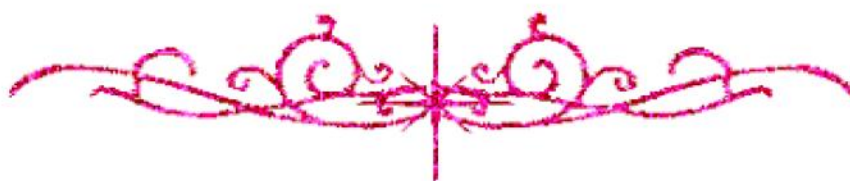


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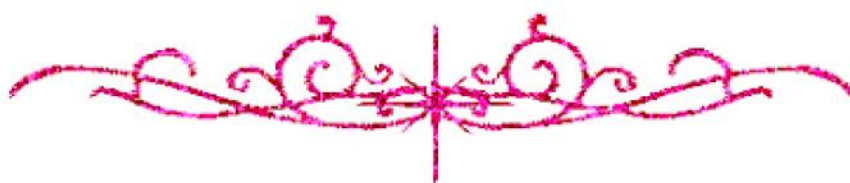
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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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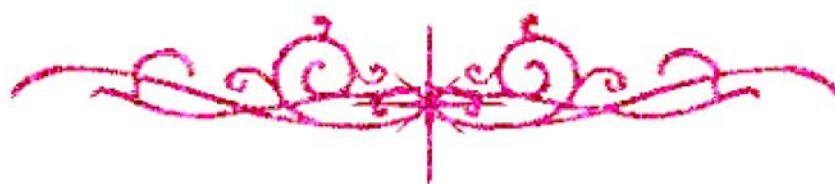
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**بالرسالة صفحات
لم ترد بالأصل**



Evaluation of a new transformation method in tomato

By

B 17768

Mohamed Eid Mohamed Saad

B.Sc. Agric. Sci. Cairo University, 1994

Thesis
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of

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IN
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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ABSTRACT

A new system for transformation of tomato was evaluated using the Helios Gene Gun. Transformation parameters were optimized using a plasmid containing the *GUS* gene. The bombarded leaflets were subjected to the *GUS* histochemical assay and the number of blue foci was counted. The highest *GUS* expression was obtained when using helium pressure of 200 psi with 0.6µm gold particle size. The microcarrier loading quantity (MLQ) of 0.25 mg/shot was found to be the most convenient for use with the Helios Gene Gun. A promoter comparison study was carried out with both the Helios Gene Gun and the Biolistic Gun. The level of expression of the promoters in driving the *GUS* expression was estimated by counting the number of blue foci expressed in the bombarded leaflets. The CsVMV promoter showed the highest expression followed by the CaMV 35S promoter then the Maize Ubi1 promoter while the Rice Act1 showed the lowest average expression. Similar results were obtained with both the Biolistic Gun and the Helios Gene Gun. Apical meristems of 12 plants from each of the 3 cultivars (Castlerock, Strain B and Peto 86) were bombarded with the construct harboring the CsVMV promoter using the Helios Gene Gun. Transformed plants were screened for putative transgenic events using PCR. No amplification products were obtained revealing no sign of stable transformation. The effects of the new system on the morphological characters of the bombarded plants were investigated. Statistical analysis of data collected on different morphological characters indicated no significant differences between the bombarded and non-bombarded plants using the Helios Gene Gun.

M. A. Badawi

To My Family

Mohamed

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Abbreviations

neomycin phosphotransferase II	NPT II
β -glucuronidase	GUS
chloramphenicol acetyltransferase	CAT
Cauliflower Mosaic Virus	CaMV
Cassava Vein Mosaic Virus	CsVMV
Polyubiquitin	Ubi
Actin	Act
phosphinothricin acetyl transpherase	PAT
phosphinothricin	PPT
Polymerase Chain Reaction	PCR
Yeast Artificial Chromosome	YAC
green fluorescent protein	GFP
major outer membrane protein	MOMP
l-aminocyclopropane-1-carboxylate	ACC
alcoholdehydrogenase	Adh
Piperazine-N,N'-bis(2-ethanesulfonic acid; 1,4-	PIPES
Piperazinediethanesulfonic acid	
Sodium Dodecyl Sulfate	SDS
Polyvinylpyrrolidone	PVP
Pound per square Inch	psi
luciferase	LUC
polygalacturonase	PG

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