DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Agriculture and Natural Resources

Raspberry Production in the Home Garden

Dr. Keith Striegler
Extension Horticulture Specialist – Fruit

Raspberries are an appealing fruit with excellent flavor and nutritional value. This fruit is often highly regarded by persons who have moved to Arkansas from other regions such as the Northwest, Northeast and Midwest U.S. Raspberries grow best in cool climates. In general, they are not well-adapted to climates south of Missouri. However, with careful variety selection and attention to cultural practices, raspberries can be grown in Arkansas home gardens.

Types of Raspberries

Raspberries are classified by fruit color and/or fruiting habit. There are **red, black, purple** and **yellow**-fruited types. The red type is most popular, followed by black raspberries. Purple and yellow raspberries are more heat sensitive and do not perform well.

Raspberries may also be classified as **summer bearing** or **everbearing**. Summer bearing varieties produce one crop in the early summer. The everbearing classification is somewhat misleading as these varieties actually produce only two crops per season rather than bearing fruit continuously.

Everbearing varieties produce one crop in the late spring or early summer and a second crop in the fall. While two crops per season can be produced by these varieties, it is recommended that only a fall crop be produced under Arkansas conditions. There are many advantages of only fruiting everbearing varieties in the fall. Fruit is produced during a period of time when temperatures generally are lower, which results in better fruit quality. Winter injury problems are reduced and spring frost problems are usually eliminated. Labor requirements may be reduced since pruning can be done mechanically by a mower, and pest problems may be reduced (insects, diseases and weeds).

Raspberry Varieties

As previously discussed, red and black raspberries are the most common types grown in Arkansas. Red raspberries generally have erect-growing canes and propagate from sucker plants growing from the roots of the parent plant. Recommended red raspberry varieties are listed below. Each has specific plant characteristics and areas of adaptation.

'Heritage' (recommended for Northern Arkansas) – An everbearing variety from New York that has shown promise as far south as Van Buren and Johnson counties. It has erect canes and medium-size bright red, medium-firm berries. 'Heritage' plants are hardy and vigorous.

'Josephine' (recommended for Northern Arkansas) – A new everbearing variety that fruits later than 'Heritage.' Reported to have large, very firm fruit with good flavor. This variety should be planted on a trial basis only until more information on its performance is available.

Arkansas Is Our Campus

Visit our web site at:
https://www.uaex.uada.edu

'Dormanred' (recommended for Central and Southern Arkansas) – Developed in Mississippi, 'Dormanred' produces high yields of fair quality fruit. This variety differs from other red raspberries in that it has weak vine-like growth and requires trellising similar to trailing blackberries. It has some blackberry fruit characteristics.

Black raspberries have "arched" canes which grow up, then out, and finally down to the ground by fall. They propagate by forming new plants when the tips come in contact with the soil. New canes emerge during fruiting each year from the old crown and from new tip-formed plants that are not removed each year. These canes are primocanes the first year and floricanes the second year. Floricanes die after harvest during the second season. Recommended black raspberry varieties are listed below. Black raspberries are short-lived in Arkansas.

'Cumberland' (recommended for Northern Arkansas) – This variety produces moderate crops of medium-size, fairly firm, somewhat seedy berries which are not quite as flavorful as red raspberries. The canes have many thorns. This variety appears to be fairly susceptible to spur blight disease.

'Jewel' (recommended for Northern Arkansas) – This newer variety produces large, glossy black fruit which has good flavor. Yields are high and fruit quality is excellent. 'Jewel' is reported to be less susceptible to diseases than other black raspberry varieties. 'Jewel' should be planted on a trial basis only until more information on its performance is available.

Site Selection and Planting

Raspberries grow satisfactorily on a wide range of soil types. However, optimal production will be achieved when plants are grown on sandy loam soils with significant organic matter. The soil must be well-drained and have a pH between 5.5 and 6.5. Soil testing should be done four to six months before planting so that amendments such as lime can be added and have sufficient time to react before planting. The soil should be thoroughly cultivated and prepared before planting. Perennial weeds should be eliminated from the planting site. If there is any question about the adequacy of soil drainage, prepare a raised bed for planting (36 inches wide and 8-10 inches in height).

Purchase plants from a reputable nursery to reduce the risk of introducing diseases. Planting should occur in the spring as soon as the soil can be properly prepared. Keep plants cool and roots damp from the time they are received from the nursery until planting.

