

( )

**(*Datura stramonium* L.)**

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( // : // : )

± ) : ( )  
( ± )  
( )  
(p≤ % )  
/  
/  
/ ±  
(GA3)  
( ) (p≤ % )  
GA3  
( )  
:

(Nadjafi et al., 2006; Watanabe et al., 2002; Foley, 2002; Hilhorst & Karssen, 1992; Iglesias & Babiano, 1992)

(*Datura stramonium* L.)

(Karlsson & Milberge, 2007)

(Holm et al., 1997)

(Holm et al., 1997)

(Deng, 2005)

(Ghersa et al., 2000)

(Byrd & Coble, 1991; Scott et al.,

2000)

(Mitich, 1989)

(Karimi, 2001)

(Soriano et al., 1964;

Sanchez et al., 1981)

(Noldin et al., 2006)

(Fenner, 2000; Foley, 2002)

(Hermansen, 1999; Foley,

2002)

(Reisman-Beramn et al., 1991)

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1. *Solanaceae*

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( (W50-10min)

( (D50-6day) ( )

( (D60-7hour)

(GA<sub>3</sub>)

(

(Gibberellinsäure, C<sub>19</sub>H<sub>22</sub>O<sub>6</sub>, Merck CO., Catalog No. 41213925, Germany)

( :)

( GA<sub>3</sub> ( CR7)

( ) ( ScaR7)

( ( CR40)

(

GA<sub>3</sub> : )

(

Sca1R40)

(

Sca 2R40)

± ) (

( (CChiling70) (

± )

(

.(ScaChiling7)

(6-Furfurylaminopurine, C<sub>10</sub>H<sub>9</sub>N<sub>5</sub>O, Fluka CO., Catalog No. 37936, USA)

(ScaR7 )

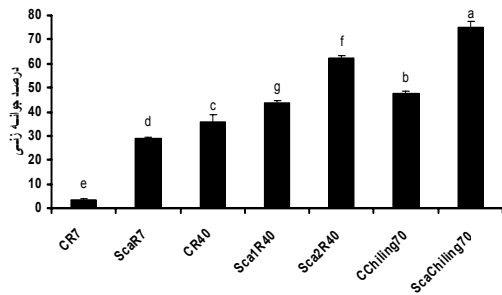
CR7 CR40

(ScaChiling70)

SAS

ANOV

(MS)
(CV%)



:CR7 .

:ScaR7

:CR40 ( )

:Sca1R40

Sca

:2R40

:CChiling70

( ± )

:ScaChiling70

( ± )

( / )  
(Sca2R40)  
(CR40)

( )

) Sca1R40

(

Derkx & Karssen .

(1988) Hilhorst & Karssen (1993)

(CR7)

(1964) Soriano et al. (1981) Sanchez et al.

1. After ripening

(GA<sub>3</sub>)

(2005) Klinken et al.

( ) GA<sub>3</sub> ( )  
 GA<sub>3</sub> ( ) ( )  
 ( ) GA<sub>3</sub> ( )  
 (1977) Taylorson & Brown ( )

( )

(2002) Watanabe et al.

(Watanabe et al., 2002)

In-Hwan Park .

*Nicandra physalodes*

(2000)

*Koelreuteria paniculata* Laxm.

GA<sub>3</sub>

(2002) Foley

GA<sub>3</sub>

*Arabidopsis*

GA<sub>3</sub>

(Debeaujon & Koornneef, 2000; Karssen et al., 1989).

( )

GA<sub>3</sub>

(Folley, 2002)

GA<sub>3</sub>

GA<sub>3</sub>

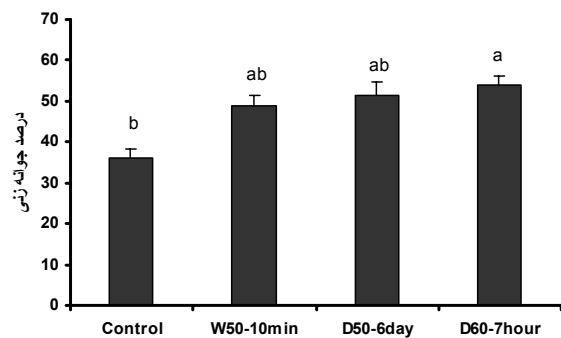
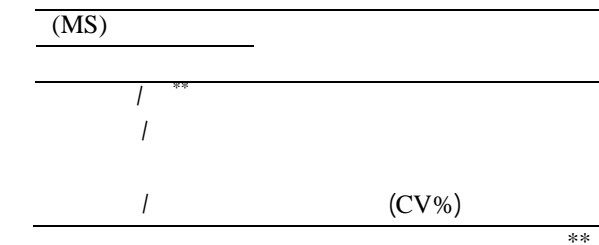
GA<sub>3</sub>

:W50-10min .

:D50-6day

:D60-7hour

:Control



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(1982) Cohn & Butera  
( )

(*Sisymbrium orientalis*)

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(1987) Brown & Bridglall  
(*Datura stramonium* L.)

