



JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD ADDITIVES

Fifty-fourth Session

DISCUSSION PAPER ON THE DEVELOPMENT OF A STANDARD FOR BAKER'S YEAST

(Prepared by China, France, Japan, Türkiye and the Confederation of European Yeast Producers)

Background

1. The new work proposal was submitted to the 44th Session of the Codex Alimentarius Commission (CAC) for discussion in November 2021. Based on the conclusions of CAC44¹, the proposal was then submitted to the 53rd Codex Committee on Food Additives (CCFA53) in 2023.
2. At CCFA53², China presented the discussion paper (CCFA53/CRD6), emphasizing the need to establish a standard for yeast. In response to feedback received, China proposed excluding edible yeast from the scope and suggested further discussion on the scope during the standard's development.
3. CCFA53 agreed to request China, France, and other interested Members, to prepare a discussion paper which would be included for discussion on the agenda of CCFA54.
4. Following CCFA53, China has collaborated with France, Japan, Türkiye, and the Confederation of European Yeast Producers to conduct a comprehensive review of the project document, taking into consideration the comments received at CCFA53.

Recommendation

5. CCFA54 is invited to consider the revised project document attached as Appendix 1, make amendments as it considers appropriate, and recommend new work on development of a standard for baker's yeast for approval by CAC47.

¹ REP21/CAC paragraphs 151-153

² REP23/FA paragraphs 191-195

PROJECT DOCUMENT

Proposal for the Development of a Codex Standard for Baker's Yeast

1. The Purposes and Scope of the Standard

This standard applies to yeast products for baking. Currently, there is no harmonized international standard for baker's yeast. The regulations and standards for these products vary among countries, and there are still many countries which do not have standards for baker's yeast.

The purpose of this standard is to protect the health of consumers and promote fair practices in food trade in accordance with the purpose of Codex.

2. Product definition

Baker's yeast refers to a type of unicellular fungus belonging to the species of *Saccharomyces cerevisiae* as example. It is produced by the multiplication of pure strains (see production process in Figure 1) and is used as biological leavening agents in bakery applications, with the main function of producing carbon dioxide with flavors.

