

PDA

(Lactuca sativa L.)

(2002/11/1 2002/7/26)

10^{-6}

(10^{-8} , 10^{-7} , 10^{-6}) PDA

PDA

10^{-8}

PDA

10^{-8}

NAA

D H G

10^{-7}

PDA G

(27.5)

PDA

Behavior of Some Triazoles Derivatives as Synthysised Cytokinins in the Presence of New Growth Regulator (PDA) in the Initiation Growth and Differentiation of Lettuce callus (*Lactuca sativa L.*)

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ABSTRACT

The addition of PDA compound (10^{-6} , 10^{-7} , 10^{-8} M) with (10^{-6} M) triazoles compounds stimulates callus formation from stem segments depending on the types of derivative and PDA concentration used. Moreover, the addition of most triazoles compounds (10^{-6} M) with PDA (10^{-8} M) induced the shoots regeneration in greater numbers as compared with the presence of NAA. Most compounds added enhanced growth of the callus similar to that grown on the standard medium or more especially in the case of G, H and D compounds. The fresh weights of callus grown on medium containing G and PDA were 27.5 g as compared with other compounds used.

Interestingly, protein content of callus increased with the lapses of growth period in the same pattern as the changes in fresh weight.

The conclusion is that triazoles compounds behave in the same way as cytokinins in the culture medium.

These compounds were more effective than the standard growth regulators in growth and differentiation of lettuce plant.

However, the use of PDA instead of standard auxins enables to exclude the use of imported growth regulators, which has great economic importance. This study is regarded for the first time an attempt to use locally prepared auxins and cytokinins in Lettuce tissue culture system.

Mohammed and Yousif, 1982 ; Abe et al.,)

(1997

.(Centeno et al., 1998)

(In vitro)

.....

Barriobero et)

(al., 1995; Mohammed and Raof, 1981; Skoog and Miller, 1957

.(Lo et al., 1997 1990)

.(Tanimoto and Harada, 1982)

PDA

(1999)

(Noori, 1999)

)

(2000

(PDA)

(15)

(1.5-1)

(BA) Benzyladenine

(Murashige and Skoog, 1962) MS

(3×10^{-6})

(NAA) Naphthalene acetic acid

(4×10^{-6})

(2000

1999a

Mohammad and Abood, 1989)

(1500)

o (2 ± 20)

PDA

MS

16

NAA

(10^{-8} , 10^{-7} , 10^{-6})

