Germinability and electrical conductivity of seeds of groundnut varieties

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INTRODUCTION

Seed quality affects crop establishment and productivity. Besides, the use of good quality seed is an essential prerequisite for sustainable crop production including groundnuts. Assessing germinability and electrical conductivity provides an early evidence of the production potential of a given crop variety or genotype. Therefore, this assessed the germinability and electrical conductivity of seeds of three groundnut varieties.

METHOD

A laboratory experiment arranged in a Completely Randomized Design (C.R.D) replicated three times was conducted at the Faculty of Agriculture, Kyambogo University in 2020. Groundnut variety seeds of Igola, Serenut 1, and Serenut 2 were tested. Data was collected on germination percentage and electrical conductivity. Analysis of variance (ANOVA) of Genstat was used to analyse the data, and means separated using the least significance test at 5% probability level.

RESULTS

Germination percentage and electrical conductivity significantly ($p<0.05$) differed among the groundnut varies with Igola recording the highest germination percentage, followed by Serenut 1 and lowest in Serenut 2. The highest electrical conductivity was recorded in Serenut 1 and lowest in Igola. Summary is provided in Figure 1 and Table 1.

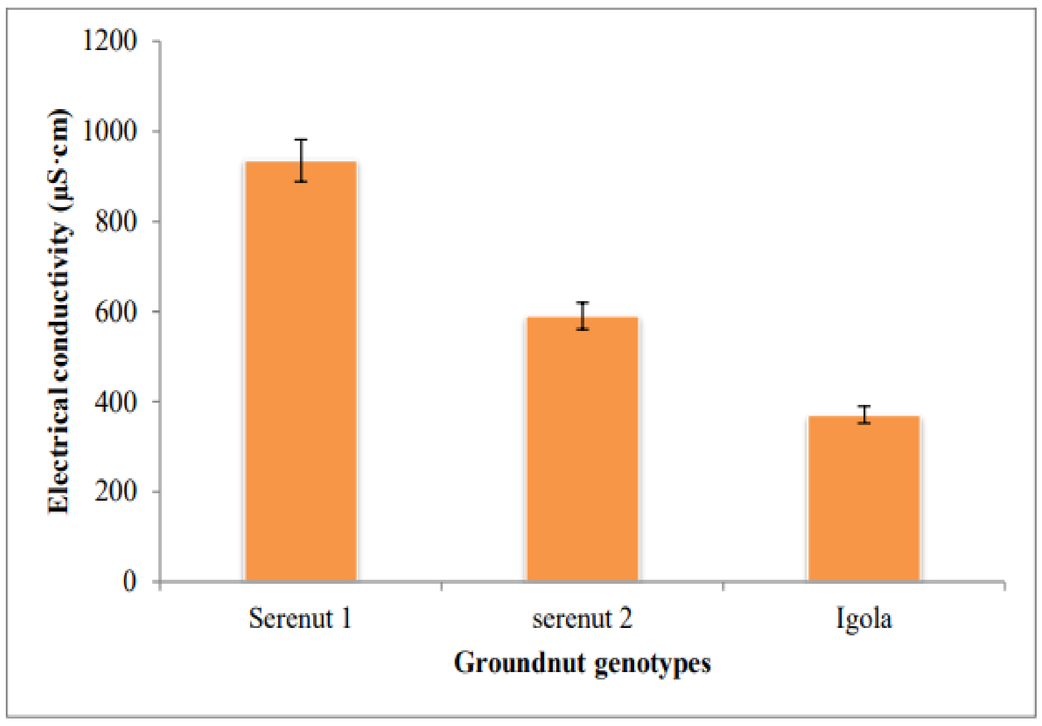

Figure 1: Electrical conductivity of seeds of groundnut genotypes 96 hours after soaking

Table 1: Germination percentage of seeds of groundnut genotypes

Treatment	Germination percentage (%)				
	1 DAG	2 DAG	3 DAG	4 DAG	5 DAG
Igola	56.7	70.0	78.3	88.3	97.0
Serenut 1	31.7	53.3	70.0	73.3	76.7
Serenut 2	5.0	20.0	41.7	55.0	61.7
LSD $_{(0.05)}$	7.56	21.54	15.35	10.00	10.00

***NOTE**: DAG represents Days after germination*

CONCLUSION

Since Igola had the lowest electrical conductivity and the highest germination percentage, it was conclude that Igola was the best promising variety.

FUTURE RESEARCH

- Additional studies with seeds of more groundnut genotypes are needed to increase the reliability on these results.