

Reaction of Czech registered  
varieties and sources of resistance  
to common bunt and dwarf bunt

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# Field experiments in CRI - winter wheat

## Common bunt

- *Tilletia caries* (DC.) Tul. & Tul. (syn. *T. tritici* (Bjerk.) G. Winter
- *T. foetida* (Wallr.) Liro (syn. *T. laevis* Kühn in Rabenh.)

## Dwarf bunt

- *Tilletia controversa* J.G. Kühn)



# Common bunt and dwarf bunt protection

Prevention is the strongest weapon against common bunt and dwarf bunt

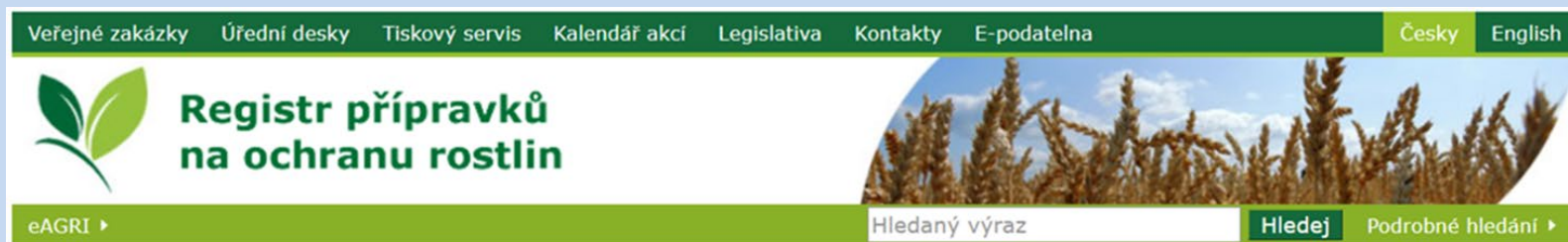
- seed treatment
- using healthy certified seed




# Common bunt and dwarf bunt control in organic farming

Central Institute for Supervising and Testing in Agriculture:

<http://eagri.cz/public/web/ukzuz/portal/>



Veřejné zakázky Úřední desky Tiskový servis Kalendář akcí Legislativa Kontakty E-podatelna Česky English

 Registr přípravků  
na ochranu rostlin

eAGRI ▶ Hledaný výraz Hledej Podrobné hledání ▶

Biopreparate

- Polyversum (*Pythium oligandrum* M1)

Essential substances

- vinegar (1 l/100 kg)
- mustard seed powder (1,5 kg/100 kg ; 4,5 l water/100 kg)

# Seed analyses

Central Institute for Supervising and Testing in Agriculture

Accredited testing laboratories for the identification of individual *Tilletia* species on wheat:

## Pracoviště zkušební laboratoře:

1. **Oddělení diagnostiky škodlivých organismů rostlin Olomouc**  
Šlechtitelů 773/23, 779 00 Olomouc
2. **Oddělení diagnostiky škodlivých organismů rostlin Havlíčkův Brod**  
Konečná 1930, 580 01 Havlíčkův Brod
3. **Laboratoř diagnostiky škodlivých organismů rostlin Praha**  
Ztracená 1099/10, 161 00 Praha 6
4. **Laboratoř diagnostiky škodlivých organismů rostlin Opava**  
Jaselská 552/16, 746 01 Opava

