

The Southern Highbush Blueberry Plant

Blueberries are deciduous woody perennial crop plants that will live for 30 years or more. In colder climates, plants will lose their leaves and enter a winter dormant period. In mild winter climates, many low chill southern highbush- and rabbiteye-type blueberries will retain their leaves in an evergreen production system. The southern highbush blueberries are erect or open-spreading plants to 2 m (6 ft) high. The root system is fibrous and very superficial with no dominant tap root.

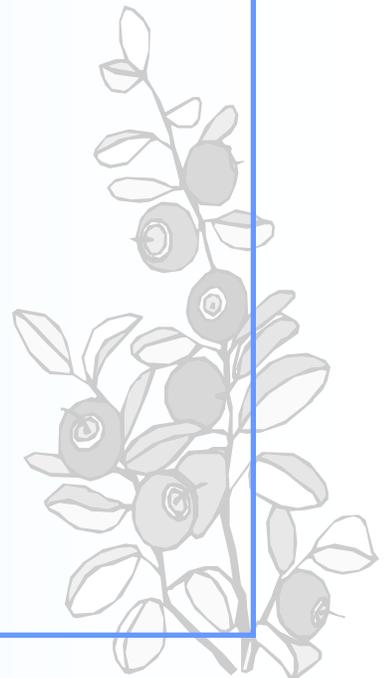


Fig. 1. Blueberry crown showing emerging canes and superficial fibrous root system.

Blueberries as a group are acid-loving, sensitive to soil pH, and inefficient at iron uptake. If grown in a soil environment where pH rises above 5.2-5.5, the plants will be pale and lack vigor due to pH-induced iron deficiency chlorosis. Blueberries are also intolerant of poor soil drainage and moisture stress. While established, older plants may tolerate moisture stress to some extent, moisture stress for even short periods will reduce plant vigor, fruit yield, and fruit quality.



Fig. 2. Leaf yellowing on new growth typical for pH-induced iron deficiency chlorosis.



Blueberry plants develop from a series of canes that emerge from the crown at the base of the plant from above ground or below ground branches. Management in the early years of a new planting is directed toward encouraging the development of a succession of new canes -

each taller and thicker than the previous cane. Selective, periodic pruning will encourage new cane development from more basal branches where larger, thicker canes emerge.

The plant freely branches from existing canes with smaller branches concentrated on the upper parts of emerged canes or renewed canes from the crown or below ground.



Fig. 3. Principal canes of blueberry plant emerge from the crown at the base of the plant.

Flowering and Fruit Development

Plants flower and fruit on older wood - from 4-6-month-old canes in mild growing areas with long seasons or - from the previous season's growth in colder areas. Developing buds on branches from older canes switch from a vegetative bud to a flower bud. Vegetative buds are small, narrow and flattened, while flower buds are round and more prominent. Plants flower first on the end of a flower cluster and develop downward. Flower clusters are typically 5-10 flowers per bud.



Fig. 4-5. Developing buds on older branches switch from a vegetative bud to a flower bud.

Normally, 65-75 days pass from pollination to harvest, but the timing varies with variety and is temperature-related and can extend days or weeks. Flowering and fruiting continues for 1-3 months depending upon variety and climate conditions.

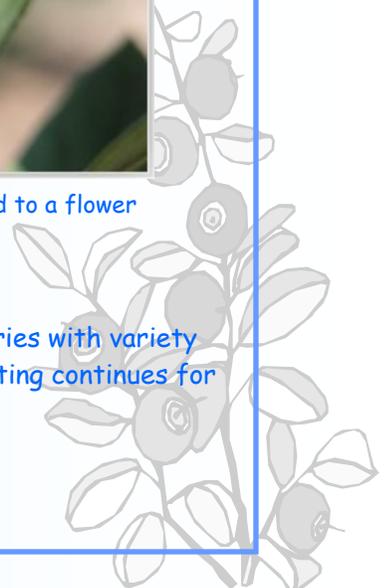




Fig. 7. Swollen flower buds transitioning to developing flowers.



Fig. 8. Blueberry flower buds transitioning up the stem to open flowers.



Fig. 6. Bees are essential for pollination of the large number of flowers needed for optimum production.

Management practices in the first 1-5 years are directed toward establishing a large plant structure on which to set fruit. The ideal shape is an open, cup-shaped interior that improves light and air distribution. And fertilization, pruning and other cultural practices are directed at developing that form.

