MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

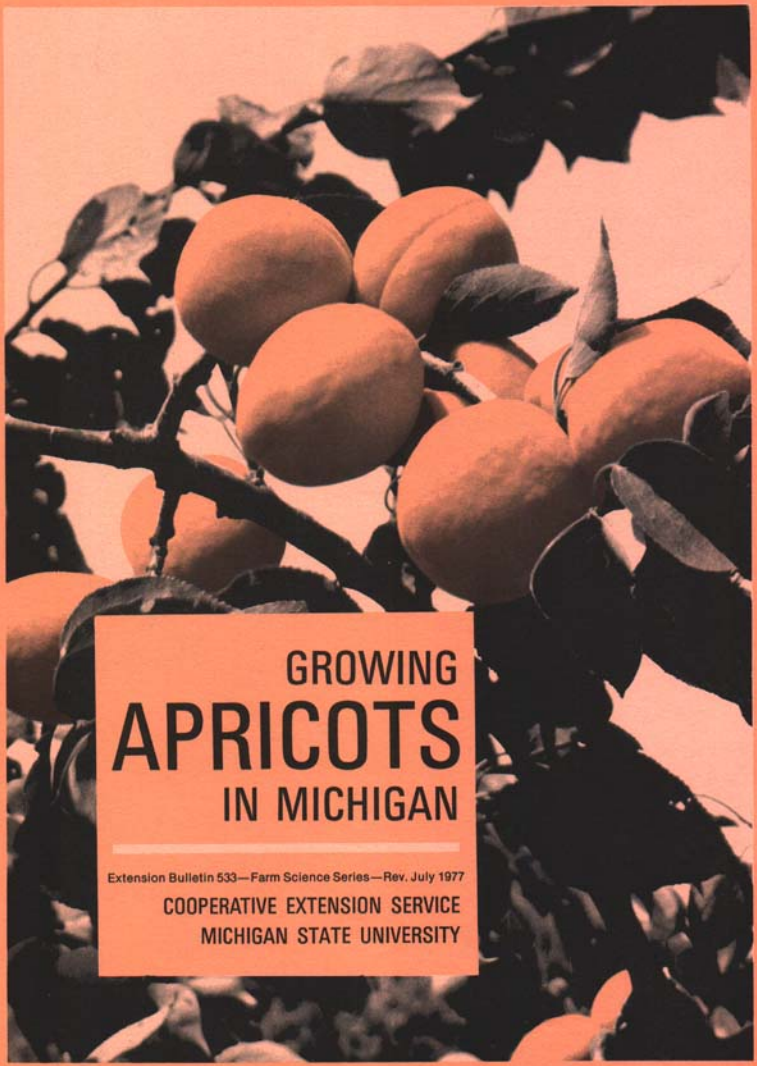
Growing Apricots in Michigan
Michigan State University
Cooperative Extension Service
Farm Science Series

Robert F. Carlson, Jerome Hull, Jr., and J.E. Moulton,, Department of Horticulture

Revised July 1977
8 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.



GROWING APRICOTS IN MICHIGAN

Extension Bulletin 533—Farm Science Series—Rev. July 1977

COOPERATIVE EXTENSION SERVICE
MICHIGAN STATE UNIVERSITY

Growing Apricots in Michigan

BY ROBERT F. CARLSON, JEROME HULL, JR. AND J. E. MOULTON
Department of Horticulture

THE APRICOT, (*Prunus armeniaca*, L.) probably originated in western China. Some small-fruited, hardy types are native to Russia. Apricots were grown in Virginia as early as 1720, but commercial production in the United States is now essentially confined to the semi-arid regions of the West, with 90 percent of the production in California and most of the remainder in Washington and Utah. The United States production of apricots was 170,000 tons in 1975. Most of the crop is preserved by drying or canning, with a limited quantity sold fresh on local markets or shipped to midwestern and eastern areas.

