

REGISTRATIONS OF CULTIVARS

Registration of 'Odyssey' Kentucky Bluegrass

'Odyssey' Kentucky bluegrass (*Poa pratensis* L.) (Reg. no. CV-64, PI 599226) is a turf-type cultivar released in August 1996 by Simplot/Jacklin Seed, Post Falls, ID. The experimental designations for Odyssey were 91-1561 and J-1561.

Odyssey originated as a highly apomictic, single-plant selection from hybrid cross number 89-1037, made in the field at Post Falls in July 1989. Pollen from 'Midnight' (Meyer et al., 1984) was used to pollinate plants of 'Limousine' (Alderson and Sharp, 1994). Seed harvested from the Limousine mother plants were individually sown into cells of greenhouse flats during the spring of 1990 and later transplanted to a spaced-plant field nursery of 33 500 plants. Offspring with characteristics dissimilar to Limousine were flagged during maturation in the spring of 1991. Plant number 91-1561 was identified as being different from Limousine by its panicle shape and color. It produced 30 g of seed from a single spaced plant, which is twice the seed typical for a bluegrass spaced plant in North Idaho. Seed harvested from this plant was used to establish a turf trial in September 1991, a replicated seed yield trial in August 1992, and a U.S. Plant Variety Protection (PVP) trial in June 1994, near Post Falls.

Odyssey is most similar to 'Impact' (PI 599225), which was developed from the same cross. However, it can be differentiated from Impact on the basis of eight botanical traits, as recorded in Odyssey's PVP application. These traits include a greater culm length, greater length of the lowest internode in the panicle, and more branches at the lowest panicle node.

Progeny evaluated in a 1994-1995 spaced-plant nursery had a level of apomixis sufficient for commercial seed production. A survey of 1928 plants of Odyssey showed that 1.74% of plants were variants in the vegetative (pre-flowering) stage, 0.39% were heading maturity variants, 0.95% seedhead variants, 0.21% miniature plants, and 0% were headless plants. Some variants exhibit high susceptibility to powdery mildew (caused by *Erysiphe graminis* DC. ex Merat); these plants tend to have wider leaves and dissimilar seedheads, but culm lengths comparable to the majority plant form. Approximately 1 to 2% of plants are variants with a very short culm and very late maturity. Approximately 1 in 1000 plants are a taller-growing, "common-type" variant with light-colored seedheads extending approximately 10 cm above the majority culm length. Aberrant progeny are rogued from seedstock fields to ensure continued uniformity and stability, but they will continue to occur in every generation. The mean spaced-plant apomixis rate of Odyssey is 95%, but varies $\pm 5\%$ depending upon year, location, and weather.

Odyssey ranked eleventh out of 103 entries for turf quality in the 1995 National Turfgrass Evaluation Program (NTEP) trials for Kentucky bluegrass (Morris, 2000). Odyssey ranked among the top 10 entries in spring, summer, and fall shoot density; dark-green genetic color; fall ground coverage; tolerance to low mowing heights (13-25 mm); and turf quality at seven locations mowing above 53 mm. Odyssey showed improved resistance to drought (dormancy), leafspot, and melting out [caused by *Drechslera poae* (Baudys) Shoem], necrotic ring spot (caused by *Leptosphaeria korrae* J. Walker and A.M. Smith), and summer patch (caused by *Magnaporthe poae* Landschoot and Jackson) disease. In 5 yr of commercial seed production, Odyssey has demonstrated the potential for

high yields of quality seed, relative freedom from ergot [caused by *Claviceps purpurea* (Fr.) Tul.], and no adverse reactions to labeled Kentucky bluegrass pesticides.

Odyssey is recommended for golf course tees, fairways, and roughs, and for lawns, parks, and sports turf, in full sun or some shade, in areas where Kentucky bluegrass is well adapted for turf. It is compatible in blends and mixtures with other cool-season turfgrasses.

Breeder seed, first harvested in 1995, is maintained by Simplot/Jacklin Seed. Seed propagation is limited to one generation of increase for Foundation, Registered, and Certified seed. U.S. PVP application no. 9700386 has been filed for Odyssey.

