INTRODUCTION
Teff (Eragrostis tef (Zucc.) Trotter) is an annual small grain, panicle bearing C4 cereal crop native to Ethiopia. Substantial researches have been conducted in Ethiopia under rainfed condition and they reported that nitrogen (N) and phosphorus (P) are key limiting nutrients in teff production, however the response of teff to N, P and potassium (K) fertilization under irrigation is not well studied.

OBJECTIVES
• Examine the effect of N, P and K nutrition on two teff genotypes growth and development under irrigation.
• Determine the optimum level of N, P and K concentrations for production of two teff genotypes under field condition.

MATERIALS AND METHODS
• Determine the optimum level of N, P and K concentrations for production of two teff genotypes
• Examine the effect of N, P and K nutrition on two teff genotypes growth and development

The main effect of K on grain yield in two teff genotypes in the pots (left) and field (right) experiments. Vertical bars indicate SE(n=5). [a], [b]-indicate significant differences between genotypes, A, B, C, D; E-main effect of treatments, different letters indicate significantly different treatment means (p<0.05, Tukey HSD test).

RESULTS
Effect of Nitrogen: High nitrogen fertigation resulted in decreased in days to flowering and enhanced leaf development.

Effect of Phosphorus: Phosphorus deficiency resulted in stunted growth.

Effect of Potassium: Teff plant leaves did not show any visible symptoms in response to different level of K fertigation.

CONCLUSIONS
• Under irrigation, teff grain yield respond positively to N, P and K fertilization but over fertilization causes grain yield reduction as a result of less grain set.
• The two genotypes differed in their flowering time, shoot and root DM, tiller and grain yield production.
• Our results indicate that 60 ppm N, 6 ppm P and 80 ppm K in the irrigation solution seems optimal in the genotypes studied. However, any recommendation should consider also the exact status of the nutrients in the soil and water.

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