Blueberries-Southern Highbush in Soil or Amended Soil (*Code* #133)

Soil Test Rating	Potassium			
	Low K Coast: 0-70 lbs/A Pied: 0-70 lbs/A	**Medium K** Coast: 71-120 lbs/A Pied: 71-150 lbs/A	**High K** Coast: 121-275 lbs/A Pied: 151-275 lbs/A	**Very High K** Coast: 275+ lbs/A Pied: 275+ lbs/A
Phosphorus	*Recommended Pounds N-$P_2 0_5$-$K_2 0$ per Acre*			
Low P Coast: 0-30 lbs/A Pied: 0-20 lbs/A	*-75-75	*-75-40	*-75-0	*-75-0
Medium P Coast: 31-60 lbs/A Pied: 21-40 lbs/A	*-40-75	*-40-40	*-40-0	*-40-0
High P Coast: 61-100 lbs/A Pied: 41-75 lbs/A	*-0-75	*-0-40	*-0-0	*-0-0
Very High P Coast: 100+ lbs/A Pied: 75+ lbs/A	*-0-75	*-0-40	*-0-0	*-0-0

Coast = Coastal Plain Pied = Piedmont, Mountain, and Limestone Valley

Recommendations:

Recommended pH:	Coastal Plain: 4.0 to 5.0 Piedmont: 4.2 to 5.2
Magnesium:	If soil test Mg level is low and lime is recommended, use dolomitic limestone; if soil test Mg is low and lime is not recommended, apply 125 pounds magnesium sulfate (Epsom salts) per acre.
Sulfur:	If soil pH is greater than 5.3, sulfur will be recommended to decrease soil pH to the sufficient range. If sulfur is applied prior to planting, apply the recommended amount at least six months before planting and mix it into the soil thoroughly to a depth of 6 to 8 inches. If sulfur is recommended for an established crop, apply broadcast no more than 300 pounds of sulfur per acre. Do not apply sulfur when the foliage is wet.
Important:	Read comments on Fact Sheet when preparing fertilizer recommendations.

Coastal Plain	Low: 0 - 60 lbs/acre	Medium: 61 - 120 lbs/acre	High: >120 lbs/acre
Piedmont	Low: 0 - 120 lbs/acre	Medium: 121 - 240 lbs/acre	High: >240 lbs/acre

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Fact Sheet:

If pH is less than 4, then 100 pound of lime per acre should be broadcast for every 0.1 pH increase that is desired to a maximum of 700 pounds per acre.

If the soil test calcium (Ca) level exceeds 900 pounds per acre or if the soil test phosphorus level is greater than 200 pounds per acre the site is not well suited for blueberries.

If soil organic matter is less than 3%, use liberal quantities of peat moss or milled or ground (fine) pine bark mixed with the soil when planting. Following planting, mulch heavily with pine bark, rotted pine sawdust, or pine straw if practical.

If soil test phosphorus (P) is less than 20 pounds per acre, apply 300 pounds of 0-46-0 per acre preplant and incorporate in the top 6 to 8 inches of soil to raise available P to a level needed by southern highbush blueberries.

Rooted cuttings with controlled release and slow release fertilizer
If rooted cuttings or plug plants are set, typically about a one teaspoon to one tablespoon of fertilizer per plant is applied at each application with two to four applications per year depending on if controlled release or slow release fertilizer is used. This is based on manufacturers' recommendations for a one gallon container. Some growers are using several applications of controlled release fertilizer per year with regular fertilizer applied monthly. Scatter the fertilizer evenly over a circle about 12 inches in diameter with the plant in the center. Increase amount of fertilizer as plants grow.

First Year After Planting for One-gallon Plants at Bud Break
Apply 1/2 ounce (1 tablespoon) of 10-10-10 per plant. Spread the fertilizer evenly in a circle 18 inches in diameter with the plant in the center. **Do not pile the fertilizer around the base of the bush because blueberries are sensitive and you can kill them.** Subsequent applications should be made every 4 to 6 weeks during the growing season when a total of at least four inches of rainfall or overhead irrigation has been received. Fertilize until September, and no later than six weeks before the normal first frost date in your area.

