Report S1: Penalty Analysis Report

A. Project Objective

Sensory Evaluation

B. Test Objective

To perform the penalty analysis to verify the sensory attributes that have greater effects on product acceptability

C. Methodology

JAR and penalty analysis

D. Number of Panellists

Twenty panellists.

E. Products Evaluated

Code	Details	Production Site
A	ISO-C	Pilot Plant
B	ISO-BR	Pilot Plant

F. Results

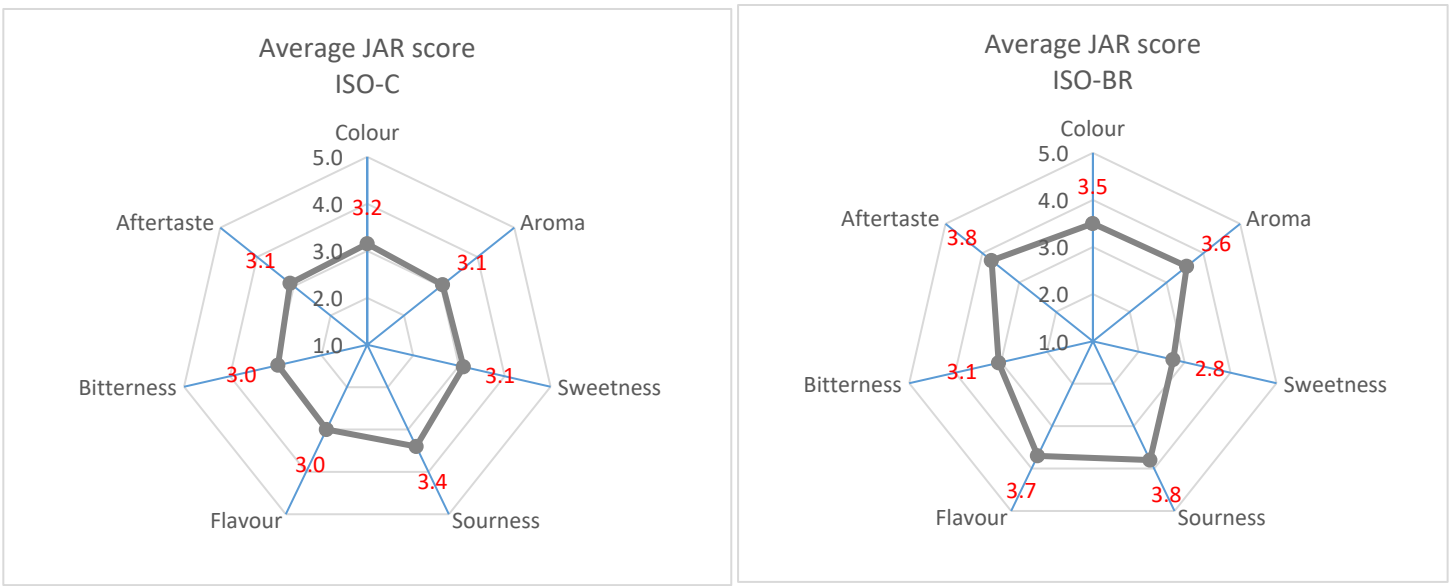


***Figure 1. Average JAR score of* ISO-C and ISO-BR**

The average JAR (Just-about-right) score was rated by 20 panellists for seven sensory attributes, which consist of colour, aroma, sweetness, sourness, flavour, bitterness and aftertaste. The overall intensity of colour, aroma, sweetness, sourness, and aftertaste ratings are slightly higher on average for ISO-C, while ISO-BR, on the other hand, are higher than average in overall intensity, except for sweetness, which is slightly lower (ideal score is 3.0, just about right).

