

The apple fruiting wall

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the basics

- site selection
- dwarf rootstocks
- close planting
- minimal pruning
- scab-resistant cultivars
- tree support

site selection

- full sun or nearly so
- well drained (no 'wet feet')
- preferably frost-free
- preferably away from vole or rabbit habitat
- consider security (five-fingered 'mice')?

site prep

- pH 6 to 6.5 (would not hurt to add lime)
- preferably grass/weed-free
- loosen soil in root/planting zone
- don't plant when it is too wet, but plant as early as possible (April, don't plant in fall)

dwarf rootstocks

- control size and vigor of tree
- Malling (M.)9 -- tried and true
- Budagovsky (B.)9 -- somewhat weaker
- Malling (M.)27 -- super-dwarf
- Geneva (G.) 41, 11, 16

close planting

- root competition
- forces removal of large branches
- 2 ft. between trees 'super-spindle'
- 3 ft. between trees 'tall-spindle'

minimal pruning

- central-leader must remain dominant
- use diameter-based pruning rule
- maximum age of fruiting wood 3-4 years
- use thinning cuts

scab-resistant cultivars

- genetic resistance to apple scab
- fungicide use minimized
- Liberty, Novamac, Novaspy, Goldrush, Topaz
- Honeycrisp, Empire, Golden Delicious, Mutsu, Jonagold*

*not resistant but not highly susceptible

tree support

- 3 or 4 wires
- single conduit or bamboo with one wire
- there for support, not training (i.e., not an 'espalier')

planting depth

- graft union **MUST** be 4 to 6 inches above ground and remain there

pest control

- insects and diseases
- critical period is from petal-fall until mid-June, scab-resistant must have insecticide
- spray with fungicide/insecticide beginning at green-tip

pest control

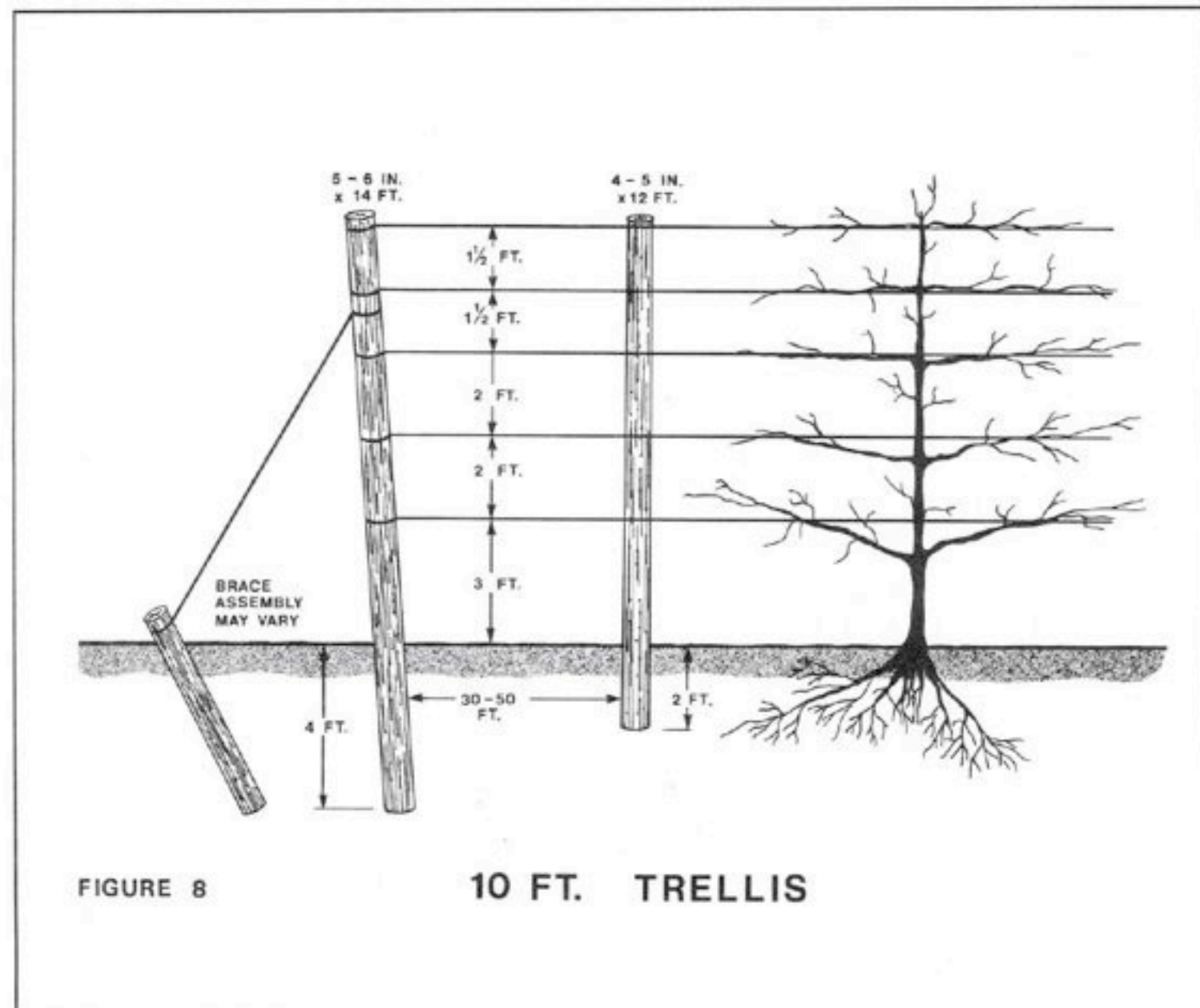
- <http://wihort.uwex.edu/gardenfacts/XHT1098.pdf>
- <http://learningstore.uwex.edu/assets/pdfs/A2179.pdf>
- <http://www.umass.edu/fruitadvisor/clements/homeowner/>