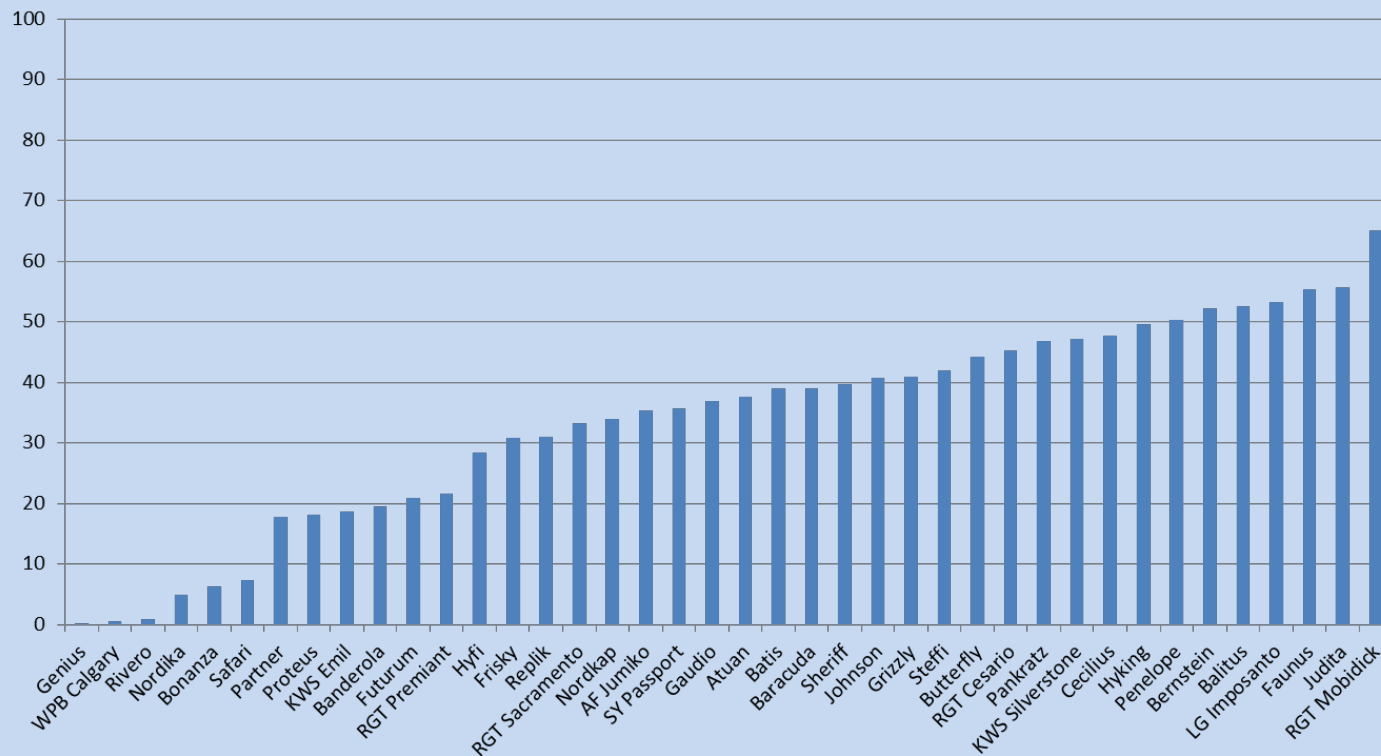
Pořadové číslo <sup>1, 3</sup>	Přesný název zkušebního postupu/metody	Identifikace zkušebního postupu/metody <sup>2, 4, 5</sup>	Předmět zkoušky
6. <sup>(1,2,4)</sup>	Identifikace vybraných druhů rodu <i>Tilletia</i> metodou světelné mikroskopie	SOP-M-44	Rostlinný materiál, osivo

# Reaction of Czech registered varieties to common bunt

- Less than 10% infestation:

Genius, WPB Calgary, Rivero, Nordika, Bonanza, Safari

Average common bunt incidence 2019-2020 (%)

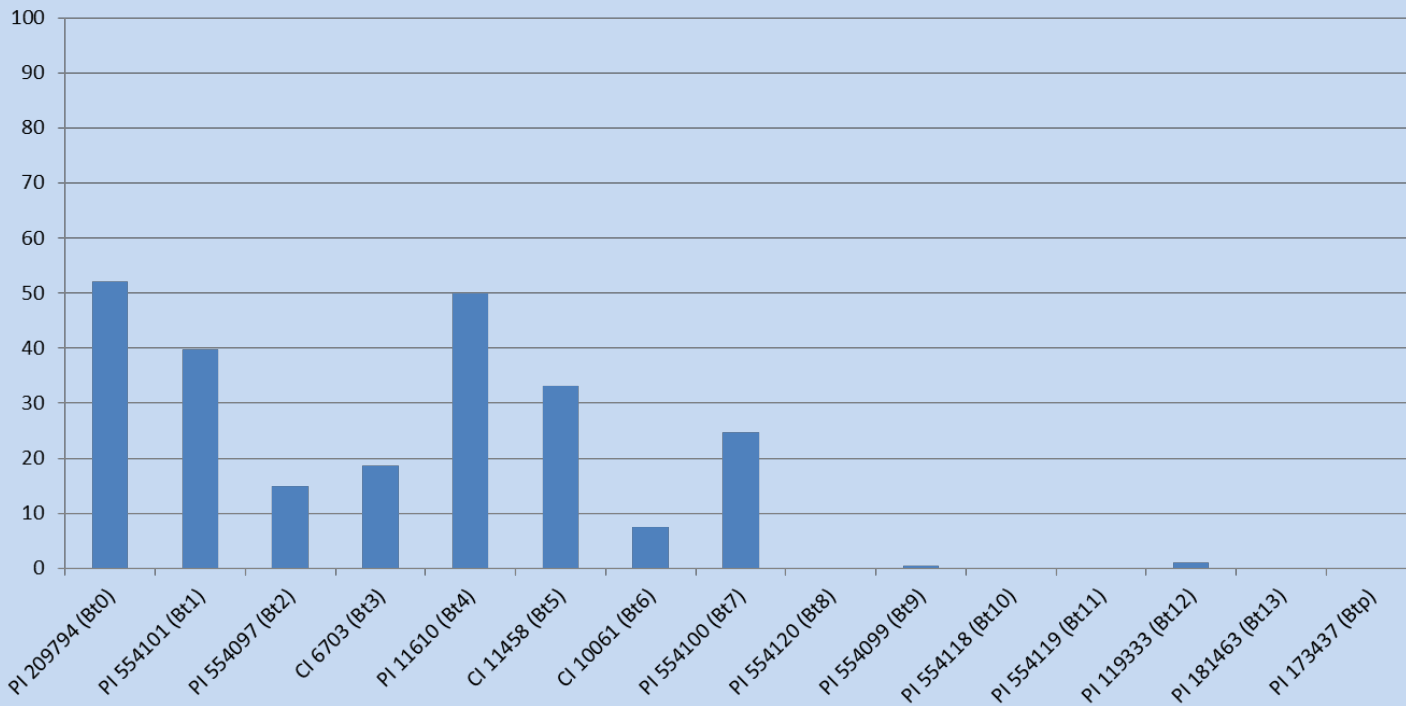


# Common bunt resistance

- Resistant reaction - 0% (2019-2020):

