

Deciduous Shrubs

Management Highlights

- Target pH: 6.0
- Fertilize deciduous shrubs in late fall after plants become dormant or in early spring (February or March) before plants leaf out.
- Do not fertilize in late summer since it may stimulate succulent growth, which is subject to frost damage or winter-kill.

Introduction

Deciduous shrubs are woody plants that lose their leaves in the winter and include such plants as lilac, forsythia and cotoneaster. Often, these plants are grown for their flowers as well as their leaves. With proper management, these shrubs contribute greatly to the beauty of the landscape.

Soil pH and Liming

The target pH for deciduous shrubs on most Delaware soils is **6.0**. A lower target pH (**5.6**) is used on black, high organic matter soils (soil OM > 6%) since organic matter moderates some of the negative effects of soil acidity. The lime recommendation is calculated from the soil pH and buffer pH measurements using the steps outlined in *Calculating the Lime Requirement -- Chapter 4, Section 4.4*. Avoid overliming in order to encourage good plant growth and prevent deficiency of micronutrients such as iron.

In most cases, the lime requirement can be met by either calcitic or dolomitic limestone. *Dolomitic limestone* is recommended if:

- soil test Mg is less than 50 FIVs, or
- soil test Mg is between 50 and 100 FIVs *and less than soil test Ca.*

Calcitic limestone is recommended if:

- soil test Mg is greater than 100 FIVs, or
- soil test Mg is between 50 and 100 FIVs *and greater than soil test Ca.*

Recommended liming treatments should be applied in the fall. Do not spread more than 50 lbs lime/1000 square feet at a time. If more than 50 lbs/1000 square feet has been recommended, make two or more treatments of 40-50 lbs each several months apart until the full rate has been applied.

Nutrient Recommendations

Deciduous shrubs have similar nutrient requirements as deciduous trees, only in lesser amounts. Shrubs grown primarily for their flowers require less nitrogen than do other shrubs of similar size since nitrogen stimulates the growth of foliage and may inhibit flower production. Nutrient recommendations for deciduous shrubs are based on the nutrient requirements of the plant and the soil test values for P and K. To determine the nutrient recommendation for a specific site, select the **P-K Index Value** from Table 1 using the soil test P and soil test K values shown on the Soil Test Report Form. Next, using that index value, select the appropriate nutrient recommendation from Table 2, below.

Deciduous shrubs should be fertilized in late fall after plants go dormant or in early spring (e.g., February or March) before growth resumes. Applying nutrients at other times of the year may lead to fertilizer burn, if applied during hot weather, or stimulate succulent growth late in the season that will be highly susceptible to frost damage or winter-kill.

Table 1. P-K Index value as a function of soil test P and soil test K.

Soil Test K (FIVs)	Soil Test P (FIV)s			
	1 - 25	26 - 50	51 - 100	101 - 150
1 - 25	1	2	3	4
26 - 50	5	6	7	8
51 - 100	9	10	11	12
101 - 150	13	14	15	16

Table 2. Nutrient recommendations as a function of the P-K index value.

P-K Index Value	Nutrient Recommendation
1-16	Apply ½ cup 10-6-4 per square yard of soil surface beneath the shrub.
11, 12 15, 16	If the shrub is growing in a well-fertilized lawn area, routine lawn fertilization will meet the needs of the shrub.

Additional Information

See Soil Test Notes 1 and 13 (Appendix APP-7) Extension Bulletin #154: *The Care of Ornamental Plants -- Delaware Home Gardeners Manual* for additional information about nutrient management of deciduous shrubs.