

STANDARDIZATION OF SEED UPGRADATION TECHNIQUES IN HYBRID RICE (*Oryza sativa* L.)

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ABSTRACT

Density grading of hybrid rice seeds by specific gravity separator significantly improved the seed quality in terms of higher recovery of good seeds, higher seed weight, lesser split husk seeds and maximum germination and vigour. High and medium density seeds were better in seed germination and vigour as compared to low density seeds. Obtaining high quality seeds (high and medium density grades) through specific gravity separation could compensate loss of seeds due to rejection of low density seeds. The results on standardization of sodium chloride salt concentration for upgradation revealed significant variations in all the physical and physiological attributes studied due to concentration of salt solution. Considering various factors such as seed recovery, separation of split husk seeds, seed weight, germination, vigour and lustre improvement, salt solution concentration of four per cent for ADTRH 1 and five per cent for CORH 2 were found optimum for seed quality upgradation. Comparison of density grading methods revealed that the physical and physiological seed quality parameters of seeds could be significantly improved by both salt solution upgradation and specific gravity separation methods. However, the effect of salt solution upgradation was much pronounced in physical parameters as observed through more high density seeds and lesser split husk seeds, whereas the effect of specific gravity separation was better expressed in physiological quality as witnessed through higher germination and vigour index. Hence, both the methods could be adopted for upgradation of hybrid rice seeds depending upon the utility i.e., salt upgradation may be adopted as pre-sowing seed conditioning and specific gravity separation as pre-storage seed conditioning.

Key words : hybrid rice, seed upgradation, seed density