wildfire, black shank, and Fusarium wilt \([\text{Fusarium oxysporum} \text{ Schlect. f. nicotianae (J. Johnson), Snyd. Hansen}]\).

Data on plant characteristics of MD B100 and MD B312, suggest that these two lines are slightly taller than standard \('MD 10', 'MD 609', 'MD 872', and 'MD 201'. Leaf counts of MD B100 and MD B312 average 18.5 and 19.2 per plant, respectively, and are similar to MD 609 (19.7). Both breeding lines are medium maturing lines.

MD B100 (tested as A10) and MD B312 (tested as J312) were evaluated in replicated plots at the Southern Maryland Research and Education Facility and at two farms in the tobacco producing area for several years. Yield and price of MD B100 were similar to the standard cultivars averaging 2103 kg/ha and $2.52/kg, respectively. MD B100 had a significantly higher price than cultivars MD 10 (4), MD 609, and MD 201 (5), indicating superior quality. MD B312 was significantly higher in yield of cured leaf than MD 10 and MD 609, and similar in price to MD 10 and MD 201.

Levels of total alkaloids for MD B100 and MD B312 averaged 2.54 and 2.22%, respectively, over several years of testing, and these values are well within the range observed for the standard cultivars. Total N levels for the two breeding lines are similar to MD 609. Smoke and aroma evaluations by tobacco companies have indicated that MD B100 is superior to the standard cultivars, and MD B312 slightly lower than the standard cultivars. Additional information on performance and management has been published.

Seed stock of the two breeding lines will be maintained and distributed for research and breeding purposes by The University of Maryland Agricultural Experiment Station, College Park, MD 20742.

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References and Notes


REGISTRATION OF PARENTAL LINES

REGISTRATION OF C309 AND C309CMS SUGARBEET PARENTAL LINES

C309 and C309CMS sugarbeet \((\text{Beta vulgaris} \text{ L.})\) (Reg. no. PL-25 and PL-26) (PI 512298 and PI 512299) were developed by USDA-ARS in cooperation with the Beet Sugar Development Foundation and the California Beet Growers Association. C309 and C309CMS were jointly released in 1985.

C309 (Reg. no. PL-25) is a diploid \((2n = 18)\), self-fertile \((S)\), monogerm line. It is mixed for red and green hypocotyl color and segregates for genetic male sterility \((a,a)\). It is an O-type (nonrestorer) but requires a cytoplasmic male sterile with good emasculating efficacy to assure that its F1CMS hybrids are completely sterilized. In the seed production phase, it shows mild tip fasciation and readily lodges during early seed set. Seed density is good but seed yield is only fair. It is a moderately nonbolting type, but in overwintered productions it flowers early and is somewhat difficult to match with late flowering lines.

The leaf canopy of C309 is erect and has a tendency to of its performance for high sugar concentration in early generation top-cross progeny tests at Salinas, CA. In subsequent experimental hybrids, it produced nearly equal root yield with 1.0 to 1.5 percentage points higher sucre.

C309CMS (Reg. no. PL-26) is the cytoplasmic male-sterile equivalent of C309. C309 and C309CMS are evaluated as parental lines to produce hybrid sugarbeets with improved sucrose concentration and disease resistance.

Breeder seed is maintained by USDA-ARS and provided to sugarbeet breeders in quantities adequate for reproduction. It is asked that appropriate recognition be made of the source when this parental line contributes to the development of a new cultivar or hybrid. Written requests for seed should be made to Sugarbeet Production Research Unit, USDA-ARS, U.S. Agricultural Research Station, 1636 E. Alisal St., Salinas, CA 93905.

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