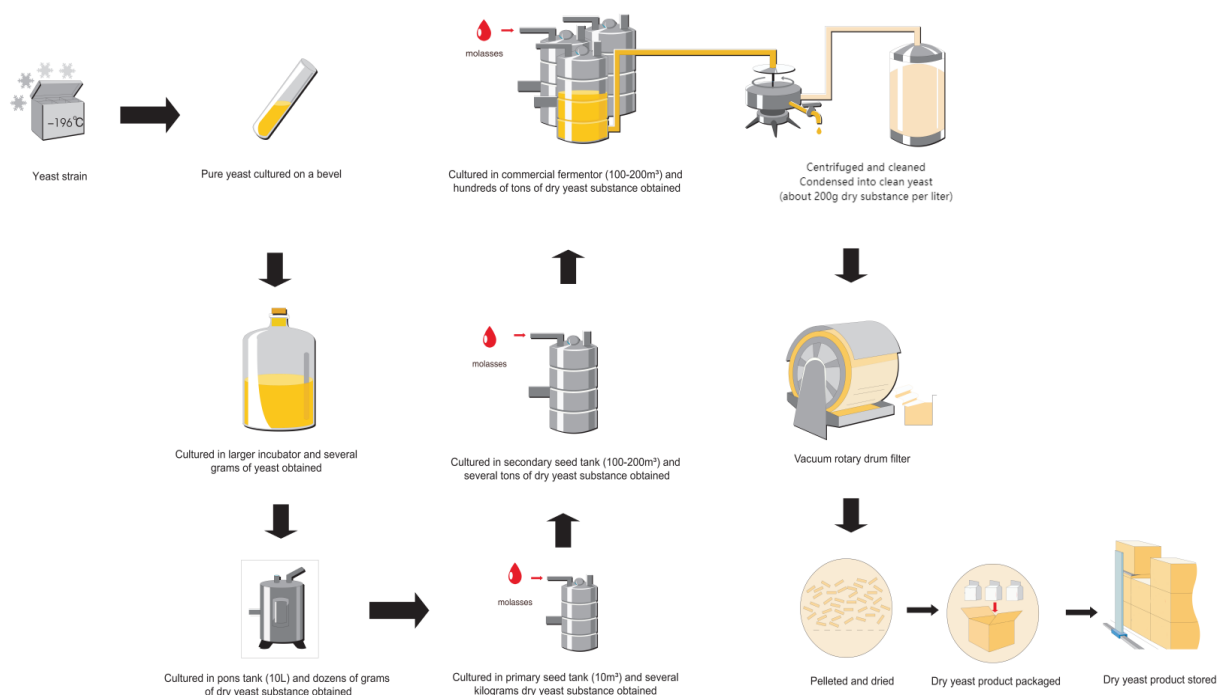


Figure 1 Example of production process diagram of dried baker's yeast

Products can be classified into liquid baker's yeast, fresh baker's yeast and dry baker's yeast according to their moisture content. See Figure 2 for part of representative products in the market.

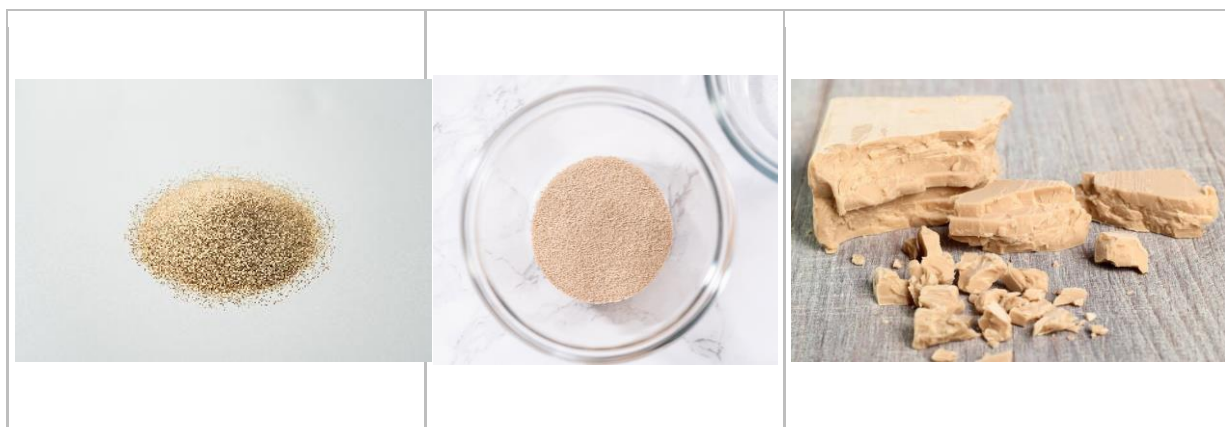


Figure 2 Part of representative products in the market

3. Relevance and timeliness

Baker's yeast products have wide applications and broad market potential, due to the improvement of fermentation technology and production technology, production concentration and unit yield have also been continuously improved, which has further promoted the international trade of baker's yeast products.

From 2018 to 2021, the global yeast import and export trade remained at around US\$1.73 billion each year. The detailed data are shown in Figure 3 and Figure 4.

At present, baker's yeast products are widely used in countries in Europe, Asia, North America, South America and Oceania. However, the Codex Alimentarius Commission has not yet formulated any standard for baker's yeast, and there is no harmonized standard among various trading countries. For example, the Iraqi Quality Standard (IQS 814 / 2018) , zinc is limited in the standard to less than 200 mg/kg. However, this requirement is not currently stipulated in other countries. This could start to cause obstacles to international trade.

Increased production and international trade argue for the need of an international standard on the most traded yeast product, i.e, baker's yeast, to avoid multiplication of national standards which could lead to barriers to trade.

Therefore, the Codex standard for baker's yeast will benefit the trade between countries and regions in the world and it is predicted that baker's yeast products will have greater consumption demand and trade potential in the international market in the future.

