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*G. barbadense*    *G. hirsutum*

## جدول المحتويات

Abstract

16

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اختيار الجرعات المثلى لإحداث الطفرات في نوعي القطن *G. barbadense* و *G. hirsutum*

C6040 *Gossypium hirsutum*  
Trefgroup, ) ( x x ) *Gossypium barbadense*  
(Netherlands  
C6040 : %  
Isolvated) ( Co) C6040  
/  
(  
/  
C6040

## **Selection of optimal doses for mutation induction in two species of cotton *G. hirsutum* and *G. barbadense***

Dr. Dana Jawdat

Eng. Intissar. Karajoly

### **Abstract**

Seeds from six varieties of *Gossypium hirsutum* and from one variety of *Gossypium barbadense* were cultured in plastic containers (20 x 60x 30 cm) with compost (Terfgroup, Netherlands). Germination readings were taken 14 days after culture, where plants with first true leaf was chosen for readings. The highest percentages of germinations were 83.3 (C6040) and 80 % (Rakka 5).

Seeds of Rakka 5 were subjected to gamma radiation ( $^{60}\text{Co}$ ) with radiation activity of 4 kCi using the Gamma cell (Isolvated, made in Russia) at the Radiation Technology department at the AECS. The following doses were used in a rate of 1.8548 KGry/h: 100,150,200, 250, 300, 350,400 and 500 Gry. On the other hand, seeds of C6040 were subjected to 100,150,200, 250 and 300 Gry. The results indicated the effects of gamma radiation doses on germination rate, plant height, distance between cotyledons leaves and first true leaf and flowering time.

.(Khan, 2003)

.(FAO, 2004)

23,080

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.([http://www. Indexmundi.com](http://www.Indexmundi.com))

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.(FAO, 2003,2004) /

*G. arboreum* *G . herbaceum*

*G.*

*G. hirsutum*

*barbadense*

.(Baluch, 1977)

38-39 °C

( ) 21°C

.( )

35,200

) ( )

(Al-Safadi *et al.*, 2000) (

%75

.(Al-Safadi and Arabi, 2003)

*Arabidopsis thaliana*

Arabidopsis thaliana

(X : )

(Al-Safadi and Arabi, 2003)

(Al-Safadi *et al.*, 2000

)

( )

.(Charbaji *et al.*, 2003)

( ) *Gossypium hirsutum*

(C6040) *Gossypium barbadense*

chirpan 539 : *Gossypium hirsutum*

)*Gossypium barbadense* /

(C6040

) / ( x x )

.(Trefgroup, Netherlands) Terf

.( /

chirpan 539

/

:

%

C6040

: -

( Isolvated) ( Co) -

/

C6040

( x x )

) / /

(Trefgroup, Netherlands) Terf

.(

: -

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: -

.Statiview 4.5(Abacus,1995)



. % , % , , , , , , , :

, :

C6040

.( ) % , , , ,

C6040 (% >) % ,

(% )

C6040

( )

( )

C6040

.( )

.( )

C6040

M1

C6040

.( )

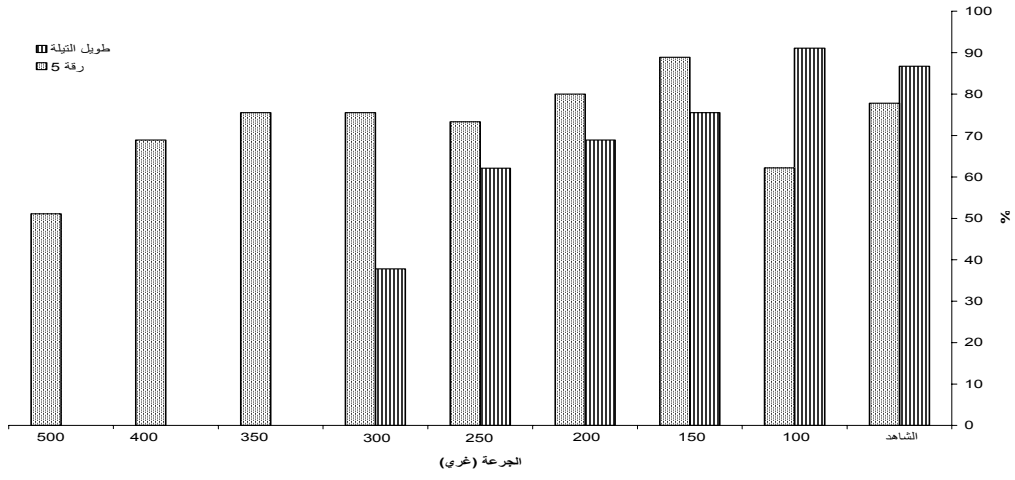
.( )