Per-Plant Applications for Second and Third Year Plants
If the plants have made **at least 18 inches of growth the first year**, increase the amount of fertilizer the second year to one tablespoon per application for rooted cuttings and 1 ounce (2 tablespoons) for the one gallon size plants at each application. Increase the area in which the fertilizer is applied to **at least a 24 inch circle with the plant in the center for rooted cuttings and 30 inches for one gallon plants**. Make the first application at bud break. Apply every 4 to 6 weeks during the growing season in which a total of at least four inches of rainfall or overhead irrigation has been received. Fertilize until September, but no later than six weeks before normal first frost date in your area. **Banded Applications** of fertilizer can also be used and are listed in Table 1. By year three, plants should be large enough for a banded application of fertilizer with minimum waste of fertilizer. Band the fertilizer in a strip four feet wide centered on the plant row.

Table 1. Maximum growth program with banded fertilizer application on southern highbush and highbush (pounds per acre). Base fertilizer type on soil tests. Band width is four feet.

Year in field	Between row spacing (feet)	10-10-10	12-4-8	14-28-14
1	10	90	75	64
	12	74	62	53
2 and 3	8	225	187	160
	10	180	150	128
	12	149	124	106

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Fertilizing southern highbush and highbush in soil, year four and after

Bearing southern highbush and highbush growing in soil require about 76-113 pounds of nitrogen per acre per year split into at least four to five applications beginning at bud break and ending in August or September about six weeks before the normal first frost date in your area. Apply about 25 to 38 pounds of nitrogen pre-harvest in spring depending upon distance between the rows (Table 2). It is best to apply one-half the spring fertilizer at early bud break and the second half of the spring fertilizer four weeks later. Starting immediately after harvest, apply about 17 to 25 pounds of nitrogen per acre (depending upon row spacing) every six weeks if you have received at least four inches of rain or irrigation between applications of fertilizer (Table 2). Apply phosphorus and potassium based on soil samples and leaf analysis. Have the fertilizer custom blended or select a common blueberry fertilizer for your fertilizer needs. On soils very high in organic matter (6% or more-rare in Georgia), significant nitrogen is released from the decomposition of the organic matter. On these soils, it may be necessary to reduce the amount of nitrogen applied to 60-80 pounds per year to control excessive plant vigor.

Table 2: Banded fertilizer application of bearing highbush blueberries (pounds/acre). Band width is four feet.

Row spacing	Fertilizer formulation			Time of application
	10-10-10	12-4-8	14-28-14	
8	375	311	268	**Pre-harvest** One-half at bud break and one-half four weeks later
10	300	250	214	
12	249	207	178	
8	250	208	179	**Post-harvest** Every six weeks until six weeks before normal first frost
10	200	167	143	
12	166	138	118	

Soils vary in their natural ability to supply the plant available forms of nitrogen (N). The N fertilizer recommendations given here for Southern Highbush are based on soils with 3 to 5% organic matter (OM). Soils with higher OM generally supply more N; therefore, less N fertilizer is needed on high OM soils. Likewise, be aware of conditions that may increase the need for additional N. On new plantings to which pine bark has been added (especially pine bark with white wood), additional N fertilizer may be needed to overcome N tie-up by bacteria. Sufficient nitrogen should be applied to grow good lateral fruit wood 5 to 8 inches in length. However, do not add too much nitrogen because it may lead to growth of highly succulent shoots that are susceptible to Botryosphaeria stem blight. In general, N should not be applied after early September in South Georgia or mid-August in North Georgia. Nitrogen fertilizer is used more efficiently if added through drip irrigation systems; therefore, recommended N rates may be reduced by about 20%. Because of these many complex factors, we recommend plant tissue analysis and grower observations as the most reliable guide for adjusting the rate of N fertilizer to apply. For more information on plant analysis, go to http://aesl.ces.uga.edu/publications/plant/.

