Nutrient Uptake and Partitioning by Dry Beans in Manitoba

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Background

Current interest in determining crop nutrient budgets requires crop advisers to rely on standard book values of nutrient uptake and removal. Usually little information exists on micronutrient uptake. This study was initiated to validate current nutrient values for dry beans grown under Manitoba conditions.

Method

Whole plant sampling of navy white beans from a commercial field was done at several times during the 2005 growing season. Sampling was done in a commercial field of pinto beans in 2004. Plants were sampled on a schedule according to 6 critical growth stages in a RCBD sampling pattern with 3 replicates. Above-ground parts were sampled, partitioned, dried, chopped and ground for nutrient analysis by AgVise Labs.

Dry matter (DM) and Nutrient Partitioning in the 2005 Crop

Dry Matter Accumulation

Nitrogen Accumulation

Phosphorus Accumulation

Potassium Accumulation

Sulphur Accumulation

Calcium Accumulation

Magnesium Accumulation

Iron Accumulation

Copper Accumulation

Boron Accumulation

Summary

Nutrient uptake and removal values for dry beans grown under 2 different growing conditions were similar when scaled according to yield, and were similar to published guidelines.

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References