

() , ()

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(/ / : - / / :)

(EMC)

(χ)

(R^2)

(GAB)

(RMSE)

(BET)

(FAO.org)

(Cruciferea)

(Brassica)

(www.FAO.org)

()
www.)

www.)

(FAO.org)

(FAO.org)

www.)

zomorod@shirazu.ac.ir :

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Ink (Mohsenin, 1996) Brooker et al.,) ()
bottle (1992)

(Zomorodian & Tavakoli, 2004)

() (ERH)

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(Brooker et al., 1992)
(2007) Zomorodian & Tavakoli

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Brooker et al.,)

(
(1992)

(2005) Aviaraa et al.

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(Zomorodian & Tavakoli, 2007)

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- 8. Shrinkage
 - 9. Adsorption
 - 10. Sorghum malt
 - 11. Span

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- 1. Moisture sorption-desorption isotherms
 - 2. Equilibrium relative humidity
 - 3. Isotherm curves
 - 4. S-shaped or sigmoid-type
 - 5. Hygroscopic materials
 - 6. Hysteresis
 - 7. Desorption

(E_s)

(2008) Oyelade et al.

(2002) Lahsasni et al.

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(2008) Oyelade et al.

(2008) Lee & Lee

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(Inonotus obliquus mushroom)

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(1999) Correa et al.

Hyola 401

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4. Prickly pear peel
5. Environmental chamber

1. Standard error of estimate
2. Yam flour
3. Residual sum of squares, (RSS)

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(Zomorodian, 2001; Zomorodian & Taakoli, 2004)

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() (RH)

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Zomorodian & Tavakoli,)

(()) (2004

(() ())

1. ATBIN sinus

()	()	()
	KOH	%
	LiCl	
	KC2H3O2	%
	MgCl2	%
	MgNO3	%
	NaNO2	%
	NaCl	
	KNO3	%

(T °C)

A&D GF 300

/

)

(

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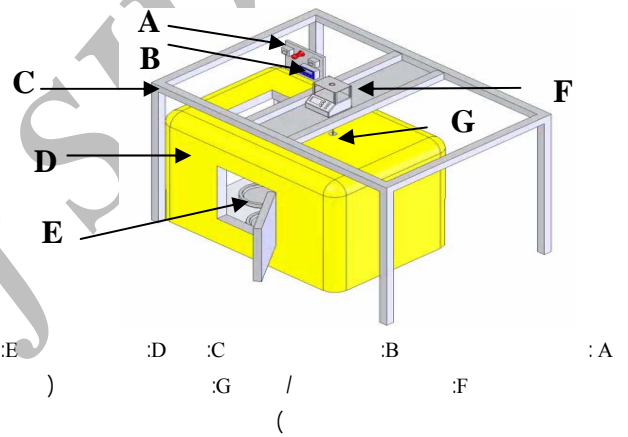
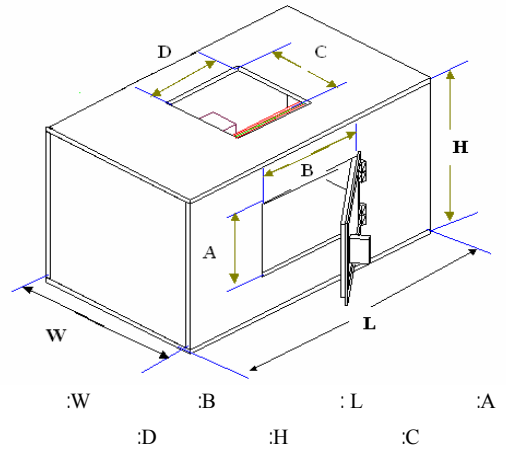
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2. Analog to Digital Conversion

... :
 Heraeus T5050
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 .(()
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 Ghodake et) ()
 al., 2006; Jamali et al., 2005; Lee & Lee, 2008; Sinija &
 .(Mishra, 2007; Toghrul & Arsalan, 2006

