

Soils

Blueberries have specialized soil requirements, and although Florida has vast acreages of soils suitable for blueberries, there are many Florida soils on which blueberry cultivation should not be attempted. In some areas, suitable and unsuitable soils occur in close proximity and care must be used in choosing a site.

Blueberries require acid, well-drained soils. Soil pH should be in the range 4.0 to 5.2. If necessary, ask your county agent how to take a proper soil sample. Soil pH readings from a plot of land sometimes require interpretation in light of the past use of the land. Woodlands that have never been farmed or planted to improved pasture should not be used for blueberries if the pH is above 5.5. On the other hand, farm and pasture land which has been limed in the past may have an artificially high pH which can easily be lowered by addition of sulfur. A pasture with a pH of 6.5 may be separated by a barbed-wire fence from woodland with a pH of 4.0. In such a case, the pH of the pasture can usually be made suitable for blueberries if powdered sulfur is harrowed into the soil 6 months or more before the blueberries are planted. Soils high in phosphorus or calcium do not make good blueberry sites. Growers in Arkansas have found that blueberries grow poorly on soils with more than 2000 lbs per acre of available calcium.

Soil texture and moisture status are important considerations in choosing a site for a blueberry farm. Very coarse, droughty sands, such as those on which sand pines were native, should not be used for blueberries. Coarse sands that are slightly less droughty, such as those inhabited by the longleaf pine-turkey oak association, may be suitable for blueberries, but the timing of irrigation and fertilization are more critical on soils with such low water and nutrient-holding capacities. The sandy-clay soils found in parts of the Florida panhandle are excellent for blueberries if sufficiently acid, as they frequently are.

With respect to wetter soils, Florida has large areas of acid flatwoods, where surface soils are underlain at various depths by a hardpan layer. These soils can be excellent for blueberries if they are not too wet and if Phytophthora-resistant blueberry cultivars are planted. The best way to determine whether flatwood soils are too wet for blueberries is to examine them after a period of very wet weather. If the water table stays higher than 2 feet below the surface for longer than 24 hours after a heavy rain, the land is too wet. Sometimes such land can be made suitable for blueberries by digging

drainage ditches and planting the blueberries on beds, the height of which is determined by the wetness of the land.

Preparing Land to Plant Blueberries

After land has been located that is in the proper climatic zone and has a suitable pH and water status, it must be prepared for planting. What needs to be done depends on the condition of the land. Forest land must be cleared. It should be noted in land clearing that blueberries grow poorly where piles of wood have been burned in the previous 5 years because ashes raise the soil pH. On flatwood soils underlain by hardpan and on other poorly-drained soils, provisions must be made for drainage. These may include land leveling to eliminate low pockets where water settles and construction of drainage ditches. On soils that occasionally become too wet, beds should be prepared at least 1 foot high. It is critical that such beds be oriented to facilitate water runoff. Blueberries should not be planted on beds if drainage is no problem. Ditch digging, bed construction, and other operations that mix soil horizons may have an adverse effect on soil pH. Problems should not be severe if the pH was originally suitable, but high-pH spots caused by soil mixing should be treated with sulfur before planting.

Any necessary adjustments to soil pH should be made well before planting. Soil pH can be lowered by discing in powdered sulfur. As discussed earlier with respect to site selection, there are limitations on how far downward the pH can practically be adjusted. On soils that are naturally high in pH, the pH tends to rise back to its original level as the effects of the sulfur wear off. Blueberries should not be planted on such soils. Sulfur can be used effectively on soils that are naturally at 5.5 or lower and on soils that were acid in their native condition but have been limed.

The pH adjustment with sulfur should be done at least 6 months before planting, because the chemical reaction by which sulfur lowers the pH is slow. If the pH is 5.2 or lower, no adjustment should be made. Otherwise, the amount of sulfur to add is 1 pound per 100 square feet (500 pounds per acre) for every pH point above 5.2. The entire field should be treated without regard to where the rows will be. The soils should be harrowed after the sulfur has been broadcast to mix the sulfur with the top 4 inches of soil.

In addition to clearing the land and making any necessary provision for drainage and pH reduction,