*Datura*

*Datura stramonium* L. *ferox*  
(Mahmoodzadeh et al., 2004 ; Sanchez et al., 1990)

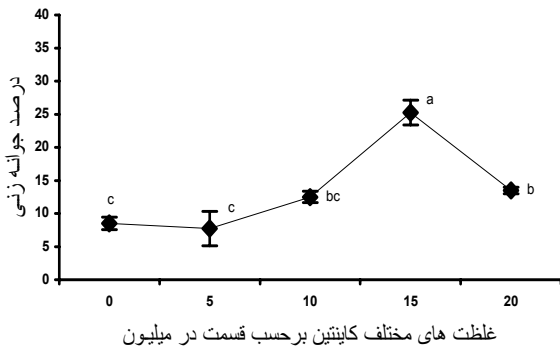
(1982) Cohn & Butera

(MS)	
/	**
/	
/	(CV%)

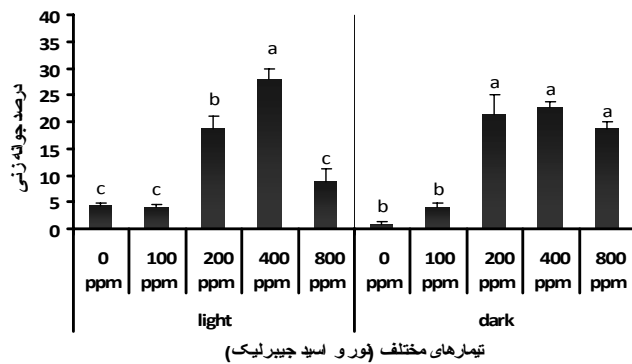
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(MS)	
/	ns
/	**
/	**
/	x
/	
/	(CV%)

\*\* ns



((P<0.05))



تیمارهای مختلف (ور و اسید جیبرلیک)

(GA<sub>3</sub>)

( )

( )

( )

± )

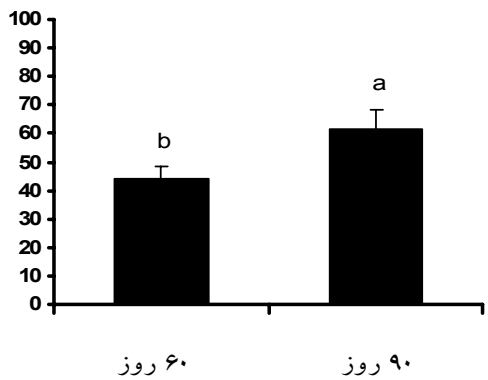
(

± )

( )

( )

(MS)	
/	**
/	ns
/	ns
/	x
/	
/	(CV%)
	** ns



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( )

( )

(Benech-Arnold et al., 2000)

(Chauhan et al., 2006; Miyoshi

GA<sub>3</sub> & Sato, 1997)

( )

