Addressing Egypt's Shelf life Standards

PREPARED BY
Thomas Butterworth Ph.D.

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Background – The Egypt ATR Project

The Assistance for Trade Reform project is an USAID-funded project implemented by the Nathan -MSI group. The project's objectives are to:

1. Establish a World Trade Organization (WTO) unit within the Ministry of Foreign Trade (MOFT) and to form the necessary intra- and inter-ministerial coordinating mechanisms incumbent upon WTO compliance;
2. Continue and finalize the reengineering efforts as contained in the Foreign Trade Sector (FTS) reengineering study and to expand/complete this effort in Egyptian Commercial Service (ECS) and General Organization for Export and Import Control (GOEIC) so that their operations facilitate trade liberalization and enhance Egypt's export prospects; and,
3. Facilitate the automation of the above four units with appropriate information technologies.

To meet these objectives, the Nathan-MSI team will undertake the following tasks:

Task 1: Establish a WTO Unit;

Task 2: Trade Liberalization and WTO Compliance Policies;

Task 3: Institutional Development of the Cooperating Divisions Working in Foreign Trade;

Task 4: Organization of In-Country and Off-Shore Training Activities, Workshops and Seminars; and,

Task 5: Implementation of Information Technology Plan for Cooperating Divisions and WTO Unit and Procurement of Equipment and Software.

Description of Activities Under This Short Term Consultancy

The Ministry of Foreign Trade and Industry (MFTI) is in the process of re-evaluating shelf life standards governing the distribution of Egyptian production and the release of imported food products. This is a major issue of bilateral concern, with discussions conducted under the umbrella of the technical coordination committee for the preparation of FTA negotiations with the US.

Currently, two regulations are perceived by Egypt's trade partners as technical barriers to trade. These are:

1. A requirement that food products must have at least 50% of their life remaining at the time of clearance from customs and inspection.

2. Egypt does not accept the "use by date xxx" label that is suggested by the manufacturer, when most countries do accept this as the 'expiration' date. Instead, Egypt relies on mandatory shelf-life estimates that are typically shorter than those suggested by manufacturers (these apply to imports and local production). Shorter shelf-life standards are intended to allow for storage and distribution conditions in Egypt that may not be consistent with conditions assumed in manufacturers' calculations of suggested expiration dates.

The primary purpose of this consultancy is to assist MFTI in addressing these issues through:

1. Providing an overview of other countries' regulations in this area and an evaluation of where Egypt's regulations are consistent or deviate from international norms.

2. Provide guidance on the stability analysis that guides manufacturer's determination of suggested expiration or use before dates, especially in developed countries.

3. Explaining CODEX recommendations in this area and flexibility allowed to different countries, and under what conditions.

4. Overview of retailers' additional requirements to complement government regulations in providing "voluntary" extra protection to consumers.

5. Survey estimating "distribution and circulation" cycles of food products from factory or port until products reach final consumers.

The main expected tasks to be completed under this short-term assignment are:

• Prepare a paper highlighting the main features of two developed countries' systems related to shelf life, including local production and regulations on imports and their enforcement.

• Conduct an evaluation of the mechanism by which Egypt's shelf life standards are developed.

• Advise MFTI on mechanisms adopted by other countries to integrate domestic food safety measures with measures conducted at the border to enhance national treatment compliance and ensure food safety from different sources and under different distribution and storage conditions.

• Advise MFTI and involved agencies, and work with the Committee established at the Egyptian Organization for Standards (EOS) to group food products in different categories with respect to shelf-life requirements that are science-based and conform with international norms.

Expected Results

The objective of this activity is to assist MFTI in removing unnecessary trade barriers and ensuring that food safety of locally produced and imported food products is consistent with developed countries norms and guidelines. This consultancy will contribute to this by exposing competent Egyptian authorities to best practices implemented in different countries in addressing food labels related to expiration dates.

Deliverables

• Prepare a report that:

- Summarizes the main features of the US and the EU's shelf-life/expiration date policies on imports and domestically produced food products;

- Evaluates Egypt's procedures for issuing and evaluating shelf-life standards;

- Proposes an action plan to ensure that shelf-life requirements guarantee food safety in both domestic and imported food that do not conflict with Egypt's national treatment obligations in the WTO.

