

CONSUMERS SENSORY EVALUATION OF MELON SWEETNESS AND QUALITY



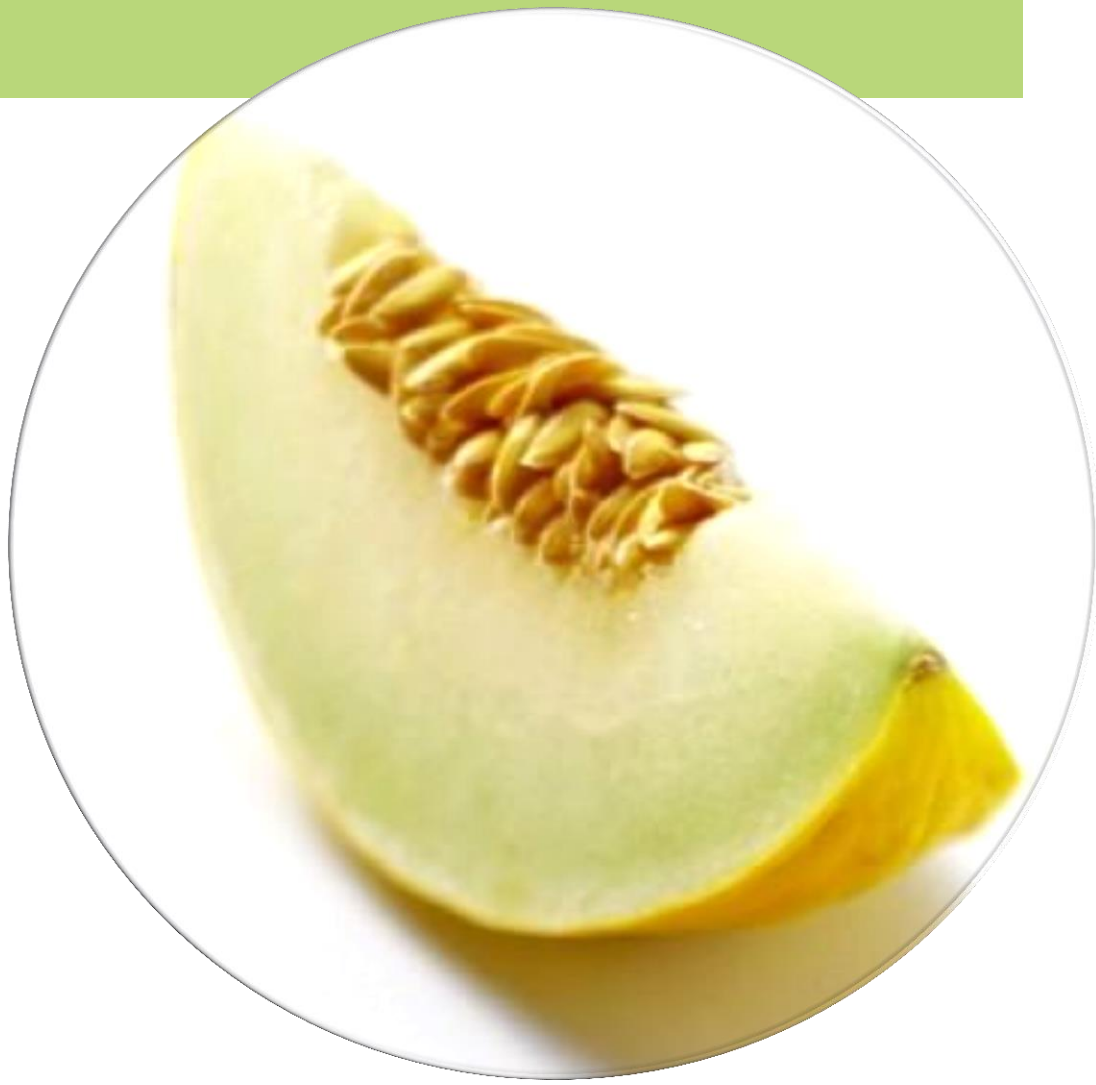
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OBJECTIVES

The present work explored the importance given by consumers to sweetness in order to classify the overall quality of melon. Furthermore, the relationship of the chemical evaluation of Total Soluble Solids (TSS) with sweetness of melon was studied.