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Simplot/Jacklin Seed, West 5300 Riverbend Ave., Post Falls, ID 83854-9499. Registration by CSSA. Accepted 30 Sept. 2001. *Corresponding author (dbrede@simplot.com).

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Registration of 'Scantic' Broadleaf Tobacco

'Scantic', a Connecticut broadleaf cigar wrapper tobacco (*Nicotiana tabacum* L.) (Reg no. CV-122, PI 619163), was developed with resistance to Fusarium wilt [caused by *Fusarium oxysporum* Schlechtend.:Fr. f. sp. *nicotianae* (J. Johnson) W.C. Snyder & H.N. Hans.] by the Connecticut Agricultural Experiment Station and released in 2001. This cultivar is adapted to the Connecticut River Valley of Connecticut and Massachusetts, and allows broadleaf tobacco production in soils heavily infested with the Fusarium wilt pathogen. Yields and sorting quality of Scantic are equal to or better than the current standard wilt-resistant cultivar C9 or similar wilt-susceptible cultivars.

Scantic is an inbred derived from a bulk system of modified single seed descent. The F₂ generation of an equally represented composite of three crosses between wilt-susceptible Connecticut broadleaf tobacco lines and the tobacco mosaic virus (TMV)-resistant, wilt-resistant cultivar C2 (C2 × 'Winn'; C2 × 'Gogulski'; and C2 × 'Gradowski') was selected for resistance under greenhouse and field conditions. One thousand seedlings of the F₂ composite were each inoculated with 1.0 × 10⁷ microconidia of *F. oxysporum* in greenhouse trays. Twenty-five of the most resistant and vigorous seedlings were selected and selfed. Following initial selection, F₃ to F₈ progeny were planted annually into field plots naturally infested with high levels of *F. oxysporum*. Twenty-five superior wilt-resistant plants of approximately 1200 individuals were selected and selfed, and the seed was bulked each generation. Plants were also selected for reduced sensitivity to weather fleck

caused by ozone. Twenty superior F_8 inbred lines were selfed in 1993 and evaluated as inbred lines in 1994 and thereafter.

Scantic (evaluated as line A-7 in commercial field trials) was selected as an advanced inbred. Scantic is susceptible to TMV. Agronomic characteristics and cured leaf quality were evaluated in both experimental plots and under commercial conditions. Yield and sorting characteristics of Scantic were compared to the wilt-resistant standard C9 on a commercial farm at South Windsor, CT, in 1995, 1997, and 1998. Plants were topped at approximately 1 m in height and stalk cut approximately 65 d after transplanting. Averages of 12 cured leaves per plant were commercially graded into one of six grades representing wrapper, binder, or filler quality. The percentage of the total yield in each grade was determined and value per hectare calculated. Cured leaf weight per hectare averaged 9.9% higher in each year and percent wrapper grades were higher for Scantic in two of the three years. As a result, economic return per hectare for Scantic was significantly higher (averaging more than 25% higher) than for C9 during the three years. In 1999, an additional commercial field trial in Whately, MA, determined that Scantic had 14.5% higher weight per hectare than C9 and that 64.6% of the cured leaves of Scantic were wrapper quality, while 25% were binder and 10.4% were filler.

Leaf yield, wilt incidence, and wilt severity were determined in field plots at the Connecticut Agricultural Experiment Station Valley Laboratory in 1996. Scantic, C9, and the wilt-susceptible cultivar Gogulski were compared in *F. oxysporum*-infested or noninfested soils. Each cultivar was transplanted to six replicate, two-row plots of 20 plants per plot in each *F. oxysporum*-infested or noninfested field. Plants were rated for disease incidence (number of 20 plants symptomatic) and severity (rated on a scale of 0–4 where 0 = healthy and 4 = dead) on 5 Aug. 1996. Ten plants per plot were harvested on 16 Aug. 1996 and cured. Wilt incidence and severity were low (less than 1%) for both Scantic and C9, and Gogulski was severely affected (17.0% incidence). Scantic resulted in over 20% yield increases in comparison to C9, regardless of whether soils were infested with the pathogen or not. Yield increases over the susceptible cultivar were approximately 5% in the absence of disease and more than 600% in *F. oxysporum*-infested soil.