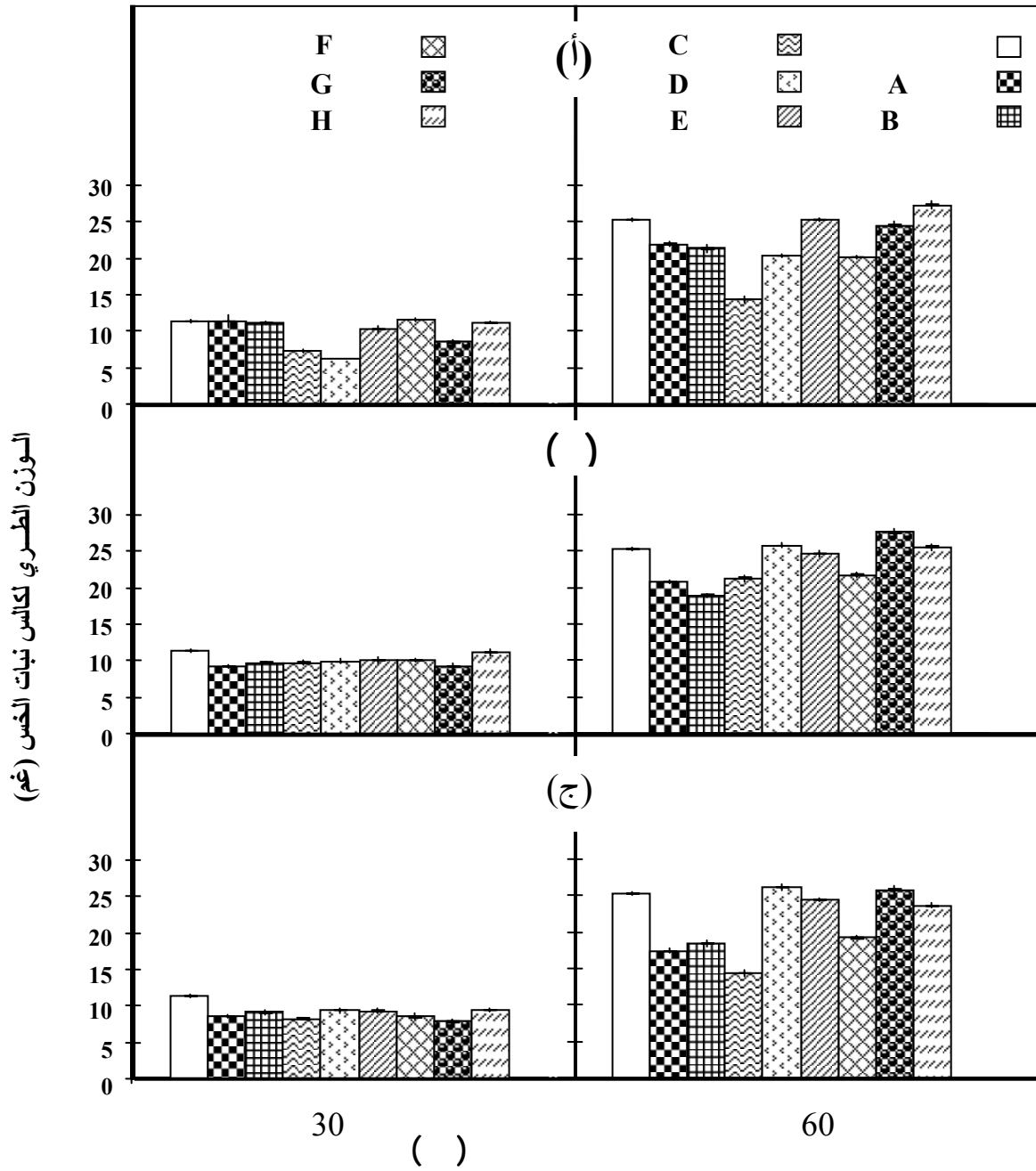
10^{-6}

.(H,G,F,E,D,C,B,A)

BA NAA .BA 4×10^{-6}
 .(2002 1999b) 10^{-6}
 , 60 30
 60 30
 1951 Lowery
 Bovine Serum)
 .(Albumin

PDA 10^{-6}
 :
 : **.1**
 A
 (60 30) PDA
 10^{-6} (21.953) (, 1)
 (25.27) 60 A PDA 10
 PDA B
 60
 B PDA .(,1)
 .PDA 10^{-7} 10^{-6}
 PDA (,1)
 D (60 30) C
 PDA
 60 D PDA 10^{-8} (26.133)
 (1) (25.27)
 E PDA
 . (1) 60

.....



PDA

MS

()

:1

10^{-6}

(10^{-8} 10^{-7} 10^{-6})

60 30

10^{-7} PDA

()

10^{-6} PDA

()

