APPENDIX V

PROJECT DOCUMENT

PROPOSAL FOR NEW WORK ON AMENDMENT/REVISION TO THE CODEX STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) - INCLUSION OF CAMELLIA SEED OIL

(For Approval)

1. PURPOSE AND SCOPE

The purpose of this new work is to amend the Codex Standard for Named Vegetable Oils (CXS 210-1999) to include camellia seed oil derived from the seed of camellia (*Camellia oleifera Abel*), which has been scientifically proven to enhance functionality and benefit health due to its high oleic acid content (68–87%) and abundant natural antioxidants[i] [ii] [iii]. The amendment would enable Codex member countries and the food industry to appropriately characterize, name, and market camellia seed oil developed for nutritional benefits for consumers and diverse uses for the food processing industry.

The scope of this work is the addition of camellia seed oil in the Codex Standard for Named Vegetable Oils (CXS 210-1999). The compositional characteristics will be provided for associated tables in the Standard.

2. RELEVANCE AND TIMELINESS

Camellia seed oil is derived from the seeds of camellia (*Camellia oleifera Abel*). Camellia has a long cultivation history, spanning over 2300 years, and has been cultivated extensively as an oil crop in many countries, including China, the Philippines, India, and South Korea[iii]. Unlike other seed-oil plants that are grown on arable land, camellia normally grow on mountain slopes, which allows new crops to make full use of marginal land. Today, Camellia seed oil serves as the main cooking oil in China's southern provinces. Camellia seed oil is rich in oleic acid (68–87%) and contains a multitude of natural antioxidants, such as squalene, phytosterol (β-sitosterol, campesterol and stigmasterol), polyphenols, fat-soluble vitamins (Vitamins A, E), sasanquasaponin, and other functional substances[i-iii]. These components with various biological activities are useful for lowering triglycerides and cholesterol, thus preventing hypertension, heart disease, arteriosclerosis, and other diseases. Also, it could be used as a base oil for high-level skin care oil through further intensive processing.

The flower and fruits of Camellia

The Camellia fruits

Camellia seed oil

Figure 1 The Camellia plant and Camellia seed oil

To facilitate international trade in food products and ingredients, Codex standards often are used as the basis for names and specifications for such products to ensure fair trade practices. With its health benefits, Camellia seed oil usage is expected to experience rapid growth over the next several years[iv]. Therefore, it is important to have consistent naming and specifications to ensure the product quality and fairness for international trade.

3. MAIN ASPECTS TO BE COVERED

The proposed new work to amend the Codex Standard for Named Vegetable Oils (CXS 210-1999) to include camellia seed oil l will include the following aspects: :

- Description
- Essential composition and quality factors
- Establishment of general requirements for camellia seed oil derived from the seed of camellia (*Camellia oleifera Abel*)
- Establishment of specific requirements for camellia seed oil
- 2.1 Product definition. Include the description camellia seed oil
- 3.0 Composition and quality factors
- Table 1. Include the fatty acid composition of camellia seed oil
- Table 2 Quality characteristics of camellia seed oils

- Other quality and compositional factors
- Table 3, and Table 4 the content of sterol and tocopherol will be proposed.

4. ASSESSMENT AGAINST THE CRITERIA FOR THE ESTABLISHMENT OF WORK PRIORITIES

This proposal is consistent with the Criteria for the Establishment of Work Priorities applicable to both commodities and general subjects.

(a) Volume of production and consumption in individual countries and volume and pattern of trade between countries.

Camellia is a kind of evergreen tree cultivated in subtropical region. It is one of the four largest woody oil plants (others are oil palm, olive, coconut) in the world. Affected by geographical and climatic conditions, Camellia is mainly grown in East Asia and Southeast Asia, such as China, Japan, Vietnam, Thailand, etc. In China, the area under Camellia cultivation has increased each year, from 45 million mu in 2008 to 68 million mu in 2019 (1mu = 666.667m^2)[v]. Around 700 kilo tons of camellia seed oil were produced in 2019, and 600 kilo tons of camellia seed oil is estimated to be consumed in food market.

