‘Prairie Shade’ Elm

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Since the urban population of American elms (Ulmus americana L.) was ravaged by Dutch elm disease fungus [Ceratocystis ulmi (Baum. (C. Moreau)], attention has focused on the development of disease resistant elm hybrids. The cultivars ‘Sapporo Autumn Gold’, ‘Urban’, and ‘Regal’ are highly resistant to Dutch elm disease [7, 8, 9]; however, they are extremely susceptible to the elm leaf beetle, (Pyrrhalta luteola Muller), because the susceptible Siberian elm Ulmus pumila L.) is a common parent (10). On the other hand, Ulmus parvifolia Jacq. (syn. U. sempervirens), U. chinensis Pers., sometimes listed incorrectly as the lacebark elm (syn. leatherleaf elm, Chinese elm) is highly resistant to Dutch elm disease and the elm leaf beetle (1, 2, 4, 10). Lacebark elm is native to central China, Japan, and Korea, is drought tolerant, and withstands the severe conditions often associated with urban sites (10). Like most other members of the genus Ulmus, lacebark elm is propagated by seed collected in the fall; however, Schopmeyer (6) indicated that less than 50% of the seeds are viable, and only 5% to 12% of the viable seed sown can be expected to produce salable trees. Four asexually produced cultivars, ‘Sempervirens’, ‘Drake’, ‘True Green’, and ‘Dynasty’ (5), currently sold provide improved consistency and quality.

Origin

‘Prairie Shade’ was one of 13 trees selected from about 800 seedlings planted in 1973. The 13 trees were selected for rapid growth, superior form, small leaf size, and freedom from anthracnose [Gnomonia ulmea (Schw.) Thum.] on new growth in early spring. Subsequent attempts to propagate these selections from cuttings revealed a difference in response. No cuttings were rooted from 3 selection, regardless of time of taking cuttings, auxin, or other propagation treatments. Five selections rooted less than 25% and were discarded. The 5 selections that rooted best were studied in detail by Hickman and Whitcomb (3). Using softwood cuttings taken on 5 May 1982, ‘Prairie Shade’ rooted 96% whereas the other 4 selections rooted from 86% to 68%. Differences also were observed in the subsequent growth of the 5 selections following rooting. ‘Prairie Shade’ was one of only 2 selections that have grown well and developed good tree forms following propagation from cuttings (Fig. 1). One-year-old plants from ‘Prairie Shade’ were superior to other selections propagated from cuttings.

Description

Rooted cuttings of ‘Prairie Shade’ have performed well since 1977 in both sandy bottomland and compacted upland clay soils. Initial growth rate of the rooted cuttings is moderate; however, during the 2nd or 3rd years, growth is generally 1 m or more per growing season. Growth form is upright at first, slowly becoming more spreading with age. Plants propagated by cuttings from the parent are now 7 years old, about 9 m tall, include a 6 m spread, and are 20 cm in stem diameter 15 cm above the soil line (Fig. 2). The irregular bark character develops slowly with only moderate flaking when branches are 5 to 7 cm in diameter. Leaves are smaller than typical for the species, dark green, and leathery.

‘Prairie Shade’ is resistant to anthracnose, which attacks about 40% of all seedling lacebark elms during a humid spring in central Oklahoma. Although this disease rarely affects larger trees, it causes sufficient damage and losses to make the production of lacebark elms from seed by nurseries questionable.

During the 1982 and 1983 growing seasons, 150 Siberian elms were grown adjacent to ‘Prairie Shade’. The Siberian elms were completely defoliated by elm leaf beetles both years while ‘Prairie Shade’ was not injured. Damage to ‘Prairie Shade’ from spring canker worm, Paleacrita vernata, has been minimal, probably because of the leathery leaf character and early maturity of the leaves relative to the emergence of the insect. By contrast, spring canker worms have defoliated several other adjacent lacebark elm selections on several occasions.

During the severe winter of 1983–84, ‘Prairie Shade’ was not injured at temperatures of −22°C on 23 Dec. and −35° on 14 Jan. By contrast, specimens of ‘Sempervirens’ and ‘Drake’ were severely injured. A specimen of ‘True Green’ was killed in 1980 at a temperature of −20°C.

Specimens of ‘Prairie Shade’ have performed well in Lubbock, Texas; Guymon, Okla; and Dodge City and Manhattan, Kan. To date, no wind or ice damage has occurred to any of the specimens. On 22 Apr. 1984 the 7-m specimen in Manhattan, Kan., was bent to a height of only 2 m during a severe ice storm without breakage and with complete recovery.