• A one-day training course on international best practice, scientific justification, enforcement, etc. for staffs from related organizations.

• A seminar given to Foreign Trade Sector/Trade Agreements Sector/EOS/General Organization for Export and Import Control senior management (and senior management from related agencies) on the main findings and highlights of the suggested action plan.

Main Features of Other Shelf-Life/Expiration Date Policies on Imports and Domestically Produced Food

Codex

The Codex Alimentarius Commission was created in 1963 by FAO and WHO to develop food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Program. The standards developed by Codex are voluntary and are intended in part as guides. Many countries have adopted Codex standards, or parts of them, and applied them as regulations modified, at times, to fit the special circumstances of that country. As such, Codex itself offers no flexibility to different countries and conditions.

"Shelf life" is an informal term, familiar to American consumers, but not generally used in the regulations of other countries or systems. Codex refers to a "date of minimum durability" which means the same as ("best before"):

> The date which signifies the end of the period under any stated storage conditions during which the product will remain fully marketable and will retain any specific qualities for which tacit or express claims have been made. However, beyond the date the food may still be perfectly satisfactory.[1]

Therefore, in Codex, the Date of Minimum Durability represents the end of a marketing life and is appropriately labeled "best before." It has no connection with risk[2] to the consumer.

In Codex, labeling a food product with the date of minimum durability is required if the food is prepackaged. Codex also requires that the label also bear any special conditions for the storage of the food if the validity of the date depends thereon.

The format for labeling the date of minimum durability in Codex is as follows:

- The day and the month for products with a minimum durability of not more than three months;
- The month and the year for products with a minimum durability of more than three months;
- If the month is December, it is sufficient to indicate the year;
- The date shall be declared by the words:
  - "Best before ..." where the day is indicated;
  - "Best before end ..." in other cases.
- The "Best before…" statement shall be accompanied by:
  - Either the date itself; or
  - A reference to where the date is given.
- The day, month and year shall be declared in un-coded numerical sequence except that the month may be indicated by letters in those countries where such use will not confuse the consumer;

[1] *Codex General Standard for the Labeling of Prepackaged Foods, Codex Standard 1-1985 (Rev. 1-1991)*

[2] Here the term "risk" refers to immediate risk to human health rather than to an economic risk faced by consumers if they purchase older product that may be of lesser quality than newer product.

- The day of the month shall be shown after the month and shall be expressed in numbers.

The following products are exempt from the required format:

- Luncheon meats 89-1981 (Rev. 1-1991);
- Cooked cured ham 96-1981 (Rev. 1-1991);
- Cooked cured pork shoulder 97-1981 (Rev. 1-1991);
- Cooked cured chopped meat 98-1991 (Rev. -1991).

Shelf-stable products declare the minimum durability date by year. For products with shelf life less than 18 months, the date is declared by day, month and year

Some prepackaged foods are exempt in Codex from labeling a durability date:

- Fresh fruits and vegetables… …which have not been peeled, cut or similarly treated;
- Various alcoholic drinks;
- Bakers' or pastry-cooks' wares which, given the nature of their content, are normally consumed within 24 hours of their manufacture;
- Vinegar;
- Food grade salt;
- Solid sugars;
- Confectionery products consisting of flavored and/or colored sugars;
- Chewing gum.

Some other exemptions are outside the General Standard:

- Canned apricots (129-1981);
- Firm, hard and extra-hard cheese A-6-1978, Rev.1-1999, Amnd 2003;
- Food additives (if shelf life exceeds 18 months) (107-1981).

Codex contains no mention of restricting imports by their date of minimum durability.
Codex has a proposed draft relating to the handling of imported foods, *Principles and Guidelines for Risk-Based Inspection of Imported Food (N06-2004)* which proposes a scientific and historical approach to inspection but nothing relating to date of minimum durability.

