

SMALL FRUITS FOR HOME GARDENING

JAMES N. MOORE

*Department of Horticulture & Forestry
316 Plant Science Building
University of Arkansas
Fayetteville, Arkansas 72701*

Recently there has been a nationwide resurgence of interest and activity in home production of fruits and vegetables. Several factors have contributed to this interest in home gardening, including wide publicity of the health-giving value of fruits and vegetables in the human diet and consumer concerns about the safety of purchased foods. This increasing interest in home gardening is providing new opportunities for nurserymen to expand propagation and marketing of nursery stock of fruit species.

Opportunities exist for the marketing of many fruit species, but I will limit my discussion here to only small fruits and grapes. This is appropriate since interest among home gardeners is especially high for this group of fruit crops.

Some of the characteristics of small fruits that appeal to home gardeners are: 1) high production in small amounts of space; 2) consistently productive perennials; 3) less pest problems on most than for tree fruits and vegetables; 4) difficult to purchase high quality fruits at retail, since quality is closely tied to freshness; 5) high vitamin content; 6) ideal for home processing; 7) easily incorporated into the home landscape; 8) no specialized or expensive equipment required for production; and 9) short juvenile period, resulting in quicker fruiting than for tree crops. I will elaborate on these factors in the following discussion of individual crops.

STRAWBERRIES

The strawberry, *Fragaria* × *ananassa*, is the most widely grown of all small fruits. It is grown in every state in the United States and in nearly every country of the world. However, strawberry cultivars are the most affected of all the fruits crops by the environment under which they are grown. Thus there are literally hundreds of strawberry cultivars, differing in regional adaptation. It is necessary, therefore, for growers, or nurseries supplying plants to growers, to ascertain the correct cultivar for each specific location.

Strawberries are among the most popular fruits for home gardens. Significant production can be obtained from small field space. For example, a 25-ft row of strawberries in a garden may produce 25 quarts of berries. Strawberries come into bearing quickly. The

period from planting to first harvest ranges from four to 14 months, depending on the cultural system used. They are long-lived perennials and will continue to produce for several years with proper care. Strawberry fruits are among the highest in vitamin content, are easy to process, and retain good quality as a processed product.

BLUEBERRIES

Until relatively recently, blueberries production was thought to be limited to only a few states in the U.S. Now, with newer cultivars and new cultural systems, commercial blueberry production has been extended into many states. As a home-garden fruit, blueberries are still being “discovered” in many parts of the U.S., especially in the South.

There are three types of blueberry available for home gardens: northern highbush, rabbiteye, and southern highbush (also referred to as “low-chill” highbush). Each of these has its specific climatic requirements, and is thus adapted to specific regions of the country.

The northern highbush, *Vaccinium corymbosum*, is the major blueberry of commerce, with Michigan and New Jersey being the leading producing states. However, it can be successfully grown in many parts of the U.S. Northern highbush cultivars have a winter chilling requirement of 800 to 1000 hours below 45 ° F, which limits their adaptation in the deep South. Some of the most popular cultivars are ‘Bluecrop’, ‘Blueray’, ‘Coville’, ‘Collins’, and ‘Bluejay’.

The rabbiteye blueberry, *V. ashei*, is well adapted in much of the southern U.S. but is limited to regions where winter temperatures do not drop below 0° F. ‘Tifblue’ and ‘Woodard’ are popular cultivars. Recently, several new ones have been released. Among these, ‘Premier’ and ‘Brightwell’ appear especially promising.

The newest type of blueberry is the southern highbush, *V. corymbosum* [syn. *V. australe*], represented by such cultivars as ‘Sharpblue’, ‘Avonblue’, ‘Georgia Gem’, ‘Cape Fear’, and ‘O’Neil’. These have been bred to combine the fruit characters of northern highbush with adaptation to low-chill southern climates.

The major requirements for successful blueberry culture are acid soils (pH 4.8 to 5.2) and plenty of water for irrigation. In many areas of the South, organic mulches have been beneficial for blueberry growth and production. Blueberries have few pest problems and are grown without pesticides in many areas. Plants begin bearing in one to two years after planting, but they do not reach full production (up to 15 pints per bush) for 5 to 7 years.

BLACKBERRIES

Blackberries (*Rubus*, subgenus *Eubatus*) are rapidly increasing in popularity as a home garden fruit. Since the fruit is the most perishable of all small fruits, fresh blackberries are rarely seen in retail outlets. Plants are productive, easy to grow, and nearly pest-free.

