REGISTRATION OF ALFALFA CLONES WITH CYTOPLASMIC STERILITY AND MAINTAINER GERMPLASM (1) (Reg. Nos. GP 11 to 14)

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Male sterile clones U-1292A (Reg. No. GP 11) and U-1293A (Reg. No. GP 12), and maintainer clones U-55B (Reg. No. GP13) and U-2B (Reg. No. GP14) (3) were developed at Logan, Utah, and released in 1968 by the U.S. Department of Agriculture in cooperation with the Utah Agricultural Experiment Station. The male steriles were isolated from `DuPuits' alfalfa (Medicago sativa L.) and were characterized by nondehiscent anthers and a low percentage of stainable pollen. No seed was obtained from selling U-1292A and its pollen was nonfunctional in crosses with a recessive marker line. Nine seeds were obtained from extensive selfing of U-1293A as well as a few hybrids from crossing onto a recessive marker line. When U-1292A and U-1293A were crossed, no seeds were obtained. Both clones are vigorous, moderately good seed producers, and set an average number of seeds per pod when cross-pollinated by hand. Maintainer clone U-55B is one of the parents of `Uinta.' U-2B is from an open-pollinated progeny of A-225. These clones have moderate vigor, excellent seed production, a high percentage of stainable pollen, and normal anther dehiscence. Crosses between the A and B type plants gave a high percentage (average 93%) of male sterile plants. Male sterility in the backcrosses of the F1's to the B types was slightly less (average 85%). The cytoplasmic-genic male sterility mechanism incorporated in the above plant material makes possible the study of combining ability on a practical basis, the isolation of good combiners, and the production of commercial hybrids if certain problems can be overcome (4).

References

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