Swamp white oak seedlings

Blackford Valley Farm | Planting guide

Swamp white oak (*Quercus bicolor*) is a native large oak well suited to sites with **seasonally moist soil**. Its acorns feed deer, turkeys, squirrels, and other wildlife. The name describes its habitat; it does not mean a young seedling should be left in standing water indefinitely.

Site and growth

- **Space:** Commonly a **60–75-foot** tree, sometimes taller, with a wide crown. Allow generous long-term room.
- **Soil and pH:** Prefer **acidic, moist soil**; drained clay is suitable if roots regain aeration between wet periods. No numeric pH optimum is verified in the linked profiles. Iowa State advises avoiding calcareous soils: high pH can make iron unavailable, causing chlorosis (yellow leaves with greener veins) and poor growth. Limestone tolerance of chinkapin oak does not transfer to this species.
- **Water and roots:** Seasonal wetness and spring flooding are tolerated better than by upland white oak. That is **not tolerance of permanent stagnant water**: prolonged oxygen-poor saturation can damage or kill roots. Assess flood duration and growing-season ponding locally; no universal safe duration applies. Roots occupy the usable, aerated soil; bedrock, compaction, and persistent water tables limit rooting depth, so do not assign a fixed depth to every tree. Established trees can tolerate fairly dry summers, but seedlings need water through dry spells; a wet spring does not ensure summer moisture.
- **Light and climate:** Sun favors a strong crown and future acorns. This oak suits much of the Midwest; confirm the local winter zone and the actual flooding pattern before planting.

Read the soil map

Use Soil Location Info as a screen, not a planting-hole soil test. Inspect the site in wet and dry seasons; missing survey values do not mean no limitation.

- **pH by depth:** Check surface and deeper layers. Alkaline subsoil beneath acidic topsoil can still create a chlorosis risk as roots expand; confirm with soil samples.
- **Wetness and rooting:** Compare drainage, seasonal water-table depth, flooding, ponding, bedrock, and rooting restrictions. A seasonal water-table estimate is not a flood-duration record. Favor moist ground with periods of root-zone aeration, not permanent standing water.
- **Available water storage (AWS):** Upper-100-cm storage estimates potential plant-available water, not current moisture. Low storage or shallow usable soil increases summer drought risk; high AWS does not make oxygen-starved soil safe.

Acorns and wildlife

Its acorns mature in **one season** and provide fall wildlife food. Moist, aerated soil supports growth and crown development; drought, prolonged saturation, or alkaline chlorosis can constrain future bearing capacity. Plant more than one oak where possible for pollen and resilient wildlife production. Acorn mast varies with genetics, weather, pollination, and year; better soil does not guarantee a crop. Soil pH, AWS, and oak site index are not acorn-yield conversions. A seedling's first crop is not an orchard timetable. Acorns for people need correct identification and processing to remove tannins.

Mature acorns can attract deer to a hunting property in fall, though crop size, drop date, and local deer movement vary; plantings cannot guarantee a hunting opportunity.

Plant your potted seedling

We sell and recommend **potted seedlings**. Our planting method requires a **square hole, not a round one**. A wider hole is preferred, not required; it must fit the root ball without squeezing it. Dig no deeper than the root ball in its pot, and shallower as needed to leave the **top of the root ball slightly above surrounding ground level**. Rest it on firm soil so it does not settle too deep. Water the pot before removal; support the root ball, not the stem, and keep it together. Check for circling roots rather than forcing a root-bound ball into the hole. Backfill around the sides with native soil, taper soil to cover exposed side roots, and water thoroughly. Keep the root flare exposed; do not pile soil or mulch over the ball's top or against the trunk. Check both the root ball and nearby soil for moisture while roots establish.

Protect and establish

Young oaks need strong protection where **deer, rabbits, mice, and voles** are present. A ventilated, well-staked **5–6-foot tube** can shield the stem and help it rise beyond browsing height; a tall cage can also work. Secure the bottom and inspect for tunneling and nests. A vole inside an unsecured tube can girdle and kill the seedling. Keep a clear area free of tall grass and weeds; mulch without piling it against bark. Check the shelter after floods and storms.

A good fit for

Moist, periodically wet sites where an upland white oak would struggle and a large native canopy is wanted.

Persistent chlorosis, sudden wilt, or dieback needs diagnosis; do not automatically add fertilizer or water. Wetness injury is not itself oak wilt. In Iowa, prune oaks in **December-February** and follow Extension wound guidance for unavoidable spring or summer cuts.

Learn more

- US Forest Service: swamp white oak silvics
- Iowa State Extension: swamp white oak and calcareous-soil risk
- NC State Extension: swamp white oak moisture and chlorosis
- Iowa State Extension: oak pruning and oak wilt
- Penn State Extension: tree shelters and small-animal protection