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Seed Quality Aspects of Nightshade (Solanum Nigrum) as Influenced by Gibberellins (GA3) on Seed

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Abstract : Plant growth regulators are actively involved in the growth and yield of plants. However, limited information is available on the combined effect of gibberellic acid (GA3) on growth attributes and yield of African nightshade. This experiment will be designed to fill this gap by studying the performance of African nightshade under the application of hormones. Gibberellic acid is a plant growth hormone that promotes cell expansion and division. A greenhouse and laboratory experiment will be conducted at the University of Sussex biotechnology greenhouse and Agriculture laboratory using a growth chamber to study the effect of GA3 on the growth and development attributes of African nightshade. The experiment consists of three replications and 5 treatments and is laid out in a randomized complete block design consisting of various concentrations of GA3. 0ppm, 50ppm, 100ppm, 150ppm and 200ppm. local farmer seed was grown in plastic pots, 6 seeds then hardening off to remain with four plants per pot at the greenhouse to attain purity of germplasm, proper management until maturity of berries then harvesting and squeezing to get seeds, paper dry on the sun for 7 days. In a laboratory, place 5 Whatman filter paper on glass petri-dish subject to different concentrations of stock solution, count 50 certified and clean, healthy seeds, then arrange on the moist filter paper and mark respectively. Spray with the stock solution twice a day and protrusion of radicle termed as germination count and discard to increase the accuracy of precision. Data will be collected on the application of GA3 to compare synergistic effects on the growth, yield, and nutrient contents on African nightshade.

Keywords : African nightshade, growth, yield, shoot, gibberellins
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