RESEARCH ARTICLE

COMPARATIVE STUDIES OF DIFFERENT GENOTYPES OF *TRITICUMAESTIVUM* FOR CALLUS INDUCTION AND REGENERATION USING DIFFERENT GENERATIVE EXPLANTS, MEDIA AND PHYSICAL AND CHEMICAL MUTAGENS

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Abstract: This paper compared the behavior of diverse set of wheat genotypes in their tissue culture response.Significant differences were detected in plant callusing,culture efficiency and regeneration capacity when immature embryo (non treated or EMS treated) and matureembryo(NS,ES,30KR(ES) and 35KR(ES) of six wheat cultivars were compared. In immature embryo callus induction was significantly higher on 2, 4-D (Raj3765 98.4%) supplemented medium than 2, 4, 5-T (Raj3765 89.2%) in case of non treated while in EMS treated one it was higher on 2, 4, 5-T (Raj3765 88.3%) containing medium. Non treated and EMS treated immature embryos showed significant differences and better was in non treated explants. Regeneration was highest in PBW 343 (82.7%) when non treated callus were transferred to regeneration media. Similar type of response was observed with mature embryos for callus induction as it was highest in NS(UP2338 100%) among all ES system (non treated (UP2338 87.90%), 30KR (WH542 87.3%) and 35KR gamma irradiated (Raj3765 88.6%).Regeneration was best in 30KR(ES) mature embryo derived callus among all (PBW343 92.5%).PBW343 was the best genotype regarding regeneration in mature embryo(NS PBW343 91.4%),ES non treated (DI9 83.3%).Mature embryo was superior explant than immature embryo for callusing and regeneration.

Keywords: Callus induction, Media, Mutagens, Regeneration, *Triticum aestivum*

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