

Registration of 'Rollo' Barley

'ROLLO' SPRING BARLEY (*Hordeum vulgare* L.) (Reg. no. CV-240, PI 556999) was developed at the Utah Agricultural Experiment Station and released in March 1991. It was selected at Logan, UT, in 1984 as an F_6 -derived line from a single F_5 head selected in 1983, from the cross 'Bracken'/UT75B65-532 (ID633019/'Woodvale') made in 1979. ID633019 is a six-row breeding line from the cross CI9196/CI10119/'Traill'. Segregating generations (F_2 - F_5) were grown in space-planted modified bulk populations and desirable plants were selected each year from 1980 through 1983. Rollo was yield-tested in Utah as UT84B417-1075 beginning in 1985 and in the Western Regional Spring Barley Nursery (1988 and 1989) as UT 1075. Breeder seed was produced in a 1988-1989 winter increase at Yuma, AZ, from 200 head rows. Off-type rows were

discarded and remaining rows were harvested in bulk. Foundation seed was produced at Logan, UT, in 1989.

Rollo is a six-rowed, midseason, erect growing, spring feed barley. It has a strap shaped, erect head with little or no overlap of the lateral kernels, and sparse hairs on the rachis edges. It has waxy leaves and head. Immature plants have a distinctly purple upper node. Glumes are long, with hairs restricted to the middle, and have medium-to-long, semi-smooth glume awns. Lemma awns are long and semi-smooth and have distinctly purple tips prior to maturity. Stigmas are lightly feathered. The seed is covered, midlong, slightly wrinkled, with long rachilla hairs, and a transverse crease at the base. Aleurone color is white and 1000-kernel weight averages ≈ 44 g. The base of the spike is marked by a closed collar.

Compared to 'Steptoe', Rollo heads ≈ 3 d later, is equal in test weight and is ≈ 1 cm shorter. Rollo has stronger straw (30 vs. 51% lodging for Steptoe in 17 station-year average). Twenty station-year average grain yields of Rollo exceeded those of Steptoe, presently the most widely grown barley cultivar in Utah, by $\approx 4\%$ (6748 vs. 6478 kg ha⁻¹) in Utah irrigated tests and by $\approx 5\%$ (5260 vs. 5000 kg ha⁻¹) in 38 station-year Western Regional Spring Barley tests; yields of Rollo exceeded those of the long-time check cultivar, 'Trebis', by 40 and 26%, respectively, in the same tests. Rollo was slightly lower than Steptoe in protein (10.98 vs. 11.36%) in 16 station-year Utah tests. Rollo has shown field resistance to barley loose smut [caused by *Ustilago tritici* (Pers.) Rostr.] and covered smut [caused by *Ustilago hordei* (Pers.) Lagerh.], and moderate resistance to powdery mildew [caused by *Erysiphe graminis* DC. f. sp. *hordei* Em. marchal]. Its reaction to other diseases is not known. Rollo is recommended for growing under irrigation only.

Rollo was named after the late Dr. Rollo W. Woodward, long-time USDA barley breeder located at Utah State University.

The generation sequence of seed production of Rollo is breeder, foundation, registered, and certified. Rollo is protected under the Plant Variety Protection Act, Public Law 91-577, and Title V of the Federal Seed Act. Breeder seed is maintained by the Utah Agricultural Experiment Station, Department of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322-4820. Foundation seed is available from the Utah Crop Improvement Association, Utah State University, Logan, UT 84322-4855.

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References and Notes

1. Dept. of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322-4820. Contribution of the Utah Agric. Exp. Stn., Journal Paper no. 4408. Registration by CSSA. Accepted 30 April 1993. *Corresponding author.

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Registration of 'Walker' Barley

'WALKER' SPRING BARLEY (*Hordeum vulgare* L.) (Reg. no. CV-242, PI 557000) was developed at the Utah Agricultural Experiment Station and released in March 1991. It was selected at Logan, UT, in 1981 as an F₆-derived line from a single F₅ head selected in 1980, from the cross 'Steptoe'/M27 (a short stature breeding line involving the parents 'Jotun', 'Kindred' and 'Vantage') (1) made in 1976. Segregating generations (F₂-F₅) were grown in space-planted modified bulk populations and desirable plants were selected each year from 1977 through 1980. Walker was yield-tested in Utah as

UT81B306-1731 beginning in 1982 and in the Western Regional Spring Barley Nursery (1986 and 1988) as UT 1731. Breeder seed was produced in a 1988-1989 winter increase at Yuma, AZ, from 200 head rows. Off-type rows were discarded and remaining rows were harvested in bulk. Foundation seed was produced at Logan, UT, in 1989.

Walker is a six-rowed, midseason, erect growing, spring feed barley. It has a tapering, erect head with little or no overlap of the lateral kernels, and profuse hairs on the rachis edges. It has waxy leaves and head. Glumes are long, covered with short hairs, and have medium-to-long, rough awns. Lemma awns are long and rough with hair present and numerous teeth. Stigmas are heavily feathered. The seed is covered, long, semi-wrinkled, with short rachilla hairs, and a slight crease at the base. Aleurone color is white and 1000-kernel weight averages ≈ 39 g. The base of the spike is marked by a V-shaped collar.

