

# NORTHWOODS YARD & GARDEN

Weekly Column

June 24, 2024

## Why Apple Trees Do Not Bloom

Growing apple trees without having them produce flowers is frustrating and has been a common complaint this season. Oftentimes it is difficult to determine an exact single cause but consider a variety of factors in troubleshooting why apple trees fail to bloom.

Keep in mind there is a difference between not blooming and blooming but not setting fruit. Trees blooming but not developing fruit is a pollination issue. Most apple cultivars need a second cultivar, or a crabapple, to provide viable pollen. Poor weather during bloom reduces insect activity and pollination. Late spring frosts we saw this spring can also damage flowers.

No blooms on trees are another issue and can be difficult to positively determine why. Start by considering the age of the tree, as juvenile trees will not bloom. Dwarfing rootstock trees will flower sooner than semi-dwarf or standard trees. Standard trees can take up to 7 to 10 years, while dwarf trees can flower the year after planting.

Dwarfing rootstock trees are grafted, and the graft union is a swelling on the trunk that must be 2 to 3 inches above the soil line. If this region is below ground, the scion (trunk above graft) directly roots into soil, taking away the dwarf influence of the rootstock.

As a result, blooming may be delayed considerably.

Excessively vigorous apple trees produce vegetative growth at the expense of flower bud formation. Apples need regular annual pruning, but heavy pruning stimulates trees to produce excessive vegetative growth. Too much fertilizer, especially nitrogen, has the same result. Certain rootstocks can also be very vigorous and delay blooming.

Vertical branches tend to be more vegetative than horizontal oriented branches. Use branch spreaders when dormant spring pruning to bend vertical branches to be more horizontal, thus encouraging future flower bud formation. On young trees, selecting horizontal scaffold branches when pruning is important for long term fruiting success.

Biennial bearing can also be a factor. Apple trees with large fruit crops follow up with little if any flowers the next season. This is because developing seeds in the apples release hormones that inhibit flower bud formation. The solution is to thin fruit during the heavy bearing year within three weeks of petal fall to help break the cycle.

Multiple factors come into play, and they can interact, leading to lack of flowers on apples. Some can be corrected with management adjustments, others require time. Drought in 2023 and in some areas, heavy defoliation from spongy moth caterpillars could also be contributing factors this season.

Interested in learning more about Horticulture in Iron County?  
Feel free to contact:

**Bruce Spangenberg**  
**Horticulture Educator**  
**Extension Iron County**  
300 Taconite Street, Suite 118  
Hurley, WI 54534

Phone: 715-561-2695  
Email: [bruce.spangenberg@wisc.edu](mailto:bruce.spangenberg@wisc.edu)

