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A Superior New Onion Inbred for Use as a Pollen Parent in Hybridization

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University of Idaho Agricultural Experiment Station and United States Department of Agriculture, Bureau of Plant Industry, Soils and Agricultural Engineering cooperating.

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Because B 12115 onion has exhibited outstanding combining ability when used as a pollen parent with numerous male-sterile lines, it seems desirable that this inbred be released for use by the seed trade in making hybrid onions.

B 12115 is a selection from a commercial lot of seed of the variety Utah Sweet Spanish obtained from the Ferry-Morse Seed Company and grown at the U.S.D.A.—Colorado Potato Field Station at Greeley, Colo., in 1942. From this lot 18 selected bulbs, one of which was B 12115, were shipped to Beltsville, Md., and selfed in the greenhouse in 1943. Selfed seed from B 12115 was subsequently planted in the greenhouse for seed-to-seed increase during the fall of the same year. One of the plants from this population was selfed as B 6214 and is the source of all of our present supply of seed. Seed from B 6214 was tested at Greeley, Colorado in 1945 and at Farmington, Utah in 1946. In 1947 bulbs produced in Utah were used for seed increase at Caldwell, Idaho. This seed was planted at Greeley, Colo., in 1948 to produce a supply of bulbs. In 1949 these bulbs were planted in the greenhouse at Beltsville, Md., for use as pollen parents with various male-sterile lines.

In 1951 B 12115 was planted in a crossing block with numerous male-sterile lines at Caldwell, Idaho. B 12115 has also been used in making experimental hybrids in crossing cages at the Parma Branch Station. Trials with hybrid seed so produced have been conducted at numerous cooperating experiment stations in northern onion-producing states. The performances of many of these hybrids have been outstanding. The hybrid Stockton G 36 x B 12115 has given excellent performance when used as a transplant crop in the North.

B 12115 is a high globe with attractive yellowish-brown scales that adhere to the bulbs throughout the storage period. This inbred develops bulbs with refined necks and a high degree of uniformity in color, size, and shape. In a storage test at Greeley, Colo., in 1950-51, 1.3 per cent of the bulbs were sprouted and 5.6 per cent

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were rotted when removed from storage on February 28. Despite two generations of inbreeding, B 12115 has remained vigorous and produces good yields. It has been tested and found to be segregating for the male-sterile gene. Its characters thus can be incorporated into male-sterile lines by using it as the recurrent parent in a succession of backcrosses.

B 12115 is not resistant to any of the common onion diseases. Because it doubles more than is desirable, it should be carefully rogued for the further elimination of this defect.

B 12115 is somewhat too late for use as a pollen parent with some of the early-flowering male-sterile lines. No doubt differential storage or other treatments designed to produce early flowering can be developed. Its use with late-flowering male-sterile lines is satisfactory, as it produces an abundance of pollen. B 12115 is a good seed producer; no difficulty should be encountered in maintaining it.

The supply of seed is limited and will be prorated among seedsmen who request it. Requests for stock seed should be addressed to DeLance F. Franklin, University of Idaho Branch Agricultural Experiment Station, Parma, Idaho, before February 25, 1953.