

# Highbush Blueberries

## General Information

There are two types of blueberries grown in New England. Highbush blueberries (*Vaccinium corymbosum*) are discussed here. For information on lowbush blueberries (*V. angustifolium*, *V. myrtilloides*), contact David Yarborough at the University of Maine Cooperative Extension in Orono, Maine, Sonia Schloemann at the University of Massachusetts Extension in Amherst, Massachusetts, or William Lord at the New Hampshire Cooperative Extension in Durham, New Hampshire.

New England is considered the northern edge of the climatic zone in which highbush blueberries can be grown. As a result, a number of disease problems associated with cold stress, particularly the canker diseases, are more common here than in other blueberry growing areas. High soil acidity (low pH) and a relatively high organic matter are essential for

optimum production. Soils should be well-drained if wet. When these soil conditions are suboptimal, disease increases. Pruning out small twiggy wood and unproductive older canes is generally helpful in controlling fungus diseases on blueberries.

The blueberry has very specific soil requirements, dictated by its unique root structure. The blueberry root system is composed primarily of fine, fibrous roots near the soil surface. These fibrous roots lack root hairs, so the root system has a relatively low absorptive capacity. Blueberry roots are unable to penetrate compacted soils and have limited tolerance to excessively wet or dry soils. The shallow root system is sensitive to both high and low temperature extremes.

The ideal blueberry soil is a well-drained, yet moist sandy loam soil with a pH of 4.5 to 5.2. Soil organic matter levels should be augmented through the use of pre-plant green manuring and the addition of peat moss at planting. In addition, a permanent organic mulch (wood chips, bark, sawdust, pine needles) layer 3 to 4 inches thick is required to protect roots from high temperature injury in summer and cold temperature injury in winter as well as reduce moisture stress.

Fertilizer is generally applied in a split application, reducing the risk of root burn that can accompany a single large application. The first is applied at bloom and the second one month later. Since Nitrogen is generally the only nutrient needed, ammonium sulfate (21% N) or urea (45% N) are used as the principal fertilizers.

Table 24. Recommended optimal soil characteristics for growing blueberries.

Soil Characteristic	Desirable Range*
pH	4.5 - 5.2
Organic matter	4 to 7%
Phosphorus	20 - 30 ppm
Potassium	100-120 ppm
Magnesium	Base Saturation 3.0-5.0
	100-120 ppm
Calcium	Base Saturation 2.0-4.0
	800 - 1000 ppm
	Base Saturation 20-30

\*Desirable range will vary with soil type (sand, silt, or clay), soil organic matter, and pH.

Table 25. Amount of sulfur (in lb/100 sq ft)<sup>a</sup> required to lower soil pH for blueberries.

Present soil pH	DESIRED PH VALUE FOR BLUEBERRIES					
	4.5			5.0		
	Sand	Loam	Clay	Sand	Loam	Clay
4.5	0.0	0.0	0.0			
5.0	0.4	1.2	1.4	0.0	0.0	0.0
5.5	0.8	2.4	2.6	0.4	1.2	1.4
6.0	1.2	3.5	3.7	0.8	2.4	2.6
6.5	1.5	4.6	4.8	1.2	3.5	3.7
7.0	1.9	5.8	6.0	1.5	4.6	4.8
7.5	2.3	6.9	7.1	1.9	5.8	6.0

<sup>a</sup>To convert to lb/A, multiply by 435