varieties have purple flowers, brown pubescence, brown pods, and shiny-yellow seeds with black hila.

Cutler 71, like Cutler, is of group IV maturity and is adapted to approximately 37° to 40° N latitude in the United States.

Foundation seed of Cutler 71 was produced in 1970 and was released to qualified certificated growers in 1971. The Purdue University Agricultural Experiment Station will be responsible for maintenance of breeder seed.

REGISTRATION OF US H9A AND US H9B SUGARBEET1

(Reg. Nos. 1 and 2)

J. S. McFarlane and I. O. Skoyen

'US H9A' (Reg. No. 1) and 'US H9B' (Reg. No. 2) sugarbeet (Beta vulgaris L.) were developed by the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture. In 1968, they were released in cooperation with the California Agricultural Experiment Station, the Beet Sugar Development Foundation, and the California Beet Growers Association. These three-way top cross hybrid cultivars are produced by crossing cytoplasmic male-sterile F1 seed-bearing parents with a multigerm pollen line. The parentage of US H9A is [C622 CMS × C569] × C15 and that of US H9B is [C622 CMS × C546] × C15. Although the pollen for both hybrids is multigerm, the seed produced on the monogerm seed-bearing parents is monogerm.

US H9A and US H9B possess moderate resistance to virus yellows, a major disease of sugarbeet in California and Arizona. In the testing program the US H9 hybrids were compared with 'US H7', a monogerm hybrid cultivar that lacks yellows resistance. Yield losses from yellows averaged 27% for US H9A, 28% for US H9B, and 40% for US H7. The US H9 hybrids are bolting resistant and can be used for early planting in most sugarbeet growing districts of California. They also possess moderate curly top and downy mildew resistance.

The US H9 hybrids were thoroughly evaluated over a 5-year period by the Plant Science Research Division and the California sugar companies. In 36 tests grown under conditions of moderate to severe yellows, US H9A produced an average 20% higher sugar yield than did US H7. In the same tests, US H9B produced a sugar yield 22% higher than that of US H7. In 33 tests under light yellows infection, US H9A yielded 11% higher than US H7 and in 23 tests US H9B yielded 8% higher. The sucrose concentration of the US H9 hybrids was similar to that of US H7 in tests with light yellows infection and slightly higher in tests severely infected with yellows. Performance data and a description of the cultivars have been published.2

The US H9 hybrids are recommended for use in all sugarbeet growing areas of California except for areas subject to the Cerco- spora leaf spot disease.

Breeder seed of the parental lines is maintained at the U.S. Agricultural Research Station, P. O. Box 5098, Salinas, California.

REGISTRATION OF US H20 SUGARBEET1

(Reg. No. 5)

Gerald E. Coe and George J. Hogaboam

'US H20' sugarbeet (Beta vulgaris L) was cooperatively developed by the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture; the Beet Sugar Development Foundation; the Farmers & Manufacturers Beet Sugar Association; and the Utah-Idaho Sugar Company. This hybrid cultivar is produced by crossing a cytoplasmic male-sterile F1 seed-bearing parent with a multigerm pollinator. The lines used in this hybridization are (SL129 CMS × SL133 × SP 6322-0. Although the pollinator of this hybrid is multigerm, the seed produced on the monogerm seed-bearing parent is monogerm.

This cultivar possesses moderate resistance to leaf spot disease (Cercospora beticola Sauv.), to brown root disease (Aphanomyces cochlioides, Drec.), and to curly-top virus.

In 3 years of testing in the Great Lakes region, US H20 exceeded the standard cultivar by 5 to 8% in gross sugar yield. Other tests were conducted in irrigated districts east of the Rocky Mountains where leaf spot and curly top occur in epidemic proportions either separately or in combination. In most of these tests US H20 exceeded the standard in gross sugar yield. In tests with severe leaf spot or curly top infection, US H20 was not outstanding, but it was superior in tests that were infected with both diseases and in tests that were relatively disease free. US H20 was released in 1967 and is recommended for use in sugarbeet districts of the Great Lakes region. It can also be used in irrigated districts east of the Rocky Mountains which are subject to simultaneous attacks of Cercoспорa leaf spot and curly top.

Breeder seed of the pollinator line is maintained by the Tobacco and Sugar Crops Research Branch, Plant Science Research Division, Plant Industry Station, Beltsville, Maryland 20705, and stock seed of the F2 parental line is maintained by the Utah-Idaho Sugar Company, West Jordan, Utah 84084.

REGISTRATION OF US H10A AND US H10B SUGARBEET1

(Reg. Nos. 3 and 4)

J. S. McFarlane, I. O. Skoyen, and R. T. Lewellen

'US H10A' (Reg. No. 3) and 'US H10B' (Reg. No. 4) sugarbeet (Beta vulgaris L.) were developed by the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture. They were released in 1971 in cooperation with the California Agricultural Experiment Station, the Beet Sugar Development Foundation, and the California Beet Growers Association. Both hybrids are produced by crossing cytoplasmic male-sterile F1 seed-bearing parents with a multigerm pollen line. US H10A has the parentage [C562 CMS × C569] × C17 and US H10B the parentage [C562 CMS × C546] × C17.

Both hybrids are resistant to bolting and possess moderate resistance to curly top and virus yellows. Evaluation tests for yield and sucrose concentration were made during 1969-71 by the U.S. Department of Agriculture and the California sugar companies. When infected with virus yellows, US H10A and US H10B exceeded the present standard varieties, 'US H9A' and 'US H9B' in sugar yield. A trend also existed for a higher sucrose concentration, but usually the difference in favor of the US H10 hybrids was not statistically significant. Bolting resistance is superior in the US H10 hybrids compared with the US H9 hybrids.

The new hybrids are recommended for use in all sugarbeet growing areas of California and Arizona except for those areas subject to the Cercoспорa leaf spot disease.

Breeder seed of the parental lines is maintained at the U.S. Agricultural Research Station, P. O. Box 5098, Salinas, California.

1 Registered by Crop Science Society of America. Received June 7, 1971. Cooperative investigations of the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture; the Beet Sugar Development Foundation; and California Beet Growers Association.


3 Registered by Crop Science Society of America. Received August 12, 1971. Cooperative investigation of Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture; Beet Sugar Development Foundation; Farmers & Manufacturers Beet Sugar Association; and Utah-Idaho Sugar Company.