



Book of Abstracts

XXI International Workshop on Bunt and Smut Diseases

May 5-6, 2021

BOKU Campus TULLN

virtual event

bunt.boku.ac.at

Hosted by:
University of Natural Resources
and Life Sciences Vienna



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Organized and hosted by:

University of Natural Resources and Life Sciences, Vienna

Institute of Biotechnology in Plant Production & Institute of Plant Breeding

Konrad Lorenz Str. 20, 3430 Tulln, Austria

Co-organized by the H2020 funded projects:

ECOBREED & LIVESEED

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The project ECOBREED: "Increasing the efficiency and competitiveness of organic crop breeding" has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 771367.

The Collaborative Project LIVESEED: "Improving the performance of organic agriculture by boosting organic seed and plant breeding efforts across Europe" has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No 727230, and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

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Status of *Tilletia* spp. in Serbia - past, present, future

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Bunt of wheat is a fungal disease that occurs worldwide. *Tilletia caries* is predominant in Serbia, but the presence of *T. foetida* and putative hybrid of *T. caries* and *T. foetida* was also reported. Quarantine species for Serbia include both *T. contraversa* Kühn and *T. indica* Mitra. In the past, common bunt had a severe impact on wheat seed production due to the economic embargo imposed on our country. Outbreaks of common bunt were usually caused by sowing undeclared seed, discontinuation of fungicide treatments, and prevalence of disease-conducive environment. Nowadays, common bunt is successfully controlled in conventional production, but the survey on the presence of *Tilletia* spp. shown that in 151 samples, 74 % were contaminated with < 0.1 teliospore per seed, while 4 of the 16 commercial seed samples were contaminated above the threshold level of 0.01% determined for mercantile wheat by the Ministry of Agriculture, Trade, Forestry and Water Management. These findings indicated the great potential for seed infection and contamination with *Tilletia* spp. in Serbia which could pose a serious trait for organic production. In addition to that, 3.3 % of samples were contaminated with teliospores with prominent gelatinous sheath and reticulation exceeding 1.5 µm. It was assumed that these teliospores belong to either *T. contraversa* or *T. bromi*, but because of morphological characteristics overlapping, their identification was not possible. The low number of teliospores per seed samples disenable molecular identification either, indicating that more attention should be paid to development of molecular techniques suitable for discrimination of *T. contraversa* from grass bunts in seed quality testing. It is usually reported that climate-change-driven environment affects agricultural production through impact on crop growth and plant response to combined abiotic and biotic stressors. However, changes in pathogen population could also affect wheat production. In Serbia, later-season infections with *Tilletia* spp. were determined assuming to be caused by a new race of *T. caries*. Great variability in susceptibility response of artificially infected non-resistant varieties in fungicide efficacy trials was determined, as well as non-stable resistance/susceptibility response of commercial varieties tested for resistance in field conditions in different localities within an interval of eight years. Only variety Lasta has shown a stable resistance response. This indicated that plant-environment interaction could influence a broad range of susceptibility reactions to *Tilletia* infection and that more investigation is needed to predict the risk of bunt occurrence in wheat production.