

DOES WINTER WHEAT VARIETY IMPACT SUBSEQUENT SPRING CANOLA PERFORMANCE?

Clark Neely, Extension Agronomist PNWCA Annual Workshop 2024



JUSTIFICATION

- PNW cropping systems dominated by wheat with high residue production. This creates:
 - 1) Physical barrier for canola seedlings
 - 3.0-6.5 t/a residue
 - 2) Chemical barrier for canola seedlings?
 - Research from other areas suggest wheat residue can have allelopathic effects on canola germination and early growth





Methods and Materials

- Two site years in 2021-2022
- Spring canola planted over harvested winter wheat variety trials
- Soft white winter (~30 var.)
- Hard red winter (~18 var.)



http://choosewashingtonstate.com/research-resources/about-washington/climategeography/





Straw Decomposition

- 20 g of straw placed in nylon mesh bags
- 3 replicates
- Placed next to plots at Pullman and Reardan
- Recovered when spring canola planted
- Residue dried, ground and soaked to create extracts for lab study





Preliminary Field Trial Results

2021 WINTER WHEAT STRAW YIELD



Highest:

- Jasper
- SY Clearstone
- Devote
- Pritchett
- AP Dynamic
- VI Voodoo CL+

Lowest:

- LCS Shine
- LCS Drive
- WB4311
- WB4303
- LCS Jet



Residue Decomposition (%)



WHEAT RESIDUE DECOMPOSITION

Canola Canopy Cover/Leaf Number Pullman (5 WAP)



Canola Canopy Cover Reardan (6 & 7 WAP)



Canola Seed Oil and Protein at Reardan



STOP BY POSTER FOR YIELD RESULTS

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