

# PROTINUS™

SEED NUTRITION PRODUCT

**Optimize your cereal seed performance with enhanced seed nutrition**



Getting your cereal crop off to a good, healthy start is critical to its long-term performance and yield potential. PROTINUS™ Seed Nutrition Product is a unique seed applied technology formulated to promote early seed nutrition, and is proven to increase early seedling and root growth of cereals under a variety of growing conditions.



## Enhanced Early Season Seedling and Root Growth

Faster early season growth of cereal crops ensures better establishment and weed competition, setting you up for optimum yield potential. PROTINUS applied to cereal seed improves early growth.

**Early seedling growth in winter wheat**

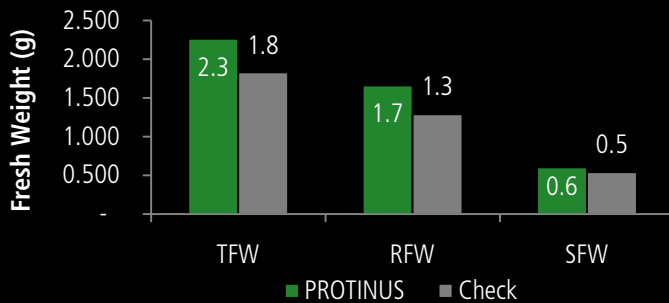


Figure 1: PROTINUS treated wheat seed had greater total fresh weight (TFW), root fresh weight (RFW), and shoot fresh weight (SFW), 17 days after planting compared to the check.



**Early root growth in spring barley**

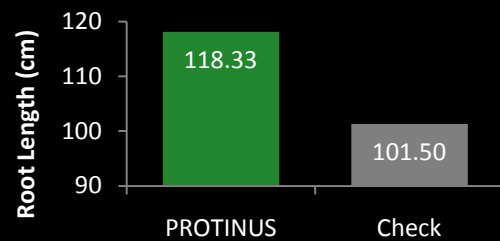


Figure 2: PROTINUS significantly increased total root length in spring barley, 10 days after planting.

**Early root growth in CWRS wheat**

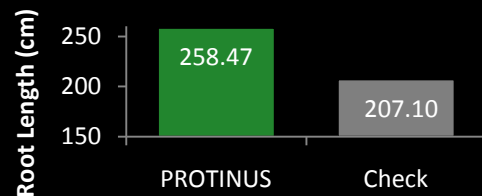
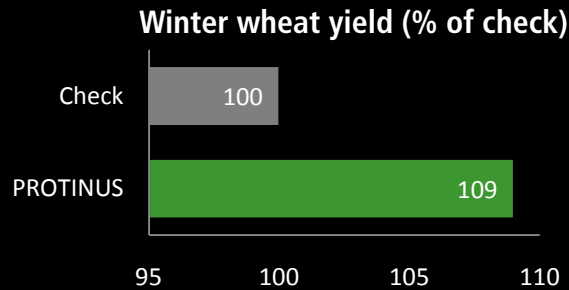


Figure 3: PROTINUS significantly increased total root length in spring wheat 17 days after planting.

## Improved yields

Getting your cereal crop off to a healthy start can help to increase yield potential. Independent studies evaluating PROTINUS on three separate winter wheat varieties, show that on average, seed treated with PROTINUS out-yielded the check by nine percent.



## Better performance even under challenging early season conditions

Early season growing conditions can be challenging for a young, vulnerable seedling. Enhanced early nutrition from PROTINUS helps to increase plant growth, even under challenging early season conditions. For example, research trials show PROTINUS increased **early root growth** by 6% under optimal conditions, 60% under cool conditions and 20% under dry growing conditions.

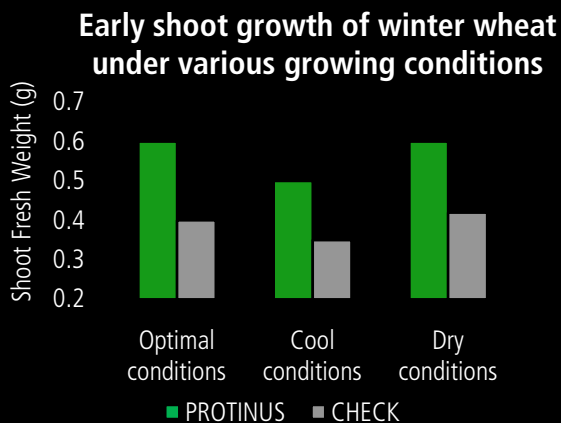
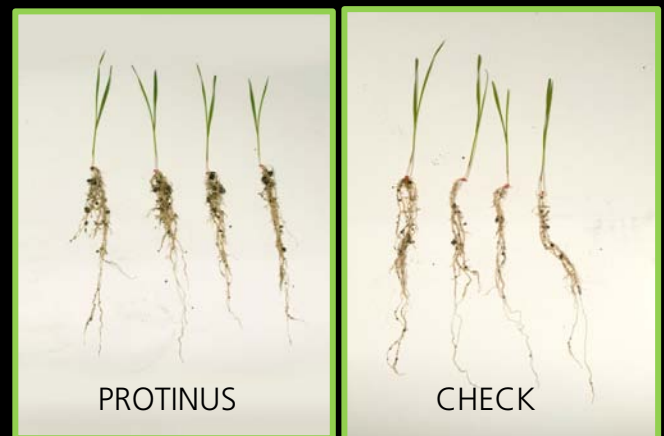


Figure 4: PROTINUS significantly increased **fresh shoot weight** by 50% under optimal conditions, 60% under cool conditions, and 43% under dry seeding conditions.

### Early root growth



Picture 1: When grown under dry conditions, PROTINUS-treated wheat seed on the left has larger, more fibrous roots than the check on the right.

**Get the most out of your seed investment and improve early-season performance with PROTINUS. For more information please contact Wolf Trax at 204-237-9653.**



Wolf Trax  
INNOVATIVE MICRONUTRIENTS

Growing Forward®