RESULTS

"How sweet is the melon:"
1-nothing sweet, 2-slightly sweet, 3-sweet, 4-fairly sweet, 5-extremely sweet.

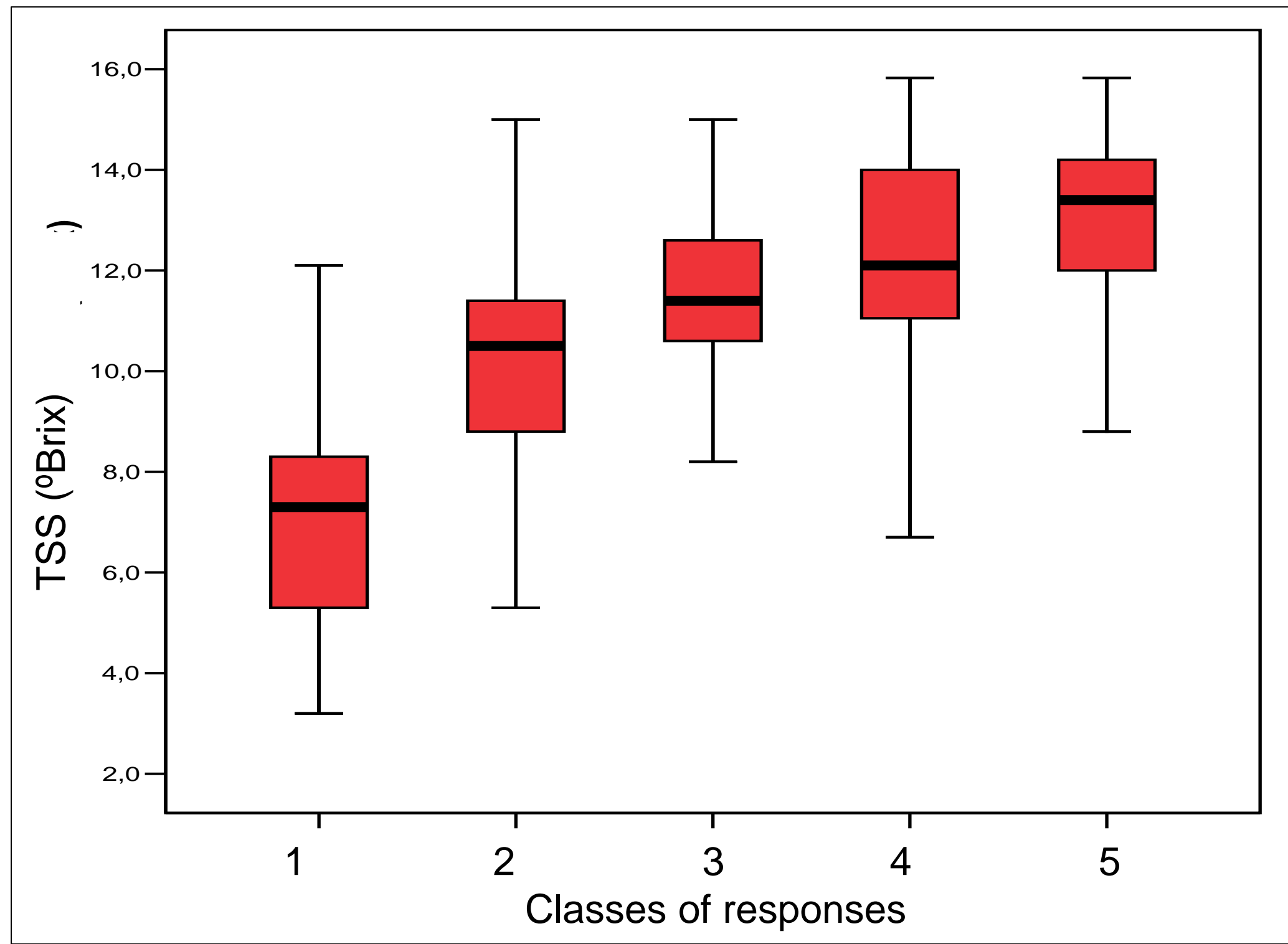


Figure 1 - Graph corresponding to results of consumer panel and SST measurements

	Median	Mean	Standard Deviation	Number of observations
Nothing sweet	7.3	7.1	2.6	135
Slightly sweet	10.5	10.1	2.0	374
Sweet	11.4	11.6	1.9	488
Fairly sweet	12.1	12.4	1.9	284
Extremely sweet	13.4	13.1	1.8	99

Table 1 - Median , mean , number of observations and standard deviation obtained in question 1 - Sweetness.

There is good agreement between the results obtained to classify “Sweetness” and “Overall Quality” (Cohen’s Kappa=53.1%, p<0.001), which means, for example, that fruits with excellent quality are in general extremely sweet. Moreover, fruits with less than 9.6 °Brix are considered of poor quality and nothing sweet, whereas fruits with values between 10 °Brix and 12 °Brix are considered good in terms of overall quality. It seems that the thresholds for the stimulus/intensity of sweetness lied between 10 °Brix to 14 °Brix for this melon variety.

CONCLUSIONS

First of all there is good agreement between the results obtained for classify Sweetness and Quality. So fruits with excellent quality are in general extremely sweet. Fruits with less than 9.6° Brix are considered of poor quality and nothing sweet. Fruits with values between 10 ° Brix and 12 ° Brix are considered good in terms of overall quality. 80 % of people say that good quality is sweet.
The relationship between the stimulus/intensity of the sensation of sweetness is located about 10° Brix and the saturation value for about 14° Brix.

MATERIALS & METHODS

Consumers inquiries were invited to taste melon samples, in supermarkets in Évora (South region), Lisbon (Central region) and Vila Nova de Gaia (North region).
The variety Melão branco picked randomly from those that were exposed for sale in supermarkets were used for analysis.
To each consumer was given four small pieces of each fruit, previously referenced with a code number, and answer a questionnaire with two questions related to sweetness and overall quality.
Each question had five possible levels, identified from “Nothing sweet”, to “Extremely sweet”, in one case, and from “Poor” to “Excellent” in the other. Simultaneously, the values of TSS (measured in °Brix) for each melon used in the study were evaluated by refractometry.

"About the general quality of melon you would classify it as": 1- poor, 2-middling, 3-good, 4-very good, 5-excellent.

