

THE UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
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and

NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION
North Dakota State University
Fargo, ND

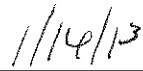
NOTICE OF RELEASE OF HA-R9, OILSEED SUNFLOWER

HA-R9 is an improved derivative of Rf ANN-1742 (PI 596746). Rf ANN-1742 is an oilseed male fertility restorer line derived from a BC1F2 population of the cross of cytoplasmic male sterile HA 89 and wild *Helianthus annuus* L. accession PI 613748 collected in Hinton, OK, in 1982, and released by USDA and the North Dakota Agricultural Experiment Station in 1997. Initial screening indicated that Rf ANN-1742 had resistance to the most predominant (race 336) and the most virulent (race 777) of North American races of rust (caused by *Puccinia helianthi* Schw.), but segregated for both rust and male fertility restoration. One selected resistant plant (09-519-1, BC1F3) was self-pollinated in the greenhouse. Plants from the 09-519-1 seed were retested for rust resistance and the resistant seedlings were grown in the greenhouse and self-pollinated. The progeny testing of seven resistant BC1F4 families indicated that one family, 10-149-26, was homozygous for both rust resistance and fertility restoration. A selected plant (10-274-16) from 10-149-26 was self-pollinated. The harvested seeds (BC1F5) of the plant 10-274-16 were grown in four rows of 20 plants sown at Fargo, ND, and further evaluated for male fertility restoration in June 2011. The finished germplasm is a BC1F5-derived F6 homozygous for both rust resistance and male fertility restoration. Inheritance studies indicated that the rust resistance was controlled by a single, dominant gene, R11, and molecular mapping indicated that the gene R11 is closely linked to the male fertility restoration gene, Rf5, present in HA-R9. Plant height of HA-R9 was 115 cm compared to 110 cm for HA 89. HA-R9 flowered 77 days after planting compared to 74 days for HA 89 in the Fargo, ND, field nursery during the summer of 2011.


Signatures:




Director, North Dakota Agricultural Experiment Station
North Dakota State University



Date



Deputy Administrator, Crop Production and Protection
Agricultural Research Service, U.S. Department of Agriculture



Date