

(Gezer *et al.*, 2002)

MDF

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(

2 ± 101°C

(Moghtader, 1989)

(Ghaebi, 2008; Kashaninejad *et al.*, 2006)

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(L)

Aydin,) (Aydin, 2002)

(Calisir *et al.*, 2004) (2003

(W)

(T)

(Hacisefrogullari *et al.*, 2007)

/ mm

(Gezer *et al.*, 2002)

/

(Jannatizadeh *et al.*, 2008)

Fathollahzadeh *et al.*,)

(2008a

Fathollahzadeh *et al.*, 2008b Ahmadi ;)

(*et al.*, 2008

(V_s)

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(Hassan-Beygi *et al.*, 2009)

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$$\phi = \frac{(LWT)^{\frac{1}{3}}}{L} \quad ()$$

$$\varepsilon = 100 \left[1 - \frac{\rho_b}{\rho_f} \right] \quad ()$$

$$S = \frac{\pi BL^2}{2L - B} \quad ()$$

$$B = (WT)^{0.5}$$

$$= V_s \text{ (g)} = M$$

$$= W \text{ (mm)} = L \text{ (cm}^3\text{)}$$

$$= \rho_b \text{ (mm)} = T \text{ (mm)}$$

$$\text{(kg/m}^3\text{)}$$

) Canon Ixus 65
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mm

mm

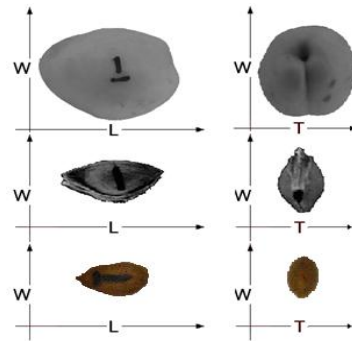
:(Mohsenin, 1986; Stroschine & Hamann, 1994)

$$V_s = \frac{M_{bws} - M_{bw}}{\rho_w} \quad ()$$

$$= M_{bws}$$

$$= \rho_w \text{ (g)} = M_{bw} \text{ (g)}$$

$$\text{(cm}^3\text{)} = V_s \text{ (g/cm}^3\text{)}$$



.(Aydin, 2002; Sessiz *et al.*, 2007)

$$(\rho_f)$$

$$(S) \quad (D_g) \quad (\varepsilon)$$

$$(\phi)$$

(Mohsenin, 1986; Gezer *et al.*, 2002;

.Haciseferogullari *et al.*, 2007)

$$\rho_f = \frac{M}{V_s} \quad ()$$

$$D_g = (LWT)^{\frac{1}{3}} \quad ()$$

3 . Photoshop
4. Matlab7.0

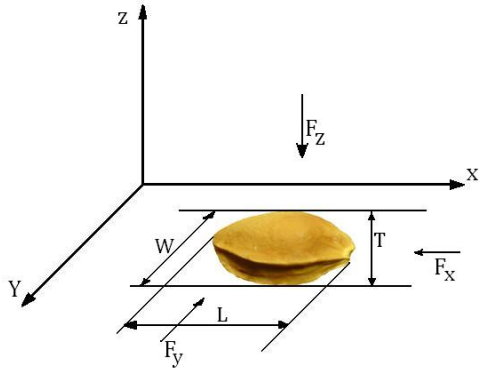
1 . Bouyant force
2 . Bulk Density

Gezer *et al.*,) () (E_a)
 .(2002

$$E_a = \frac{1}{2} F_r D_r \quad ()$$

(2008) Ghaebi,

D_r F_r



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Y () X
 Z ()
 (P)

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Mohsenin,) ()
 .(1986; Vursavus & Ozguven, 2004

$$V = \frac{\pi}{6} (LWT) \quad ()$$

ASAE
 .(ASAE S368.3, 1998)

$$p = \frac{E_a}{V} \quad ()$$

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(Hacisferogullari et al., 2007)

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(Jannatizadeh et al., 2008)

(2007) Ochoa et al. (Vullioud et al., 2004)

(2008) Jannatizadeh et al.

(2007) Hacisferogullari et al.

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مغز	هسته	میوه	خصوصیات فیزیکی
۱۷/۳۱±۰/۶۱	۳۳/۳۶±۱/۳۸	۵۲/۳۴±۳/۴۳	طول (mm)
۹/۳۳±۰/۴۲	۱۴/۸۹±۰/۶۸	۳۸/۴۴±۲/۷۱	عرض (mm)
۵/۷۵±۰/۴۳	۸/۸۸±۰/۴۵	۳۸/۳۹±۲/۷۴	ضخامت (mm)
۰/۴۱±۰/۰۳	۱/۳۵±۰/۲۱	۴۴/۲۱±۸/۴۷	جرم (g)
۹/۷۳±۰/۳۸	۱۶/۳۵±۰/۶۴	۴۲/۴۲±۲/۷۸	قطر متوسط هندسی (mm)
۵۶/۲۰±۱/۷۸	۴۹/۰۱±۱/۱۰	۸۱/۰۷±۱/۹۶	کروییت (%)
۲۵۲/۴۲±۱۹/۱۹	۷۲۸/۴۹±۵۶/۱۶	۵۰۱۲/۳۰±۶۶۳/۲۴	سطح رویه (mm ²)
۱۲۰/۰۶±۶/۸۱	۳۶۵/۸۰±۲۳/۸۱	۱۸۶۰/۳۰±۲۵۴/۰۴	سطح تصویری عمود بر ضخامت P _A (mm ²)
۴۴/۰۹±۳/۹۷	۱۰۰/۲۸±۸/۳۹	۱۴۵۹/۶۴±۲۳۷/۶۵	سطح تصویری عمود بر طول P _B (mm ²)
۷۰/۱۷±۵/۴۰	۱۸۵/۰۴±۱۲/۸۵	۱۸۵۶/۹۸±۲۵۱/۲۸	سطح تصویری عمود بر عرض P _C (mm ²)
۰/۴۴±۰/۰۴	۱/۳۷±۰/۱۷	۴۵/۸۷±۸/۴۶	حجم (cm ³)
۶۱۶/۳۲±۱۸/۲۵	۳۸۴/۱۲±۴/۵۸	۵۲۹/۶۲±۸/۲۹	جرم حجمی توده (kg/m ³)
۹۴۵/۵۵±۴۷/۱۳	۹۸۸/۸۰±۵۴/۷۹	۱۰۱۹/۹۱±۱۴/۵۲	جرم حجمی حقیقی (kg/m ³)
۳۴/۶۶±۳/۳۴	۶۱/۰۳±۲/۲۸	۴۸/۰۶±۰/۷۵	تخلخل (%)

