

THE EFFECT OF SEEDLING DENSITY AND  
SHADING MATERIAL ON GERMINATION  
AND EARLY GROWTH OF TOBACCO  
(NICOTIANA TABACUM L.)

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Four seedling densities and two shading materials were in order to elucidate their effect on seedling emergence and early growth of tobacco. The seedling emergence was better in beds under grey-cloth than under polythene. In contrast, shoot and root growth of tobacco seedlings was superior under polythene shade in all densities compared to that of grey-cloth. Higher shoot and root growth performance could be attributed to optimal environmental conditions found under polythene shade when computed to grey-cloth. The study also revealed that the highest shoot and root

growth was observed at the lowest density (plants/Cm<sup>2</sup>). In addition, higher the density, greater was the hindrance to plant growth because of the interplant and more susceptibility to diseases due to unfavourable micro-climate. Hence, the seedling density of 150 plants/900Cm<sup>2</sup> gave the most vigorous transplants. Therefore, a sowing rate of 0.70 - 0.75g of seeds per standard sized bed (3.91 x 4.6 m<sup>2</sup>) can be recommended. Polythene is considered the best cover for tobacco nurseries.

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#### References:

1. Akehurst, B.C. (1981). 'Tobacco' Longman Group Ltd., London; 2 - 132.
2. Hawka, S.N. (1978). Principles of Flue - cured Tobacco Production M.C. State Univ., Raleigh; 1 - 83
3. Iso, T.C. (1972). Physiology and Biochemistry of Tobacco Plants, Dowdon, Hutchinson and Ross, Inc. USA, 3-24.