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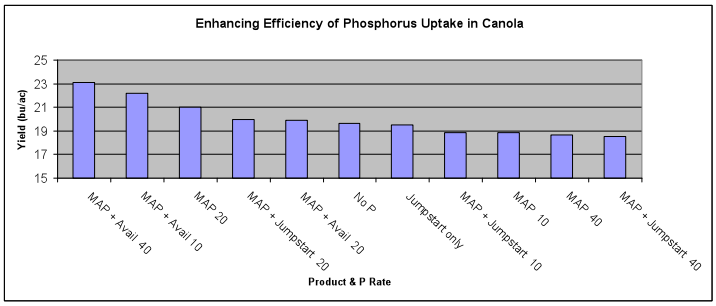
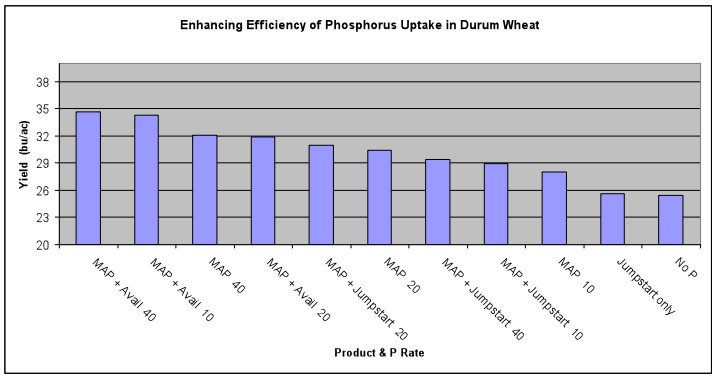
Enhancing Efficiency of Phosphorus Uptake

This project was set up to demonstrate the potential benefits of using P ammendments to improve the efficiency of P uptake by two crops, durum wheat and canola. Two P ammendments, Jumpstart and Avail were used and compared to monoammonium phosphate (MAP). The treatments included sidebanded MAP, sidebanded MAP with Avail and sidebanded MAP with Jumpstart applied to the seed.

The project was seeded on a relatively low P site. Application rates of fertilizer P were 0, 10, 20, and 40 lbs/ac. Two P ammendments, Jumpstart and Avail were used and compared to monoammonium phosphate (MAP). The treatments included sidebanded MAP, sidebanded MAP with Avail and sidebanded MAP with Jumpstart applied to the seed. Two reps were seeded to provide added consistency of the demonstrated treatments. Crop emergence, maturity and yield were recorded. All treatments received a total of 60 lbs/ac of total N (durum wheat) and 80 lb/ac of total N on (canola) side banded as a (39-0-0-6) blend. Nitrogen levels were brought up on Treatments 2,3,5,6,8, and 9 to equalize the N level found in the MAP 40 rate.





Results from this demonstration suggests a higher yield trend in most cases by applying MAP + Avail in both canola and durum wheat. Data from each crop in the trial this season also suggests there appeared to be little benefit using Jumpstart either alone or as a P ammendment when compared to the equivalent MAP rate. A more in depth study with added replications and several soil types would help confirm more concise results.

Acknowledgements

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