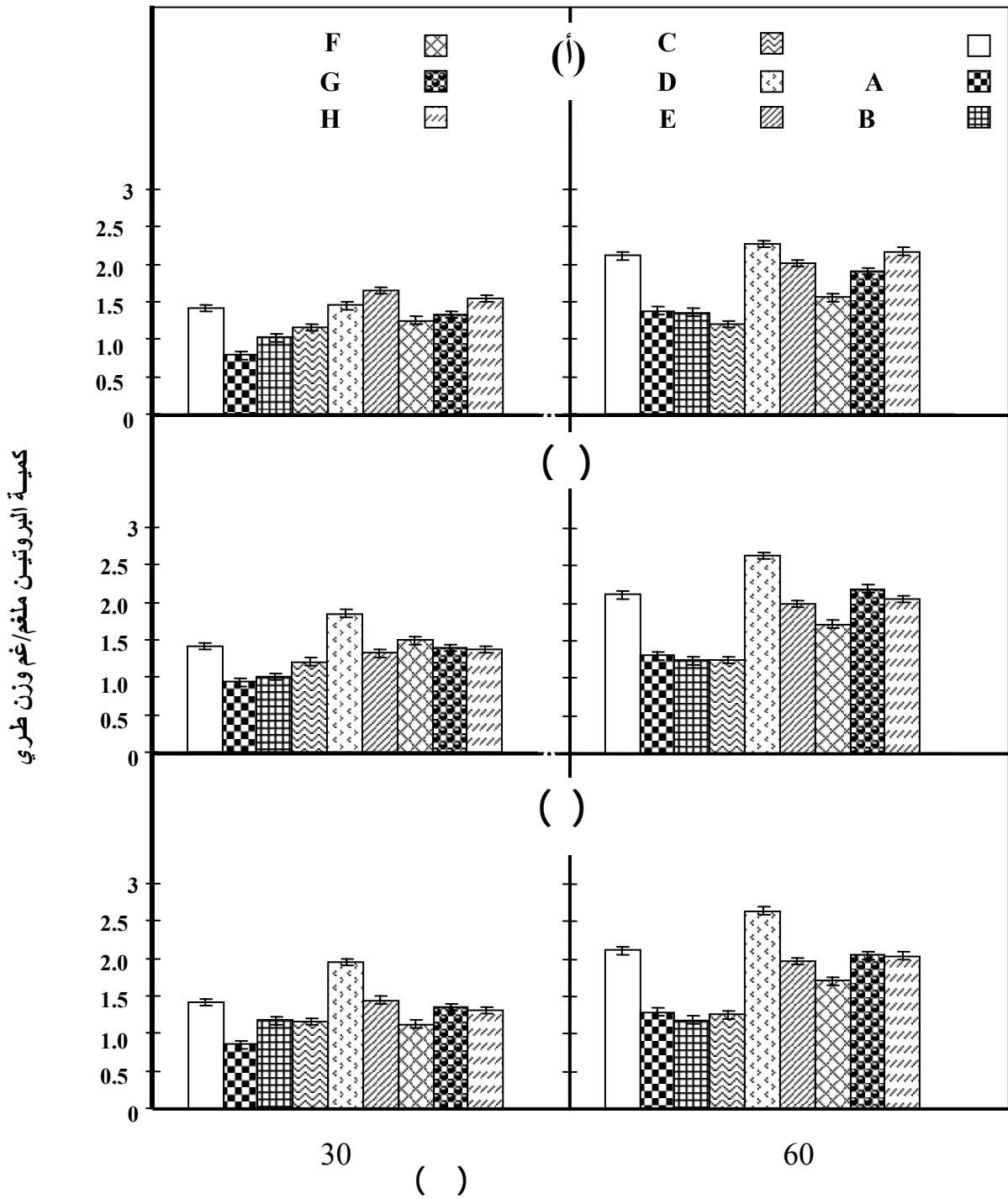
10^{-8} PDA

()

E 10^{-6} PDA
 PDA F
 F 10^{-7} PDA (21.746)
 G .(1) 60
 27.57 PDA
 (25.27) 60 PDA 10^{-7}
 PDA H .(1)
 10^{-6} (27.303)
 25.27 60 H PDA
 .(1)
 : .2
 (2)
 .A PDA 10^{-6} 60
 (60 30)
 B PDA
 .(2)
 PDA
 (.2) C
 (. 60)
 G F E D PDA
 H
 / 2.69
 D PDA 10^{-8}
 60
 (/ 2.015) E PDA 10^{-6}
 1.72) F PDA 10^{-7}
 G PDA 10^{-7} .(/
 10^{-6} (/ 2.19)

.....

(/ 2.11) (/ 2.17) H PDA
 .(,2)



MS (/) :2

(10^{-8} 10^{-7} 10^{-6}) PDA

60 30 10^{-6}

10^{-6} PDA () 10^{-4} PDA ()

10^{-8} PDA ()

.(Van der Westhuizen and Groenewald, 1990; Bhojwani and Razdan,1983 Pierik, 1987)

.(1990 ; Murashige and Skoog, 1962)
()

.(Mohammad and Abood, 1989) ...

BA 3x10⁻⁶ NAA MS 4x10⁻⁶

.(2000 ; 1999a)

.(Hooykaas *et al.*, 1999; Pierik, 1987 Moore, 1979; Wareing and Phillips, 1978).

PDA

PDA

NAA

10⁻⁶

PDA D

.....

10⁻⁶ PDA D

G
.PDA

Macisaac *et al.*, 1989; Tanimoto and Harda, 1982 ; Fannesbech, 1972)
(2001 Mohammad, and Abood, 1995; Mohammad *et al.*, 1986;
PDA

; Kabi and Pujari,)
(Kraus *et al.*, 1993; Fletcher and Arnold, 1986; 1980
Barghchi)
(1995 ; and Alderson, 1985
(Street, 1977)

(Salisbury and Ross, 1992; Einspahr and Thompson, 1990; Evans, 1985)

(PDA)
()

.2002

KLactuca sativa L.

PDA, .1999a

Pentadienoic Acid

.12-1 2 10

.1999b
(PDA, Pentadienoic)
.25-13 2 10
.2001
Raphanus sativus C
Pistacia .1995
. vera.L
(PDA) .1999
2789
.2000
.36-15 1 11
.2000
. 15-1 10.2 .
.1998
9
.24-14 2
.1990
.2000
.,*Lactuca sativa* L.,

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