

**USDA-NATURAL RESOURCES CONSERVATION SERVICE
NOTICE OF RELEASE
OF
UNION GERMPLASM TULIP-TREE, *LIRIODENDRON TULIPIFERA* L.**

The United States Department of Agriculture, (USDA)-Natural Resources Conservation Service (NRCS), Plant Materials Center (PMC) at Elsberry, Missouri announce the release of Union Germplasm tulip-tree, *Liriodendron tulipifera* L., as “TESTED CLASS” for woodland revegetation, timber production, landscape and riparian areas.

Union Germplasm has been assigned the NRCS accession number 9055584.

Origin:

Union County, Illinois

Ecotype Description:

Tulip-tree is a large, deciduous, native tree, that attains, a height of 80-120 feet at maturity. It has a dark gray bark, which becomes thick and deeply furrowed. The alternate, long-petioled, deciduous leaves are of usual squarish shape, with 2-3 short pointed paired lobes on each side. Buds covered by the 2 coherent stipules which are also conspicuous on the growing shoot and envelop each successive leaf. The large showy cup-shaped flowers resembling tulips are borne singly at the end of new growth in the spring. They have 6 greenish and orange petals, many long stamens, and many narrow pistils on a long axes. The cone-like fruit is composed of many closely overlapping nutlets with long narrow wings, 2 or 1 seeded, which shed from the axis in autumn. Petals 6, in two rows, making a campanulate corolla. Anthers linear, opening outward. Pistils flat and squamelliform, narrow, imbricated and cohering in an elongated cone, dry, falling away whole, like a samara or key, indehiscent, 1-2 seeded in the small cavity at the base. Leaves are very smooth, with 2 lateral lobes near the base, and 2 at the apex, which appears as if cut off abruptly by a broad shallow notch; petals 5 cm. long, greenish yellow marked with orange; cone of fruit 7.5 cm. long.

Development:

Union Germplasm was selected out of a planting of one hundred and fifty (150) specimens of tulip-tree from a collection in Union County, Illinois planted on the plant materials center in field #1. After 20 years of comparative evaluations on the plant materials along with field plantings, this accession was selected based on the following characteristics: seedling vigor, rate of growth, seed production, insect and disease resistance, and form. This selection has been tested on various soil types and Major Land Resource Areas throughout the tri-state area being served by the Center. Plant performance has ranged from good to excellent. This tulip-tree prefers richer and well

drained soils. Tulip-tree occurs in rich woods of ravines, in upland woods and along streams and at the base of wooded bluffs. It ranges from Florida and Louisiana, north to Massachusetts, Vermont, New York, Ontario, Michigan, Indiana, Southern Illinois, and Missouri.

Seed Production:

Union germplasm was the best fruit producer of all the accessions included in this assembly. Average yield of fruit per individual tree ranges from 8-10 bulk pounds. It takes 10 to 15 years for new transplants to produce quantities of fruits.

This selection has approximately 14,500 clean seeds per pound. Average seed weight is 5.50 grams per 100 seeds.

Site Description:

This collection was made from a native stand located in Union County near Anna, Illinois. The collection was seed rather than plants; this seed was then planted in the plant materials center greenhouse and then later transplanted in field #1. This seed was harvested by R. A. Ruth.

Nursery Practice:

Untreated seeds may be sown in the fall, but stratified seeds must be used for spring sowing. Seeds may be broadcast at rates of 4 to 11 pounds per 400 square feet of bed space. Seeds also have been sown in rows 8 to 12 inches apart at a rate of 50 to 75 seeds per linear foot. Bed densities of 25 to 30 seedlings per square foot are recommended. The seeds should be covered with 1/4 inch of soil or 1/2 to 1 inch of sawdust. Shading for one to two months from the start of germination has been recommended.

Climate:

The average annual temperature for Union county Illinois 60 degrees Fahrenheit. July is the warmest month with an average high of 90 degrees and low of 72 degrees. January is the coldest month with an average high of 45 degrees and low of 30 degrees. The average annual precipitation for this region is 45 inches which is fairly uniformly distributed throughout the year. The average frost-free growing period runs from April 5 to October 30.

Availability of Plant Materials:

Breeders material is being produced by the Plant Materials Center, Elsberry, Missouri.

Release Approved By:

Roger A. Hansen, Missouri State Conservationist, NRCS
Chairman, Plant Materials Advisory Committee

Date: 10-9-97

William Gradle, Illinois State Conservationist

Date: 10-29-97

Leroy Brown, Iowa State Conservationist

Date: 10-21-97

References:

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