



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Asian Journal of Advances in Agricultural Research
Manuscript Number:	Ms_AJAAR_43228
Title of the Manuscript:	CHARACTERIZATION OF ENGINEERING PROPERTIES (PHYSICAL PROPERTIES) OF RUBUS FRUTICOSU
New title of the Manuscript:	INFLUENCE OF MOISTURE CONTENT ON SOME PHYSICAL PROPERTIES OF <i>Rubus fruticosus</i> and nuts
Type of Article:	Original Research Paper

PART 2:

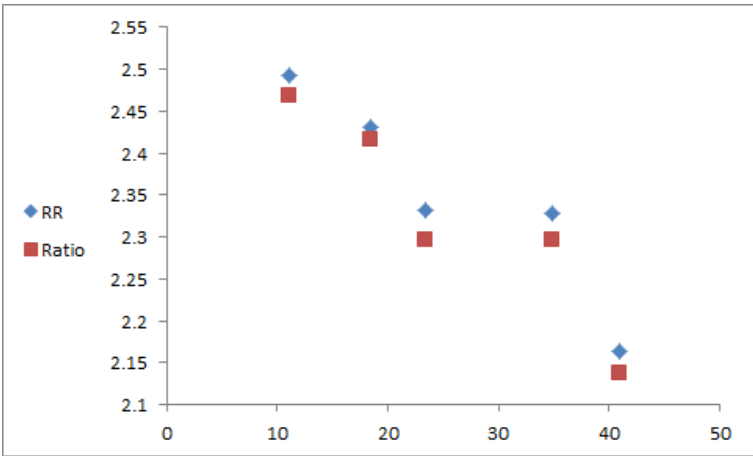
FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
1. The new title is " INFLUENCE OF MOISTURE CONTENT ON SOME PHYSICAL PROPERTIES" but in the text three are also nuts 2. Again How do you describe The <i>Rubus fruticosus</i> and nuts products used for the experiment to be the long and short. 3. What is the difference between Eq (1) and Eq (2) Equation 1 $\% M_{wb} = \frac{W_1 - W_2}{W_1} \times \frac{100}{1}$ Equation 2 $\% M_{wb} = \frac{W_1 - W_2}{W_1} \times \frac{100}{1}$ 4. There are equations for calculating the geometric mean diameter (GMD), arithmetic mean diameter (AMD), and equivalent mean diameter (EQD) but there was no equation to calculate square mean diameter (SQMD) After Eq. (8) the author/s wrote " Where: a = major diameter, b = intermediate diameter, c = minor diameter, GMD = geometric mean diameter, AMD = arithmetic mean diameter, SMD = square mean diameter, EMD = equivalent diameter" But in the text ; equivalent mean diameter (EQD) square mean diameter (SQMD) and in the text there was no equation to calculate it. 5. How do you calculate and determine A_p= Largest projected area of the product when in natural rest position; A_c = Area of smallest circumscribed circle. 6. In section 3.4 the author/s wrote "The sphericity, roundness and aspect ratio of <i>Rubus fruticosus</i> long and short fruits decreased with increase in moisture content (40.91% to 11.03% wet basis) while the long and short nuts increased with increase in moisture content (10.20% - 25.06% wet basis)".	Some of the fruits and spindled long shape and some are short, they were differentiated using shape parameters. Now corrected in the text. $SMD = \sqrt{\frac{(a \times b) + (b \times c) + (c \times a)}{3}}$ - This is for square mean diameter $EMD = \frac{SMD + GMD + AMD}{3}$ - This is for equivalent mean diameter Formula corrected. The diameter of the sharp projected areas was measured with a pair of divider and now digital venial caliper the same with the area of smallest circumscribe circle.



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The right is "The sphericity, roundness and aspect ratio of *Rubus fruticosus* long and short fruits decreased with increase in moisture content from 11.03% to 40.91% wet basis. Also, the sphericity, roundness and aspect ratio of *nuts* decreased with increase in moisture content from 10.20% to 25.06% wet basis.

