# Genetic mapping of common bunt resistance gene Bt13

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## Abstract

The Bt13 gene was identified and added to the differential line reference set by Goates (1996, 2012), and the line 'Thule III' (PI 181463) is used as the differential line for identifying the Bt13 resistance gene (Goates 1996, 2012). Bt13 has not been found in other original sources. The transport date in USDA genebank identifies 'Thule III' (PI 181463) as identical to the Swedish cultivar 'Thule III' (NGB 6714). However morphological information and studies of resistance to a panel of virulence races indicate that (PI 181463) resembles Turkish landraces including the donor of Bt12 (PI119333), whereas the Swedish variety 'Thule III' (NGB 6714) does not (Borgen 2014). We have confirmed this by analysis of genetic markers. This indicates that there must have been some mistake when 'Thule III' (NGB 6714) was relocated and registered in USDA genebank. The true origin of 'Thule III' (PI 181463) is therefore at present unknown, except for the genetical indication that it is most likely a selection from a Turkish landrace.

Christensen and Borgen (2023) made a preliminary mapping of Bt13 at chromosome 7D in the interval 6,820,874 – 11,141,495 bp. To fine-map the position of Bt13, a mapping population of RILs made from the cross between Segor, 'Thule III' (PI 181463) and Ciaveza was used……

## References

Borgen, A. 2014: Does Thule III have resistance gene Bt-13?. Abstract for the Proceedings of the XVIII Biennial International Workshop on the Smuts and Bunts Tune/Copenhagen 3rd-5th February 2014

Christensen, Dennis Kjær and Borgen, Anders 2023: Preliminary Genetic Mapping of Common Bunt Resistance Gene Bt13.. Bürstmayr, Hermann (Ed.) Proceedings of the XXII International Workshop on Bunt and Smut Diseases. BOKU, Austria.. 55-56

Goates, B.J. 1996. Common bunt and dwarf bunt. In R.D. Wilcoxson & E.E. Saari, eds. Bunt and smut diseases of wheat: concepts and methods of disease management, p. 12-25. Mexico, DF, CIMMYT.

Goates, B. J. (2012). Identification of New Pathogenic Races of Common Bunt and Dwarf Bunt Fungi, and Evaluation of Known Races Using an Expanded Set of Differential Wheat Lines. Plant Disease 96(3):361-369. doi: 10.1094/PDIS-04-11-0339.