSETAIL AND FERNS

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Horsetail (*Equisetum arvense*) control is not an easy task. If possible it is best to prevent horsetail from being established. This includes avoiding light tillage in areas where horsetail occurs. If tillage occurs be sure to clean the equipment to assure rhizomes don't get transported to new areas. Also improve drainage in poorly drained areas near ditches, bodies of water and low spots. Mechanical control is difficult. In a study conducted in Quebec Canada, horsetail was removed by hoeing 16 times during one growing season, but this did not have any impact on regrowth.

Horsetail's impact as a weed might be considered marginal as most crops with proper growing conditions and proper drainage can compete with the weed. There are few chemical control options. The lack of efficacy of many herbicides, specifically contact herbicides, is partially due to the fact that horsetail is a perennial with a deep root system complete with rhizomes, and herbicide uptake is minimal because of the lack of leaf area. The siliceous nature of its stem may inhibit the movement of herbicides into the plant. Glyphosate is often used to suppress horsetail, however, regrowth should be expected. Frequently after glyphosate applications horsetail increases since glyphosate often eliminates competing vegetation. Amitrole (Amitrol) is the only postemergence herbicide that will control the plant, however where available, it can only be used in noncrop situations. MCPA and 2,4-D are sometimes used in tolerant crop systems, however, they will only burn the above ground foliage off and have little effect on the root system. Dichlobenil (Casoron) is effective in the Pacific Northwest particularly when applied during midwinter just prior to an anticipated cold rain. Dichlobenil can be used in a number of perennial ornamental species and in many trees and vines. The other two effective herbicides that can only be used on noncropland at the rates required to control horsetail are sulfometuron (Oust) and chlorsulfuron (Telar). Trial results obtained at the Washington State University Mount Vernon Research and Extension Center with both sulfometuron and chlorsulfuron found November applications were more effective in controlling horsetail than those applied in the early summer.

Controlling western brackenfern (*Pteridium aquilinum*) is considerably easier than controlling horsetail. Brackenfern is not a serious weed of most annual row crops. A single mowing is not effective, however, a publication from the University of Minnesota reports frequent mowing throughout the growing season is effective. Frequent tillage is also reported to be effective.

There are several herbicides that will control the plant. In cropland and pastures where the following foliage applied herbicides are labeled: glyphosate, metsulfuron (Ally/Escort/Cimarron) MCPA, and dicamba (Banvel/Clarity) and will control the weed. Picloram (Tordon) will also control brackenfern, but be extremely cautious where it is used. Dichlobenil can be used in certain ornamentals and orchards and vineyards. Asulam (Asulox) has been used successfully in Christmas tree production. Australian information suggests burning the old growth when the plants are dormant and treating the later, new growth when the fronds are fully developed will enhance control. Soil applied dichlobenil will also control the plant and in Michigan, bromacil (Hyvar) applied postemergence has been reported effective.

The best control of either horsetail or brackenfern is to prevent their introduction, and if introduced, to control the plants before they become established. As with most perennial weeds, controlling horsetail and brackenfern before they become established will prevent a lot of trouble later on. When the plants are established, control is much more difficult. Once the weeds are established, using an integrated approach of incorporating all the known control methods is more effective than using one method alone to obtain long term control.