Allelic Effects of Two Novel Germplasm Sources in Hybrid Spring Canola (Brassica napus). (C07-udall163200-Oral)

Authors:

- J.A.Udall - *University of Wisconsin*
- T.C.Osborn - *University of Wisconsin*

Abstract:

The effects of two novel germplasm sources, the winter Chinese cultivar 'Hua dbl2' and a re-synthesized B. napus TO1141, were evaluated for yield within a B. napus spring hybrid combination. The male parents were two populations of one hundred and sixty double haploids (DH) lines each created from a cross between the novel germplasm source and a male-restorer inbred (Rf). An RFLP genetic map was created for each male DH B. napus population. The same male-sterile (ms) female parent (P124) was used to create F1 hybrids for each DH line. Hybrids from the 'Hua dbl2' population were evaluated for two years (1999 and 2000) at two locations (Wisconsin and Saskatchewan). Hybrids from the TO1141 population were evaluated at the two locations in 2000 and at Wisconsin in 2001. Six and seven total yield quantitative trait loci (QTL) were found in the Synthetic and Chinese hybrid populations, respectively. In each population, three favorable yield QTL were found to originate from the 'donor' parents. One of these, top of N10, was found in both populations in multiple environments. Lines containing favorable donor QTLs have been selected to confirm the effects reported in the QTL regions.

Corresponding Author Information:

Joshua Udall
University of Wisconsin
1575 Linden Dr.
Madison, WI 53706

phone: 608 262 9570
e-mail: jaudall@students.wisc.edu

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