ADAPTABILITY IN MICHIGAN

Many unsuccessful attempts have been made to grow apricots commercially in areas east of the Rocky Mountains. Apricot trees were planted at the South Haven Experiment Station late in the last century, but the project was abandoned because of high tree mortality and inability to control the plum curculio.

Investigations in apricot culture were resumed at South Haven in 1939. Varieties from many parts of the world were tested but all failed. Three varieties originating in Michigan showed some promise and received extensive trials in the state beginning in 1957.

Much was learned from observng trial plantings in many parts of Michigan. Two problems of special importance resulted in the loss of many trees. These are (1) winter injury to young trees, and (2) trunk, branch and spur cankering.

CONTENTS

WINTER INJURY

Young apricot trees are likely to make excessive growth, especially trees from 2 to 5 years of age. Trees making excessive growth do not mature early in the fall and are, therefore, more subject to injury from low temperatures in November and early winter. Mature apricot trees are hardier than young trees.

Preventing or Reducing Loss

1. Grow young apricot trees slowly. Trees should not make more than 2 feet of annual growth. (See suggestions for controlling growth under the discussion on soil management on page 6.)

2. Train young trees carefully. It is extremely important to train young trees correctly to prevent weak crotches that are very susceptible to winter injury. (Read "Training and Pruning" on page 4.)

3. Protect the trunk. The southwest side of the trunk can become very warm on sunny days in late fall and winter. Night temperature frequently drops to well below freezing. This alternative freezing and thawing often injures the bark and wood. This permits wood-destroying fungi to gain entrance, and a large canker is likely to develop.

Paint the trunk with a latex-based, white paint. This paint is non-caustic because it is fast-drying and does not contain turpentine or oil. It gives good coverage throughout the winter, and the white surface reflects the sun's rays, preventing deep bark penetration. Brush the paint onto the trunk from the ground line up to the first scaffold branch. *Caution:* Do not use ordinary house paints containing oil, turpentine or lead. These may seriously injure or kill the trees.

4. Inspect the orchard in October. Fill any holes that develop in the soil at the base of the trunk. Make certain that the soil level adjacent to the trunk is slightly higher so that water will drain away from the tree. Water collecting in depressions near the trunk will form ice in late fall or winter. This ice may girdle the tree, causing death or serious injury.

ROOTSTOCKS

Several different rootstocks have been tested for Michigan apricot varieties. Seedlings of several peach varieties (*Elberta*, *Halehaven* and *Lovell*) tested in the early apricot rootstock trials proved to be poor rootstocks for apricots. They were not compatible, and many trees broke at the graft union both in the nursery and in the orchard (Fig. 1).

Do not use apricot trees grafted on peach seedlings. *Manchurian* apricot seedlings and seedlings of the Michigan apricot selection, *Goldcot*, are compatible with apricot varieties. The *Manchurian* seedlings are especially winter hardy and have given strong, healthy trees with minimum tree loss.

Pits or seedlings of *Goldcot* and *Manchurian* apricot can be obtained from nurseries. Plant apricot pits during October. Seedlings of these can be budded the following August.

VARIETIES

The standard varieties produced in the West have failed in Michigan. *Goldcot* is the primary variety grown in Michigan. Comments on varieties and selections under trial in Michigan are as follows:

Goldcot (South Haven 6)

The tree is vigorous and productive. Tree mortality has been low. Ripens about July 23 at South Haven. The fruit is medium in size, bright golden in color and of sprightly flavor. Fruit is firm and does not drop prematurely. Suitable for fresh market and processing for baby food but not suitable for commercial canning. *Goldcot* is the most dependable variety for planting in Michigan.

South Haven 50

This selection grows an excellent tree and produces a large, bright golden apricot maturing about with *Goldcot*. Plant only on trial basis.

South Haven 53

This selection has good fruit size and tree is hardy.