nursery trees

- Adams County Nursery
- Fedco Trees
- Cummins Nursery
- Schlach's Nursery?

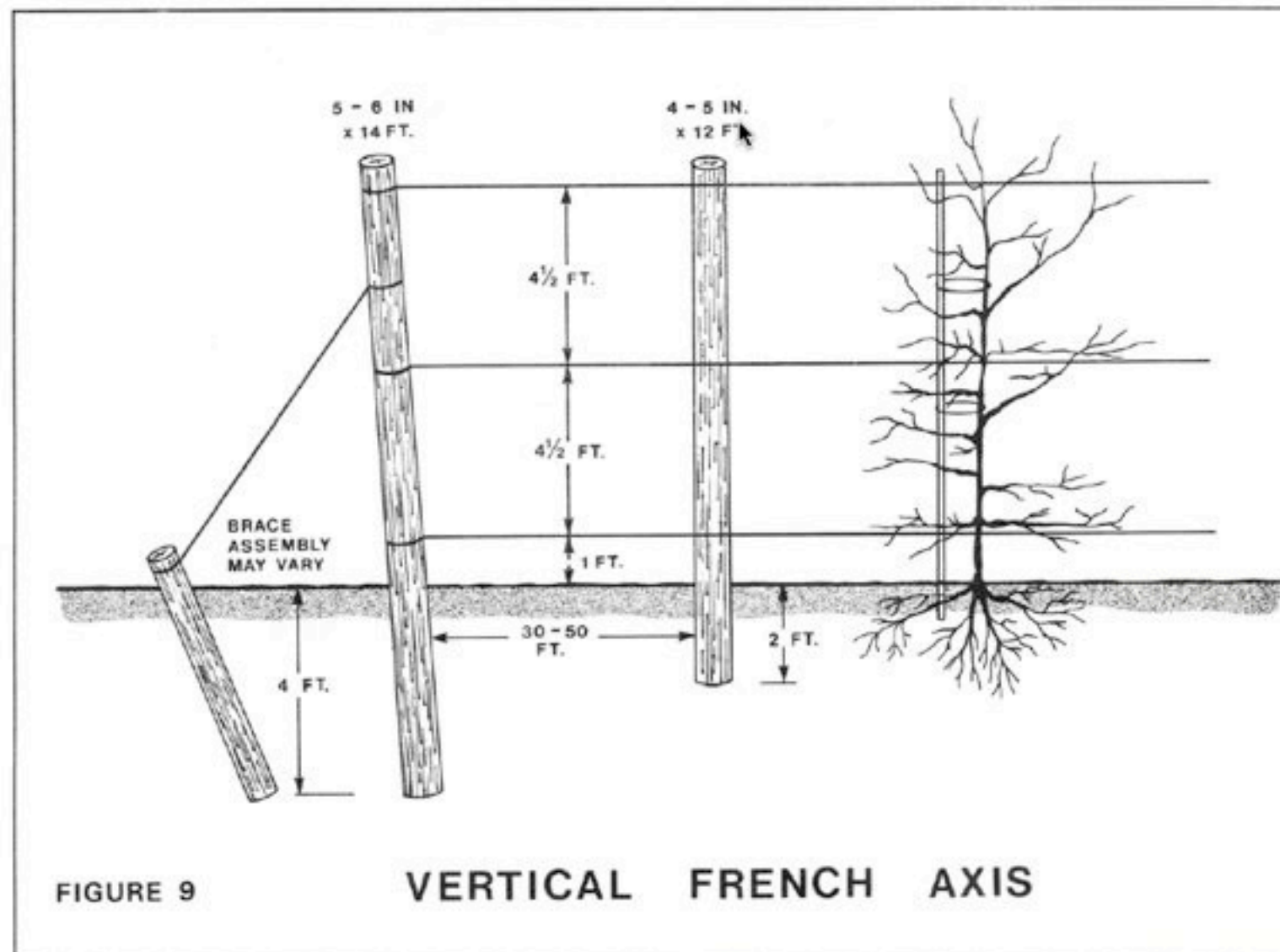
support system

- option 1



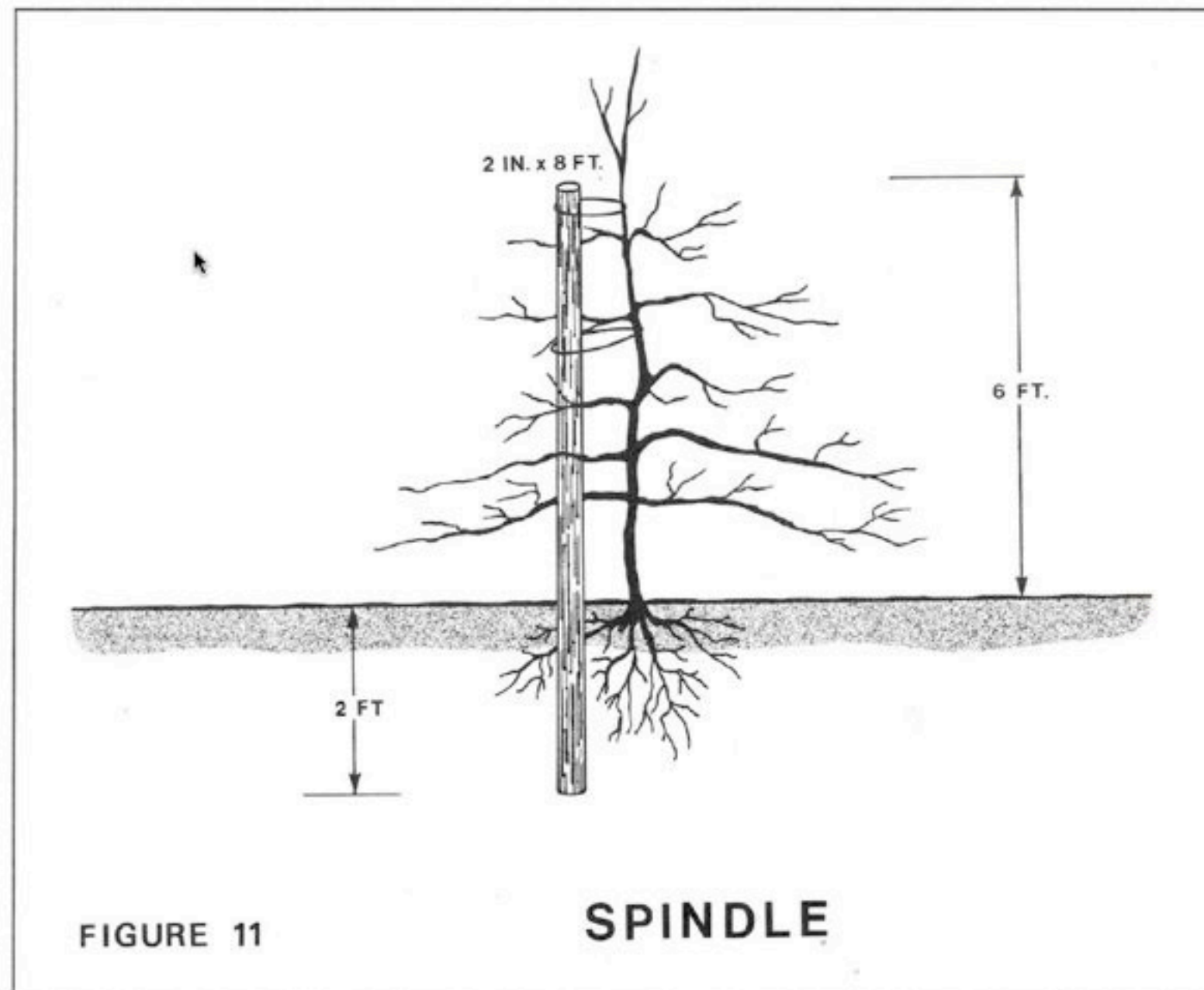
support system

- option 2



support system

- option 3



fertilization

- check pH, 6 to 6.5 is good
- a little phosphorous (P) at planting is good
- trees need nitrogen (N) to grow
 - app. 8 oz. 10-10-10 per year applied twice (4 oz. each at bud-break and 4-6 weeks later)
- bearing trees need K, Ca, Mg, and B (Miracle-Gro?)

crop load management

- remove flowers year of planting (1st leaf)
- 10-15 apples per tree in 2nd leaf
- 25-35 apples per tree in 3rd leaf
- 50 apples per tree in 4th leaf
- up to 100 apples in 5th leaf and beyond

irrigation

- a requirement for good tree growth
- soaker hose
- drip irrigation
- trees should get a good 'soaking' once or twice a week during dry periods until late August

other 'gotcha's'

- vole and rabbit damage
- borers
- weed control (root zone must remain weed-free, i.e. 2-3 ft. wide 'strip')





more information

- <http://tallspindleapple.com>
- <http://umassfruit.com>
- <http://www.extension.org/pages/61416/a-high-density-apple-production-system-for-the-home-garden>