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Tracing *Tilletia caries* in wheat during the endophytic phase

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Common bunt of wheat is an important disease caused by infections with *Tilletia caries*. Besides yield losses, the pathogen spoils the harvest produce with a most disagreeable odour rendering it unsuitable for consumption or for use as seed. The causal agent is a basidiomycete that infects the seedling at the very first moments after germination. After successful infection, the fungus grows endophytically, remaining undetected until the first maturity stages. At that moment, packs of fungal teliospores form in place of kernels, in the spikes.

The disease can be avoided by the use of healthy seeds or the use of chemical, physical or certain biological seed dressings. Modern agriculture requires also more sustainable control methods that avoid additional costs. In this context, the use of plant resistance is gaining increasing interest. A series of resistance genes and resistance Qtls have been described. Several studies show that these genes do not necessarily confer total resistance and combinations of genes might provide higher resistance degrees. Yet, only little is known when plant resistance genes intervene in the disease cycle. The present project aims at tracing the fungus in the plant after infection in susceptible and resistant plants. Results and conclusions will be presented.