

GIRDLING

A. A. Powell, Professor Emeritus

Department of Horticulture
Auburn University
Auburn, AL 36849

M. E. Ferree, Professor Emeritus

Department of Horticulture
University of Georgia
Athens, GA 30602

Girdling is a selective wounding process that removes strips of bark and the underlying cambial tissue from the trunk or scaffold branches to promote larger fruit size and earlier maturity. As a wounding process, girdling is not without risks. For optimum results with the least detrimental effect, girdling must be done correctly.

Girdling has been practiced on fruit trees for centuries to increase fruit size. In an optimal circumstance, girdling can: (1) increase fruit size (sometimes yield); (2) promote earliness of harvest (usually advancing harvest by three to five days); (3) result in fewer pickings (from four to three, or three to two); (4) increase the percentage crop harvested during the first picking; and (5) increase red skin color (enhanced marketability).

USING THE PRACTICE

Girdling is achieved with a specially designed girdling knife (Figure 1). Scoring, a related cultural practice, involves cutting, severing of bark and underlying vascular tissue (to the wood) with a knife, but scoring does not remove bark tissue. Large-bladed knives of several types are satisfactory for scoring.



Figure 1. Girdling knife.

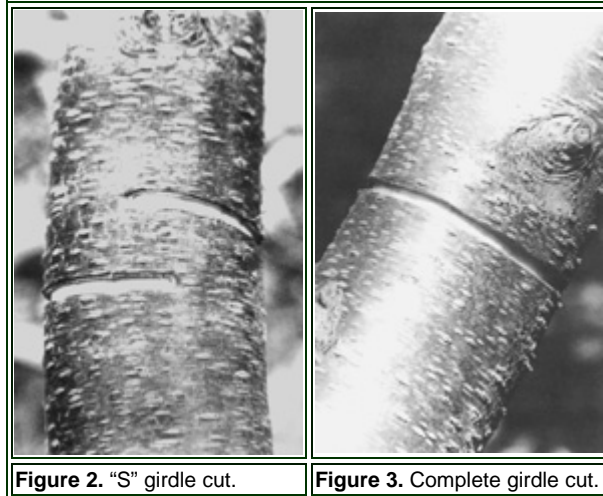
Growers who wish to evaluate girdling in their orchards should:

1. *Girdle only early season peach varieties* (generally those ripening 40 or more days ahead of Elberta), which includes varieties ripening as late as the Redcap-Maygold-Surecrop season. Girdling will work on later maturing varieties but generally is not needed. It is best not to girdle varieties that have a pronounced split pit problem such as Junegold because this practice may increase the problem.
2. *Only girdle trees that are in their fourth leaf or older.* Younger trees may recover poorly.
3. *Girdle only vigorous, healthy trees.* Avoid girdling trees that appear weak or are under stress of any kind, which includes trees with gummosis or severe insect damage.
4. *Only girdle trees that have full fruit crops.* Girdling trees that have reduced crops due to over-thinning, frost damage, or hail is not advisable. Girdling of such trees may cause an increased problem with split pits.
5. *Girdling knives are available in varying widths of cut: 1/8 inch, 3/16 inch, and 1/4 inch.* One-eighth inch knives are recommended for scaffold girdling, while the 3/16-inch knives are suggested for trunk girdling.
6. *Girdling of scaffold branches is preferred over trunks.* Girdle the lower portions of the primary scaffold branches. Girdle branches only 1-1/2 inches in diameter or larger.
7. *In blocks where machine thinning is practiced, DO NOT trunk girdle.* Limb girdling is recommended on such trees.
8. *Do not make fresh girdle cuts over old girdle cuts.*

9. *There are two types of girdle cuts: the "S" girdle and the complete girdle. "S" girdles start cuts at one point on the branch and end cuts one to two inches above or below the starting point (Figure 2). There should be a slight overlap with the "S" cut.*

Complete girdles begin and end cuts at the same point (Figure 3).

"S" girdle cuts are less severe than complete girdle cuts and offer a higher degree of safety and recovery for the tree. However, the "S" girdle does have the disadvantage of using too much of the branch (or trunk) area for future girdling. Because girdling should not be done in the same place where a previous cut was made, many growers prefer the complete girdle in order to conserve branch (or trunk) area for future girdling.



10. *Extreme care should be taken so that only the prescribed strip of bark is removed. Cuts should be made to the wood, no deeper. Deeper cutting should be avoided, as damage to the xylem (wood) may result in death of the branch involved. Conversely, if the entire bark strip is not removed all the way to the cambium, the girdling effect on the fruit will not be as dramatic as expected.*
11. *Proper timing optimizes girdling responses. Girdling should be done four to six weeks before normal harvest time. Seven to 10 days ahead of complete pit hardening is ideal. However, very early varieties, such as Springgold and Camden, should be girdled four weeks before normal harvest.*
12. *Ideally, trees should be thinned and then girdled several days later (allow at least four to five days between thinning and girdling). However, if it becomes necessary, trees may be girdled first, followed by fruit thinning a few days later. Do not thin fruit and girdle at the same time. This action could cause an undesirable increase in the number of fruits with split pits.*
13. *Girdling wounds are sometimes infested by the lesser peachtree borer. Once harvest is completed, a borer spray should be applied to lower portions of branches and trunk.*
14. *Trees under drought stress will fail to size their fruit adequately even if girdled. Irrigation (or rainfall) is essential in realizing the maximum effect from girdling.*
15. *Girdling places trees under considerable stress while they are maturing their crop. Therefore, it is recommended that mature, bearing trees receive at least 60 to 80 pounds of nitrogen per acre (such as 600 to 800 pounds of 10-0-10 fertilizer) during late January-February. Following harvest, girdled trees may need an additional 20 to 40 pounds of nitrogen per acre. The above fertilizer rates may be adjusted upward or downward based on previous fertilization experience, tree size, crop load, and soil type involved.*

Accelerated ripening will occur in girdled orchards. Growers should pay special attention to timing of the initial harvest. The bulk of the fruit will be harvested from girdled trees in the first two pickings. Usually all fruits will be harvested within a five- to seven-day period or less (from first to last picking). On girdled trees, good thinning further shortens the harvest period.

Growers are encouraged to experiment before they girdle on a large scale. Experience gained from girdling several trees of suitable early varieties over a two- or three-year period will be invaluable in helping growers decide on the utility of girdling in their orchards.

Done correctly, girdling can be of great benefit. However, because girdling induces an additional stress on the tree, it can result in death of the tree. Therefore, learn how to girdle properly.