Curtis

A seedling found in the garden of the late Frank J. Curtis of Charlotte, Michigan. It ripens about a week later than *Goldcot*. Fruits are of medium size, round, rich golden with a bright red blush and of excellent flavor. It is slow in reaching full bearing, the fruit drops too much when ripe, and it is moderately susceptible to bacterial spot. Plant only in limited numbers for the fresh fruit market.

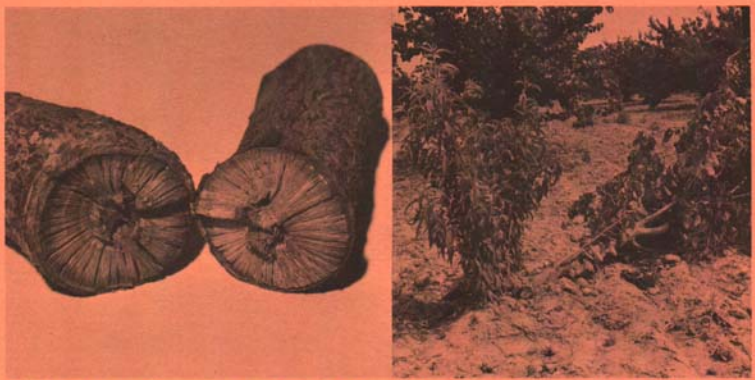


Fig. 1. Left: Section of apricot tree trunk broken at the graft union because of incompatibility of apricot on peach. Right: Incompatibility resulted in excessive suckering (left) from peach root prior to separation at the graft union.

THE USE OF POLLINATORS

Goldcot is apparently completely self-fruitful and can be planted alone. The other varieties, while ordinarily self-fruitful, will set heavier crops when unfavorable weather prevails during blossoming periods if they are inter-planted with other fertile varieties.

LOCATION FOR PLANTING

Apricot trees are sensitive to climatic conditions and require the best possible growing sites to remain healthy and regularly productive. Some favorable Michigan sites for apricots exist in the northwestern area (Leelanau county) of Michigan. Apricots seem to grow and produce well in locations where sweet cherries are productive.

SITE AND SOIL

Apricots blossom about a week earlier than peaches. Therefore, plant apricots only on sites which are practically frost-free. Elevation of the site above the surrounding country will give added protection against loss from frost and winter injury. Nearness to a large body of water is associated with slow warming temperatures in the spring, which help hold back spring bud development.

The soil must be well drained and preferably of a sandy type. Poor subsoils of any kind will result in the death or poor growth of many trees. Avoid heavy soils for apricots as such soils are likely to be poorly drained.

PLANTING THE ORCHARD

Plant in the spring. Fall-planted trees are more subject to cold injury during the first winter after planting. Plant the bud union 4 inches below ground level for good anchorage. The soil should be well settled and firm around the roots.

Planting Distance — Close tree spacing results in larger production per acre earlier in the life of the orchard. Tree spacing of 14 to 18 feet in the row and 18 to 24 feet between rows is suggested, depending on tree management and soil type. Leave ample room between trees and rows to permit efficient management and harvesting of the trees.

TRAINING AND PRUNING

Train the young tree to the modified central-leader system. Select two main scaffolds on opposite sides of the trunk, well separated so they will not touch each other when fully grown. The first scaffold should be about 30 inches above the ground if trees are to be mechanically harvested. The second scaffold should be 8 to 10 inches above the first. Select scaffolds having wide angles at the point of attachment with the trunk. Sharp-angled branches split badly (Fig. 2). The leader must be left longer than the scaffolds so that it will not be shaded out.

It is very important the second spring to remove all excess scaffolds from the trunk, retaining just two or three (Fig. 3). Head the scaffolds back somewhat if they are likely to grow higher than the leader.

Fig. 2. Injury starting in a moderately sharp-angled crotch. This small canker should be repaired at once, or it could cause damage such as that shown in tree at right.

