REGISTRATION OF CROP CULTIVARS

Seed production of Caliente is on a four generation basis; breeder, foundation, registered, and certified. Breeder seed was produced in 1963 from 12 vegetative cuttings of each parent clone planted in an isolation block at Bakersfield, Calif. A reserve of breeder seed from the 1963 production is maintained by the Farm Seed Res. Corp. Breeder seed is released only to Ferry-Morse Seed Co. for production of foundation seed. Certified seed fields will be established only with foundation or registered seed. All classes of seed are produced in California. Certified seed of Caliente was first offered for sale in 1970. Noncertified seed had been available prior to that time.

All five cultivars were favorably reviewed by the National Certified Alfalfa Variety Review Board.

REGISTRATION OF ARC ALFALFA
(Reg. No. 76)


'Arc' alfalfa (Medicago sativa L.) was developed cooperatively by the ARS, USDA and the North Carolina, Maryland, Virginia, and Pennsylvania Agr. Exp. Stns. and released in 1974. Arc was tested under the experimental designation MSHp6F-An4W4 and Beltsville 71 before its release.

Arc was developed by eight cycles of phenotypic recurrent selection. The population was initiated by intercrossing 66 plants selected for low alfalfa weevil (Hypera postica (Gyllenhall)) damage at Raleigh, N.C. More than half of the 66 selected plants were from polycrosses of clones selected in North Carolina and trace to breeding programs in Nebraska and Kansas. The other plants traced to 'Narragansett,' 'Atlantic,' 'Rhizoma,' and 'DuPuits.' The first four cycles of selection were those of 'Team' (two cycles of field selection for vigor and alfalfa weevil resistance each in North Carolina and Maryland). In the fifth cycle, 120 plants were selected for vigor and alfalfa weevil resistance from a field nursery of 3,000 plants at Beltsville. In the sixth, seventh, and eighth cycles, 22,000, 6,750, and 6,750 plants, respectively, were screened for resistance to anthracnose (Colletotrichum trifolii Bain) and bacterial wilt. Selected plants of ≥ 200 were intercrossed in each of these cycles.

Arc is highly resistant to anthracnose and pea aphid (Acyrthosiphon pisum (Harris)). It is moderately resistant to bacterial wilt and slightly more tolerant to alfalfa weevil larval feeding than Team. Arc was developed for the mid-Atlantic, southern Appalachian, and other areas where anthracnose is a problem. Forage yields of Arc have been similar or superior to those of Team, 'Saranac,' 'Cherokee,' 'Williamsburg,' and 'Vernal.' Even in the first season of growth, under severe anthracnose epiphytotics, Arc has been superior to susceptible varieties in stand persistence and resistance to late summer and fall weed encroachment.

Breeder seed was produced at Prosser, Wash., from an isolated planting of 3,500 MSHp6F-An4W4 (Syn 1) plants. Breeder seed will be maintained by the field crops lab., ARS, USDA.

REGISTRATION OF DEAWN BARLEY
(Reg. No. 140)

R. S. Albrechtsen and W. G. Deweya

'Deawn' barley (Hordeum vulgare (L.) em. Reg. No. 1515, was developed cooperatively by the ARS, USDA.

Deawn was derived from the cross 'Bonneville' X 2X 'Bonneville Dwarf' made at Logan, Utah. The initial selection (B1742) was made from among six single plants in 1960. This population was re-selected in 1967 and 1968, and the resulting strains were further evaluated from a single F₄ plant and was identified as an advanced and regional yield tests. It has been evaluated in irrigated nurseries since 1965 and was tested in the Rocky Mountain barley nursery in 1969 and released in 1973.

Deawn is a six-rowed, white aleuroned, semi-smooth aleurone barley adapted to irrigated production. It has a compact head, short Rachilla hairs, and some awns; hence the name Deawn. It is similar in height, lodging resistance, and test weight.

Deawn is similar to that of Woodvale and Dalmyn, but is equal or superior to that of Steveland, and other widely grown varieties. It has good resistance to loose smut (Ustilago nuda (Jens.) Rostr.), the disease of barley in Utah. It is resistant to Allium cepa; 2


2 Professors, Department of Plant Science, Utah State University, Logan, UT 84322.

REGISTRATION OF KANBY BARLEY
(Reg. No. 141)

E. G. Heyne and John Lawless

'Kanby' barley (Hordeum vulgare L.), CI 1515, was developed in Kansas from a composite cross received from Canada. The composite cross resulted from intercrossing several high-yielding, spring-grown high-protein selections. The new variety was released in 1974.

Kanby was developed from a cross of two parental lines: 'Marquis' was the higher yielding line used as the female parent, and 'MTerrain' was the male parent. 'Marquis' is one of the highest yielding parents for barley in Canada, while 'MTerrain' is one of the highest yielding parental lines from the M Terrain spring barley breeding program. The cross was made at the Agronomy Department of the University of Saskatchewan in 1970. The resulting hybrid was evaluated in the University of Saskatchewan barley breeding program. It was selected for release as a new variety in 1974.

Kanby is an early maturing, semi-dwarf variety with a compact head and a high yield potential. It is resistant to brown spot (Rhizoctonia cerealis) and moderately resistant to loose smut (Ustilago nuda) and black mold (Fusarium graminearum). Kanby has a high protein content, making it suitable for use in malting and brewing. It is also resistant to leaf blight (Sphaerotheca fuliginea) and powdery mildew (Erysiphe graminis).

Kanby is recommended for growing on the prairies of Saskatchewan and Manitoba, as well as on other spring barley-growing areas in North America. It is a good choice for farmers who are looking for a high-yielding, disease-resistant variety that is also suitable for malting and brewing.

Kanby will be maintained by the University of Saskatchewan, Saskatoon, SK S7N 5A9.


2 Research geneticist, plant nutrition lab., and research entomologist, S. A. Ostazeski, T. H. Busbice, C. H. Hanson, J. A. Schillinger, G. R. Buss, and R. W. Cleveland

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