National Fertilizer Solutions Association

FLUID FACTS

NFSA AGRONOMIC NEWSLETTER

Starters Improve Early Season Crop Growth

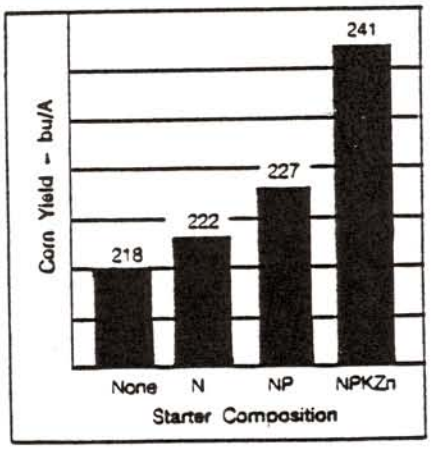
Starter fertilizers improve the potential for early season crop growth when soil conditions are marginal for proper plant development.

Starters boost early development when:

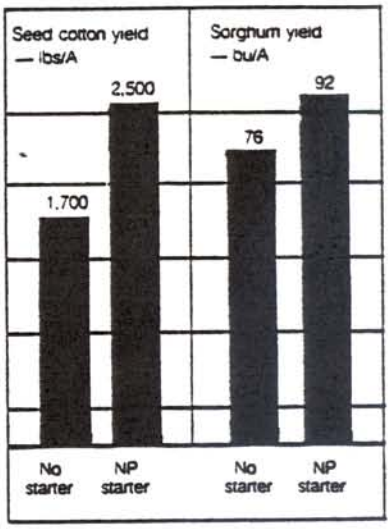
* Planting early into cold soils
* Soils are compacted
* Soil pH is high or low
* Crops are grown under reduced tillage
* Soils are low to medium in P & K
* Planting is delayed beyond optimum date
* Nutrients are not readily available to young plants

Fluids are particularly well suited as starter fertilizers for the following reasons:

* Ease of Handling
* Accurate application
* Uniformity of blend
* Ammonium polyphosphates have low salt index
* High water solubility of solution P sources (10-34-0 & 11-37-0 APP)
* Formulation flexibility - N, P, K, S and micronutrients



Wiese, University of Nebraska



Touchton, Auburn University

Production factors to consider when using starters include:

* Distance of fertilizer band from seed
  Pop-Up -- fertilizer placed with seed must have low salt content and low free ammonia

  2 X 2 -- more flexibility in formulation because free ammonia is less likely to cause toxicity
* Soil Texture/CEC
  CEC determines nutrient holding capacity of the soil
* Fertilizer Grade
  Salt index and likelihood of ammonia toxicity problems depend heavily on formulation
* Soil Moisture
  Low soil moisture restricts nutrient availability and may increase ammonia toxicity concerns -- ideal starter derives its N from a liquid ammonium polyphospate (APP) due to its low potential for generating free ammonia

NFSA RESEARCH THROUGH THE FLUID FERTILIZER FOUNDATION
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