REGISTRATION OF CULTIVARS

Registration of ‘Sunbeam’ Ornamental Hop

‘Sunbeam’ (Reg. no. CV-20, PI 586658), an ornamental hop (Humulus lupulus L.) with attractive lemon-yellow foliage of particular interest to the ornamentals industry, was released by the USDA in December 1994. Sunbeam is a female cultivar with a reddish main stem, which provides an attractive contrast to the yellow foliage and yellowish-green cones that develop on sidearms in mid- to late summer.

‘Sunbeam’ (USDA Accession no. 21697) originated from a 1990 cross between the diploid virus-free selection Saazer 38 (USDA 21522) and a tetraploid Hallertau mittelfrüh-derived aroma male (USDA 21617M). About 3 wk after pollination, when all receptive florets were thought to be fertilized, pollinating bags were removed to permit normal development of the flowers. However, some basal florets apparently were still receptive and open pollination from adjacent yellow-leaved diploid males selected in 1975 from a seedling progeny of the cultivar Comet (USDA 62013) resulted in the apparent transfer of the yellow leaf pigmentation. Comet itself has a yellowish-green leaf color which was inherited from its parent (USDA 19120), a seedling of the English cultivar Sunshine (2). No other source of yellow leaf color has ever been reported in hops. Sunbeam is a diploid (2n = 2x = 20), which further supports the assumption of open pollination. It is a half-sister of ‘Bianca’ (3), but differs from it by its more intense stem coloration, lower alpha acids content, and somewhat lower cone production.

Sunbeam was observed as a single plant for 4 yr in an aroma hop breeding nursery near Corvallis, OR. It grew vigorously in early spring and reached the top of the trellis (5.5 m) at approximately the same time as other hops growing nearby. The foliage remained bright yellow throughout the spring and early summer, but showed some burning in mid- to late summer in direct sunlight, probably due to insufficient protection by reduced chlorophyll pigmentation in the leaves. In semishade or in the greenhouse, leaves remained attractive and undamaged throughout the growing season. Sunbeam has brownish to pink-colored stems throughout the growing season, which contrast nicely to the yellow lemon-colored foliage. Plants mature early to medium early (about 25 August in western Oregon) and have moderate yield potential. The cones are of medium size (about 150 to 220 mg air dry) and golden to light yellow throughout the spring and early summer, but showed some burning in mid- to late summer in direct sunlight, probably due to insufficient protection by reduced chlorophyll pigmentation in the leaves. In semishade or in the greenhouse, leaves remained attractive and undamaged throughout the growing season.

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Sunbeam has remained free of major hop viruses during four growing seasons near Corvallis, OR. Some downy mildew infection [caused by Pseudoperonospora humuli (Miyabe & Takah.) G.W. Wils.] was noticed on basal shoots early in the spring, but was controlled with fungicides registered for use on hops. No systemic downy mildew crown infection has been observed in field observation plots. Verticillium wilt [caused by various Verticillium species] has never been observed to date.

The reduced leaf chlorophyll content makes Sunbeam sensitive to intense sunlight in midsummer, which may cause some leaf burn. To maintain the attractive foliage throughout the growing season, Sunbeam should be grown in a semishaded location. Although not recommended for commercial production, Sunbeam produces cones that could be harvested and used for brewing. The aroma and flavor potential is similar to that of choice European aroma hops, traits probably inherited from its maternal parent, the Czech aroma hop Saazer. Virus-free plants of Sunbeam have been deposited in the National Plant Germplasm System at the USDA Pacific Northwest Clonal Germplasm Repository, Corvallis, OR, for permanent maintenance. The material described in this notice is available for testing and research purposes, including development and commercialization of new cultivars.

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References and Notes


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Registration of ‘Bianca’ Ornamental Hop

‘Bianca’ (Reg. no. CV-21, PI 586659), an ornamental hop (Humulus lupulus L.) with attractive lemon-yellow foliage of particular interest to the ornamentals industry, was released by the USDA in December 1994. Bianca is a female cultivar with a brownish-pink stem, attractive pale green to yellow foliage, and yellowish-green cones developing on sidearms in mid- to late summer.

Bianca (USDA Accession no. 21608) originated from a 1990 cross between the diploid virus-free selection Saazer 38 (USDA 21522) and a tetraploid Hallertau mittelfrüh-derived aroma male (USDA 21617M). About 3 wk after pollination, when all receptive florets were thought to be fertilized, pollinating bags were removed to permit normal development of the cones. However, some basal florets apparently were still receptive, and open pollination from adjacent yellow-leaved diploid males selected in 1975 from a seedling progeny of the cultivar Comet (USDA 62013) resulted in the apparent transfer of the yellow leaf pigmentation. Comet itself has a yellowish-green leaf color, which was inherited from its parent (USDA 19120), a seedling of the English cultivar Sunshine (2). No other source of yellow leaf color has ever been reported in hops. Bianca was observed as a single plant for 4 yr in an aroma hop breeding nursery near Corvallis, OR, where it grew vigorously in early spring and reached the top of the trellis (5.5 m) at approximately the same time as other hops nearby. The foliage remained bright yellow throughout the spring and early summer, but showed some burning in mid- to late summer in direct sunlight, probably due to insufficient protection by reduced chlorophyll pigmentation in the leaves. In semishade or in the greenhouse, leaves remained attractive and undamaged throughout the growing season.