

INFORMATION ABOUT THESIS

Name of the thesis

" Research the suitable fertilizer regime for cashew variety AB 29 on basalt soil and on acrisoils in the South East"

Major: Crop Science

Code number :62 62 01 10

PhD student : TON THAT TRI

Instructor: PhD.Dr. PHAN VAN TAN; Dr. TON NAM TUAN NAM

Training institution: Tay Nguyen University

1. SUMMARY CONTEXT OF THE THESIS:

1.1 Purpose of the thesis

- Determine the optimum fertilizer N, P, K for cashew variety AB 29 during the basic construction and trading period, and propose suitable fertilizer regimes to increase productivity, quality and economic efficiency for cashew growing in the South East.

1.2. Research contents of the thesis

- Study on the effect of N P K fertilizers on growth and development of cashew variety AB 29 in the period of basic construction on basalt soil and on acrisoils in the South East.

- Study on the effect of NK fertilizers on yield and grain quality of cashew variety AB 29 during the trading period on basalt soil and on acrisoils in the South East.

- Study on the effect of Giberellin (GA₃) and fertilizer N levels on yield and grain quality of cashew variety AB 29 during the trading period on basalt soil and on acrisoils in the Southeast.

2. NEW RESULTS OF THESIS

- Research on determination of N, P and K mineral fertilizers suitable for cashew variety AB 29 in the period of basic construction on basalt soil and on acrisoils in the South East:

+ On basalt soil, when increasing 50% N and increasing 33% P₂O₅, there was a significant difference in growth during the construction period, tree height increased 19.3%, canopy diameter increased 22.5%, root diameter increased 21.7% compared with control. The optimal formula is 180gN -120g P₂O₅ - 60g K₂O / tree / year

+ On acrisoils, when increasing 50% N and increasing 50% K₂O, the tree height increased 19.6%, the canopy diameter increased 17.8%, the root diameter increased 21.9% compared with control. The optimal formula is 180g N-90g P₂O₅ - 90g K₂O / tree / year

- Research to determine the appropriate amount of N, K fertilizer for cashew variety AB 29 during the trading period for the highest productivity and economic efficiency:

+ On basalt soil, when increasing 40% N and 33% K₂O, in the fertilizer formula 700g N - 250g P₂O₅-400g K₂O yield increased 23.7% (2.05 tons / ha), profit 46.8 million / ha, profit margin / fertilizer cost was 4.59.

+ On acrisoils when increasing 20% N and 33% K₂O, in the formula of 600g N- 250g P₂O₅- 400g K₂O, yield increased 26.0% (1.73 tons / ha), profit 38.6 million / ha, the highest rate of fertilizer profit / cost was 3.96.

- Study to determine the most appropriate fertilizer N when combined with treatment GA₃ growth regulator for cashew nut AB29 to achieve high productivity and economic efficiency in the business period:

+ On basalt soil, when increasing the N level by 40%, combining the specific GA₃ concentration of 100ppm in the fertilizer formula 700g N – 250 g P₂O₅- 300g K₂O most effective increase the number of seeds / cluster 35.9% , increase the number of seeds for harvest 38.1%. Yield was 2.33 tons / ha. Profit 52.9 million / ha. Profit / cost of fertilizer and growth stimulants was 4.7.

+ On acrisoils when increasing 20% N combination GA₃ treatment of concentration 100ppm, fertilizer formula 600g N-250g P₂O₅-300g K₂O increased number seeds/ cluster 37%, increase the number of seeds for harvest 40.3%. Yield was 1.99 tons. Profit of 43.8 million / ha. Profit / cost of fertilizer and growth stimulant was 4.1 times. Grain size of the cashew AB 29 variety was not different on both basalt and acisoiil.

The rate of /seeds, grains/kg of AB 29 varieties is unchanged.


3. APPLICABILITY IN PRACTICE

Fertile fertilizer regime on reddish brown soil and gray soil for cashew variety AB 29 in the Southeast:

- On the basaltsoil it is recommended to fertilize N, P and K with the most appropriate level of 180gN -120g P₂O₅-60g K₂O / tree / year; Apply 3 times / year in June, August, October each year, in the basic construction period. Apply 700gN-250g P₂O₅-400g K₂O/ tree/ year. Apply twice a year in June and September at the trading period, combine the Giberellin (GA₃) concentration 100ppm when flowering simultaneously to achieve the highest productivity.

- On gray soil, it is recommended that N, P and K fertilizers be the most suitable: 180gN- 90g P₂O₅- 90g K₂O / tree / year; Apply 3 times / year in June, August, October each year in the basic construction period and fertilizer 600gN-250g P₂O₅-400g K₂O; Apply 2 times / year in June and September at the business period, combined treatment Giberellin (GA₃) concentration 100ppm when flowering simultaneously to achieve the highest productivity./.

PhD students



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