

WHY TREES SOMETIMES MAKE—OR SEEM TO MAKE—NO FLOWERS

by F.W. Holmes

All trees normally produce flowers when sexually mature. People speak of "flowering trees" but actually all our trees are flowering trees. (An exception is the tropical "tree fern;" ferns reproduce by spores, produced in "sori.") In recent years there's been more use of small trees with conspicuous flowers along our streets as well as in yards. When they don't bloom the owner wonders why. There are many possible answers.

1. After transplanting, most trees need 3 to 5 (or more) years' growth before blooming. Extreme shock during transplanting may further delay—or may hasten—flowering.

2. Tree tissues must be physiologically mature before the tree can bloom. In elms, this means about 9 to 15 years. The Shade Tree Laboratories has a list that tells the usual age when trees of many species first bloom. (But tissues from older trees, if grafted onto younger roots, remain physiologically mature and can produce flowers the first or second season after grafting.)

3. Even if old enough and in place long enough to bloom, trees may be prevented by winter kill of their flower buds. This happens in one or other locality almost every year and over wide areas in some years. It happened to dogwoods in Amherst in winter 1960-61 and to all forsythia buds unprotected by snow cover in winter 1963-64. Cold may kill only *part* of each flower bud. When only the outer two of the four white bracts of the flowering dogwood get killed, the inner two develop, giving an unusual airplane-propeller-like appearance.

4. Many trees and shrubs flower more abundantly if exposed to at least some direct sunlight. Even those that grow well in shade, such as rhododendron, flower

better with some sunlight. Dogwoods flower better in sunlit rather than shaded locations. Lilacs often fail to flower under shade.

5. Trees with adequate, well-balanced nourishment and abundant water flower better. Thus trees that are shaded by buildings may flower in spite of the shade while trees that are shaded by (and competing severely with roots of) larger trees may not flower.

6. Some plants require daylight for a certain length of time each day—no more and no less—before they'll flower. (*Chrysanthemums* require short days in midsummer, and can be made to flower by cutting off nearly all light for part of each day.)

7. Other plants require prior exposure to certain temperatures. A tree planted in a latitude where it doesn't normally grow may not bloom.

8. Flowers of some trees (such as most pines) are so inconspicuous that the owner may not recognize them.

9. Flowers of other trees (such as maples) occur so early in the spring that the owner may miss them.

10. Other trees (such as witch hazel or Chinese elm) bloom in autumn: the owner may look in vain for flowers in spring.

11. Diseases, pests and injuries may prevent or distort tree flowering, as when eriophyid mites attack ash flowers. (Or the disease/pest/injury stress may temporarily enhance bloom and seed set, for a season or two before the tree dies, as when maples are smothered by soil around their trunks or pavement over their roots.)

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1988 AREA Contributed Paper Abstracts

An Evaluation of *Acer rubrum* Cultivars for the South. Donna C. Fare, Charles H. Gilliam, Harry G. Ponder and Wallace A. Griffey, Alabama Agricultural Experiment Station, Auburn University, AL 36849

Nine grafted *Acer rubrum* cultivars were evaluated from 1980-1988 for growth rate, adaptability, and aesthetic characteristics. Oval to broad canopy forms include 'Autumn Flame', 'Bowhall', 'Gerling', 'Red Sunset', 'Scarlet Sentinel', 'Schlesingeri', and 'Tilford'. Annual height growth of these cultivars averages