Propagation

‘Prairie Shade’ can be propagated under intermittent mist from softwood cuttings taken as soon as the spring growth is 10 to 14 cm long and the basal leaves are approaching full size. In central Oklahoma, this growth stage is early to late May, depending on the season. In general, both rooting and subsequent growth is better in a medium of peat and perlite compared to those containing ground pine bark (3, 5). No rooting hormone is necessary with early softwood cuttings; however, rooting hormones are beneficial with semihardwood cuttings (3).

Availability

Stock plants of ‘Prairie Shade’ will be maintained at the Oklahoma State Univ. Nursery. Rooted cuttings will be available for distribution in the summer or fall of 1985 or on request.

Literature Cited

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‘Dr. Magie’ Gladiolus

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‘Dr. Magie,’ a gladiolus (Gladiolus × hortulanus L.H. Bailey) with salmon-pink florets, was released in 1983 by the Univ. of Florida. It combines good cut-flower characteristics, such as straight spikes, floral bud count of 18–20, and the tendency to open from the ‘tight-bud’ stage, with tolerance to Fusarium oxysporum Schlect. f. sp. gladioli Synd. & Hans. Fusarium, expressed as either a corm or root rot, is one of the major diseases of gladiolus grown in Florida and has led to the demise of many successful gladiolus cultivars, including ‘Picardy,’ ‘Spic & Span,’ and ‘Friendship.’ ‘Dr. Magie’ performed well in the North American Gladiolus Council trial gardens, which included 8 locations in the United States and 2 in Canada.

Origin

‘Dr. Magie,’ developed and evaluated as W-336, is a selection made in 1974 from a 1972 cross between 2 seedlings derived from the breeding program at the Agricultural Research and Education Center in Bradenton, Fla. (Fig. 1). The seed parent (GC-093) was a selection from a cross between 2 commercial cut flower cultivars, ‘Wild Rose’ and ‘Friendship.’ ‘Wild Rose’ was used because it produces tall spikes with 18 to 20 florets and exhibits good Fusarium tolerance. ‘Friendship’ was the major cut-flower cultivar grown in 1972 (up to 30% of total acreage). It possesses the quality of opening well from tight bud after shipment and has extended fibrous and contractile root system.

‘Dr. Magie’ was similar to ‘Florida Flame,’ planted 15 cm deep in Myakka fine sand, produce 7 to 8 leaves up to 85 cm and 3.8 cm wide prior to flowering. Foliage is 4 to 5 cm wide at the soil surface and is medium green with slightly darker veins. Sepal color in the lowest floret is visible 75 to 80 days from planting in central Florida in the fall (September to October) and 80 to 85 days from planting in the winter (February to March). Maximum spike length, in tight bud stage, is 130 cm, and spike diameter at the base of the flowerhead is 1.0 cm. Spikes are straight, strong and upright in the field, even with 5 to 6 florets open. Florets number from 16 to 20 on 48 cm to 50 cm flower-heads and are arranged in a close alternating display. Five to 7 florets are open at one time in the field with 4 to 5 floral buds showing color.

The triangular florets (Fig. 2) are 12 to 13 cm in diameter with light substance and waved petal margins. Sepals and the 2 lateral petals are medium salmon on the margins, diffusing to light salmon toward the midribs, and the floral buds are a medium salmon. The lower petal is modified into a lip of medium salmon with the basal half cream. Anther color is light pink dorsally and medium rose ventrally. The stigma is light pink and is attached to a cream style. Spikes are light green and each floret is enclosed with 2 medium green spathe valves. Classification number of ‘Dr. Magie’ is 435 according to standards of the North American Gladiolus Council.

Corms are bright yellow with a light brown husk when dug and turn buff-orange with a darker brown husk when cured. Corms are slightly crowned with a vertical axis about one-half the horizontal axis. A medium number (30 to 40) of uniform size cormels (0.6 to 1.0 cm diameter) form at the base of the corms. Cormel husks are intact, smooth, and medium brown. Corms produce a very extensive fibrous and contractile root system.

Flower, corms, and cormel production of ‘Dr. Magie’ has been compared to ‘Florida Flame’ and ‘Jessie M. Conner,’ 2 recent introductions from the Univ. of Florida, and to several cultivars used commercially for cut flowers in Florida. Yield comparisons during the spring seasons of 1980 and 1981 (Table 1) indicated that spike production of ‘Dr. Magie’ was similar to ‘Florida Flame,’ a red cut flower, and was better than the...