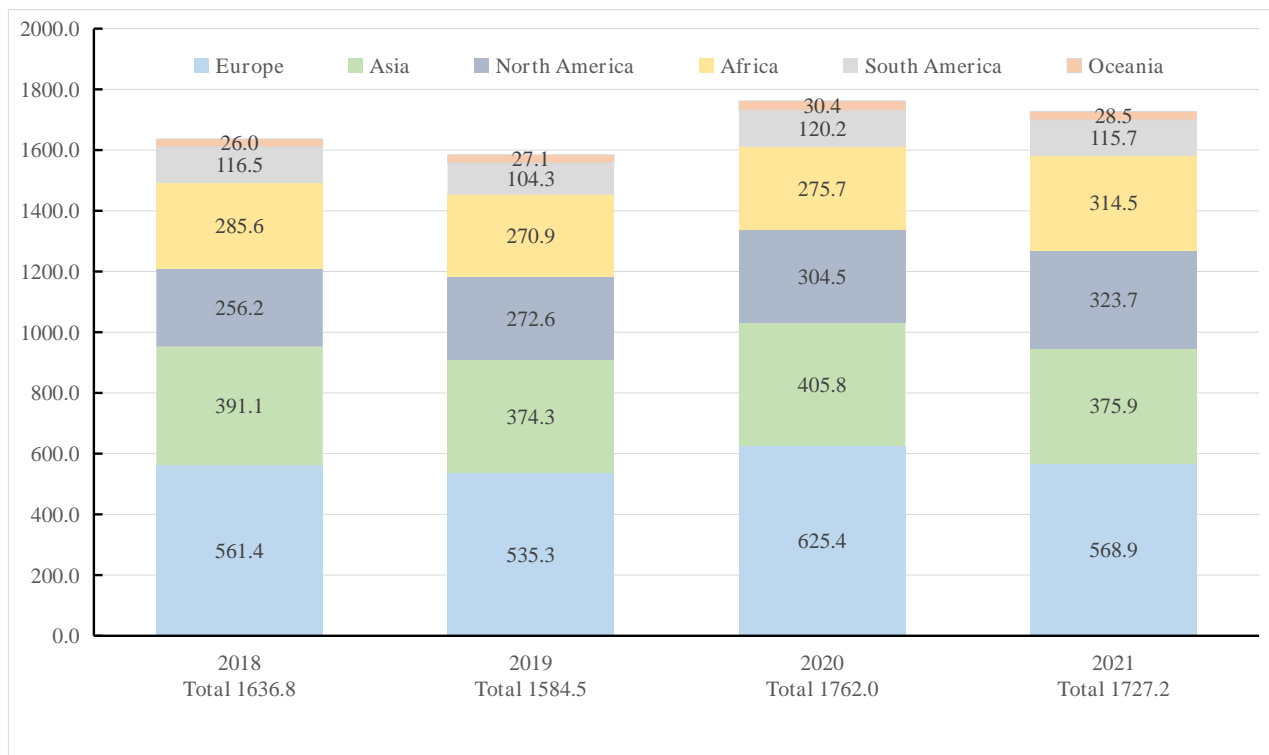


Figure 3 2018-2021 Global Yeast Total Imports (Million US\$)

