Calibrating Crop Canopy Sensors for Variable-Rate Appplications. (S04-schepers073800-Poster)

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Abstract:

The concept of making fertilizer N recommendations based on crop vigor and chlorophyll status during the growing season is in its infancy compared to the soil-based approach. Climatic uncertainties are at the heart of difficulties encountered when making soil-based fertilizer N recommendations. Cropbased strategies for corn typically include a modest basal N application before the crop enters the rapid N uptake growth stage. The relative importance of residual N, and estimated credits for mineralization, manures, and legumes is diminished when making in-season fertilizer N recommendations. Timely imagery or canopy sensor data with adequate sensitivity are required to make the crop-based strategy feasible. Crop growth stage and yield goal are important considerations when making in-season fertilizer N recommendations. The extent to which mineralization is incorporated into crop color and vigor measurements requires further evaluation. The necessity of establishing a different adequately fertilized reference area each year is an important consideration.

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