Compared to Steptoe, Walker is equal in heading date, roughly 4 cm taller (≈ 88 vs. 92 cm) but has much stronger straw (11 vs. 51% lodging for Steptoe in 17 station-year average). Grain yields of Walker equaled those of Steptoe, presently the most widely grown barley cultivar in Utah, in 20 station-year Utah irrigated trials (6478 kg ha⁻¹), and in 39 station-year Western Regional Spring Barley tests (4680 kg ha⁻¹); yields of Walker exceeded those of the long-time check cultivar, 'Trebis', by 34 and 21%, respectively, in the same tests. Walker exceeded Steptoe in test weight by ≈ 24.4 kg m⁻³ (651.2 vs. 626.8) in 21 station-years, and in protein by 1.28% (12.64 vs. 11.36%) in 16 station-year Utah tests. Walker has shown field resistance to barley loose smut [caused by *Ustilago tritici* (Pers.) Rostr.] and covered smut [caused by *Ustilago hordei* (Pers.) Lagerh.] and moderate resistance to powdery mildew [caused by *Erysiphe graminis* DC. f. sp. *hordei* Em. Marchal]. Its reaction to other diseases is not known. Walker is recommended for growing under irrigation only.

Walker was named after the late Dr. Rudger H. Walker, long-time Dean of Agriculture and Director of the Utah Agricultural Experiment Station.

The generation sequence of seed production of Walker is breeder, foundation, registered, and certified. Walker is protected under the Plant Variety Protection Act, Public Law 91-577, and Title V of the Federal Seed Act. Breeder seed is maintained by the Utah Agricultural Experiment Station, Department of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322-4820. Foundation seed is available from the Utah Crop Improvement Association, Utah State University, Logan, UT 84322-4855.

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References and Notes

1. Mohamed, A.M. Ali, Shadrach O. Okiror, and Donald C. Rasmusson. 1978. Performance of semidwarf barley. Crop Sci. 18:418-422.
2. Dept. of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322-4820. Contribution of the Utah Agric. Exp. Stn., Journal Paper No. 4407. Registration by CSSA. Accepted 30 April 1993. *Corresponding author.

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Registration of 'Bracken' Barley

'BRACKEN' SPRING BARLEY (*Hordeum vulgare* L.) (Reg. no. CV-241, PI 566953) was developed at the Utah Agricultural Experiment Station and released in 1980. It was selected at Logan, UT, in 1974 as an F₇-derived line from a single F₆ head selected in 1973, from the cross 'Woodvale'/'Primus'/S.D. 67-297 made at the South Dakota Agricultural Experi-

ment Station in 1967. F_1 and F_2 generations were produced at Brookings, SD, in 1968 and 1969, respectively. F_3 seed was obtained from Dr. Phil B. Price, USDA barley breeder at Brookings. Segregating generations (F_3 – F_6) were grown at Logan, UT, in space-planted modified bulk populations and desirable plants were selected each year from 1970 through 1973. Bracken was yield-tested in Utah as UT74SDB1–1399 beginning in 1975 and in the Western Regional Spring Barley Nursery (1979) as UT 1399. Breeder seed was produced in a 1978–1979 winter increase at Yuma, AZ, from 200 head rows. Off-type rows were discarded and remaining rows were harvested in bulk. Foundation seed was produced at Logan, UT, in 1979.

Bracken is a six-rowed, midseason, erect growing, spring feed barley. It has a strap shaped, erect head with little or no overlap of the lateral kernels, and sparse, short hairs on the rachis edges. Glumes are medium length, with few or no hairs, and smooth awns. Lemma awns are long, smooth, without hairs or teeth, and have distinctly purple tips prior to maturity. Stigmas are lightly feathered. The seed is covered, midlong, slightly wrinkled, with sparse, long rachilla hairs, and usually a distinct transverse crease at the base. Aleurone color is white and 1000-kernel weight averages ≈ 37 g. The base of the spike is marked by a closed collar.

Compared to 'Steptoe', Bracken is essentially equal in heading date, plant height and test weight, but has stronger straw (18 vs. 33% lodging for Steptoe in 16 station-year average). Grain yields of Bracken were $\approx 2\%$ lower than those of Steptoe in Utah irrigated tests (5838 vs. 5936 kg ha⁻¹) and $\approx 9\%$ lower (4350 vs. 4770 kg ha⁻¹) in 26 station-year Western Regional Spring Barley tests. Yields of Bracken exceeded those of the

long-time check cultivar, Trebi, by 26 and 8%, respectively, in the same tests. Bracken averaged 2.1 percentage points higher than Steptoe in protein (13.0 vs. 10.9%) over 43 station-year Utah tests. Bracken has shown field resistance to barley loose smut [caused by *Ustilago tritici* (Pers.) Rostr.] and covered smut [caused by *Ustilago hordei* (Pers.) Lagerh.] and moderate resistance to powdery mildew [caused by *Erysiphe graminis* DC. f. sp. *hordei* Ém Marchal.]. Its reaction to other diseases is not known. Bracken is recommended for production under irrigation only.

Bracken was named after the late Dr. Aaron F. Bracken, Professor of Agronomy, Utah State University, and long-time superintendent of the Nephi Dryland Field Station.

The generation sequence of seed production of Bracken is breeder, foundation, registered, and certified. Breeder seed is maintained by the Utah Agricultural Experiment Station, Department of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322–4820. Foundation seed is available from the Utah Crop Improvement Association, Utah State University, Logan, UT 84322–4855. Plant Variety Protection will not be sought for this cultivar.

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References and Notes

1. Dept. of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322–4820. Contribution of the Utah Agric. Exp. Stn., Journal Paper no. 4415, Registration by CSSA. Accepted 30 April 1993. *Corresponding author.

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