Stand Establishment and Growth of Corn as Influenced by Starter Fertilizers. (S08-matocha100021-Poster)

Authors:

- J.E.Matocha - *Texas A and M University*

Abstract:

Soil moisture,temporal variability at planting, application rate and starter fertilizer composition contributed to erratic results from starter and pop-up fertilizer. This research determines the effect of starter fertilizer composition and application rates on corn seedling emergence and early shoot/root growth at low and medium soil moisture regimes. Treatments consisted of a control and three liquid blends applied directly on the seed. The three fertilizer blends contained 2.4, 1.4 and 1.0% organic acid by weight with ammonium orthophosphate as sole source of P. Standard grade ammonium polyphosphate was used for comparison. An Orelia sandy clay loam (montmorillonitic hyperthermic Typic Ochraqualf) was used. Roots were extracted from all treatments and data recorded as dry matter similarly to yields of shoot growth. All starter fertilizers had a definite effect on corn seedling emergence at 5 days after planting (DAP). Ammonium polyphosphate caused a marked delay in emergence. Starter blends with higher analyses caused significant reductions in emergence at lower soil moisture. By 11 DAP, no difference in emergence was observed when soil moisture was adequate. Differences in growth largely reflected variable soil moisture. Plant height and chlorophyll data was also collected.

Corresponding Author Information:

John Matocha
Texas A and M University
10345 Agnes
Corpus Christi, TX 78380

phone: 361-265-9201
fax: 361-265-9434
e-mail: j-matocha@tamu.edu

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