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Q.) (*Quercus brantii*) () (*Q. libani*) (*infectoria*)

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Q.

ilex

Q. canariensis *Q. suber*

(Marañón et al., 2004)

Marañón et al.,)

(2004 ; Castro, 1999

Dillon,)

Pinus

(1984 ; Winn, 1988

Strubus

Parker et al.,)

Q. rugosa

(2006

Q. laurina

(Broncano et al., 1998)

Jazirehi & Ebrahimi)

(Rostaghi, 2003

(Gazala & Kubiske, 2004)

Khan et)

(al., 1999 ; Murali, 1997

Miao,)

(1995 ; Eriksson, 1999

(Karrfalt, 2004)

(Eriksson, 1999)

)

(

(Miao, 1995)

Picea

(Humara et al., 2002)

sitchensis

Navarro et (Chaisurisri et al., 1994)

al. (2006)

(2009)

(Alvaninejad et al., 2009)

Alvaninejad et al.,)

(2008

(Akbari et al., 2001)

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o ' "

(MTE)

(Souhani, 2007)

$$MTE = \sum_t (n/t) / \sum n$$

t

=n

=t

(Neophytou et al., 2007)

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Broncano et)

Tilki et al.,)

¹ Mean time of emergence

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(al., 1998)
=H () =D ()
()
 $V = D^2 \times H$ ()
(SVI)
Kim) =%G
(et al., 1987)
 $SVI = \%G \times \bar{H}$ ()
()
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SPSS 16.0

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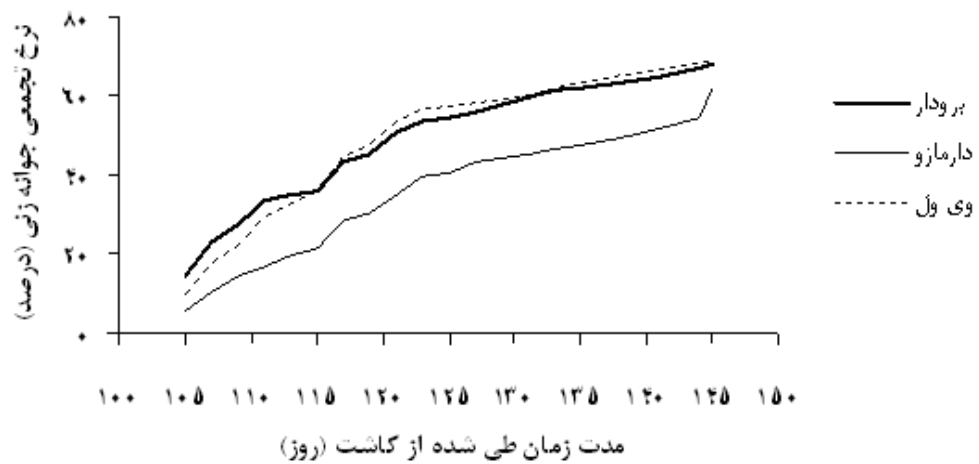
(PCA)

PC-ORD 4.17

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¹ Seedling vigor index

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/ a	/ c	/ b	()
/ a	/ c	/ b	()
/ a	/ a	/ a	
/ a	/ b	/ b	()
/ a	/ b	/ b	
/ a	/ c	/ b	()
/ a	/ b	/ b	()
/ a	/ a	/ a	
/ a	/ b	/ b	()
/ a	/ c	/ b	()
/ a	/ b	/ b	()
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PCA -

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PCA

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PCA

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PCA

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Turna,)

Eriksson (1999) Miao (1995)

(2004

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Schultz & Thompson (1992)

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Bellari & Tani (1993) Abideen et al. (1993)

Karrfalt (2004)

(

Gomez .

Q. ilex

(2004)

Parker et al. ()

- . Karrfalt (2004) (2006)

...

Alvaninejad et al. (2009) .

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.(Cicek & Tilki, 2007)

Akbari et)

.(al., 2001

()

.(Armstrong & Westoby, 1993)

...

Khan et al. (1999) .

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Relation between seed morphological characteristics of three native oak species of *Zagros* with germination characteristics and seedling growth

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Abstract

Conservation and development of *Zagros* oak forests requires collecting appropriate seeds for reforestation and afforestation plans. For this purpose, seeds of 60 trees of *Quercus brantii*, *infectoria* and *libani* (20 trees from each species) were collected from forests of *Baneh*, western Iran. After picking up 5 trees with distinct seed weight, the correlation between seed morphological characteristics and its growing traits like seed germination parameters and primary growth of seedling was investigated. The results showed that *Quercus libani* had larger seeds and seedlings compare to other species, but no significant differences in germination rate were observed between these three species. Also *Quercus infectoria* showed highest average time of germination. Regardless of species, primary growth of seedlings was affected by different seed morphological characteristics. So that, wider, more circular, bigger and heavier seeds produced larger seedlings. This correlation was higher in *Quercus brantii* and lower in *Q. infectoria*. But, there was no significant correlation between seed morphology and germination parameters in three oak species.

Keywords: *Quercus brantii*, *Quercus infectoria*, *Quercus libani*, Seed morphology, Germination, Seedling growth