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RESEARCH PAPER

Influence of different methods of seed extraction on seed quality in cucumber [*Cucumis sativus* (L.)] cv. HASSAN LOCAL

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Abstract : The supply of quality seeds is the constraint in getting higher fruit yield for consumption. Raising the crop for good quality cucumber seed, method of seed extraction is most important to maintain the quality of seeds, which involves removal of pulp and gelatinous substance present around the seed with direct extraction, fermentation, acid extraction and alkali extraction. Improper seed extraction result in inferior seed quality hence, the study on influence of different methods of seed extraction on seed quality in cucumber [*Cucumis sativus* (L.)] cv. HASSAN LOCAL was carried out in the Department of Seed Science and Technology, University of Agricultural Sciences, GKVK, Bangalore. Crop was raised at the Vegetable Seed Production plot, Department of Horticulture, during *Kharif*, 2010 by adopting Randomized Complite Block Design, design with four replications following recommended package of practices. The study comprised of six treatments *viz.*, E_1 (Natural fermentation for 24 hours), E_2 (Alkali extraction) E_3 (1% Hcl), E_4 (1.5% HCl), E_5 (2% Hcl), and E_6 (Control). The results revealed that the highest germination (94.50%), maximum mean seedling length (28.28 cm) highest mean seedling dry weight (12.53 mg), higher vigour index I (2671), vigour index II (1183), maximum field emergence (92%) and with low electrical conductivity (341μSm^{-1}) was recorded in E_1. The study can concluded that the seed quality parameters in seeds extracted with natural fermentation is more appropriate for better seed quality in cucumber.

Key Words : Cucumber, Vigour index, Seed quality parameters, Fermentation

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INTRODUCTION

Cucumber is a warm season crop mainly grown throughout the year in tropical and sub-tropical countries. Cucurbits requires comparatively dry, warm and long growing season for seed production. Annually quality seeds of cucumber marketing about 1000 tonnes with worth of 14.33 $ million (Indian Horticulture Database, 2005). Seed production in cucumber is not a difficult job. Farmers can easily produce seeds of cucumber in their own farms, to avoid the uncertainty of buying good seed by selection of healthy fruit and seed. The supply of quality seeds is the constraint in getting higher fruit yield for consumption. Many advances are being made regarding raising of the seed crop for good quality cucumber seed, but best method of seed extraction has not been given equal attention to maintain the quality of seeds. Improper seed extraction result in poor quality. Therefore, best method of seed extraction needed to get good seed quality. The realization of higher seed quality in cucumber is much depends on the use of seed production technologies like standard method of seed extraction. The information available on the best method of seed extraction in cucumber (*Cucumis sativus* L.) is limited. Considering the importance of above practical problems involved in maintaining seed quality parameters, the present study has carried out.

MATERIALS AND METHODS

The material consists of seeds of cucumber (*Cucumis sativus* L.) cv. HASSAN LOCAL were obtained from Department of

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