Resistance to *F. oxysporum* is quantitatively inherited (Gritton et al., 1965). Wilt expression on wilt-resistant plants is often mild and plants often outgrow early symptoms (LaMondia and Taylor, 1987). Wilt severity was not significantly different for Scantic and C9, but was much greater for the wilt-susceptible Gogulski tobacco. Wilt-resistant tobacco, while not providing a means of eliminating the pathogen from soil, continues to allow the successful production of broadleaf tobacco in fields infested with *F. oxysporum* (LaMondia and Taylor, 1991). C9 has been widely grown in *F. oxysporum*-infested soils. Scantic is an additional Fusarium wilt-resistant cultivar available for commercial production with the advantage of increased cured weight yield per acre compared with C9.

Breeder seed of Scantic will be maintained and distributed by the Connecticut Agricultural Experiment Station Valley Laboratory, 153 Cook Hill Rd., Windsor, CT 06095. Limited quantities of seed are available to growers and scientists.

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Registration of 'PA8649-95' Barley

'PA8649-95' winter barley (*Hordeum vulgare* L.) (Reg. no. CV-294, PI 613538) was developed by the Pennsylvania Agricultural Experiment Station and released in 1999 for brand labeling. PA8649-95 combines high grain yield with high test weight, midseason maturity, and medium plant height. PA8649-95 winter barley was derived from a bulk population provided in 1979 by T.M. Starling of the Virginia Agricultural Experiment Station. The pedigree of the bulk population was 'Harrison'/3/'Cebada Capa'/'Wong'//Awnleted 'Hudson' sel/4/'Hanover'/'Jefferson'/'Barsoy'. PA8649-95 traces to a single head selection made in the F_0 generation in 1985.

PA8649-95 was evaluated in state grain yield trials from 1994 to 1998 and in elite experimental line trials from 1990 to 1994 in Centre and Lancaster Counties, Pennsylvania. It was also evaluated in the USDA Uniform Winter Barley Yield Nursery at 16 locations in 1995 and 17 locations in 1996. PA8649-95 was evaluated in the USDA Uniform Barley Winterhardiness Nursery in 1995 and 1997.

In state trials in Centre County, average grain yield of PA8649-95 from 1994 to 1998 was 6289 kg ha⁻¹, which was 4% better than that of 'Pennco', 8% better than that of 'Pennbar 66', and 11% better than that of 'Nomini'. In Lancaster County, grain yield of PA8649-95 was 6773 kg ha⁻¹, which was 4% better than that of Pennco, 9% better than that of Pennbar 66, and 14% better than that of Nomini. Average bushel weight of PA8649-95 is 620 kg m⁻³, which is comparable to that of Pennbar 66 and better than Pennco by about 3 and 6% in Centre and Lancaster Counties, respectively. Plant height and maturity are comparable to that of Pennbar 66 and Pennco. Over all locations in the USDA Uniform Winter Barley Yield Nursery, PA8649-95 ranked third for grain yield in both years and yielded 4225 kg ha⁻¹ in 1995 and 4757 kg ha⁻¹ in 1996, which was comparable to 'Wysor' in 1995, but 18% better than Wysor in 1996.

PA8649-95 is a winter, six-rowed, rough awned, hulled feed barley with medium height and medium maturity. The plants are semiprostrate and deep green in the fall. Spikes are seminodding at maturity; stem neck is straight and slightly curved at maturity. The distance from the flag leaf to spike averages 17 cm. The peduncle length ranges from 31 to 39 cm. The flag leaf is held predominantly upright and the penultimate leaf averages about 16 mm in width and 18 cm in length. Basal leaf sheaths are pubescent and anthocyanin is absent. The rachis is tough and covered with hair; the collar is closed. Basal rachis internode is short and straight. Kernel lemmas are slightly wrinkled; rachilla hairs are long. Lemmas are yellow at