$Me = \exp(\ln(A) - B \times RH)$	(Lee & Lee, 2008)
$Me = A + B \ln(-\ln(RH))$	(Lee & Lee, 2008)
$Me = \frac{ABC(RH)}{(1-C(RH))(1-C(RH)+BC(RH))}$	(Ghodake et al., 2006; Sinija & Mishra, 2007)
$Me = \left(-\frac{A}{\ln(RH)}\right)^{\frac{1}{B}}$	(Lee & Lee, 2008)
$Me = \left(-\frac{\ln(1-RH)}{A}\right)^{\frac{1}{B}}$	Toghrul & Arsalan, 2006; Lee & Lee,) (2008)
$Me = \frac{A}{\ln(RH)} + B$	(Lee & Lee, 2008)
$Me = \frac{(A+BT)(C)(RH)}{(1-RH)(1-RH+C \times RH)}$	(Jamali et al., 2005)
$Me = -\ln\left[-\frac{(T-C)(\ln(RH))}{A}\right]\left(\frac{100}{B}\right)$	(Ghodake et al., 2006)
$Me = \left[-\frac{\exp(A+BT)}{\ln(RH)}\right]^{\frac{1}{C}}$	Ghodake et al., 2006; Sinija &) (Mishra, 2007)
$Me = \left[-\frac{\ln(1-RH)}{A(T+C)}\right]^{\frac{1}{B}}$	Ghodake et al., 2006; Sinija &) (Mishra, 2007)
$Me = (A+BT)\left(\frac{RH}{1-RH}\right)^C$	(Ghodake et al., 2006)
$Me = (A+BT) - (C+DT)\ln(1-RH)$	(Ghodake et al., 2006)
$Me = A\left(\frac{RH}{1-RH}\right)^B$	Sinija & Mishra, 2007; Toghrul & Arsalan,) (2006)

m_0 ()
 c ()
 (a_w)
 $\frac{a_w}{m(1-a_w)}$
 $(c-1)/(m_0c)$
 $1/(m_0c)$
 c (m_0)
 (Mohsenin, 1996)



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RH
 T ()
 Me ($^{\circ}C$)
 A, B, C, D ()

S
 (2007) Oyelade et al.

$$\frac{a_w}{m(1-a_w)} = \frac{1}{m_0c} + \frac{(c-1)a_w}{m_0c} \quad ()$$

1. Predicted moisture content

(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
/	/	/	/	/	/	/	/	/	(%)
/	/	/	/	/	/	/	/	/	(%)
/	/	/	/	/	/	/	/	/	(%)
/	/	/	/	/	/	/	/	/	(%)

(RMSE)

(R²)

(χ)

()

Oyelade et al.,)

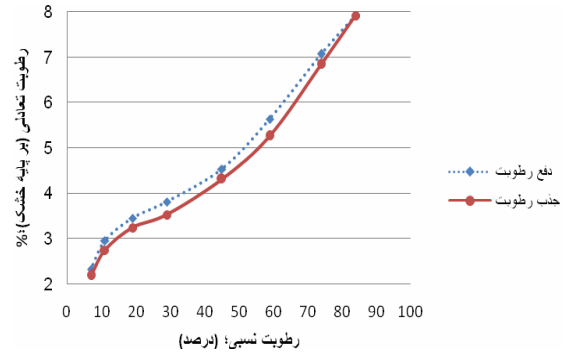
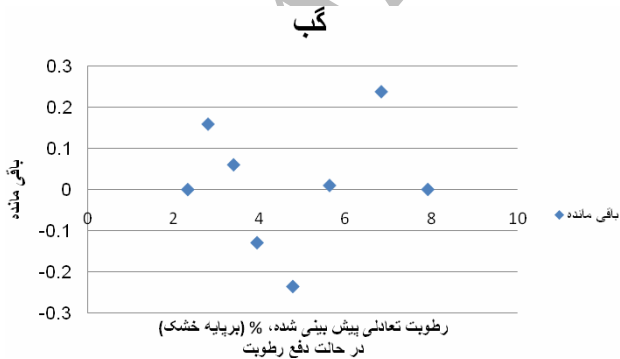
2008 (a); Oyelade et al., 2008 (b); Ghodake et al., 2006; (Mohsenin, 1996

() ()

()

(GAB)

()



Solver

(χ)

¹(R²)

(RMSE)

(Midilli et al., 2002)

$$R^2 = \frac{\left(\sum_{i=1}^N (MR_{exp,i} - \overline{MR}_{exp}) (MR_{pre,i} - \overline{MR}_{pre}) \right)^2}{\sum_{i=1}^N (MR_{exp,i} - \overline{MR}_{exp})^2 \sum_{i=1}^N (MR_{pre,i} - \overline{MR}_{pre})^2} \quad ()$$

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

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

:MR_{exp}

:MR_{pre}

:N

(

:n

Oyelade et al., 2008 (a);)

(Oyelade et al., 2008 (b); Sobukola & Dairo, 2007

4. (GAB), Guggenheim-Anderson-de Boer

1. Coefficient of determination
2. Chi-square
3. Root Mean Square Error

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