A major limitation to blackberry production is winter cold. Most cultivars may sustain cane and/or bud injury when temperatures fall below -5° F. In a garden situation, trailing types, such as 'Chester Thornless', 'Hull Thornless', and 'Black Satin' can be protected by covering canes during winter.

The most popular blackberries in Southeastern U.S. are the thorny, erect cultivars, 'Shawnee' and 'Cheyenne'. These are very productive with very large, high quality fruits. The new 'Navaho', an erect growing thornless cultivar with exceptionally fine flavored fruits, is being widely planted in home gardens.

RASPBERRIES

Raspberries, (red: *Rubus idaeus*, and black: *R. occidentalis*), are cool-season fruits and are best adapted to northern areas where summer temperatures are not extreme. 'Southland' and 'Dormanred' have shown good adaptation in parts of the South. The new 'Bababerry' is touted as a Southern-adapted red raspberry, but its potential has not yet been well defined. Some gardeners in the southern U.S. have had fair success with 'Heritage', particularly with its fall crop.

GRAPES

Recent releases of new table grapes, *Vitis labrusca* and hybrids, adapted to the Eastern U.S. have stimulated interest in both commercial and home-garden plantings. The seedless cultivars 'Venus', 'Reliance', 'Mars', and 'Saturn', from the Arkansas breeding program, are being widely planted in southern gardens. 'Orlando Seedless', from Florida, allows grape production in areas where Pierce's disease precludes the culture of most other cultivars.

Muscadine grapes, *Vitis rotundifolia*, are still popular garden fruits in the South. Many new cultivars with improved fruit qualities have been introduced in recent years. Muscadine grapes usually have fewer pest problems than do bunch grapes. Growers should be aware that some muscadine cultivars produce only female flowers and require a pollinator for fruit production.

SMALL FRUITS IN THE HOME LANDSCAPE

Small fruit and grape species can serve a dual purpose for the home owner: fruit production and enhancement of the home landscape. Shrub borders may be created with blueberries, blackberries, and raspberries. Single accent plants of blueberries in the landscape are attractive with their white, bell-shaped flowers in spring, clusters of blue fruit in summer, and red leaves in the fall. Strawberries and dwarf blueberries create attractive, fruit-producing ground covers, borders, or accent plants. Grapes can be trained into any desired configuration—from wall covers to overhead arbors to fence screens.

Many of the small fruits may be container-grown. Blueberries have a limited root system and may be grown in patio containers for several years. Strawberries may be successfully grown in almost any type of container, even window boxes for apartment fruit production. Two common methods of growing strawberries in small spaces for both fruit production and landscape beauty are the 'strawberry barrel' and 'strawberry pyramid'. In these systems, the growing plants cascade down the barrel or pyramid giving a living, green, fountain effect.

IMPORTANCE OF THE CULTIVAR

The most important decision a small-fruit gardener makes is the choice of cultivar since the future success of the planting depends, in large measure, on the cultivars used. Most small fruits are greatly influenced by such climatic factors as summer and winter temperature extremes, daylength, humidity, length of the growing season, and rainfall. Since cultivars vary greatly in response to climatic and soil conditions, growers should always ascertain which are adapted to their region before purchasing plants. Nurseries, too, should be prepared to recommend the best adapted cultivars to their customers.

PROPAGATION

Small fruits and grapes are easy to propagate: most can be propagated in more than one way. Strawberries are normally propagated in the field by digging daughter plants from matted nursery rows. Highbush blueberries are usually propagated by hardwood cuttings, although softwood cuttings readily root also. Rabbiteye blueberries root less readily from hardwood cuttings, so softwood cuttings are usually used. Erect, thorny blackberries readily produce plants from root cuttings, while trailing types are propagated by softwood cuttings or tip layers. Most red raspberries

produce plants from root cuttings while black raspberries tip layer. Both can be propagated from stem cuttings. Bunch grapes can be propagated from either hardwood or softwood cane cuttings. Muscadine grapes do not propagate well from hardwood cuttings so softwood cuttings or trench layers are commonly used.

Tissue-culture propagation shows promise for rapid multiplication of most small fruits. Caution should be observed, however, since possibilities of somaclonal variation in tissue culture can produce off-type plants. This has been especially observed in some strawberry cultivars.

With proper cultivar selection and reasonable care, small fruits can be productive and enjoyable additions to home gardens.