According to the data from the General Administration of Customs of China, in 2018 and 2019, a total of 171 and 262 tons of camellia seed oil was exported, of which worth $2.05 million (USD) and $3.24 million (USD). These numbers went up to 338 tons and $4.17 million (USD) in 2020, almost doubled compared to 2018. More than 15 countries import camellia oil from China, the top trading partners are Japan, USA, Republic of Korea, Canada, France, and Australia.

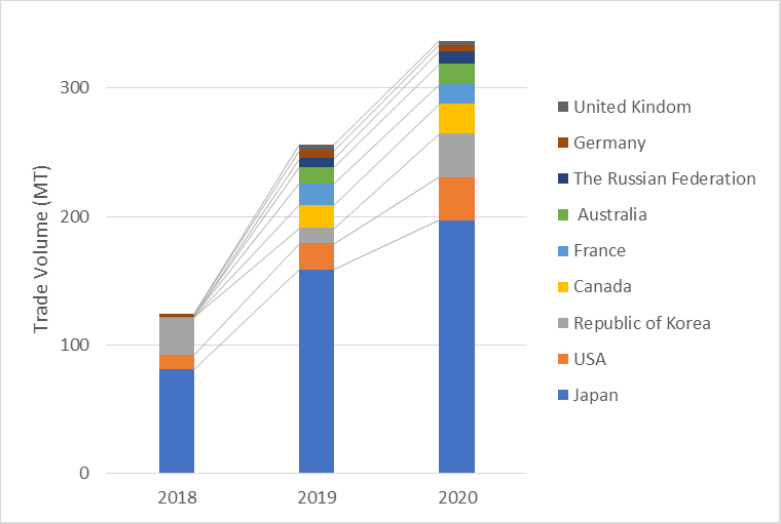

Figure 1 Camellia seed oil exports in Metric ton by main destinations from 2018 year to 2020 year. (Data from the General Administration of Customs of China)

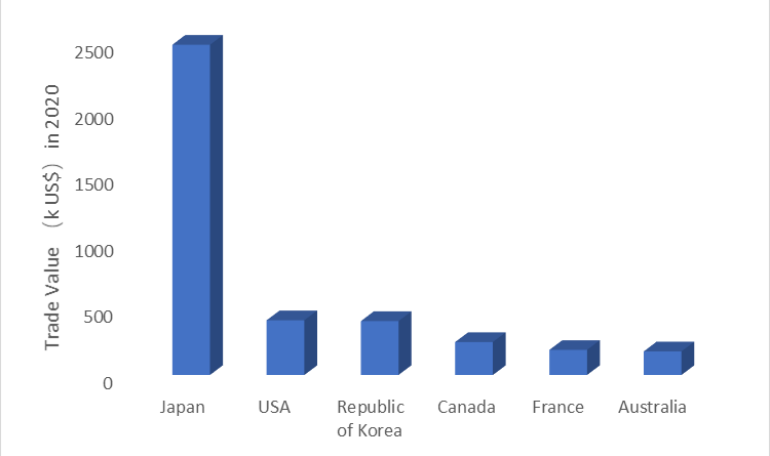

Figure 2. The trade value of Camellia seed oil by top trading partners in 2020.

(Data from the General Administration of Customs of China)

(b) Diversification of national legislation and apparent resultant or potential impediments to international trade

The voluntary National Standard for camellia seed oil (GB/T 11765) in China was first published in 2003 and

revised in 2018, which establishes the general specifications of camellia seed oil for domestic market. Food Chemicals Codex (FCC) responsible by United States Pharmacopeia published the standard of Camellia Seed (*Camellia oliefera*) Oil in 2018.

According to feedback from main camellia seed oil export companies, the current international market has different requirements for Camellia Seed specifications. With the potential increased demand in international market, the proposed amendment for camellia seed oil to the Codex Standard for Named Vegetable Oils (CODEX-Stan 210-1999) will help to promote the wide-recognized, science-based standards, assure product quality, protect consumer's health, and facilitate global trade in camellia seed oil. Without such a standard, it is expected that national legislations or standards will differ, which may affect international trade in this product. In addition, it is expected that the lack of a Codex standard might trigger proliferation of private standards for this oil and contribute to the confusion and deceptive practices in trade in oils that are unsuitable for their intended uses.