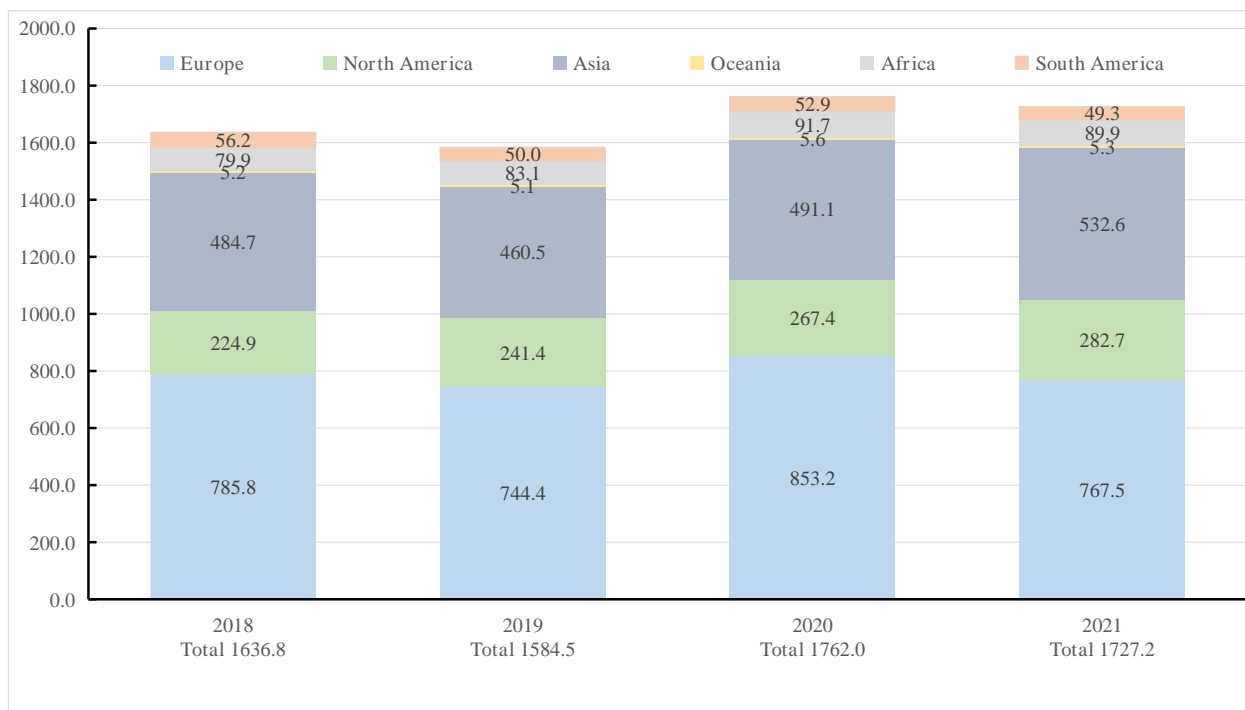


Figure 4 2018-2021 Global Yeast Total Exports (Million US\$)

Source : <https://oec.world/#Exports>

Note: these data refer to active yeast trade. The data in Section 3 are from the Observatory of Economic Complexity (OEC), and due to the difficulty of obtaining fully accurate and detailed baker's yeast market data, yeast market data have been collected as a reference to represent market dynamics.

4. Main aspects to be covered

The main aspects to be covered by the Codex standard for baker's yeast include scope, description, types, essential composition and quality factors, packaging, transportation and storage as well as methods of analysis and sampling. The sections related to food additives, contaminants, food hygiene and labeling will follow the requirements of the existing Codex texts.

5. Assessment against the Criteria for the Establishment of Work Priorities

General Criterion

The standard aims at ensuring consumer health, food safety and fair food trade practice, especially taking into account the needs of developing countries. The new standard proposal will focus on the following aspects to meet the above requirements: It should help prevent potential trade barriers by unifying standard requirements.

- Resolve consumers may concerns about food safety by establishing typical product characteristics; and
- Prevent potential future trade barriers by unifying standard requirements.

Criteria applicable to commodities

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

In 2022, the global production of yeast products was around 2.00 million tons, a net increase of 270,000 tons compared to that of 2018, those statistics in this report include both fresh and dry yeast products.

Source : <https://report.csdn.net/market/64de1ceadc60580edc772dae.html> (Global and Chinese Yeast Industry Market Size Analysis and Forecast Report from MARKET MONITOR)³

³ COFALEC acknowledges the use of these publicly available trade data but would like to highlight that they are missing accuracy.

Subject to factors such as raw materials, technology and environment, 65% of the global production of yeast products are located in Europe, Asia Pacific and North America. China, France, Türkiye, Mexico and Canada are the world's major yeast exporters. The United States, France, Brazil, Germany and Sudan are major importers. The import and export amounts of major countries are shown in Table 1 and Table 2, the trade balance by geographical zone for active yeast in 2021 are shown in Table 3, the trade balance for active yeast by top exporting countries in 2021 are shown in Table 4.

Table 1 Export value of major exporting countries (Million US\$)

Country	2018	2019	2020	2021
China	212.52	231.18	260.25	283.62
France	190.10	188.40	215.32	85.60
Türkiye	205.80	188.53	194.88	208.11
Mexico	101.64	112.39	130.58	112.70
Canada	92.97	99.47	100.00	132.24

Table 2 Import value of major importing countries (Million US\$)

Country	2018	2019	2020	2021
United States	192.87	205.77	225.13	232.43
France	74.39	65.45	75.86	82.59
Brazil	54.70	46.53	51.76	52.46
Germany	56.80	44.27	57.96	37.23
Sudan	43.23	41.17	3.14	38.68

Table 3 Trade balance by geographical zone for active yeast in 2021 (Million US\$)

Geographical zone	Export value	Import value	Trade balance (Export - Import)
Africa	89,9	314,5	-224,6
Asia	532,6	375,9	156,6
Europe	767,5	568,9	198,6
North America	282,7	323,7	-41,0
South America	49,3	115,7	-66,4
Océania	5,3	28,5	-23,1

Table 4 Trade balance for active yeast by top exporting countries in 2021(Million US\$)

Top 10 exporters in 2021	Trade balance (Export - Import)	Export value	Import value
China	271,9	283,6	11,7
EU	207,7	681,7	474,0
Türkiye	201,1	208,1	7,0
Canada	102,8	132,2	29,4
Mexico	90,3	112,7	22,4
Egypt	60,3	64,9	4,6
Russia	38,9	65,5	26,7
United Kingdom	6,0	42,0	36,0
Vietnam	5,8	14,4	8,6
South Africa	1,1	11,1	9,9
US	-197,6	34,8	232,4

Source : <https://oec.world/#Exports>

Note : these data refer to active yeast trade. Due to the difficulty of obtaining fully accurate and detailed baker's yeast market data, yeast market data have been collected as a reference to represent market dynamics.

