Registration of Crop Cultivars

REGISTRATION OF UC CIBOLA ALFALFA

'UC CIBOLA' ALFALFA (Medicago sativa L.) (Reg. no. 138) was developed by the University of California Agricultural Experiment Station and USDA-ARS. It was tested experimentally as UC 127 and released 9 Dec. 1982.

The 100 parent plants of UC Cibola were selected from a 3-year-old alfalfa stand growing in a sandy soil infested with the following root nematodes: root-knot (Meloidogyne spp., primarily M. Arenaria Neal), stubby root (Trichodorus spp.), and stunt (Tylenchorhynchus spp.). The field had been infested with blue alfalfa aphid (Acrystosiphon kondoi Shinji) prior to selection. Germplasm in UC Cibola traces to UC Salton (46%), UC 76 (26%), and UCPX 1971 (28%). This parentage can be further traced to 9 basic germplasm sources (1) in approximately the following percentages: M. falcata 1, Ladak 1, M. varia 3, Turkistan 11, Chilean 14, Peruvian 2, Indian 21, African 46, and Flemish 1.

UC Cibola is an upright, purple-flowered, nondormant variety with winter growth similar to 'UC Cargo' and 'Mesa Sirsa'. It is adapted to areas of the Palo Verde Valley of California (a low desert valley area near Blythe) which are infested with root nematodes. Forage production has been similar to other adapted varieties such as 'CUF 101', Mesa Sirsa, UC Cargo, and Moapa 69 when tested in areas outside of the Palo Verde Valley and where root nematodes were not a problem. It is superior in production to all other varieties like CUF 101, UC Cargo, and Mesa Sirsa in areas of the Palo Verde Valley infested with a complex of root nematodes which may include the nematodes listed above plus dagger (Xiphinema spp.) and ring (Criconemoides spp.).

UC Cibola has the following resistance levels to alfalfa pests: high resistance to the spotted alfalfa aphid (Therioaphis maculata (Buckton)) with 79.4% resistant plants compared to 85.8% for the highly resistant check germplasm, MSTT; high resistance to Fusarium wilt caused by Fusarium oxysporum Schlecht f. sp. Medicaginis (Weimer) Snyder & Hans. with 87.6% resistant plants and 86.8% for Moapa 69; resistance to pea aphid (Acrystosiphon pisum (Harris)) with 38.5% resistant plants and 67.5% for CUF 101; resistance to the root knot nematode Meloidogyne hapla Chitwood with 42.0 to 42.6% resistant plants and 19 to 25.7% for CUF 101; moderate resistance to Phytophthora root rot caused by Phytophthora megasperma Drechs. f. sp. Medicaginis Kuan and Erwin with 17.6% resistant plants and 40.9 and 0.7% for Agate and Saranac, respectively; and low resistance to blue alfalfa aphid with 9.5% resistant plants and 55.6% for CUF 101. It is susceptible to bacterial wilt caused by Corynebacterium insidiosum (McCull.) H. L. Jens. and survives lodging with 11.5% lodging in most quality traits.

REGISTRATION OF ROBUST BARLEY

'ROBUST' barley (Hordeum vulgare L.) (Reg. no. 476976), was developed by the Minnesota Agricultural Experiment Station and released 15 Feb. 1983. Robust is a hexaploid hexaploid from a single F_5 plant selected from a 'Morex'/Manker' cross made in 1973, and was tested experimentally as UC 127 and released 9 Dec. 1982. Breeder and foundation seed will be maintained by the University of California Agricultural Experiment Station and USDA-ARS. It was tested experimentally as UC 127 and released 9 Dec. 1982.

Robust is superior to Morex, the most widely grown cultivar in Minnesota(1), in grain yield, kernel size, and lodging resistance. Robust has exceeded Morex grain yield by 7% in 28 trials in Minnesota and by 10% in 49 regional trials. It is 2 to 3 days later in maturity than Morex.

Robust has high levels of resistance to stem rust, incited by Bipolaris sorokiniana (Sacc. in Schuett) Sacc. but is susceptible to loose smut, caused by Ustilago nuda (Jens.) Rostr.

Robust is intended to be grown as a malting barley. In tests conducted in collaboration with the Malt Lab., Madison, Wi., Robust appeared the best variety, excelling in most quality traits. It has the high extract level of Morex but higher in plum kernel percentage (42.0 to 42.6% resistant plants and 19 to 25.7% for CUF 101; moderate resistance to Phytophthora root rot caused by Phytophthora megasperma Drechs. f. sp. Medicaginis Kuan and Erwin with 17.6% resistant plants and 40.9 and 0.7% for Agate and Saranac, respectively; and low resistance to blue alfalfa aphid with 9.5% resistant plants and 55.6% for CUF 101. It is susceptible to bacterial wilt caused by Corynebacterium insidiosum (McCull.) H. L. Jens. and survives lodging with 11.5% lodging in most quality traits.

meeting. No application will be made for variety protection.

W. F. LEHMAN, LES EDE, V. L. MARBLE, M. W. NIELSON, AND J. D. RADEWALD

References and Notes

2. Agronomist, Dep. of Agronomy and Range Sciences, U. of California Cooperative Ext., Blythe; extension agronomist, Calif. Agri. Exp. Stn., Davis; entomologist, USDA-ARS, Turlock; nematologist, Univ. of California, Riverside. Received for publication 6 June 1983.