

() , ()

*

(// : // :)

	(RMSE)		(χ^2)	(R^2)	RMSE	χ^2	R^2
/	/	/	/	/	/	/	/
/ ×	/ ×			/ ×	/ ×		
		/ ×		/ ×		/	
			/ ×		/ ×		/

()
(Anon., 2010)

(Anon., 1998)

(Anon., 1998)

(Citrus Aurantifolia L.)

(Citrus Limetta L.)

(Anon., 2010)

1. Rutaceae
2. Arantoidae
3. Poncirus
4. Fortunela
5. Citrus

()

(2008) Corzo et al.

/ /

/ ×

(Rafiee,

/ ×

et al., 2009)

(2008) Aghbashlo et al.

/ ×

/ ×

(2005) Simal et al.

() / /

(Anon.,

2007)

(2007) Meisami asl

()

/ ×

/ ×

) ± / °C (LM35)

±% (

)

/ g (A & D GF3000

(2007) Rafiee et al.

/

.(Sharifi, 2005)

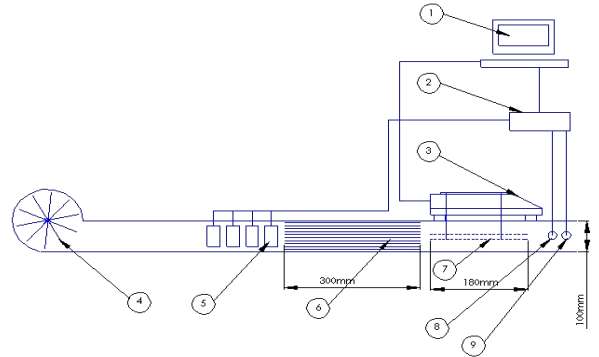
() TESTO 405-V1

/

()

()

-
1. Moisture Diffusion Coefficient
 2. Effective diffusivity
 3. Fick's First Law



:2003

()

(Akpinar et al.,

$$MR = \frac{M - M_e}{M_0 - M_e}$$

:M :MR

:M₀

:M

()

.(Gunhan et al., 2005)

()

$$MR = \frac{M}{M_0}$$

()

:M

:MR

(Doymaz, 2007a; Goyal

:M₀

et al, 2007; Menges & Ertekin, 2006;2006)

()

°C

.(ASAE,2001)

$$M = \frac{W_w - W_d}{W_d}$$

()

M

W_w (d.b., kg/kg)

(kg)

W_d (kg)

SPSS 16

.(Khanchegardan, 2009)

$$MR = \exp(-kt^n)$$

()

n (l/min)

k (min)

t

(χ²)

(R²)

(RMSE)

χ²

R²

(Goyal et al.,

RMSE

, ()

(1/T) ln(D_{eff}) K :T_a .2007; Menges & Ertekin, 2006; Yaldiz; 2001)
: RMSE χ^2

$$\chi^2 = \frac{\sum_{i=1}^n (MR_{exp,i} - MR_{pre,i})^2}{N - n} \quad ()$$

$$RMSE = \left[\frac{1}{N} \sum_{i=1}^n (MR_{pre,i} - MR_{exp,i})^2 \right]^{1/2} \quad ()$$

()

()

i M_{exp,i}

M_{pre,i}

n ()

N

i

(Akpinar et al., 2003;

.Togrul & Pehlivan, 2003)

()

.(Doymaz, 2006)

()

:(Rafiee et al., 2009)

$$MR = \frac{M}{M_0} = \frac{8}{\pi^2} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^2} \exp\left(-\frac{(2n-1)^2 \pi^2 D_{eff} t}{4L^2}\right) \quad ()$$

$$\frac{\partial M}{\partial t} = \nabla [D_{eff} (\nabla M)] \quad ()$$

(m²/s)

:D_{eff}

(kg water/kg dry solid)

:M

:MR

(s)

:t

(m)

:L

:n

D_{eff}

()

()

$$MR = \frac{8}{\pi^2} \exp\left(-\frac{\pi^2 D_{eff} t}{4L^2}\right) \quad ()$$

ln(MR)

k₀

()

:(Rafiee et al., 2007) ()

()

:(Doymaz, 2006)

$$k_0 = \frac{\pi^2 D_{eff}}{4L^2} \quad ()$$

$$D_{eff} = D_0 \exp\left(-\frac{E_a}{RT_a}\right) \quad ()$$

:

/ /

m²/s

:D₀

/

kJ/mol

:E_a

kJ/mol K

:R

()

(Giner & Mascheroni, 2002)

()

MR

(

()

(.