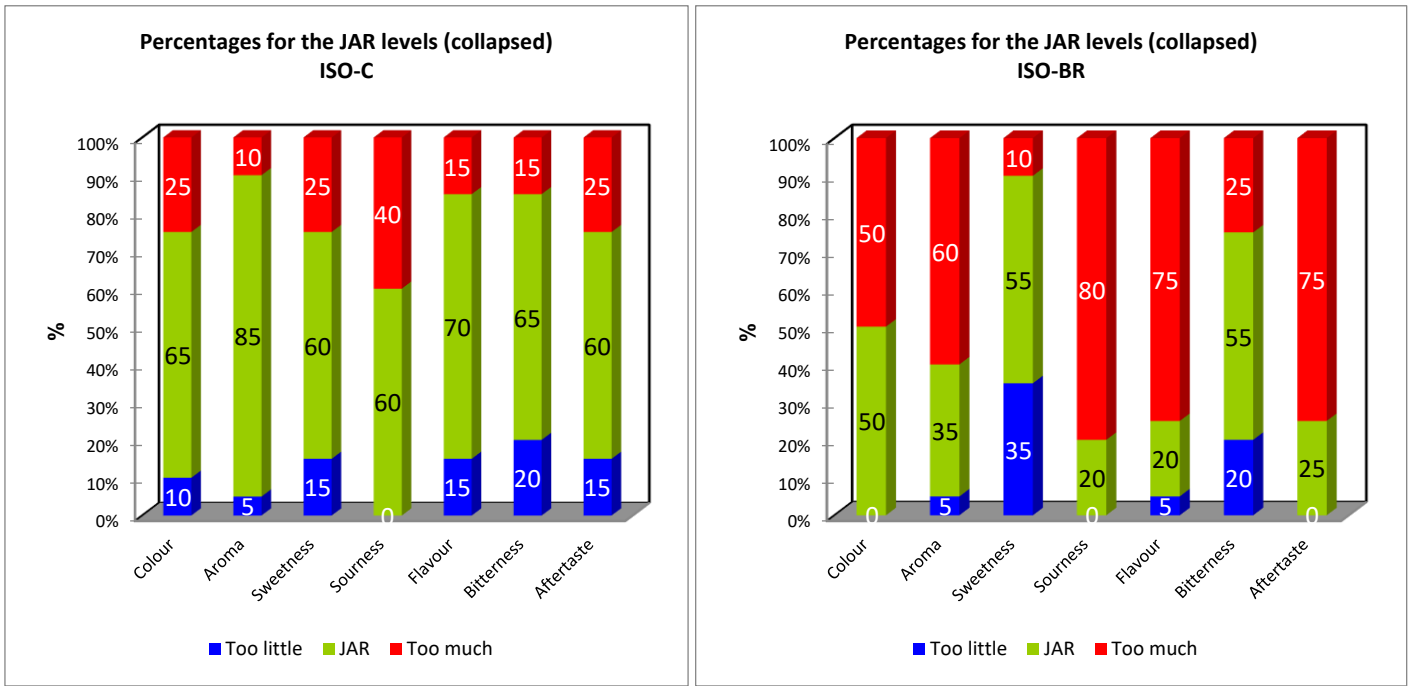


***Figure 2. Acceptance of sensory attributes of* ISO-C and ISO-BR**

Figure 2 shows the percentage of panellists based on collapsed JAR levels for the sensory attributes of colour, aroma, sweetness, sourness, flavour, bitterness and aftertaste for both ISO-C and ISO-BR.

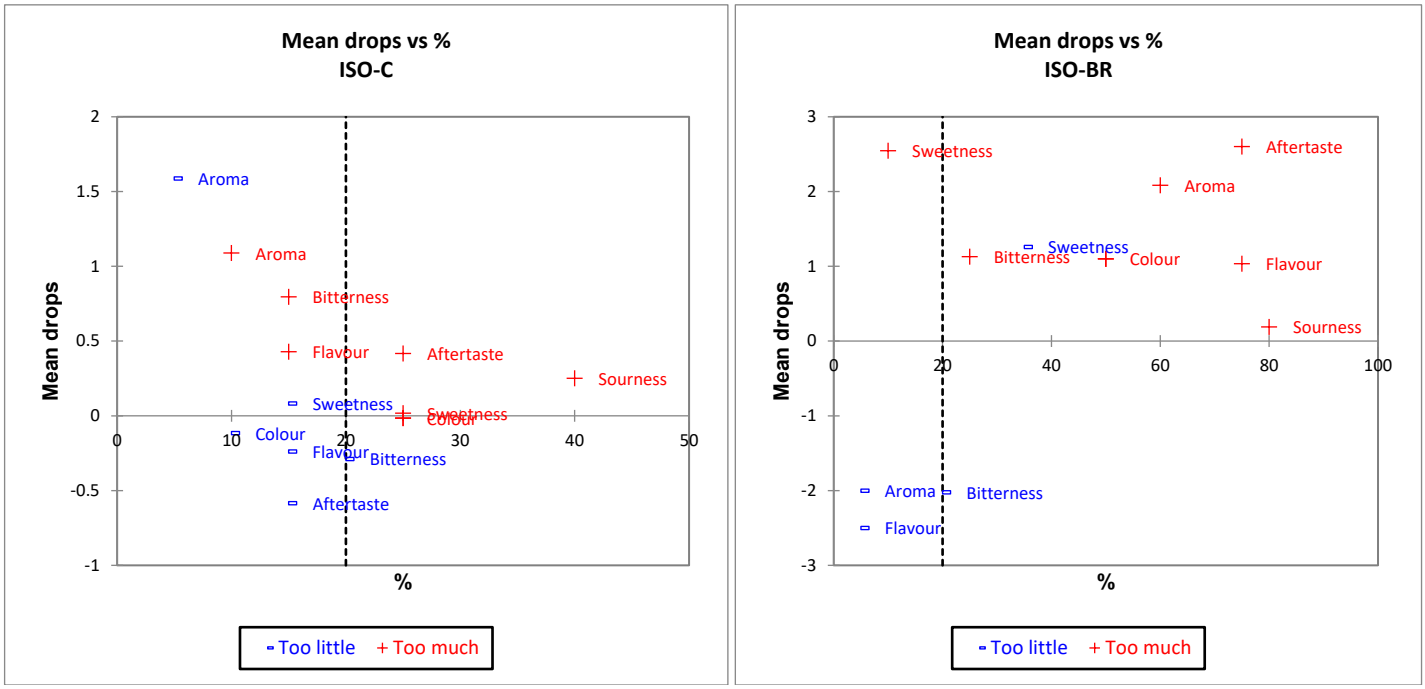


Figure 3. Relations between sensory attributes' intensity and the mean drop of overall liking

XLSTAT (Version 2021.4; Addinsoft, Paris, France) software were used to determine the penalty analysis that verifies the sensory attributes that have greater effects on product acceptability. Panellists had an overall high acceptance towards the ISO-C profile. Based on the Percentage JAR level, most ISO-BR profile attributes are too much for panellist acceptance, particularly on the taste profile (sourness, aftertaste and flavour).