

RESEARCH

Seventeen research projects were funded by SAURES during the year 2012-2013. The results of the projects have been presented as extended summary in this report.

RESEARCH PROJECTS

CALCIUM MANAGEMENT TOWARDS PEG AND POD DEVELOPMENT OF GROUNDNUT

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Extended Summary

A field experiment was conducted at the Agronomy Field Laboratory of Sher-e-Bangla Agricultural University, Dhaka, Bangladesh during November, 2013 to May, 2014 in Rabi season to study the influence of timely application of Ca fertilizer (gypsum) at optimum level on peg and pod development of groundnut varieties. The experiment tested three varieties i.e. BARI Chinabadam-8, BARI Chinabadam-9 and Dhaka-1 (Maijchaur badam) in the main plots and five levels of Ca (calcium) viz. NPK + No split application of Ca, NPK + 100 kg Ca ha⁻¹ at flowering (45 DAS), NPK + 200 kg Ca ha⁻¹ at flowering (45 DAS), NPK + 300 kg Ca ha⁻¹ at flowering (45 DAS) and NPK + 400 kg Ca ha⁻¹ at flowering (45 DAS) in the sub plot under split plot design. Results revealed that BARI Chinabadam-8 gave the highest pod yield (1.85 t ha⁻¹) which was 16.35% and 8.19% higher than the Dhaka-1 (1.59 t ha⁻¹) and BARI Chinabadam-9 (1.79 t ha⁻¹), respectively. Among the Ca levels, NPK + 100 kg Ca ha⁻¹ at flowering (45 DAS) gave the highest pod yield (2.27 t ha⁻¹) which was 54.42%, 51.33%, 41.88% and 29.71% higher than Ca levels NPK+400 kg Ca ha⁻¹ at flowering (45 DAS), NPKG + No split application of calcium (Ca), NPK + 300 kg Ca ha⁻¹ at flowering (45 DAS) and NPK + 200 kg Ca ha⁻¹ at flowering (45 DAS), respectively. BARI Chinabadam-8 in combination with NPK + 100 kg Ca ha⁻¹ at flowering (45 DAS) produced the highest pod yield (2.44 t ha⁻¹) which was 78.1% higher than treatment combination Dhaka-1 with NPK + 400 kg Ca ha⁻¹ at flowering (45 DAS) (1.37 t ha⁻¹) followed by higher protein and oil content

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(34.13% and 48.69%, respectively) in seeds. The yield was attributed due to maximum peg initiation followed by pods plant⁻¹, seeds pod⁻¹, 1000 seeds weight and pod: peg. Considering the quantity and quality production of groundnut, application of recommended NPK fertilizer as basal along with 100 kg Ca ha⁻¹ split application at the time of flowering could be the best fertilizer package for groundnut growers.