Direct Regeneration of Chickpea (*Cicer arietinum L.*) from Adventitious Buds

Salem S. Alghamdi[1] and Megahed H. Ammar[2]

[1]Legume Research Group, Plant production Department, Faculty of Food and Agricultural Sciences, King Saud University, P.O .Box 2460, Riyadh 11451, Saudi Arabia, e-mail: salem@ksu.edu.sa

[2]Legume Research Group, Plant production Department, Faculty of Food and Agricultural Sciences, King Saud University, P.O .Box 2460, Riyadh 11451, Saudi Arabia

Abstract. The seeds of ten different genotypes of chickpea (*Cicer arietinum L.*) originated from Egypt, ICARDA and Saudi Arabia, were used to screen their tissue culture response on various media combination. MS media supplemented with 1, 2 and 4 mg of each of IBA and trans- zeatin /l, were tested. The results showed that stem results were far better from leaves explants. The callus induction ranged from 6.98% for Giza 4 to 100% in Line 221. The genotypes Giza 4, Giza 88, Giza 195, and Giza 531 proved to be the most responsive genotypes in direct shoot formation. It is clear adventitious buds for direct regeneration and multiple shoot formation was the best explant that produced multiple shoots within 4-5 weeks period. However, callus induction trial using stem explants showed also acceptable response. In contrast, leaf explants were very poor in response and were severely affected by phenolic components secreted in growth media. The 4-6 cm long shoots were transferred to rooting media on NAA and IBA at concentration of 0.5, 1.0 and 2.0 mg/l. roots were successfully produced 3-4 weeks and complete plantlets were established. Callus induction and subsequent embryogenesis were limited to genotypes Giza 1, Giza 195 and Line 221as they gave the highest callus induction response.

Keywords: Chickpea, Direct shoot formation, growth regulators

***Note**: Upon request by the author, only the abstract of this paper is published to the proceedings. You can contact directly the author for more information regarding this paper.*

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