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

Different processing and consumption habits in various regions have led to differences in the classification, requirements and inspection methods of baker's yeast products. For example, different regions have different requirements for physical and chemical properties in baker's yeast products, which may lead to trade barriers in importing and exporting these products between countries and regions.

c) International or regional market potential

The global yeast production, export volume and international trade volume continue to grow, and the global production and sales scale are expected to be 2 million tons in 2025. From 2018 to 2021, the global import and export trade data of yeast increased steadily, as shown in Figure 3 and Figure 4. In addition to continents such as Europe, Asia, and the Americas which have a longer history of yeast production and consumption, due to population growth and changes in dietary habits, as well as a great demand marketing in Africa, the Middle East, and Asia-Pacific, and the growth of market is steady.

Source : <https://oec.world/#Exports>

Note: these data are from the OEC, due to the difficulty of obtaining fully accurate and detailed baker's yeast market data, yeast market data have been collected as a reference to represent market dynamics.

d) Amenability of the commodity to standardization

The Codex standard for baker's yeast will play a positive role in guiding the healthy development of the industry and improving the safety of yeast products. Codex has not formulated relevant standards for these. The current *General Standard for Food Additives* (CXS 192-1995) has the food category and description of yeast (FC 12.8), as well as food additive provisions in this food category, but Codex still lacks other specifications requirement for this whole food category.

At present, several regions have their own standards for baker's yeast products, such as China (GB/T 20886.1-2021), Europe (DIN SPEC 91473:2022), Türkiye (TS 3522:2015) or the East African Community (DEAS 997:2019). Such standards include specific requirements on sensory indicators, physical and chemical indicators and safety indicators of baker's yeast products. There are many similarities between the standards. For example, most moisture content of dry yeast is less than 10%, while the moisture content of fresh yeast is usually around 70%. Most requirements on appearance, flavour and texture in standards of different countries or regions are consistent. In summary, it is feasible to develop a harmonized international standard for baker's yeast.

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

There are several national regulations for baker's yeast in the world, but some countries do not have any specific regulation for baker's yeast, this standard should be harmonized with other standards.

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

At present, apart from this proposed standard, there is no need to formulate other standards. There is no semi-processed product or unprocessed product sold as a commodity in this product.

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

A new work item proposal was submitted by Germany to International Organization for Standardization (ISO) in August 2023 in order to initiate new work on baker's yeast characteristics (ISO/NP 23983).

6. Relevance to the Codex Strategic Objectives

The proposed new standard project is in line with the Codex Strategic Plan 2020-2025, and the development of global standard for baker's yeast is closely related to Goal 1 (Address current, emerging and critical issues in a timely manner). As a global standard of baker's yeast, it will help to improve the food safety for global consumers and promote fair international trade practices for this products.

7. Information on the relation between the proposal and other existing Codex documents

The standard will be used in conjunction with all existing and relevant Codex standards. It will take into account the provisions of

- *General Principles of Food Hygiene (CXC 1-1969),*
- *General Standard for the Labelling of Prepackaged Foods (CXS 1-1985),*
- *General Standard for the Labelling of Food Additives When Sold as Such (CXS 107-1981),*
- *General Standard for Food Additives (CXS 192-1995),*
- *General Standard for Contaminants and Toxins in Food And Feed (CXS 193-1995),*
- *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related for Foods (CXG 21-1997),*
- *Recommended Methods of Analysis and Sampling (CXS 234-1999),*
- *Practice Concerning Source Directed Measures to Reduce Contamination of Food with Chemicals (CXC 49-2001).*

8. Identification of Any Requirement for and Availability of Expert Scientific Advice

None is required.

9. Identification of Any Need for Technical Input to the Standard from External Bodies so that this can be Planned for

None is required.

10. The Proposed Time-Line for Completion of the New Work.

It is expected that the development of this standard would be conducted in three CCFA sessions or less, depending on the agreement reached by the Committee.