Site Selection and Preparation for Highbush Blueberries
(*Vaccinium corymbosum*)

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Wild highbush blueberries have been growing in New England for hundreds of years. Cultivated Highbush Blueberries (Vaccinium corymbosum) are a relatively new crop for commercial operations in New England. They have limited adaptation to the cold winter temperatures of northern New England, but may grow satisfactorily on warmer, protected sites where the winter temperatures do not fall below -25 degrees F. Select a site that has the proper conditions for **sun, wind, and soil drainage**. Site preparation should begin at **least one year prior** to planting to properly amend the soil and control perennial weeds.

Site Selection: Site selection is an important part of Highbush Blueberry production. Choose a site that meets the following criteria.

Sun: Native Highbush blueberries are usually found as understory plants, however, the lack of sun decreases plant production. Choose a planting site with **full sunlight**. This means at least 6 hrs of direct sunlight. Blueberries can handle more sun if there is water available to support proper growth and fruiting.

Wind: Winter and early spring wind is very hard on fruit buds of blueberries. Blueberries set fruit buds during the previous growing season. If the fruit buds are exposed to extreme cold (below -25 degrees F) or wind, the fruit buds desiccate and die. Winter injury is a common cause of crop loss. Find a protected area or modify the site with a wind break to prevent winter injury.

Soil Drainage: Highbush blueberries prefer well drained soil. They do not like wet feet! Avoid heavy clay soils unless the soil is modified by adding significant organic matter such as peat moss, aged sawdust or compost. A gentle slope will help drain away excessive water and cold air. If possible, plant rows parallel or at an angle with the slope. Low sites are susceptible to poor drainage and early frost.

Site Preparation: Controlling perennial weeds and soil testing are the two most important factors in preparing a site for Highbush Blueberry production.

Weed Control: Perennial weed control is critical to the long term success of Highbush Blueberry production. To control perennial weeds, site preparation should begin at least one year prior to planting. Several strategies can be used to control perennial weeds: removal of the entire plant including the root system, cover crops, crop rotation and fallow periods with cultivation. Many perennial weeds have large root systems it may be necessary to remove a “second generation” of weeds later in the season. Planting a cover crop of oats, annual ryegrass, buckwheat, or rye can help control perennial weeds by increasing competition for resources. Fallow periods will allow annual seeds to germinate. Timely and minimal tillage in fallow periods will reduce the weed seed bank and perennial plants root energy. Perennial weeds are difficult to control in established perennial fruit crops. It is better to be patient and make sure weeds are controlled **BEFORE** planting the main crop.

Soil and Soil Amendments: Soil test, soil test, soil test!

Note: Soil tests are available through your local Cooperative Extension Office.

Have your soil tested to determine the pH and fertility status. Unlike many other garden crops, blueberries require a relatively acid soil for good growth. The soil pH should be within the range of **4.5 to 5.2**. Soils with a higher pH may require additions of finely ground sulfur or aluminum sulfate to lower the pH. Aluminum sulfate is not recommended for continual use. Soil aluminum levels may increase inhibiting the uptake of other plant nutrients. Soil pH changes slowly. It may take up to a year for the sulfur to lower the pH, another good reason to start preparing the soil at least a year prior to planting. Soil type influences the rate of sulfur application. Table 1 provides general recommendations of ground sulfur application rates for different soil types. These are general guidelines. A soil test is highly recommended for more precise application recommendations.

Table 1 – Pounds of ground sulfur/A to lower pH to 4.5
Adapted from the Highbush Blueberry Production Guide: NREAS 1992

pH	Sand	Loam	Clay
5.0	175	530	800
5.5	350	1050	1600
6.0	530	1540	2310
6.5	660	2020	3030
7.0	840	2550	3830

A low pH will also help control some weeds. Ground or prills sulfur is available from agricultural service providers.

Soil Organic Matter (SOM): The soil test will provide information about soil organic matter. Soil organic matter should be maintained at **2-4%** or higher. Growing and incorporating cover crops one or two years prior to planting will add valuable organic matter to the soil. Cover crops will also improve soil health and structure. Compost is also a good source of organic matter. Compost can be applied and incorporated prior to planting. Compost application rates vary widely from 10- 40 tons/acre. Over application of compost can lead to high soil phosphorous levels. Small amounts of compost can be added as a top dress every year. Animal manures may be used as a source of SOM but could introduce weed seeds into the planting.

Site selection and preparation are critical factors in the long term profitability of Highbush Blueberry Production. Soil testing is a major key to success. It is easier to amend the soil prior to planting a perennial crop than afterwards. Careful consideration and planning should be done BEFORE planting.

Resources cited:

Handley, David. 2008. Growing Highbush Blueberries, University of Maine Bulletin# 2253.

NAREAS Publication 2270. 1992. Highbush Blueberry Production Guide. 1992