By the third and fourth years, the trees are beginning to produce some fruit. The main framework of the tree has been established, and pruning is mostly to remove additional branches that may come from the trunk, and to head back new terminal growth if it exceeds 2 feet in length (Fig. 4). A small amount of thinning out may be necessary where branches are too thick or are rubbing. Do not leave too many branches originating close together on the trunk (Fig. 5).

Pruning the Mature Tree

The apricot produces most of its fruit on rather short-lived spurs. Prune mature trees to remove branches loaded with old spurs and keep the trees producing good replacement wood. This requires a combination of thinning out branches having many weak spurs and heading back long branches by one-third or to a strong lateral branch. Mature trees must make from 16 to 24 inches of new terminal growth a year to maintain satisfactory annual production. If less growth is made, the trees will fall into a biennial bearing habit and produce a large crop of small apricots every other year. Prune or head back the long branches in April. Additional pruning in June and August will reduce excess vigor. Do not prune during late fall or mid-winter because of drying out and possibility of winter injury.

Fig. 3. A two-year-old tree that has been trained to the modified central-leader system. The main scaffolds are well spaced and have wide angles at the point of attachment with the trunk. *Note:* There is an extra branch that should have been removed in the top and possibly some heading back done, but the essential framework is good.

Fig. 4. A three-year-old tree trained to the modified central-leader system. The main scaffolds have wide angles where attached to the trunk. They are a little close together. In general, this is a strong framework.

Fig. 5. A poorly trained tree with many branches originating at one point which will result in excessive crowding, splitting and winter injury. This type of tree will not live to maturity.

SOIL MANAGEMENT

Grow young apricot trees slowly. They have a tendency to make excessive growth, rendering them more susceptible to winter injury. New growth should not exceed 2 feet in length annually.

Cultivation and Cover Control

Young trees should receive little, if any, cultivation. Older trees, in bearing, should be cultivated only enough to obtain practical control of weeds and grass and to partially incorporate cover crops into the soil. Cultivation in bearing orchards should be done early enough in the spring to prevent cover growth from competing excessively with the trees for moisture and nutrients. Discontinue cultivation by mid-July, however, to prevent excessive or late growth which would render the trees more susceptible to cold injury.

Cover crops, when properly grown, help supply organic matter, provide soil cover to prevent erosion and protect tree roots from deep soil freezing, and may provide needed competition with the trees in late summer for moisture and nutrients. The most common cover crop used is rye. Other popular cover crops are wheat, vetch or buckwheat in combination with rye, Sudan grass mixture, and oat and rye mixture.

Sod covers may be used successfully if the grass is mowed two or more times during the season to reduce moisture loss. Deep-rooted perennials, legumes (alfalfa and clover), or quackgrass may seriously compete with bearing trees for moisture and nutrients. However, sod strips of dense, relatively shallow-rooted grasses such as bluegrass or Chewings fescue provide a very effective cover for easy movement of equipment and for erosion control (Fig. 6).

Chemical Weed Control

To avoid possible tree injury, do not apply herbicides in non-bearing orchards and only with considerable care in bearing orchards. Apricots are very sensitive to chemical injury. Growers using herbicides in apricot plantings should apply only the lowest recommended rates. Complete control of weeds under the trees is not necessary. It is usually best to apply no chemicals on light, sandy soil where there is sparse weed growth.

FERTILIZERS

Nitrogen is the most important nutrient in fruit production and is usually the only fertilizer element that should be applied regularly in Michigan orchards. However, young apricot trees have great inherent vigor even on relatively poor soils; therefore, nitrogen fertilizers should not be used in young plantings on reasonably fertile land and sparingly even on light, sandy soils. As the trees become older, start producing and the danger of winter injury becomes less, nitrogen applications will need to be increased sufficiently to insure an annual terminal growth of 16 to 24 inches to maintain good production. Apply nitrogen in late fall, after mid-November, or before growth starts in spring. The kind of nitrogen to use should be chosen on the basis of cost of actual nitrogen and ease of application; however, nitrogen in the form of urea should be avoided.

