

big-tooth aspen

Populus grandidentata

Identification:

Salicaceae (Willow family)

Common Perennial tree, deciduous **Height:** 50-60' **Width:**
Flower: Green **Blooms:**

Leaf Arrangement: alternate
Fruit: **Fall Color:**

The white bark of aspen trees is their most distinctive trait. However, mature big-tooth aspen (*Populus grandidentata*) have thick, gray bark with long ridges on the lower trunk, with only the upper trunk and branches showing the smooth white bark. The trunk is generally long and straight up to 40' tall and generally up to about 1' in diameter, but can occasionally be over 2' wide. The leaves of big-tooth aspens are slightly longer than they are wide, with serrated margins that give the species its name, and stout twigs. The Small catkins are wind-pollinated in early spring before the leaves appear. Big-tooth aspen can be found in many soil types but is common in drier, sandy conditions of upland sites.

Big tooth aspen is similar in appearance and ecological impact to its close cousin quaking aspen (*P. tremuloides*). Quaking aspen has leaves that are wider than long, with fine-toothed margins, and these leaves tend to flutter in even a light breeze. Further, the bark of quaking aspen is typically white and papery all the way to the ground. The invasive white poplar (*P. alba*) also grows in dense clonal stands and has similar bark. However the latter has distinctive diamond-shaped patterns on the bark and lobed leaves with the underside of the leaves being distinctively white.



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AKA:argetooth aspen, poplar, popple



Description & Impact:

Big-tooth aspen is a colony-forming trees in the willow family. But in pre-settlement times these plants typically took on the form of a clonal shrub, producing large thickets. They remained as shrubs due to frequent fires killing the above ground stems and forcing them to resprout, and also because they were browsed upon by large herbivores like deer and elk. These aspen thickets were excellent wildlife habitat, crating bedding sites for deer and cover for game birds such as grouse and quail.

With settlement, our natural areas burned less often and browsing mammals were hunted to very low population numbers. Further, logging would release aspens to sprout into canopy trees. These changes in the environment allowed aspens to quickly form large colonies, with every stem in the group being part of one large organism. These aspen stands can be large and dense, excluding most other plant life and thus reducing plant diversity of prairie, oak savanna, and open, oak-dominated woodlands.

Aspens grows rapidly from basal sprouts and root sprouts, but they seldom reproduce from seeds. Rotted trees provide important cavities for woodpeckers and secondary cavity nesters. The catkins and buds provide a food source for game birds and mammals, but in tree form these are too high to be available to most wildlife. Aspen trees grow rapidly, exceeding 3' of vertical growth per year in the first decade.

Control Methods:

It is important to remember with clonal trees like big-tooth aspen that you must treat the entire clone at the same time, otherwise you can expect aggressive resprouting.

Cut Stump Treatment: Cut every stem of the aspen clone, and treat each stump with aminopyralid (Milestone®, etc.) at 6.5oz per gallon of water (but do not apply more than 7oz of active ingredient per acre). You can also use triclopyr (Garlon® 4, etc.) diluted in oil for cut stump. Garlon 4 can also be used for basal bark treatment, applied by spraying or painting the triclopyr around the stem in a strip 8-12" tall. Fosamine® has shown to be effective when applied to root suckers between the months of July and September. Glyphosate or triclopyr can also be used at a foliar concentration to spray leaves of resprouts. Always read herbicide labels carefully before use, and apply according to the instruction on the product label.

Girdling is a preferred method control as it minimizes re-sprouting. Girdling involves using an ax or sharp tool to remove a roughly 6" strip of the outer and inner bark around the entire trunk. Every tree in the clone must be girdled for the treatment to be successful. Stems too small for girdling can be cut twice during the growing season, each time after leaf-out. Timing for manual girdling without the aid of herbicide is critical. There is a time period in late-spring to early summer (mid-May through June in southern Wisconsin) where the bark and inner bark (cambium) will separate cleanly from the sapwood.

Girdling can be done at any time of year with a chain saw by cutting two, parallel, shallow rings around the entire tree at *least* 4" apart, again, being sure to cut entirely through the inner bark but not into the heartwood. Cutting too deep will trigger a wound response from the tree to send up new shoots. Herbicide may be applied to the lower two of the two chainsaw cuts as insurance against resprouts

It may take two growing season for the colony to die off. Once completely dead, the trunks can then be cut without stimulating re-sprouting. Or leave them standing for wildlife habitat.

It is worth considering, if the aspen stand is relatively small, to cut or girdle the aspen trees and manage the resprouts as an aspen thicket. Doing so would require regular prescribed burns and potentially supplemental cutting of the stems if they get too large. However, this approach will reestablish the original wildlife benefits that aspens are meant to provide.

Citations: Dan Carter, The Prairie Enthusiasts.