## REFERENCES

1. Benech-Arnold, R. L., Sanchez, R. A., Forcella, F., Kruk, B. C. & Ghera, C. M. (2000). Environmental control of dormancy in weed seed banks in soil. *Field Crops Res*, 67, 105-122.
2. Brown, N. A. C. & Bridglall, S. S. (1987). Preliminary studies of seed dormancy in *Datura stramonium*. *S. Afr J Bot*, 53, 107-109.
3. Byrd, J. D. Jr. & Coble, H. D. (1991). Interference of selected weeds in cotton (*Gossypium hirsutum*). *Weed Technol*, 5, 263-269.
4. Chauhan, B. S., Gill, G. & Preston, C. (2006). Influence of environmental factors on seed germination and seedling emergence of oriental mustard (*Sisymbrium orientale*). *Weed Sci*, 54, 1025-1031.
5. Cohn, M. A. & Butera, D. L. (1982). Seed dormancy in red rice (*Oryza sativa*). II. Response to cytokinins. *Weed Sci*, 30, 200-205.
6. Debeaujon, I. & Koornneef, M. (2000). Gibberellin requirement for Arabidopsis seed germination is determined both by testa characteristics and embryonic abscisic acid. *Plant Physiol*, 122, 415-424.
7. Deng, F. (2005). Effects of glyphosate, chlorsulfuron and methyl jasmonate on growth and alkaloid biosynthesis of jimsonweed (*Datura stramonium* L.). *Pest Bio & Physio*, 82, 16-26.
8. Derkx, M. P. M. & Karssen, C. M. (1993). Effects of light and temperature on seed dormancy and gibberellin-stimulated germination in *Arabidopsis thaliana*: studies with gibberellin-deficient and -insensitive mutants. *Physiol Plant*, 89, 360-368.
9. Egley, G. H. & Duke, S. O. (1985). Physiology of weed seed dormancy germination. In: S. O., Duke. (ed.). *Weed Physiology*. Volume 1. Reproduction and Ecophysiology. Boca Raton, FL: CRC Press.
10. Fenner, M., ed. (2000). *Seeds: The Ecology of Regeneration in Plant Communities*. Wallingford, U.K., CABI Publishing.
11. Foley, M. E. (2002). Introduction to the symposium on dormancy in seeds and vegetative propagules. *Weed Sci*, 50, 214.
12. Ghera, C. M., Benech-Arnold, R. L., Sattore, E. H. & Mart'nez-Ghera, M. A. (2000). Advances in weed management strategies. *Field Crops Res*, 67, 95-104.
13. Hermansen, A., Brodal, G. & Balvoll, G. (1999). Hot water treatments of carrot seeds, effects on seed-borne fungi, germination, emergence and yield. *Seed Sci & Technol*, 27, 599-613.
14. Hilhorst, H. M. W. & Karssen, C. M. (1992). Seed dormancy and germination, the role of abscisic acid and gibberellins and the importance of hormone mutants. *Plant Grow Regu*, 11, 225-238.
15. Hilhorst, H. M. W. & Karssen, C. M. (1988). Dual effect of light on the gibberellin- and nitrate-stimulated seed germination of *Sisymbrium officinale* and *Arabidopsis thaliana*. *Plant Physiol*, 86, 591-597.
16. Holm L., Doll, J., Holm, E., Pancho, J. & Herberger, J. (1997). *World Weeds: Natural Histories and Distribution*. In: *Datura stramonium* L., Wiley, New York, USA.
17. Iglesias, G. R. & Babiano, M. J. (1997). Endogenous abscisic acid during the germination of chickpea seed. *Plant Physiol*, 100, 500-504.
18. In-Hwan Park, S. R. (2000). Effect of scarification, GA<sub>3</sub> and chilling on the germination of goldenrain-tree (*Koelreuteria paniculata* Laxm.) seeds. *Scientia Horti*, 85, 319-324.
19. Karimi, H. (2001). *Weeds of Iran*. Center of University Press (Iran). 419 pp. (In Farsi).
20. Karlsson, L. M. & Milberg, P. (2007). Seed dormancy pattern and germination preferences of the South African annual *Papaver aculeatum*. *S Afr J Bot*, 73, 422-428.
21. Karssen, C. M., Zago'rski, S., Kepczyn'ski, J. & Groot, S. P. C. (1989). Key role for endogenous gibberellins in the control of seed germination. *Ann Bot*, 63, 71-80.
22. Klinken, R., Van, D. & Flack, L. (2005). Wet heat as a mechanism for dormancy release and germination of seeds with physical dormancy. *Weed Sci*, 53, 663-669.
23. Mahmoodzadeh, A., Nojavan, M. & Bagheri, Z. (2004). Effect of different treatments on seed germination and dormancy breaking of (*Datura stramonium* L.). *Iranian J Bio*, 18, 349-341. (In Farsi).
24. Mitich, L. W. (1989). Jimsonweed. *Weed Technol*, 3, 208-210.
25. Miyoshi, K. & Sato, T. (1997). The effect of kinetin and gibberellin on the germination of dehusked seed of indica and japonica rice (*Oryza sativa*) under anaerobic and aerobic conditions. *Ann Bot*, 80, 479-483.
26. Nadjafi, F., Bannayan, M., Tabrizi, L. & Rastgoo, M. (2006). Seed germination and dormancy breaking techniques for *Ferula gummosa* and *Teucrium polium*. *J Arid Enviro*, 64, 542-547.
27. Noldin, J. A., Chandler, J. M. & McCauley, G. N. (2006). Seed longevity of red rice ecotypes buried in soil. *Planta Dani*, 24, 611-620.
28. Reisman-Beramn, O., Kigel, J. & Rabin, B. (1991). Dormancy patterns in buried seeds of *Datura soro*x and *Datura stramorium*. *Can J Bot*, 69, 173-179.
29. Sanchez, R. A. Eyherabide, G. & de Miguel, L. C. (1981). The influence of irradiance and water deficit during fruit development on seed dormancy in *Datura ferox* L. *Weed Res*, 14, 127-132.
30. Sanchez, R. A., Sunell, L., Labavitch, J. M. & Bonner, B. A. (1990). Changes in the endosperm cell walls of two *Datura* species before radicle protrusion. *Plant Physiol*, 93, 89-97.



31. Scott, G. H., Askew, S. DJ., Wilcut, W. & Brownie, C. (2000). *Datura stramonium* interference and seed rain in *Gossypium hirsutum*. *Weed Sci*, 48, 613–617.
32. Soriano A., Sanchez, R. A. & Eilberg, B. A. (1964). Factors and processes in the germination of *Datura ferox*. *Can J Bot*, 42, 1189-1203
33. Taylorson, R. B. & Brown, M. M. (1977). Accelerated after-ripening for overcoming seed dormancy in grass weeds. *Weed Sci*, 25, 473-476.
34. Watanabe, H., Kusagaya, Y. & Saigusa, M. (2002). Environmental factors affecting germination of apple of Peru. *Weed Sci*, 50, 152-156