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 the 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 ALEALFA


"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 in eight cycles of phenotypic recurrent selection. The population was initiated by intercrossing 66 plants selected for low alfalfa weevil (Hypera postica (Gyllenhal)) damage at Raleigh, NC. 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 trace to 'Narangasseet,' 'Atlantic,' 'Rheuma,' 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 5,000 plants at Beltsville. In the sixth, seventh, and eighth cycles, 22,900, 6,750, and 6,750 plants, respectively, were screened for resistance to anthracnose (Colletotrichum trifolii Bain) and bacterial wilt. Selected plants of at least 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,' 'Cheyenne,' and 'Virginia 26.' Even in the first season of growth, under severe anthracnose epiphytotism, Arc has been superior to susceptible varieties in stand persistence and resistance to late summer and fall weed encroachment.

Breeder seed was produced at Proser, Wash., from an isolated planting of 5,500 MSHp6F—An4W4 (Sym 1) plants. Breeder seed will be maintained by the field crops lab., ARS, USDA.

REGISTRATION OF DAWN BARLEY

(R. S. Albrechtsen and W. G. Dewey)

'Dawn' barley (Hordeum vulgare L.) emend. Lam., CI 151515, was developed cooperatively by the Utah Agr. Exp. Stn. and ARS, USDA.

'Dawn' was derived from the cross 'Bonnieville' × 'Nepal' 2× 'Bonnieville Dwarf' made at Logan, Utah, in 1957. The initial selection (B1742) was made from an F2 population in 1960. This population was re-selected in 1963 and a number of the resulting strains were further evaluated. Dawn stems from a single F2 plant and was identified as B1742-16 in advanced and regional yield tests. It has been evaluated in Utah irrigated nurseries since 1965 and was tested in the USDA Rocky Mountain barley nursery in 1969 and 1970. It was released in 1973.

'Dawn' is a six-rowed, white aleuroned, semi-smooth awned, spring feed barley adapted to irrigated production. It has a compact head, short rachilla hairs, and somewhat decidual awns; hence the name Dawn. It is similar to 'Woodvale' in height, lodging resistance, and test weight. Heading date of Dawn is slightly lower than that of Woodvale, but is equal or superior to that of Steveland, 'Gem,' Bonnieville, and other widely grown varieties. It has good resistance to loose smut (Ustilago nuda (Jens.) Rostr.), the most destructive disease of barley in Utah. It is excellent in threshability, a characteristic for which a number of commonly grown varieties show serious deficiencies. Many of the awns fall from the head prior to harvest time.

'Dawn' is recommended for growing on the fertile, irrigated lands of Utah and possibly other western states. It is not recommended on dryland or under poor irrigated conditions. Breeder seed will be maintained by the Utah Agr. Exp. Stn., Logan, UT 84322.

REGISTRATION OF KANBY BARLEY

(E. G. Heyne and John Lawless)

'Kanby' barley (Hordeum vulgare L.), CI 15493, was developed in Kansas from a composite cross received from ARS, USDA. The composite cross resulted from intercrossing among 18 winter cultivars. A genetic male sterile factor was involved and a bulk population of F2 and F3 was grown for six cycles in Arkansas and named Kanby. It is similar to 'Woodvale' adapted to interested breeders by the USDA. A single head selection was made from the bulk in 1963 at Colby and seed was increased. The selection was an outstanding entry in the Kansas oat evaluation at Parsons in 1966. It was developed cooperatively by the Kansas Agr. Exp. Stn. and the ARS, USDA and distributed to Kansas growers in the fall of 1973.