- In section 3.4 the author/s wrote "The sphericity, roundness and aspect ratio of short and long fruits reduced by 5.27%, 3.80% and 45.10% and, 4.65%, 6.98% and 4.62%, respectively (Table 5 and Fig 3)." And these values for *Rubus fruticosus* long and short fruits or *Rubus fruticosus* long and short fruits.
- In section 3.4 the author/s wrote "At 40.91% wet basis, the sphericity and aspect ratio values showed that short fruits are more spherical and oblong than long fruit; hence, short fruit can roll more easily than the long fruit ". Please indicate how do you know the short fruit can roll more easily on the surfaces than the long fruit without supporting data.
- Again in Table 6: ANOVA summary of moisture effect on aspect ratio, sphericity and roundness of *Rubus fruticosus* long and short fruits and nuts the df for the moisture content was 4 and in the text the moisture the moisture levels are 4
- The author/s wrote "All the shape parameters for short fruits had non-linear relationship with moisture content except RR". Please give explanation for such data (your data are in the figure blow). Or give R^2 values for different regression forms (linear and nonlinear).



Rubus fruticosus

They are for both long and short fruits and long and short nut, it has been highlighted in the table now and the figure

This is because at 40.91% the short fruit has the highest quantity of 64.09, knowing fully that aspect ratio is a dimensionless quantity that is used to measure the shape (Table 5).

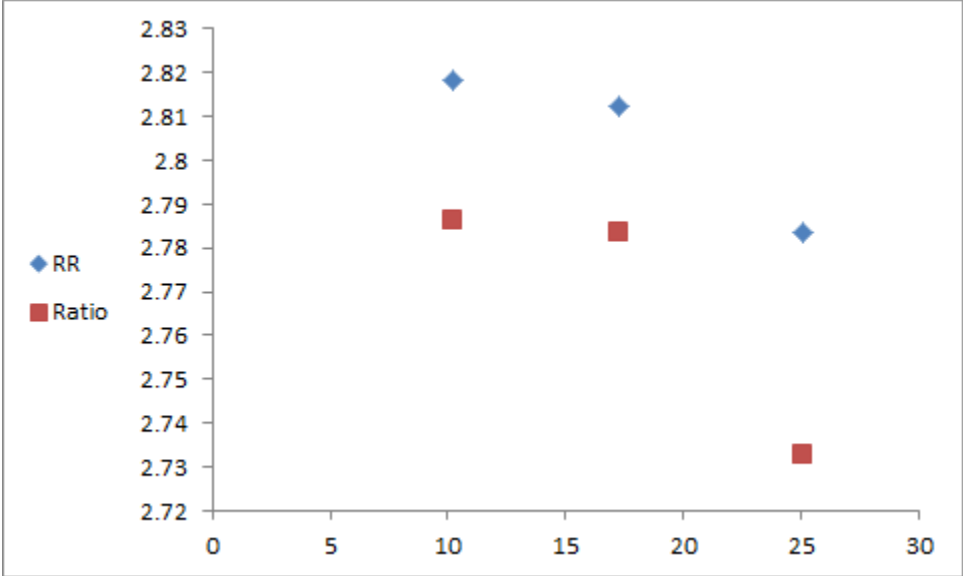
At 40.91% the sphericity of the short fruit is highest at 0.6 (Figure 4.1a)

Moisture level suppose to be 5 but we decided to work with only 4 moisture levels and 4 degree of freedom

All the shape parameters of the short fruit do not increase or decrease directly equal to increase or decrease of moisture.



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Nuts

11. **Again** Need reference for these facts " Lower percentage variation of principal dimensions of the nuts with moisture content when compared with that of tiger nut and pistachio nut could be because the cell of the *Rubus fruticosus* nuts have less void spaces and shrinking behavior during moisture loss than tiger nut and pistachio nut".
12. In Table (1) check the values of CV as exemple at 40.91% moisture content for c dimension for short fruite the mean was 16.17 mm and standard diveation was 0.27 mm so cv must be 1.669% and its value in the table is wrong (1.98%

The principle dimensions of the Rubus fruticosus nut from the table 2 for instance, the values we have in the table for the nuts is lower than the value of the pistachio nut at the same moisture content according to literature. It means here that Rubus fruticosus nut absorbs less moisture than the pistachio nut and this is because the void spaces in the Rubus fruticosus nut is smaller than the one we have in the pistachio nut and also doesn't shrink when losses moisture.