## Early growth response of tall fescue to nitrogen and phosphorus seed coatings

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The beneficial effects on plant growth when nitrogen (N) and phosphorus (P) are added together to the soil have been reported by a number of workers (1, 2). This study further investigates plant growth response to the combination of N and P coated on seeds.

## Methods

Essential nutrients K, Mg, Ca, B, Cu, Zn, Mo, S, Mn and Fe were added to a nutrient-deficient soil and equilibrated for 24 h. Fungicide-treated tall fescue seeds coated with various ratios of N (as urea) and P (as monocalcium phosphate - MCP) were sown 10mm deep in this NP-deficient soil at 10 seeds/pot and replicated 4 times. The trial was maintained under non-limiting moisture conditions in a glasshouse and was harvested 45 days after sowing.

## **Results and discussion**





The interaction between N and P fertilizer seed coatings as they affected the early growth of tall fescue is shown in Fig. 1. Addition of N alone in the coat did not significantly increase dry matter yield. Provided P was present in the coat, addition of N to the coat produced a linear response. However, at the rate of P above 3 kg/ha, the response was slightly negative. Further work is needed to determine interactions of nutrient seed coating and species, soil type, fertility levels, etc. and to compare their effectiveness with drilled applications of fertilizer.

1. Blair, G.J., Mamaril, C.P. and Miller, M.H. (1971). Agron. J. 63, 235-238

2. Olson, R.A. and Dreier, A.F. (1956). Soil Sci. Soc. Am. Proc. 20, 509-514