# Spatial Responses of Corn Growth and N Uptake to Hybrid Selection and N Levels. (C03-cox164702-Oral)

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## Abstract:

The challenge for variable N rate management is to identify specific areas that respond to specific N rates while minimizing N losses.We evaluated growth,N concentration and N uptake of two corn hybrids(Zea Mays L.) at two N rates (130 vs.185 kg/ha at two sites and manure vs. manure + 55 kg/ha at another site)to explain spatial yield variability that existed at five of six site-year comparisons. Biomass,N concentration,and N uptake mostly had no spatial variability at the 6th leaf stage, silking,and physiological maturity.Plant height at the 10th leaf stage,which had spatial variability at all sites,had strong correlations(0.50-0.69)with corn yields in a wet year but no correlations at two sites in a dry year.Biomass and N uptake at physiological maturity had strong correlations (0.54-0.71)with corn yields at one site but weaker correlations (0.25-0.57) at another site.Plant measurements did not consistently explain spatial yield variability.

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