

In 2012, producers saw reduced yields and grades in cereal crops due to late season drought, frost, and wheat midge damage. These factors also affected seed size in the harvest sample with higher variability and higher than normal shrivelled seeds. Producers using this “bin run” seed for seeding in 2013 may have ran into problems with poor emergence, poor plant vigor, and improper seeding rates, making the crop susceptible to disease and reduced yields. Similar results were found in work done by Dr. Brian Beres, (AAFC, Lethbridge) with winter wheat. This project intended to use a similar protocol to demonstrate the effects that seed treatments and seeding rates have on small, medium, and large seeds in strongfield durum wheat.

Bin run seed from 2012 harvest samples was sieved into 3 seed sizes; small, medium and large. Dual action Raxil WW was used as the seed treatment vs. untreated. Normal seeding density was compared to a high seeding rate (25 seeds/ft² vs. 33 seeds/ft²). The combined factors create a range of agronomic systems from:

- Weak agronomic system (low seed rate, small/thin seed, no seed protection)
- Superior agronomic system (high seed rate, heavy/plump seed, dual seed treatment).

Measurements throughout twelve treatments included plant vigor, plant density, and disease and weed pressure.

Results from this trial followed a similar pattern to the winter wheat study done by Dr. Beres.

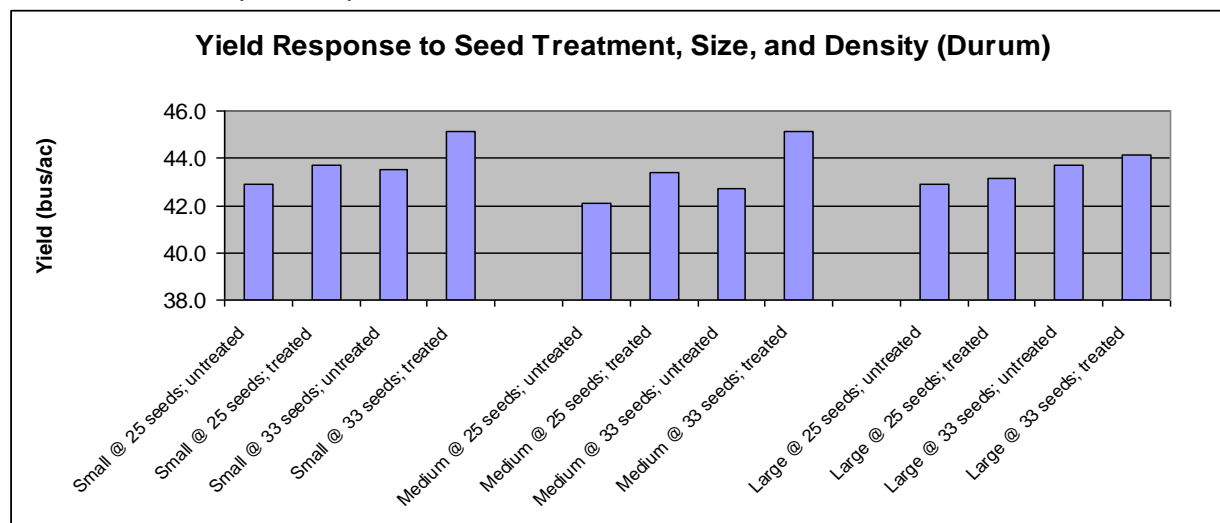


- Variation in Seed Size (20 seeds/row)

Overall, gains observed to grain yield by using seed treatments or larger seed were significant, but relatively modest. Therefore, economic implications must be considered for each agronomic system to properly evaluate the risks and benefits. Yield responses were greatest in a weak agronomic system and tended to diminish with a stronger agronomic system.



- Weak agronomic system: untreated (left) vs. seed treatment (right).



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