At planting, make a planting hole by opening a vertical slit with a shovel, place the plant in the hole, spread the roots, and then close the hole around the plant. Water newly planted raspberries as soon as possible. Planting depth for red raspberries is 2 to 3 inches deeper than nursery depth. For black raspberries, plant at the same depth they were previously growing in the nursery.

Spacing for red raspberries can be from 5 to 10 feet between rows, depending on how the row middles will be managed, i.e., cultivation, mowing or mulching. Wider row spacing will be required for cultivated row middles than for row middles which are mowed or mulched. Black raspberry row spacing should be wider (8-10 feet between rows) due to their sprawling growth habit. Within-row plant spacing should be 2 to 3 feet for red raspberries and 4 to 5 feet for black raspberries.

Fertilization, Weed Control and Irrigation

Successful raspberry production requires that plants are supplied with adequate nutrients, kept free of weeds and watered when necessary. Fertilization is needed to obtain good growth during the season that raspberries are planted and in subsequent seasons. During the first season, apply 2 pounds of a mixed fertilizer such as 13-13-13 per 100 feet of row when new plants have become established and started growing (May). A second application of 5 pounds per 100 feet of row should be made in July. In the years following establishment, raspberry plants should be fertilized with 8 pounds of mixed fertilizer per 100 feet of row in March and again in May. The fertilizer should be broadcast uniformly over the plant row or banded with one-half the amount applied on each side of the row.

Control weeds in the row by pulling, hoeing or mechanical cultivation. In addition, mulching with straw, sawdust, compost or other appropriate material can reduce weed competition and conserve soil moisture. Row middles in home garden raspberry plantings can be managed using cultivation, sod or a permanent mulch. If clean cultivation is used, the area between rows will need to be cultivated to a depth of 1 to 2 inches every two weeks from early spring until the end of harvest. This controls weeds between rows as well as raspberry suckers extending from the row. For sod culture, mow the area between rows like a lawn during the season to control growth of weeds, grasses and suckers. Use of permanent mulch between rows will suppress but not totally eliminate weed growth. The mulched area will require mowing as needed to control "escape" weeds and raspberry suckers.

The use of permanent mulch will likely produce the greatest yield with clean cultivation producing the second highest yield. Use of sod culture will usually result in the lowest yield, but this method of row middle management is easy to maintain for the home fruit grower.

Raspberry plants require 1 inch of water a week from bloom until the end of harvest either as rain or irrigation. Plants also should receive irrigation during extended dry periods after harvest.

Training and Pruning

Raspberry training and pruning will vary in relation to the type of raspberry being grown. Everbearing red raspberry varieties such as 'Heritage' grow fairly upright canes that may need little support. However, even these varieties will likely benefit from use of a trellis system, especially when fruited for a fall crop. Fruit production for everbearing varieties grown in this manner is concentrated in the top one-third of new shoot growth. Support provided by a trellis system allows for more erect shoot growth and greater potential for fruit production.

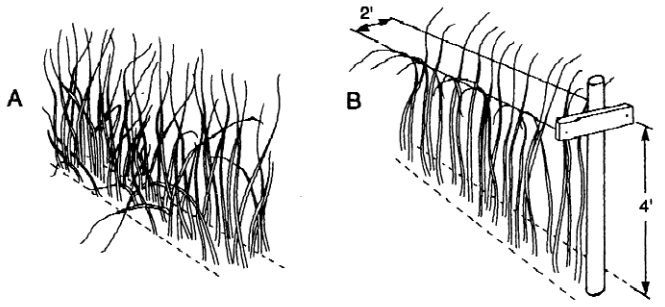

Figure 1. 'Heritage' raspberries may be allowed to grow untrellised (A), but crossarm trellising (B) is recommended. Set crossarms to space the wires 18 to 24 inches apart and about 4 feet above the ground. Adapted from: Poling, E.B., Raspberries in the Home Garden. 1996. Horticulture Information Leaflet 8204, North Carolina Cooperative Extension Service.

For everbearing red raspberry varieties, a crossarm trellis system should be used (Figure 1). Two-foot crossarms are attached to posts at a height of approximately 4 feet and two wires are secured at the ends of the arms. Install posts at 15-20 feet intervals. The new canes grow upward between the wires which provide support with a minimum amount of tying.

