

751-7 Dry Bean Genotypes Evaluation for Phosphorus Use Efficiency.

Poster Number 500

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Abstract:

Dry bean along with rice is a staple food for population of South America. Phosphorus is one of the most yields limiting factors for dry bean production in the tropical Oxisols. A greenhouse experiment was conducted to evaluate 20 dry bean genotypes at 25 and 200 mg P kg⁻¹ of soil. Grain yield and yield components were significantly increased with P fertilization. However, yield and yield components varied with the genotypes. The grain yield efficiency index (GYEI) was having highly significant quadratic association with grain yield. Based on GYEI most efficient genotypes were CNFP 8000, CNFP 10035, CNFP10104 and CNFC 10410. Most inefficient genotypes in P use efficiency were CNFC 10438, CNFP 10120, CNFP 10103 and CNFC 10444. Shoot dry weight, number of pods per plant, 100-grain weights and number of seeds per pod was having significant positive association with grain yield. Hence, grain yield of dry bean can be improved with the improvement of these plant parameters by adopting appropriate management practices. Soil pH, extractable P and Ca saturation were significantly influenced by P treatments. Based on regression equation, optimum pH value was 6.6 in water, optimum Mehlich 1 extraction solution P value was 36 mg kg⁻¹ and optimum Ca saturation value was 37% for dry bean yield.

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