

TWIN RIVERS PRODUCT TRIAL

Cal Mag and Liquid Humic

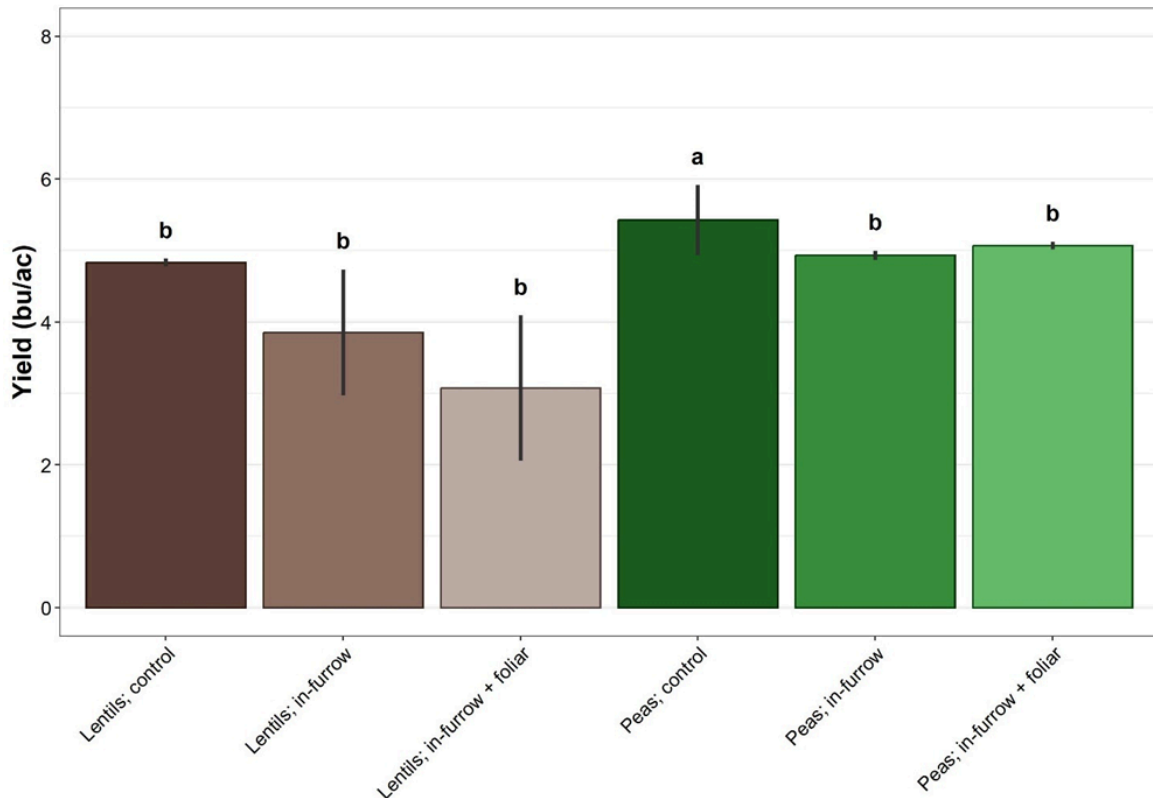
Agricultural humic acid products have the potential to increase crop yields by helping plants take up nutrients more easily through the promotion of soil microbial activity. Humic acids can also stabilize soil structure in compacted soils, increasing water holding capacity while preventing erosion. There are numerous humic products available in Alberta that can be applied as either a granular or liquid soil amendment. Liquid humic is usually applied at seeding or as a foliar spray at the two to four leaf stage. Calcium and magnesium are vital minerals for plant growth that are not readily available for uptake in the soil. The Cal Mag solution aims to improve broadleaf crop performance by providing these nutrients in liquid form and neutralizing acidic soils. This research trial investigates whether humic acid and the calcium-magnesium product will boost pulse crop yields and grain quality in a dry growing season in Northern Alberta's Peace Region.

This small plot trial studies the effect of liquid humic and Cal Mag application at different crop stages on the performance of field peas and red lentils in heavy clay soils. The humic product sourced from Twin Rivers Farms was applied in furrow at a rate of 1 gal/ac or as a foliar spray at 2 L/ac. The Cal Mag product was applied in furrow at 2 gal/ac. The crop varieties used in the trial were AAC Lacombe yellow peas and CDC Imperial small red lentils.

Task	Timeline	Details
Seeding	June 10	Peas 196 lb/ac Lentils 124 lb/ac
Maintenance	May 10 - July 23	Urea 110 lb/ac S15 80 lb/ac Glyphosate (pre-seed) 1 L/ac Coragen 0.71 L/ac Assure II 0.75 L/ac
Harvest	Sept. 15	Straight-cut

TWIN RIVERS PRODUCT TRIAL

Cal Mag and Liquid Humic



Yield (bu/ac) of lentils and peas treated with humic acid and Cal Mag at North Star in 2025.

Neither the in-furrow Cal-Mag + humic treatment nor the additional foliar humic application improved pea yield relative to the untreated control that yielded (~5.4 bu/ac). Lentil yields were relatively lower compared to peas; however, the untreated control treatment had numerically higher yields (~4.8 bu/ac) but not statistically different compared to the other treatments. Overall, the control plots performed best for both crops in the dry 2025 growing conditions of the Peace Region.