Aristaro, Blizzard, Bonneville, Deloris, Globus, Philaro, Quebon, Stava, SW Magnifik, Tilliko, Tillstop, UI SRG, Weston and V1-113-19 (breeding line with long glumes).

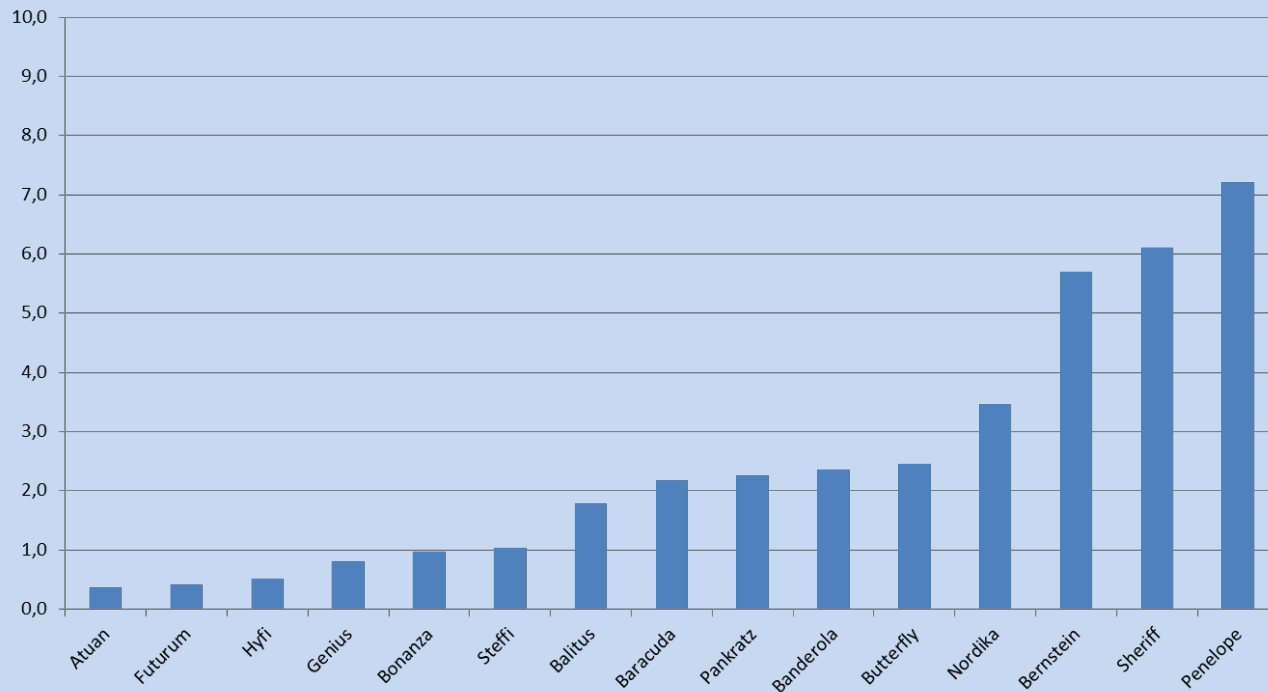
Average common bunt incidence 2019-2020 (%)



# Dwarf bunt

- Less than 1% infestation DB + less than 10% infestation CB:  
Genius, Bonanza
- Resistant reaction – 0% (2019-2020):  
Philaro, Stava, SW Magnifik, Weston

**Average dwarf bunt resistance 2019-2020 (%)**





# Other cereals in CRI

- Successful infections:  
winter wheat, spring wheat,  
spelt wheat, durum wheat,  
several varieties of triticale
- No infection so far:  
barley, rye, oat

Variety	Cereal species	Common bunt (%) - greenhouse 2020
Heines VII	winter wheat	45,5
Lotte	spring wheat	60,0
Schwabenspelz	winter spelt (dehulled)	50,0
Pentadur	durum wheat	50,0
KWS Kosmos	winter barley	0,0
Sebastian	spring barley	0,0
Aventino	winter rye	0,0
Kamil	hulled oat	0,0
Korok	naked oat	0,0



# Spelt wheat - F1 and F3 crosses

Resistant parent - spelt wheat variety Sofia 1:

- free of common bunt in five years of testing in CRI (2015-2019), both in hulled and dehulled variant
- free of dwarf bunt in 2016-2020



# Acknowledgement

- *Supported by the Ministry of Agriculture of the Czech Republic, Project No. MZE RO0418*
- *This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 771367*

