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Virulence pattern in Danish races of common bunt (*Tilletia caries*)
Common Bunt

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Spores of common bunt (*Tilletia caries*) was sampled from different places in Denmark in 2000-2005 and maintained as a bulk sample on susceptible varieties. In 2011 and 2012, spores were harvested from selected infected varieties, and used to reinoculate the same variety from where they were harvested. 98 out of 240 tested varieties had an increase of infection from this inoculation method compared with infection from the bulk spore sample. This is interpreted as a sign of virulence development.

Using this method on the differential varieties for bunt resistance and other varieties with known bunt resistance genes indicated that virulence races were present able to infect varieties having resistance genes Bt-1, Bt-2, Bt-3, Bt-4 Bt-5, Bt-7, Bt-8, Bt-10 and Bt-13, and avirulence were found against Bt-6, Bt-9, Bt-11 and Bt-12. Using the traditional setup for bunt trials using only bulk spores would only have identified virulence against Bt-1, Bt-3 and Bt-4, since other virulences were rare in the bulk spore sample.

Cross inoculating 28 resistant varieties with spores from 5 other varieties, where virulence had developed, indicated that these varieties could be grouped into 8 groups with similar reactions in terms of infection level, indicating that they carry the same bunt resistance gene(s).

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