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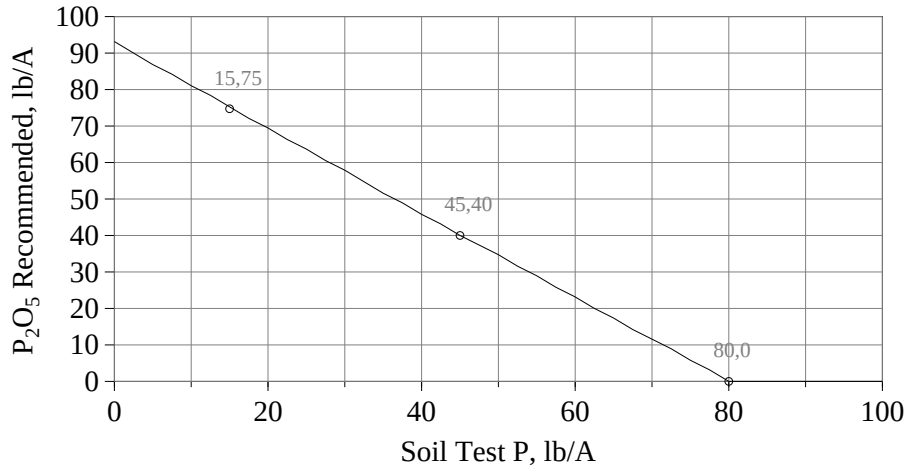
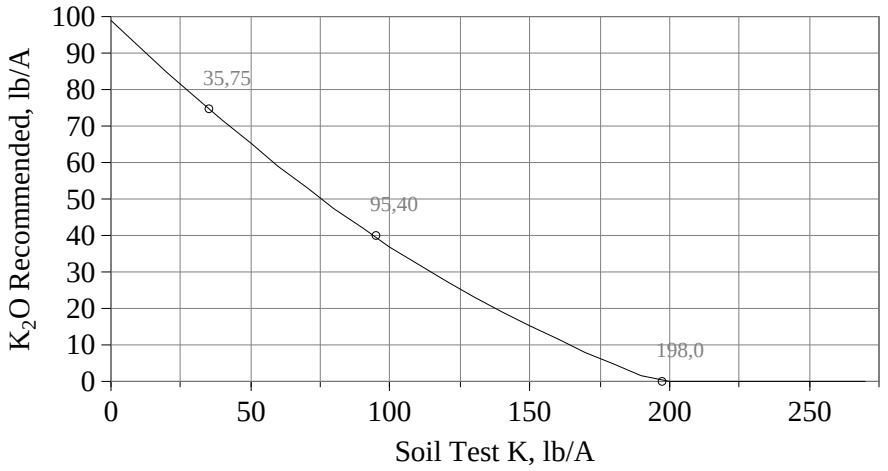
P Recommendations, Coastal Plain

$P_2O_5 = 93 - 1.189P + 0.00037P^2$



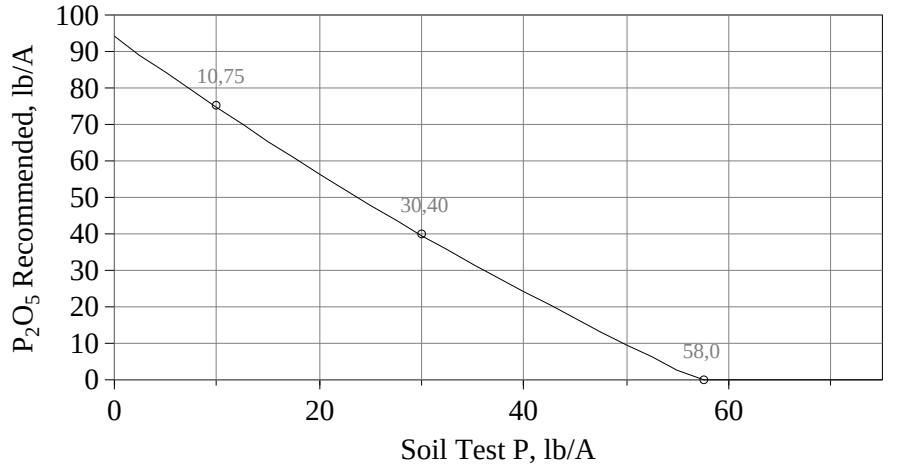
K Recommendations, Coastal Plain

$K_2O = 99 - 0.738K + 0.00119K^2$



P Recommendations, Piedmont

$P_2O_5 = 94 - 1.999P + 0.00622P^2$



K Recommendations, Piedmont

$K_2O = 93 - 0.529K + 0.00043K^2$