CODEX ALIMENTARIUS COMMISSION

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PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999): CHANGE IN THE TEMPERATURE FOR THE ANALYSIS OF REFRACTIVE INDEX AND APPARENT DENSITY OF PALM SUPEROLEI

(Prepared by Malaysia)

INTRODUCTION

1. Palm superolein is defined as the liquid fraction derived from palm oil produced through a specially controlled crystallization process to achieve an iodine value of 60 or higher[1]. It is characterized by a set of distinctive fatty acid composition (FAC) and physio-chemical properties that differentiate it from palm olein. The inclusion of palm superolein into the Codex Standard for Named Vegetable Oils (CODEX STAN 210:1999) was agreed at the 18th CCFO[2] and adopted at the 26th Codex Alimentarius Commission in 2003[3].

ISSUE

2. At present, the value of the refractive index (RI) of palm superolein in the Codex Standard for Named Vegetable Oils (CODEX STAN 210-1999) is in the range of 1.463-1.465, determined at an experimental temperature of 40 °C. Recent interruptions to the global trade of palm superolein have occurred in which the RI values of traded palm superolein determined at 40 °C do not fall within the range as specified in the CODEX STAN 210:1999.

3. After a careful revision and cross-referencing of the RI range as stipulated in the CODEX STAN 210-1999 and data from recent analyses on palm superolein samples, current data shows that the determination of RI of palm superolein falls within the values specified in the CODEX STAN 210-1999 only when analysed at the experimental temperature of 30 °C, and not at 40 °C. Table 1 shows the data of RI of 26 palm superolein samples which Malaysia recently analysed at both 30 °C and 40 °C according to the method specified for the determination of RI in the CODEX STAN 210:1999. Similarly, as shown in Table 1, the values analysed for apparent density for palm superolein also fall within the values in the CODEX STAN 210:1999 when analysed at 30 °C.

Table 1: Refractive index and apparent density of superolein samples analysed at 30 °C and 40 °C and comparison with Codex levels

Characteristics	30 °C	40 °C	Codex levels (at 40 °C)
Refractive index	1.463-1.464	1.459-1.460	1.463-1.465
Apparent density, g/mL	0.904-0.907	0.886-0.900	0.897-0.920

4. Recent literature published on the RI values of palm superolein have also shown that the RI values of 32 palm superolein samples which fall within the values specified in the CODEX STAN 210:1999 was analysed at 30°C. Similarly,the values for apparent density of palm superolein in the same publication analysed at 30°C also fall within the values as specified in the CODEX STAN 210:1999, as shown in Table 2:

[1]Codex Standard for Named Vegetable Oils (CODEX STAN 210-1999)
[2]ALINORM 03/17
[3]ALINORM 03/41

Table 2: Refractive index of palm superolein in recent literature

Palm superolein	30 °C	Reference
Refractive index Apparent density (g/mL)	1.463 - 1.464 0.9042 – 0.9054	Gunstone (2011)[4]

5. Due to the incorrect temperature specified for the determination of both RI and apparent density in the CODEX STAN 210:1999, this has caused trade difficulties attributed to the RI values not falling within the ranges as specified in the CODEX STAN 210:1999. It is imperative that the correct experimental temperature for the determination of these quality characteristics be specified in the Codex Standard to facilitate the trade of palm superolein and to harmonise national legislation with Codex standards.

PROPOSAL

6. Malaysia submits this proposal with the purpose to change the experimental temperature in the specification for refractive index and apparent density of palm superolein from 40°C to 30°C in Table 2 in the Appendix to the Codex Standard for Named Vegetable Oils (CODEX STAN 210-1999) to address the current impediment to the trade of palm superolein.

7. The change to the correct experimental temperature for the determination of RI and apparent density of palm superolein will ensure that data resulting from quality analysis of traded palm superolein falls within the current values as specified in the CODEX STAN 210:1999, thus eliminating misinterpretation and incorrect determination of quality specifications for palm superolein.

[4]Gunstone, F. (Ed.). (2011). *Vegetable oils in food technology: composition, properties and uses*. John Wiley & Sons.