Pruning everbearing raspberries for a fall crop only is a simple process. Cut all canes to ground level or as low as possible with a mower or by hand using pruning shears or loppers in January or February. Remove and dispose of the prunings from the planting to reduce disease incidence.

'Dormanred,' the recommended summer bearing variety, must be trellised due to its trailing growth habit. The canes must be wrapped and tied to the trellis. Train 'Dormanred' to a vertical trellis with a narrow wall of foliage (Figure 2). Space posts 20 feet apart and attach wires 2, 3.5 and 5 feet from the ground. As new shoots develop, they should be thinned to achieve a density of three to four canes per foot of row by the fall. New shoots should be wrapped around wires and tied. 'Dormanred' should be pruned twice a year, first in the spring and then immediately after harvest. In late January or early February, extremely lengthy canes should be cut back to 6 to 8 feet and weak canes should be removed. The second pruning operation consists of removing all canes that produced fruit following the completion of harvest.

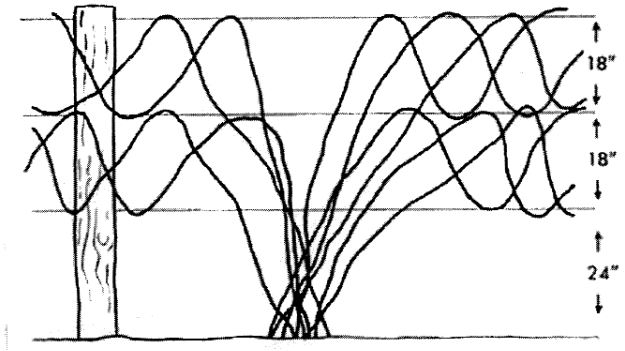

Figure 2. Red raspberry trellis for 'Dormanred' variety. Wires are set at 2, 3.5 and 5 feet above the ground. Treated posts are spaced 20 feet apart and set at least 24 inches into the ground.

Black raspberries do not require a trellis system. They can be grown in a similar manner as erect blackberries. Pruning of black raspberries is done three times during the year. The first pruning is a summer tipping operation which is done when new shoots reach 24 inches in height. Tipping is done by removing the top 2 to 3 inches of new shoots. It may be necessary to do this several times since all shoots will not be tall enough for tipping on the same date. Tipping allows the three to five buds below the tipped area to develop vigorous lateral growth. Canes that are tipped are self-supporting and remain erect. The second pruning operation consists of removal of canes that have fruited after harvest. In the late winter/early spring period when plants are still dormant, lateral branches should be cut back to 8-10 inches in length and any small or weak canes removed (Figure 3).

Figure 3. Black raspberry plant (A) before and (B) after dormant season pruning. Adapted from: Poling, E.B., Raspberries in the Home Garden. 1996. Horticulture Information Leaflet 8204, North Carolina Cooperative Extension Service.

Pest Management

There are a number of insects and diseases that have a negative impact on raspberry production. Management of these pests for successful home fruit production requires implementation of an integrated control program consisting of pesticide applications, sanitation and canopy management to reduce excessive canopy density. Current information on recommended spray programs can be obtained from your local Cooperative Extension Office.

Sanitation practices that should be followed include:

1. Plant only quality, disease-free nursery stock.

2. Avoid planting in an area where root knot nematode populations are high and damage occurred on crops previously grown on the site (raspberries are susceptible to nematode damage).

3. Remove wild brambles and blackberries within 600 feet of your planting so that diseases cannot be easily transmitted from them to your planting.

4. Remove diseased or sick plants and all canes that have fruited as soon as possible. This plant material should be taken away from the planting and burned.

Reduction of excessive canopy density allows for improved spray penetration, increased wind speed in the canopy, increased rate of drying at fruit and leaf surfaces in the canopy and a reduction in the number of disease infection periods. Optimum canopy density can be achieved through proper pruning, training and thinning as outlined in previous sections. In addition, maintenance of row width of no more than 18 inches by cultivation or mowing is very important for achieving the best canopy for raspberry production.

Vertebrate and invertebrate pests may greatly reduce yield in a raspberry planting. It may be necessary to use netting to exclude birds, squirrels, etc., from your planting to reduce losses.

Acknowledgment is given to **DR. DAVID L. HENSLEY** and **DR. JOHN R. CLARK** for their review and input on the manuscript.

DR. KEITH STRIEGLER is Extension horticulture specialist - fruit, University of Arkansas Cooperative Extension Service, Fayetteville.

FSA6107-PD-3-03N