(c) International or regional market potential

As indicated above, a significant international and regional market potential exists, especially as global health authorities call for the use of nutritionally preferred alternatives to edible oils that are high in saturated fatty acids. A report published by ABSOLUTE REPORTS in 2019 showed that in the coming years there will be an increasing demand for Camellia Oil in the regions of USA, Europe and China, the worldwide market for Camellia Oil is expected to grow at a CAGR of roughly 5.6% over the next five year[vi].

(d) Amenability of the commodity to standardization

This is a proposed amendment to the Codex Standard for Named Vegetable Oils (CODEX-Stan 210-1999) to include camellia seed oil. The addition of this oil including essential factors related to composition, health and quality would enable the standardization of oils of this type and contribute to consumer protection.

(e) Coverage of the main consumer protection and trade issues by existing or proposed general standards

As indicated above, development of a Codex standard for camellia seed oil will enhance consumer protection by discouraging food fraud practices and the development of private standards.

(f) Number of commodities which would need separate standard indicating whether raw, semi-processed or processed

Not relevant.

(g) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

None known.

5. RELEVANCE TO THE CODEX STRATEGIC OBJECTIVES

As the focus and needs of establishing a Codex standard for camellia seed oil is observed in international trade, this proposed amendment is in accordance with the Goal 1 of Codex Strategic Plan 2020-2025: Address current, emerging and critical issues in a timely manner.

Specifically, regarding objective 1.1, "Identify needs and emerging issues", this proposed amendment serves as a proper respond to the need of promoting fair trade of camellia seed oil.

Further, regarding objective 2.2, "Prioritize needs and emerging issues", with current time manner, the proposed amendment will become the essential standard for Codex members with camellia seed oil trade, meanwhile the potential of camellia seed oil trade will be observed by all Codex members.

6. INFORMATION ON THE RELATION BETWEEN THE PROPOSAL AND OTHER EXISTING CODEX DOCUMENTS

None.

7. IDENTIFICATION OF ANY REQUIREMENT FOR AND AVAILABILITY OF EXPERT SCIENTIFIC ADVICE

If expert scientific advice is required, we're committed to provide the contact of experts who are responsible for the proposed text and the research papers.

8. IDENTIFICATION OF ANY NEED FOR TECHNICAL INPUT TO THE GUIDELINES FROM EXTERNAL BODIES THAT CAN BE PLANNED

Relevant SDOs, such as ISO, AOCS, are expected to participate in the review of the Codex standard.

9. PROPOSED TIMELINE FOR COMPLETION OF THE NEW WORK, INCLUDING THE START DATE, THE PROPOSED DATE FOR ADOPTION AT STEP 5/8, AND THE PROPOSED DATE FOR ADOPTION BY THE COMMISSION

It is expected that the development of this standard would be conducted in two CCFO sessions or less (effective CCFO28), depending on the agreement reached by the Committee.

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[i] Yang Ruinan, et al. A review of chemical composition and nutritional properties of minor vegetable oils in China, Trends in Food Science & Technology, Volume 74, 2018, Pages 26-32.

[ii] Xiaoqin Wang, et al. Profiling and quantification of phenolic compounds in Camellia seed oils: Natural tea polyphenols in vegetable oil, Food Research International, Volume 102, 2017, Pages 184-194.

[iii] Fei Luan, et al. Recent advances in Camellia oleifera Abel: A review of nutritional constituents, biofunctional properties, and potential industrial applications, Journal of Functional Foods, Volume 75, 2020, 104242.

[iv] Liang, H., et al. Camellia as an Oilseed Crop, HortScience horts, 2017,52(4), 488-497.

[v] Source: the website of China State Administration of Forestry and Grassland, http://www.forestry.gov.cn/

[vi] Source: https://www.absolutereports.com/global-camellia-oil-market-13837567