



Maximizing Winter Wheat Yield Potential with Proper Nutrient Management

John Fisher and Dr. Cameron Graham



Winter Wheat Planting

Like most field crops, the yield potential for winter wheat begins as soon as the seed touches the soil. Factors such as timely planting, seeding rates, and the proper nutritional program (starter fertilizer and seed treatment) are critical to attain an even and uniform stand. Starting the plant off right before winter comes will set ourselves up for success come harvest the next year.

The Right Planting Date

Ontario research has shown a 1.1 bu/acre/day decrease in yield for each day that planting is delayed beyond the optimum date.¹ Optimal planting dates can vary depending on your location, so we would recommend consulting the appropriate guides – these dates can vary from late August to early October plant dates. It takes approximately 80 Growing Degree Days (GDDs) for winter wheat seed to germinate and another 50 GDDs for wheat to emerge for every inch of seeding depth. The impact of the cooler fall temperature reduces the available GDDs, which can cause a negative impact on plant development prior to winter.

The Right Starter Fertilizer

Years of field research in Ontario has demonstrated the positive impact that phosphorus has on winter wheat development. The incorporation of phosphorus in a starter nutritional fertilizer program promotes early root development, which is important for establishing a healthy crop to allow for survival over the winter months. Research has shown that seed-placed starter fertilizer increases yields on average by 7.5 bushels per acre.¹

The Right Seeding Rate and Depth

Adjusting your seeding depths and seed rate will help compensate for the less than ideal conditions that may occur at planting. Planting seeds any shallower than 1 inch runs the risk of the crop becoming vulnerable during the cold winter months. Rates should be increased by 200,000 seeds per acre per week past the ideal planting date to a maximum of 2.2 million seeds per acre.¹

Developing a Strong Winter Wheat crop using BioLiNE® Technology

BioLiNE's Biogenic Nutrient Accelerator (BNA) Technology drastically improves the transport and assimilation of nutrients and other plant beneficial compounds. Combining superior cell permeability, bioactive chemistry, and accelerated nutrient exchange is our advantage. The use of our BioLiNE® Technology with your starter fertilizer has positive impact on the physiological development of winter wheat with fast and uniform emergence. BioLiNE technology improves nutrient utilization and photosynthesis reaction leading to more rapid development of wheat through the first 2-4 development stages.

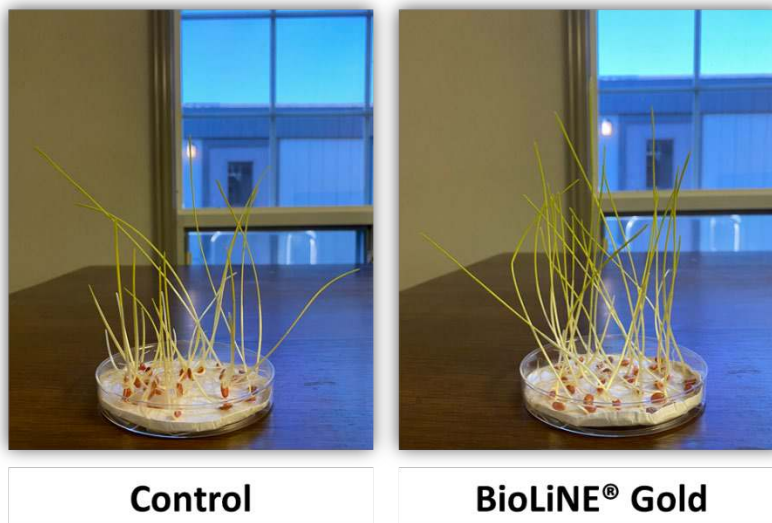


Figure 1. Germination trials using no BioLiNE Gold (**Control**, left) and BioLiNE Gold treatment (right).

Recommendation:

Incorporation of BioLiNE® Gold at **10 Oz (300 mL)/acre in-furrow** with a proper nutritional program at time of seeding.

For more information on our Products please visit: www.biolinecorp.ca, email: info@biolinecorp.ca

Resources

¹ OMAFRA – Winter Wheat Establishment

<http://www.omafra.gov.on.ca/english/crops/field/news/croptalk/2018/ct-0918a1.htm>