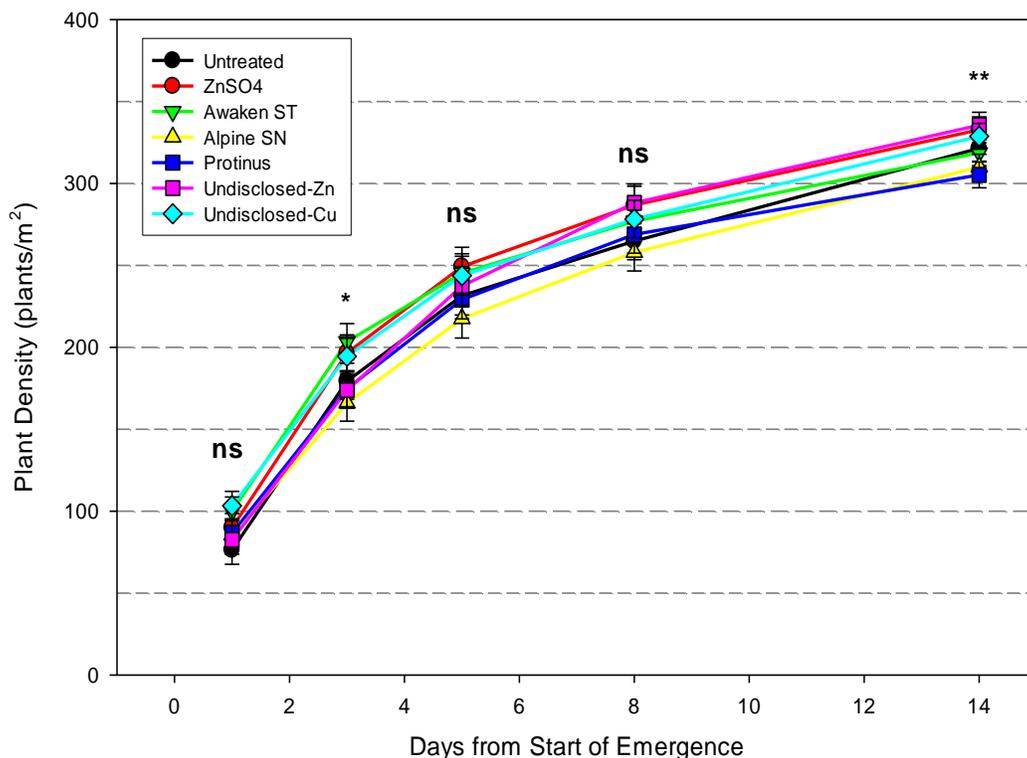


Seed-applied fertilizer products are typically marketed to improve early season crop establishment, especially when seedlings are emerging under stressful conditions such as cold and wet soil. The products are usually recommended based on tests of soil fertility or seed nutrient concentrations, and Zinc (Zn) is the most common component among the different products available. A study was conducted at Indian Head, Melfort, Scott, and Swift Current to evaluate the effects of six commercially available seed-applied nutrient products, as well as a granular ZnSO₄ application on emergence, early season biomass, days to maturity, severity of lodging, and grain yield in spring wheat.

The effect of the treatment on plant emergence over the entire emergence period is shown graphically below. The relative response to treatments did not differ between sites over the emergence period, thus plant density is averaged across all sites. A significant treatment effect was observed only on the final count day, and a slight significant treatment effect was observed on day five. In either case, the significant

treatment effect was the result of differences in plant density between seed-applied nutrient treatments. For all other variables measured, there were no treatment effects when data was combined across sites. In some cases, there were differences observed between treatments within individual sites; however, the differences were inconsistent and never occurred between untreated check and treated seeds. A slight yield increase was observed with granular, in-furrow Zn fertilizer at Indian Head.

In general, there was no measureable benefit observed for any of the seed-applied fertilizer products in this demonstration. As with many crop inputs, the challenge will be to predict when, where, and to what extent a response to seed-applied fertilizer products is likely to occur. Until we can reasonably predict this response, recommended steps for producers hoping to improve crop establishment would be to: ensure that they are managing crop residues sufficiently, use high quality seed, ensure that seed is being placed at an appropriate depth, follow provincial guidelines for seed-placed fertilizer, and make sure that overall fertility levels are adequate. Growers who are considering investing in this technology are encouraged to establish check strips to objectively evaluate whether or not they are getting the desired results and return on their investment.



Plant density (plants/m²)

Days from Start of Emergence

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