

United States Department of Agriculture
Agricultural Research Service
Washington, D.C.

and

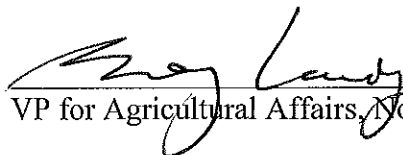
North Dakota State University
North Dakota Agricultural Experiment Station
Fargo, ND

NOTICE OF RELEASE OF HA-R12 AND R13, CONFECTION SUNFLOWER

HA-R12 is a F3-derived F4 maintainer selection from the cross of a resistant plant (BC4F2, 12-55) selected from the cross CONFSCLB1*5/MC29 (AUS) and HA-R6. CONFSCLB1 is a confection maintainer line released by USDA and the North Dakota Agricultural Experiment Station in 2006 susceptible to rust (caused by *Puccinia helianthi* Schw.). MC29 (AUS) is an Australian selection of the line MC29, an old Canadian oil-type sunflower line resistant to rust. HA-R6 (PI 607509) is a confection maintainer line released by USDA and the North Dakota Agricultural Experiment Station in 2001 resistant to all North American rust races identified so far. HA-R12 was developed by the pedigree breeding method and DNA marker-assisted selection for the rust R-genes R2 from MC29 (AUS) and R13a from HA-R6. The F3-derived HA-R12 is homozygous for both the R2 and R13a genes verified by DNA markers, and highly rust resistant. Plant height of HA-R12 was 116 cm compared to 104 cm for HA-R6 in the Fargo, ND, field nursery during the summer of 2013.


HA-R13 is a F3-derived F4 maintainer selection from the cross of a homozygous resistant plant (BC3F2, 12-105) selected from CONFSCLB1*4/HA-R2 and HA-R6. HA-R2 (PI 650753) is an oil-type maintainer line resistant to rust released by USDA and the North Dakota Agricultural Experiment Station in 1985. HA-R13 was developed by the pedigree breeding method and DNA marker-assisted selection for the rust R-genes R5 from HA-R2 and R13a from HA-R6. The F3-derived HA-R13 is homozygous for the both the R5 and R13a genes verified by DNA markers, and immune to rust. Plant height of HA-R13 was 143 cm compared to 104 cm for HA-R6 in the Fargo, ND, field nursery during the summer of 2013.

Signatures:



VP for Agricultural Affairs, North Dakota State University

7/11/14
Date



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

7/18/14
Date