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 — Date 7/11/14

K. Simmons
Deputy Administrator, Crop Production and Protection
Agricultural Research Service, U.S. Department of Agriculture — Date 7/18/14