

Table 1. Phosphorus fertilizer recommendations for field-grown, deciduous trees.

P Index Value									
0	10	20	30	40	50	55	60	65	0
----- lbs P ₂ O ₅ / ac -----									
250	225	200	150	100	83	75	63	50	0

High application rates of P, which are designed to correct low soil test P, will be most effective when broadcast and incorporated prior to planting trees. To adjust soil P after planting, use a complete fertilizer. However, when the soil test P value is greater than 65 FIVs, no P is recommended.

Potassium Management

The need for potassium (K) fertilization of field-grown, deciduous trees is best determined by the use of a routine soil test. Potassium recommendations are based on the the soil test K value and the K requirement of the crop. A summary of University of Delaware K rates for deciduous trees is given in Table 2 below.

Table 2. Potassium fertilizer recommendations for field-grown, deciduous trees.

K Index Value									
0	10	20	30	40	50	55	60	65	70
----- lbs K ₂ O / ac -----									
250	225	200	170	130	97	80	65	50	0

High application rates of K that are designed to correct low soil test K, will be most effective when broadcast and incorporated prior to planting trees. To adjust soil K after planting, use a complete fertilizer. However, when the soil test K value is greater than 65 FIVs, no K is recommended.

Calcium and Magnesium Management

Calcium and Mg needs of field-grown deciduous trees are usually met through routine liming. *Magnesium application is recommended if the soil*

test Mg value is less than 38 FIVs. If liming has been recommended, use dolomitic limestone to raise soil pH and increase soil Mg. If, however, liming is not necessary but Mg fertilization is still indicated, apply soluble Mg as Mg sulfate or Mg chloride to increase soil Mg. Appropriate application rates are given below in Table 3.

Table 3. Application rates for soluble Mg as a function of Mg fertility index value.

Mg Index Value								
0	5	10	15	20	25	30	35	40
----- lbs soluble Mg / ac -----								
80	70	60	50	50	30	20	10	0

Micronutrients

Manganese (Mn) and iron (Fe) deficiency may occur in deciduous trees grown on Delaware soils, most often as a result of overliming. Maintaining an appropriate soil pH will prevent deficiency in most instances.

Suspected micronutrient deficiency can be confirmed by tissue analysis. Confirmed Mn deficiency can be corrected in season by foliar applications of Mn of 1-2 lbs/ac of actual Mn as Mn sulfate, Mn oxide or Mn chelate. Iron deficiency can be corrected by foliar applications of chelated Fe at a rate of 1-2 lbs/ac of actual Fe.

Other Nutrients

No other nutrients are known to be limiting to field-grown, deciduous tree production in Delaware.

Additional Information

See Soil Test Notes 1 and 13 (Appendix 7) for additional information concerning nutrient management of field-grown, deciduous trees.

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