*G.barbadense* *G.hirusutum*

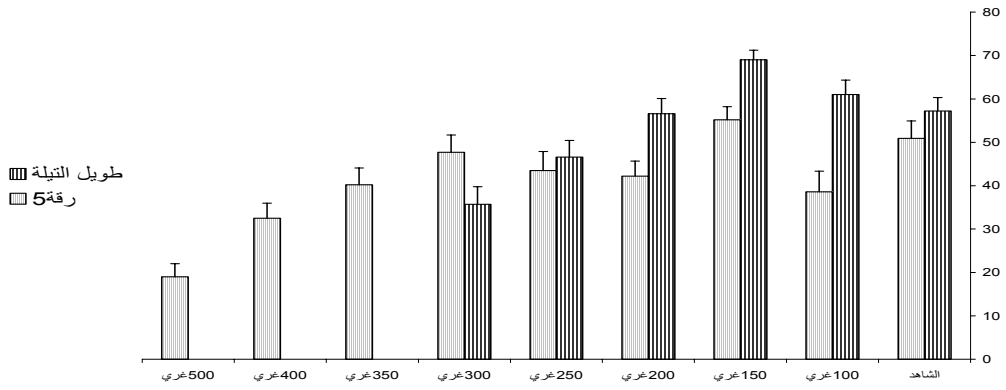
C6040

C6040

نسبة الإنبات المنوية للبذور المشبعة

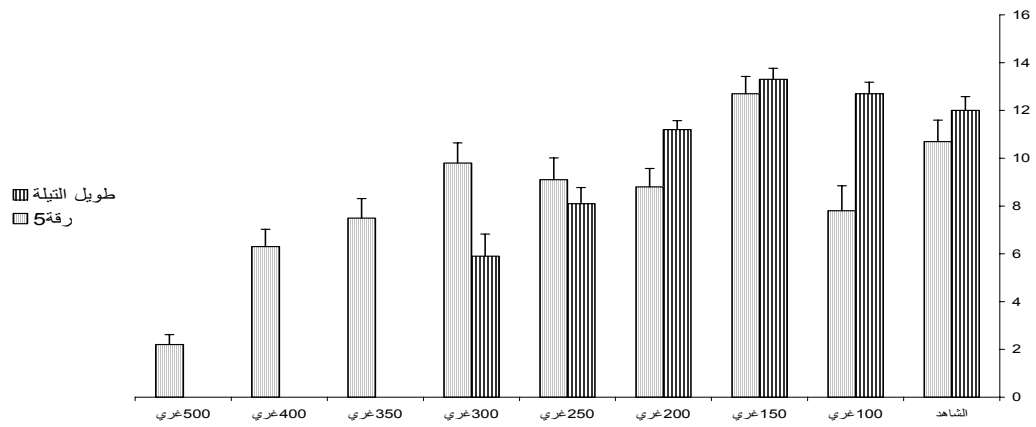


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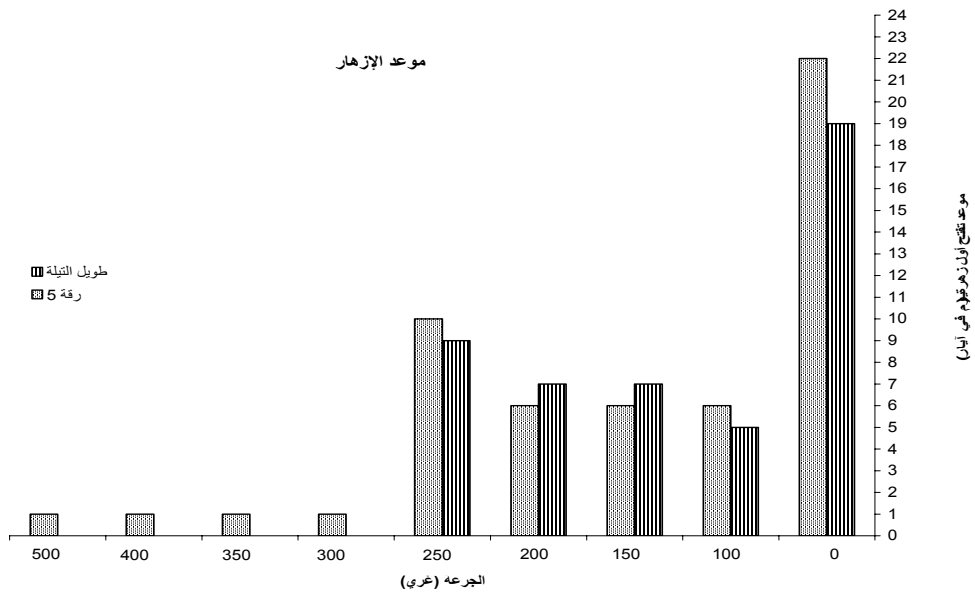


C6040

:



C6040



C6040

:4

نباتات الـ Barbadense ANOVA : ( )

	درجة الحرية	مربع المتوسطات	قيمة F	الاحتمالية
الجرعة	٥	٣٢٣٢,٧٦٤	٩,٧٠٧	<٠,٠٠٠١
المتبقي	١٥٨	٣٣٣,٠٤١		

: ( )

Barbadense

نباتات الـ Barbadense ANOVA : ( )

	درجة الحرية	مربع المتوسطات	قيمة F	الاحتمالية
الجرعة	٥	١٩٩,١٧٣	٢٢,٥٧٧	<٠,٠٠٠١
المتبقي	١٥٨	٨,٨٢٢		

Barbadense

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(  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

.Rakka 5 نباتات ANOVA :( )

	الاحتمالية	قيمة F	مربع المتوسطات	درجة الحرية
الجرعة	<0,0001	7,787	5148,584	8
المتبقي			661,218	396

:( )

Rakka 5

( )

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نباتات

ANOVA

:( )

.Rakka 5

الاحتمالية قيمة F مربع المتوسطات درجة الحرية

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الجرعة	٨	٣٩٢,٠٧٩	١٣,٢٢٣	<٠,٠٠٠١
المتبقي	٣٩٦	٢٩,٦٥١		

Rakka 5

:( )

( )

(



*Arabidopsis thaliana*

.(Koornneef *et al.*, 1991)

*FRIGIDA (FRI)* (vernalization pathway)

.(Johanson *et al.*, 2000)

.(Weigel *et al.*, 1992) *LEAFY (LFY)* (photoperiodic pathway)

NIAB-78

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ل القطن. رقم النشرة ٤٤٨.

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**Report on Laboratory Reconnaissance Experiment  
Department of Molecular Biology and Biotechnology**

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