Evaluation of seed coating treatments in soft white winter wheat
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OBJECTIVES
To evaluate Specialty Fertilizer Products, LLC (SFP) and Verdesian Life Sciences (VLSci) seed treatments (Tuxedo, Surgent, and Take-Off) individually and in combination for effects on soft white winter wheat growth and grain yield and quality of in Southwest Idaho.

SEED TREATMENTS

Proposed benefits:

Surgent Micronutrient Seed Treatment
- Immediate and Constant source of Zinc & Manganese
- Stronger emergence, Healthier root growth, Vigorous plant growth, Increased yield potential
- Patented polymer technology loaded with Zinc & Manganese
- Enhanced availability of the micros compared to inorganic sources
- Application rate: 5-6 oz. per 100 pounds of seed

Tuxedo Micronutrient Seed Treatment
- Similar to Surgent, with more concentrated polymer coating
- The technology creates an as-needed micronutrient source - protecting Zinc & Manganese from outside interference and keeping it available to the crop longer.
- The exclusive polymer technology protects zinc from chemically bonding with other compounds and minerals commonly present in the soil - allows for a lower, more economical application rate.

Take Off Seed Treatment
- Accelerates germination, emergence, establishment and canopy closure and pushes the seed toward a faster start, helping plants avoid early-season disease pressures that can inhibit yield potential throughout the growing season.
- Quicker germination, emergence and growth means the crop achieves greater photosynthetic capacity and better preservation of soil moisture
- Improves nutrient uptake and utilization
- Facilitates carbon fixation and increases nitrogen utilization
- Triggers the plant to grab more available nitrogen and improves plant health to help maximize yield potential

MATERIALS AND METHODS

- Study was conducted at University of Idaho, Southwestern Research & Extension Center, Parma, ID, in 2014-2015.
- Wheat seed was treated with coating products using a plastic mixer.
- Brundage and Stephens winter wheat was seeded November 11, 2014, using a 140 lb/a seeding rate, into 10 x 40 ft plots. The crop was sprinkler irrigated every 10 days.
- The effect of seed coat treatment on winter wheat grain yield has been analyzed with SAS 9.4, using Duncan’s Multiple Range Test, at 90% confidence level.

DISCUSSION

- Two evaluated winter wheat varieties responded differently to seed treatments.
- No significant differences in grain yield associated with seed treatment were noted for Brundage.
- For Stephens, the highest yield was obtained with Surgent seed treat. Tuxedo and Tuxedo + Take-Off products resulted in comparable to traditional seed treat.
- The lower yield was obtained with Take-Off.
- There were not significant differences in test weight associated with seed treatments.
- Further analysis of grain protein data is pending.
- The study will be repeated for several years at several locations to draw definite conclusions.

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Fig 1. Effect of seed treatments on winter wheat (Brundage and Stephens) grain yield, Parma, ID, 2015.

Fig 2. Effect of Tuxedo (alone) seed treatment vs Tuxedo + Take-Off ST seed treatment on winter wheat (Brundage and Stephens) grain yield, Parma, ID, 2015.

Fig 3. Effect of Surgent seed treatment on winter wheat (Brundage and Stephens) grain yield, Parma, ID, 2015.