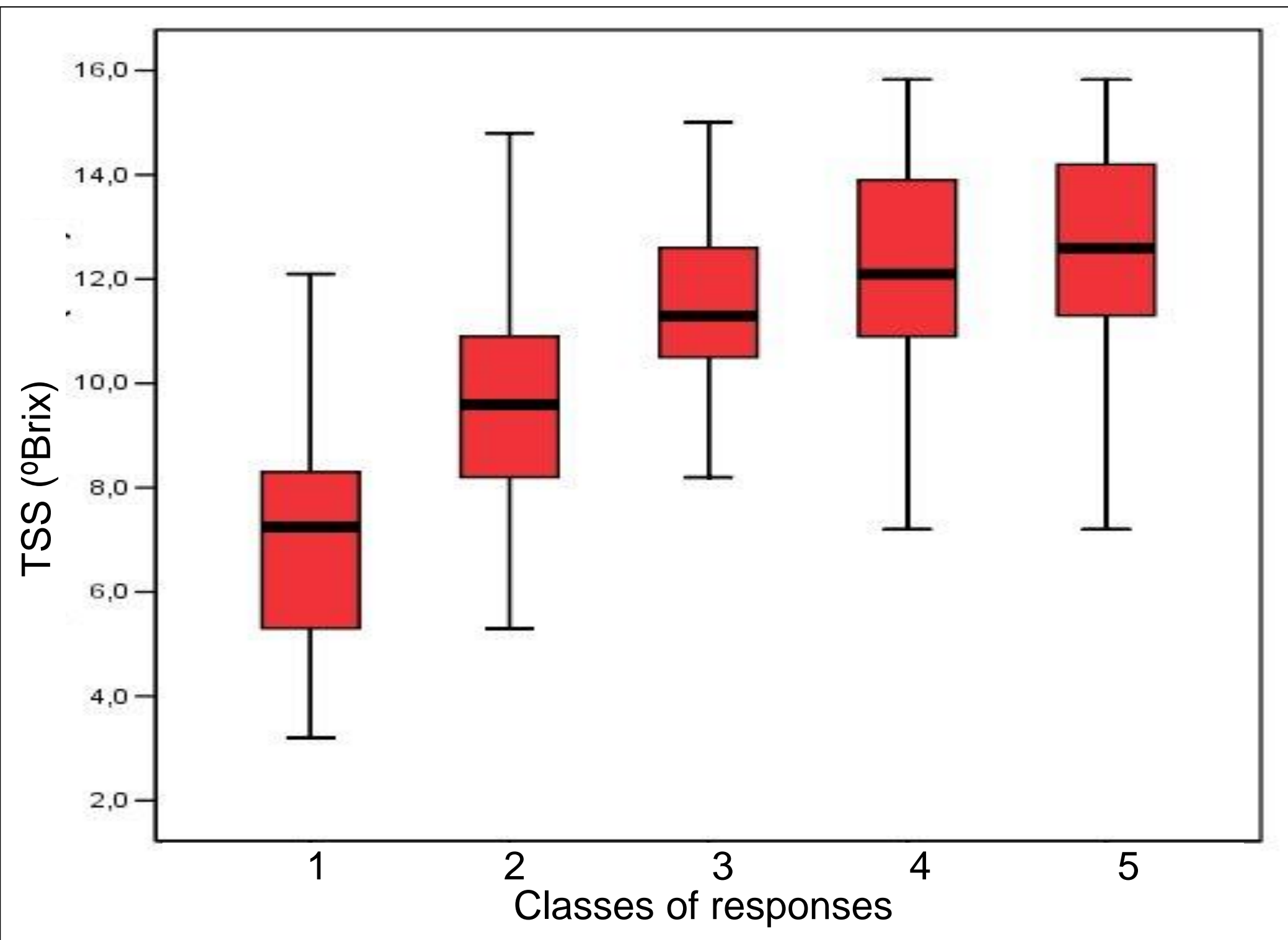
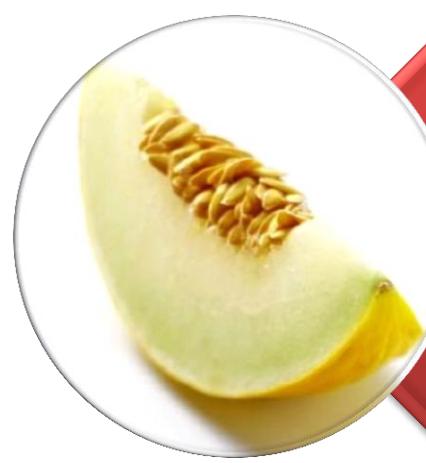


Figure 2: Classes of answers to question 2 about overall quality and SST measurements


	Median	Mean	Standard Deviation	Number of observations
Poor	7.3	6.9	2.7	88
Middling	9.6	9.4	2.3	276
Good	11.3	11.4	2.0	623
Very good	12.1	12.3	1.9	309
Excellent	12.6	12.7	1.9	84

Table 2 : Median , mean , number of observations and standard deviation obtained in question 2 - Overall quality.




6,9 °Brix

POOR



9,4 °Brix

MIDDLING




11,4 ° Brix

GOOD



12,3 °Brix

VERY GOOD



12,7 °Brix

EXCELLENT