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*(Thymus vulgaris L.)*

**EFFECTS OF WATER DEFICIT STRESS ON MORPHOLOGICAL CHARACTERISTICS, CHLOROPHYLL AND PROLINE CONTENTS AND ANTIOXIDANT ACTIVITY OF GARDEN THYME (*THYMUS VULGARIS L.*)**

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SPSS 12.0

( )

%

b a

IC<sub>50</sub>

( )

FRAP

%

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(f\_ashiri@yahoo.com)



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**b a**

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SPAD 502 (Miolta, Japan)

% ( )

a

b

$$\text{mg Total Chl/g F.W.} = \frac{[(20.2D_{645nm}) + (8.02D_{663nm})]V}{(F.W. \cdot 1000)}$$

$$\text{mg Chl a/ g F.W.} = 12.7 (D_{663}) - 2.69 (D_{645}) \times \frac{V}{1000F.W.}$$

$$\text{mg Chl b/ g F.W.} = 22.9 (D_{645}) - 4.68 (D_{663}) \times \frac{V}{1000F.W.}$$

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$$\mu\text{mole proline/g f.w. material} = \frac{(\mu\text{g proline/ml} \times \text{ml toluene})}{\frac{115.5 \mu\text{g/} \mu\text{mole}}{(\text{g sample}/5)}}$$

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( ) FRAP **FRAP**

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FRAP

:

$$\text{FRAP} = (\Delta A_p / \Delta A_Q) \times Y \times 1000$$

Spectrophotometer- uv-120-20

Bates

Spectrophotometer- Spectronic 20D  
Miroplate reader, BIO-RAD, model 680

Y

FRAP

$Q A \Delta$   $P A \Delta$

DPPH

DPPH

(%I)

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$$IC_{50} = \frac{A_{DPPH} - A_P}{A_{DPPH}} \times 100$$

DPPH  
%

$A_P$   $A_{DPPH}$   
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$$(mg\ catechin/g\ D.W) = \frac{A_s}{A_c} \times R \times 250$$

$A_c$   $A_s$

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%

SPSS 12.0

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Tukey's test

Inhibitor concentration

PERKIN-ELMER, Lambda 1, uv/vis spectrophotometer



Table 2. Effect of different duration of irrigation on means of fresh and dry weights of shoot and root of thyme.

Duration of irrigation (day)	Shoot fresh weight (g)	Root fresh weight (g)	Shoot dry weight (g)	Root dry weight (g)
2	54.15a	46.96a	22.96a	7.21a
4	35.28b	24.83b	14.88b	4.32b
6	20.18c	11.96cb	9.44c	2.16bc
8	5.83d	4.37c	2.87d	0.97c

† Means followed by similar letters in each column are not significantly different at 5% level using Tukeys test.

%

†

/ / / /

IC<sub>50</sub>

( )

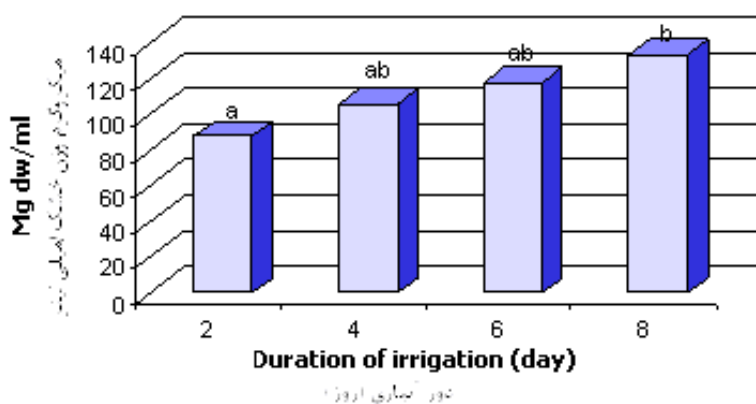


Fig. 1. Effect of water deficit stress on IC<sub>50</sub> amount in thyme with DPPH assay.

† Means followed by similar letters in each column are not significantly different at 5% level using Tukeys test.

.DPPH

IC<sub>50</sub>

%

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