

Germination in

**GERMINATION IN SPRING GRAINS TREATED WITH ORGANIC
SEED AMENDMENTS AND AERATED STEAM**

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Small grains are often planted early in the spring when the soil is cool and wet creating ideal conditions for soilborne pathogens. Seed-borne pathogens that cause root rot and damping-off during germination and early seed growth, can often be prevented by treating seeds with conventional fungicides. Organic production does not allow conventional fungicide seed treatments and organic approved seed treatments may help farmers establish better stands of crops. The goal of this project was to compare the impact of various seed protectants and treatments on germination rates of spring wheat and barley.

MATERIALS AND METHODS

August 2017 Trial

Spring wheat seeds

Table 3. Organic seed amendment germination trial specifics, 2018.

Data from the 2017 trial were analyzed with a one-way analysis of variance (ANOVA)

Table 4. Spring barley and spring wheat germination results, August 2017.

DISCUSSION

In both 2017 and 2018, the aerated steam treatment consistently had the highest germination rates in the spring barley and outperformed the skim milk powder and K5. While the top-performing treatments did not differ from the control, the results of these trials indicate that spring barley treated with skim milk powder and K5 may have decreased germination rates in comparison to other organic biofungicide treated seed or untreated seed. The lack of significant differences between spring wheat treatments in both trials suggests these methods of preventing seedborne pathogens with organic seed amendments and aerated steam treatments are less impactful on spring wheat germination.

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