Vursavus)

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(& Ozguven, 2004

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(2008) Ahmadi et al.

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(2007) Haciseferogullari *et al.*

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قرمز شاهرود			خصوصیات مکانیکی
مغز	هسته	میوه	
۱۱۵/۵۶±۱۴/۹۲	---	۱۴/۱۰±۱/۵۲	نیروی لهیدگی (N)
----	۱۷۵/۱۳±۳۴/۶۳	۲/۰۴±۱/۲۲	مدول الاستیک (MPa)
			ضریب اصطکاک استاتیکی
۰/۴۴۲±۰/۰۲۱ ^b	۰/۴۷۳±۰/۰۰۸ ^a	۰/۴۵۳±۰/۰۴۸ ^a	ورق فولادی معمولی
۰/۴۸۳±۰/۰۱۹ ^b	۰/۳۷۱±۰/۰۲۰ ^b	۰/۴۲۸±۰/۰۵۵ ^a	ورق فولادی گالوانیزه
۰/۶۴۳±۰/۰۴۵ ^a	۰/۴۳۴±۰/۰۰۷ ^a	۰/۳۷۱±۰/۰۹۰ ^b	تخته چند لا
			سفتی زردآلو (N)
---	---	۱/۳۵±۰/۵۱ ^a	بالا
---	---	۱/۰۹±۰/۳۴ ^a	وسطا
---	---	۱/۰۲±۰/۴۳ ^a	پایین

*درج حروف غیر مشابه در یک ستون بیانگر تفاوت معنی دار در سطح احتمال ۱٪ است.

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(2007) Haciseferogullari *et al.*

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(2008) Ahmadi *et al.*

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(MS)		
F _i (N)	D _i (mm)	P(mJ/mm ³)
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/ **	/ **	/ **
/ **	/ **	/ **
/	/	/

** معنی‌دار در سطح احتمال ۱٪

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Vursavus & Ozguven,)

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(2004) Vursavus & Ozguven, (Ahmadi et al., 2008)

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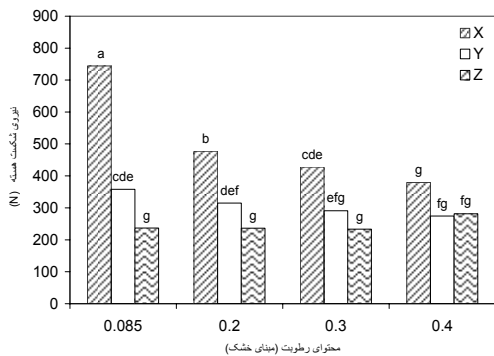
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(Z Y X)

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Y

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/ Y /

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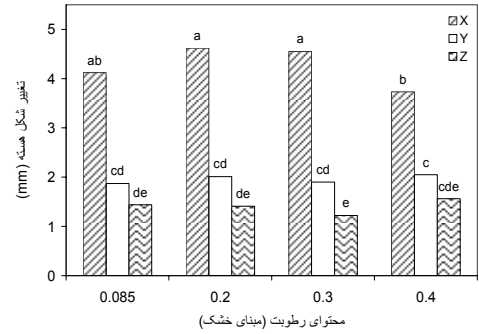
% Z Y X

Z Y

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% Z Y

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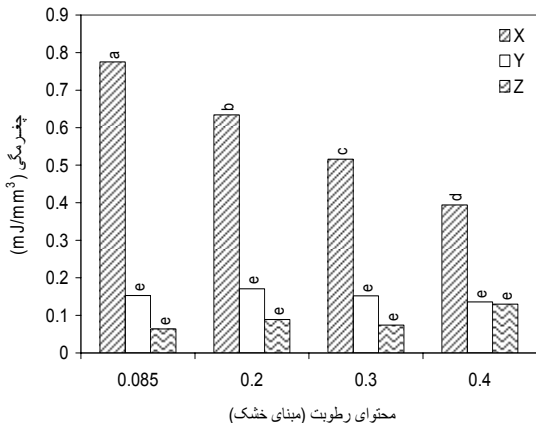


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(2004) Vursavus & Ozguven

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(2004) Vursavus & Ozguven

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