χ^2	RMSE	R ²	(mm)
/	/	/	
/	/	/	

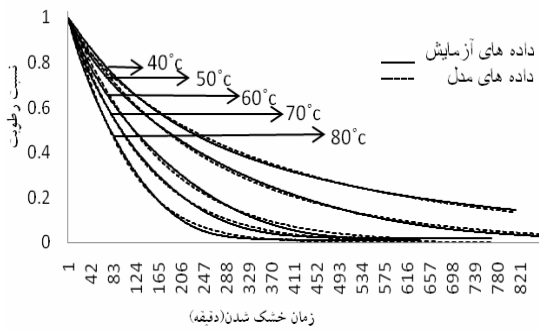
(2010) Rafiee et al. .

/ × / ×

(2006) Garau et al. .

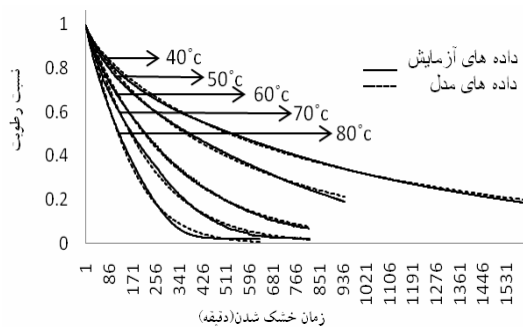
R ²	k	n	(°C)
/	/	/	
/	/	/	
/	/	/	
/	/	/	
/	/	/	

/ × / ×



R ²	k	n	(°C)
/	/	/	
/	/	/	
/	/	/	
/	/	/	
/	/	/	

() ()



()

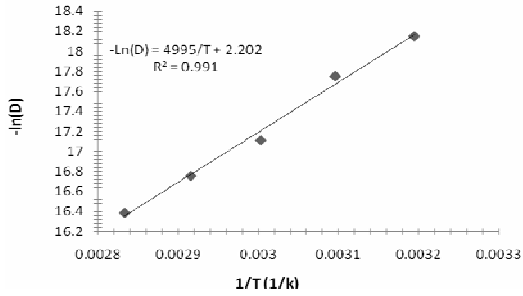
()

D_{eff}

()

/ × / ×

(m^2/s)					(m/s)	(mm)
°C	°C	°C	°C	°C		
/ × -	/ × -	/ × -	/ × -	/ × -	/	
/ × -	/ × -	/ × -	/ × -	/ × -	/	



E_a (kJ/mol)	$(m^2/s) D_0$	(mm)
/	× /	/
/	× /	/

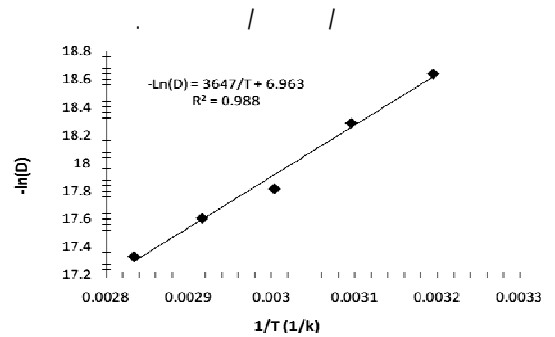
()

/
 / × / ×
 / ×
 / ×
 / /

(ln(D)-1/T)
 (E_a)
 (E_a)
 (Rafiee et al., 2010) / /
 (Garau et al., 2006) /
 (Doymaz, 2007b)
 (Simal et al., 1996)

() ()

(R^2)



d.b.		a, b, n, k
kg water/kg dry matter		M
kg water/kg dry matter		M_e
kg water/kg dry matter		M_0

°C		T
K		T_{abs}
		χ^2
m ² /s		D_{eff}
m ² /s		D_0
kJ/ mol		E_a
kJ/mol K		R
K		T_a

		MR
		N
		n
		RMSE
		s
kg		W_d
kg		W_w
		χ^2

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