Potassium is the only nutrient element, other than nitrogen, that is likely to be needed in Michigan apricot plantings. Potassium deficiency reduces tree growth, yields and fruit quality. The best way to determine need for potassium (potash) is through leaf analysis. When needed, potash may be applied in the fall or spring. Orchards low in potassium may need up to 100 pounds of potash (K_2O) per acre, but this amount can be applied in relatively large amounts every 3 to 5 years. The most common potassium fertilizer is muriate of potash (60 percent K_2O).

Phosphorus is utilized in only small amounts by fruit trees compared to either nitrogen or potassium. There is no present indication that apricot trees will benefit from application of phosphorus. However, in some cases, fertilizers containing phosphorus may benefit growth of cover crop.

Fig. 6. A vigorous five-year-old apricot orchard. Notice especially the ground cover used to slow down the growth of the trees.

FRUIT THINNING

If fruit set is heavy, thin the individual fruits so that they will be 1½ to 2 inches apart. Otherwise, fruits will be small, and the trees will become biennial in bearing habit. Thinning can be done by hand, or — faster and easier — by careful pole thinning. Bamboo poles of various lengths are used and the top 12 inches covered with a piece of garden house to reduce injury to the branches. The excess fruits may be removed by rubbing and tapping. Avoid hard blows, as all of the fruits will be knocked off for a considerable distance from the point of contact. Early thinning is recommended. Start thinning as soon as danger of frost has passed.

INSECT AND DISEASE CONTROL

A coordinated program of good cultural management, orchard sanitation and a thorough spray schedule is important for effective control of disease and insect pests that affect apricot trees.

Brown rot and bacterial spot are the two most serious diseases of apricots in Michigan. Brown rot can be controlled by following peach spraying recommendations in Extension Bulletin E-154, Fruit Pesticide Handbook. *Do not use sulfur on apricots.*

Bacterial spot is a troublesome disease in apricot plantings, especially if apricots are grown near peach trees. The disease causes many black blotches on the fruit, rendering it worthless. To date, it has not been possible to control bacterial spot satisfactorily by spraying.

Apricot scab has been found in Michigan, but infections so far have not been serious.

Insects affecting apricots in Michigan include plum curculio, Oriental fruit moth, apple maggot, lecanium scale and peach tree borer. These can be controlled by proper and thorough spraying.

CONTROLLING RABBITS AND MICE

Rabbits and mice are occasionally very destructive to young apricot trees. Consult your County Exten-

Fig. 7. Left: A large canker on the southwest side of the tree caused by winter injury. See comments in the text on this type of injury and suggestions to prevent it. *Right:* The same tree after the canker has been removed. The injured area is then disinfected with bichloride of mercury solution (see section on Removing Cankers) and the entire area painted with a non-caustic tree paint.

sion Agent's office for information on the control of rabbits and mice, and for spraying apricots to control insects and diseases.

REMOVING CANKERS

Wood-destroying fungi enter winter-injured areas on the trunk and sometimes near the base of the main scaffold limbs. Remove these cankered areas when small so that the wound will heal rapidly with as little damage as possible to the tree. Cut back the edges of the canker to live bark and scrape out the dead bark and wood in the center (Fig. 7). After cleaning out the canker, cover the injured area with a prepared tree paint. Such paints can be obtained from some nurseries and at garden and nursery supply stores.

This information is for educational purposes only. Reference to commercial products or trade names does not imply discrimination or indorsement by the Cooperative Extension Service. Cooperative Extension Service Programs are open to all without regard to race, color, creed, or national origin. Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Gordon E. Guyer, Director, Cooperative Extension Service, Michigan State University, E. Lansing, MI 48824. Price 40 cents.

1P—1R—5M—7:77—DB