

## HYBRID CATTAIL

(*Typha xglauca*)

**Description:** Hybrid cattail is a member of the Typhaceae or cattail family. Hybrid cattail is an erect, rhizomatous perennial aquatic herb that can range in height from 3 to 10 feet. Leaves of the plant are long, linear, parallel-veined, moderately planoconvex, 1/8 to 3/4 of an inch wide, and deep green in color. Leaves originate from the base of the simple, slender stem and spread outward as they rise into the air. The flower head of the plant is a terminal compact spike that is shaped like an elongate cylinder. The flower spike is divided into pistillate flowers that form the conspicuous brown club located below the yellow spire of staminate flowers. Seeds of the plant are very small.

Hybrid cattail is a hybrid between narrow-leaved cattail, *Typha angustifolia* and broad-leaved cattail, *Typha latifolia*. The plant apparently has intermediate characteristics between the parent plants in all features.

**Distribution and Habitat:** Hybrid cattail is native to Europe, but has also been considered a distinct species in North America. The plant has a similar distribution to narrow-leaved cattail. Hybrid cattail is distributed throughout southeastern Canada and the eastern United States. However, the plant is locally abundant in the northcentral Great Plains and Rocky Mountain regions as well. Hybrid cattail can occur in wet or saturated soils and can tolerate some degree of saline or alkaline environments. Marshes, wet meadows, lakeshores, pond margins, bogs, roadside ditches, and seacoast estuaries are areas where the plant typically thrives. Hybrid cattail primarily occurs in early to mid-successional communities and disturbed wetland sites. In general, habitat characteristics of hybrid cattail are intermediate when compared to narrow-leaved cattail and broad-leaved cattail.

**Life History/Ecology:** Hybrid cattail is a mostly sterile perennial aquatic herb. The plant primarily reproduces vegetatively by rhizomes and clone fragmentation. Generally, leaf production of the plant occurs in the spring, flowering occurs in early to mid-summer, and clonal growth peaks in the fall. Seedlings germinate from April to September when environmental conditions are favorable. Hybrid cattail flowers in June and produces fruits from late July to September. However, the plant develops extensive pure stands through vegetative or rhizomatous growth.

**History of Introduction:** Hybrid cattail is native to Europe, but is considered a distinct species in North America as well. From Europe, hybrid cattail may have been introduced through European ships in the 1800s, similarly to that of narrow-leaved cattail. Through the intermingling of narrow-leaved and broad-leaved cattails, hybrid cattail has spread into southeastern Canada and into areas of the northeastern and west central United States. As the parent plants moved into new areas, hybrid cattail



Hybrid cattail

was able to establish as well. In North Dakota, hybrid cattail has been reported in fourteen counties including: McKenzie, Bowman, Mercer, McHenry, Burleigh, Grand Forks, Trail, Steele, Barnes, Stutsman, Emmons, McIntosh, Dickey and Richland. Hybrid cattail may also occur in the same range that narrow-leaved and broad-leaved cattails have been reported.

**Effects of Invasion:** Hybrid cattail is competitively superior to both parent plants, narrow-leaved cattail and broad-leaved cattail, under stable water conditions. Maintaining open areas in semi-permanent marshes is difficult once the plant is established. The plant can occur in a variety of natural communities and form extensive monocultures rapidly through vegetative reproduction, thereby reducing plant bio-diversity. Hybrid cattail can become a problem in irrigated agricultural lands and managed aquatic systems. The plant invades farm ponds, irrigation canals, and drainage ditches which can result in impeded water flow and increased siltation.

**Control:**

Management objectives for hybrid cattail control should involve prevention, controlling the spread of the plants in natural communities and eliminating or reducing vegetative spread of established populations. Control methods should be combined into an integrated management system for the best long-term control of the plant. Management techniques selected should be site specific, determined by land use objectives, extent of hybrid cattail infestations, desired plant community, and effectiveness and limitations of available control measures.

*Mechanical* - Hand pulling or mechanical cutting may be effective for narrow-leaved cattail control if followed by submergence. In Iowa, cattails that were cut and flooded with at least 3 inches of standing water over plant stems were effectively controlled. Cattails that were cut in May were actually stimulated and increased 25 percent in stem counts the following year, but eventually the invasion declined back to pre-cut levels. Cattails cut in August were controlled up to 80 percent when followed by submergence and cattail stems or fragments that were cut were removed. In Montana and Utah, cattail shoots that were cut below the surface of the water prior to flower production were reduced in population by 95 to 99 percent when repeated two to three times during one growing season. Cutting cattails later than the flowering growth stage may only effectively prevent regrowth for that particular growing season. Disking or cutting the plant in the dormant state can be an effective control measure. Disking can damage the rhizomes of the plant and delay the formation of shoots. This management technique is typically more effective when combined with water-level control and seed establishment prevention. Cattail survival may also be decreased when disking is combined with continued drying and freezing in the fall for two to three consecutive years. However, disking may seriously disturb the site and other desirable native species. Crushing cattails combined with reflooding can also be effective in controlling populations if conducted after June. In one study, cattails that were crushed and flooded in the spring or early summer needed to be crushed again in the fall to control new seedlings. Bulldozers and cookie cutters can be used to effectively control cattails, although these methods are typically expensive and can alter wetland basin morphology.

Burning can reduce stem density and kill top growth of cattails. However, the plant can resprout following a prescribed burn. Prescribed burns should be conducted in the winter or before significant growth has occurred in the spring so fuels are dry enough to carry the fire. However, burns may be slowed by frozen or saturated soils at this time. Prescribed burns can more effectively control cattail populations when combined with higher water depth or reflooding in the spring to smother residual shoots. Further research is needed to determine the effects of prescribed burns for cattail control. Manipulating water levels alone may reduce cattail infestations as well. In one study in Wisconsin, deep flooding to a depth of 16 inches, reduced established cattails after a two year period. In another

Wisconsin deep water study the results were somewhat contradictory from the previous study. The results indicated that deep flooding caused cattails to become the dominant emergent plant initially before becoming stressed and reduced in numbers a few years later. Draining a wetland or maintaining low water conditions may not be recommended because the effects may significantly alter the overall plant community of an area.

*Chemical* – The most effective herbicides are those that can be readily translocated to the rhizomes of the plant. Glyphosate, or Rodeo, applied in mid- to late summer can effectively reduce hybrid cattail infestations.

Contact your local county extension agent for recommended use rates, locations, and timing.

*Biological* - No biological control agents are currently available for control of hybrid cattail. Cows, muskrats, and geese will graze on hybrid cattail, possibly providing an effective means of control. Grazing may be more effective when implemented during the three-week window when flower spikes are emerging. Grazing seedlings or young cattails without extensive rhizomes can also reduce densities or eliminate cattail stands.

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Hybrid cattail photograph courtesy of Elizabeth J. Czarapata, Wisconsin Department of Natural Resources.