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LIST OF SYMBOLS

A_p : area of packaging material, m^2
a_d : accuracy with which the variables were measured
a_w : water activity, dimensionless
C_g, K_g : GAB models constants
cm : centimeters
cP : centipoises
c_r : cross over rate
D : moisture diffusivity, $m^2.s^{-1}$
D_{eff} : effective diffusivity coefficient, $m^2.s^{-1}$
d.b. : dry basis
d.f. : degree of freedom
d.m. : dry matter
E% : relative deviation percent
E_a : activation energy, $kJ.mol^{-1}$
E_0 : error matrix
et al. : et alibi, and others
etc. : et cetera
exp : exponential
F : fitness function
F_o : Fourier number
F_{cal} : calculated F value
g : gram
hp : horse power
I : matrix of input layer neurons
i.e. : id est, that is
k : drying rate constant, s^{-1} or h^{-1}
k : water vapour permeability of packaging material, $kg.m^{-2}day^{-1}Pa^{-1}$
kg : kilogram
L : half-thickness of slab, m
L^*, a^* and b^* : Hunter colour lab parameters
M_o : monolayer moisture content, g water per g dry matter
M_0 : moisture content at time t=0, g water per g dry matter
M_e : equilibrium moisture content, g water per g dry matter
M_{ci} : calculated equilibrium moisture content, kg water.kg dry $solid^{-1}$
M_{ei} : experimental equilibrium moisture content, kg water.kg dry $solid^{-1}$
M : moisture content at time t, g water per g dry matter
m : string length
min : minute
N : number of data points
n_i : number of input layer neurons
n_h : number of hidden layer neurons
n_o : number of output layer neurons
O_h : output matrix of hidden layer neurons
O_o : output matrix of output layer neurons
P : thickness of Aloe vera leaf, mm
P^* : saturation vapour pressure of water, Pa
p_m : mutation rate
Q_s : net isosteric heat of sorption, $J.mol^{-1}$

q	: weight matrix between hidden and output layer neurons
R	: universal gas constant, 8.314 $kJ.mol^{-1}$
R^2	: coefficient of determination
R_h	: relative humidity of storage environment, %
s	: seconds
T	: absolute temperature, K
T_{hnew}	: threshold value matrix for hidden layer neurons
T_{onew}	: threshold value matrix for output layer neurons
t	: drying time, min, or h
u	: weight of synoptic joints between input and hidden layer neurons
V	: volume of Aloe vera leaf, mm^3
viz.	: videlicet, namely
v_b	: binary value of one population string
vs	: versus
W	: width of Aloe vera leaf, mm
w	: weight of silica gel, kg
w.b.	: wet basis
W_s	: weight of dry solids, g
X_c	: critical moisture content, % (d.b.)
X_i	: initial moisture content, % (d.b.)
X_1	: real value of desiccant dehumidified air drying temperature
X_2	: real value of desiccant dehumidified air drying relative humidity
X_3	: real value of desiccant dehumidified air drying air velocity
x_1	: coded value of desiccant dehumidified air drying temperature
x_2	: coded value of desiccant dehumidified air drying relative humidity
x_3	: coded value of desiccant dehumidified air drying air velocity
X_{max}	: maximum value of X
X_{min}	: minimum value of X
X_m	: arithmetic mean of X_{max} or X_{min}
X_{wt}	: moisture content at time 't', % (d.b.)
X_{we}	: equilibrium moisture content, % (d.b.)
X_{wo}	: initial moisture content, % (d.b.)
Y_e	: experimental value of response
Y_{mim}	: minimum values of responses
Y_{max}	: maximum values of responses
YM	: arithmetic mean of Y_{max} and Y_{min}
Y_p	: predicted value of response
y	: matrix of experimental responses
Z	: length of Aloe vera leaf, mm
z	: number of constants
°C	: degree Celsius
%	: per cent
°	: degree
ΔE_s	: overall colour difference
ΔO_o	: difference between the two predicted output values
ψ_0	: Arrhenius factor
θ	: shelf-life, days
θ_w	: time for weight measurement of silica gel, days
χ^2	: chi-square

LIST OF ABBREVIATIONS

AC	: Aloin Content
AF	: Aluminum Foil
ANN	: Artificial Neural Network
ANN-GA	: Artificial Neural Network and Genetic Algorithm
Anon	: Anonymous
ANOVA	: Analysis of Variance
AOAC	: Association of Official Analytical Chemists
AVG	: Aloe Vera Gel
AVP	: Aloe Vera Powder
BOPP	: Biaxially Oriented Poly Propylene
CCRD	: Central Composite Rotatable Design
CI	: Confidence Interval
CV	: Coefficient of Variation
DR	: Drying Rate
DT	: Drying Time
EEC	: European Economic Community
EMC	: Equilibrium Moisture Content
ERH	: Equilibrium Relative Humidity
FE	: Filleting Efficiency
GA	: Genetic Algorithm
GAB	: Guggenheim-Anderson-de Boer
HPLC	: High Pressure Liquid Chromatography
MLFF	: Multi Layer Feed Forward
MR	: Moisture Ratio
NN	: Neural Network
NNGA	: Neural Network and Genetic Algorithm
PFJ	: Percentage Fillet Juice Yield
PGF	: Percentage Gel Fillet Yield
PP	: Polypropylene
RH	: Relative Humidity
RMSE	: Root Mean Square Error
RR	: Rehydration Ratio
RSM	: Response Surface Methodology
SEC	: Specific Energy Consumption
SSE	: Sum Square Error
WHC	: Water Holding Capacity