Codex is silent on the issue of who determines the date of minimum durability, indicating that it is left up to the manufacturer

United States

In the United States, the end of the shelf life of a food product is usually referred to in the regulations as expiration date. Responsibility for regulating non-alcoholic prepackaged food products is split between the United States Department of Agriculture (USDA) which handles meat & poultry products and the Food and Drug Administration (FDA) which regulates pretty much everything else.

Expiration dates are generally not required in the U.S by federal regulations. It is required for certain categories of foods (like infant formulas and certain other baby foods).

There are four forms of expiration labeling:

- Expiration date
  - The calendar date on the packaging of a food that indicates the last date a food should be eaten or used.
  - This date has food safety implications: foods used after this date could contain spoilage bacteria or pathogens and may not be safe to eat.
  - Consumers are advised not to buy foods after the expiration date has passed, and at home, throw out foods after the expiration date has passed
- "Use by" date
  - The last date a consumer is recommended to use a product while it is at its peak quality. This date is recommended for best flavor and quality. It is not a "Sell by" or food safety date and has no food safety implications.
- "Best if used by" date
  - The calendar date on the packaging of a food product, which represents the recommended time limit a food should be used within for the best flavor and quality. It is not a purchase or safety date.
- "Sell by" date
  - The calendar date on the packaging of a food product that indicates the last day the product can be sold. The "Sell by" date tells the retailer how long to display a product. It guides the rotation of shelf stock and allows time for the product to be stored and used at home. The date is quality driven, not a food safety concern.

The FDA's policy not to require expiration dates on food products has its critics as the excerpted letter (below) indicates:

> I urge you to invest more resources in better labeling of foods including… …an easily read and understandable expiration date of the product. I am a member of the Center for Science in the Public Interest…

Requirements for individual states vary and dating of at least some foods is required by more than 20 states. These products tend to be refrigerated products, products packaged at retail and those products important to that state's economy. Open dating is found primarily on perishable foods such as meat, poultry, eggs and dairy products. Therefore, some areas of the U.S. have some type of open date for much of the food supply and other areas have almost no food dated.

In-shell eggs seem to be a special case. Although they are regulated by FDA, if a manufacturer applied a grade (like "Grade A"), that act is voluntary. However, the grade is regulated by USDA which requires expiration dating of eggs:

- If an expiration date is used, it must be printed in month/day format and preceded by the appropriate prefix. "EXP", "Sell By", "Not to be sold after the date at the end of the carton" are examples of expiration dates;
- These "Sell By" dates can be no more than 30 days from the day the eggs were packed into the carton. This seems to be the only instance where an expiration date of a food product is mandated by the government.

Another type of code dating used for eggs indicates the recommended maximum length of time that the consumer can expect eggs to maintain their quality when stored under ideal conditions. Terminology such as "Use by", Use before", "Best before" indicates a period that the eggs should be consumed before overall quality diminishes. Code dating using these terms may not exceed 45 days including the day the eggs were packed into the carton. State requirements vary.

Eggs that are not packed under USDA's grading program must be labeled and coded in accordance with egg laws in the state where they are packed and/or sold. Most states require the use of a pack date.

Except for eggs, U.S. regulations are generally silent on the issue of who determines the expiration date, indicating that it is left up to the manufacturer.

There exists no special requirement for remaining shelf life for imported food products.

Canada

In Canada, shelf life is known as durable life and is defined as:

> The period, commencing on the day on which a prepackaged product is packaged for retail sale, during which the product, when it is stored under conditions appropriate to that product, will retain, without any appreciable deterioration, its normal wholesomeness, palatability, nutritional value and any other qualities claimed for it by the manufacturer.[3]

Labeling of the durable life is required in Canada if:

- The food is prepackaged, and
- The durable life is less than 90 days

The regulations also require instructions for the proper storage of the prepackaged product if it requires storage conditions that differ from normal room temperature. Foods must also bear a packaging date if the food was packaged at retail. The words “best before” and “meilleur avant” are normally grouped together with the durable life. The words “use by” and “employez avant” are also acceptable but are equivalent in meaning.

Where, for the sake of clarity, it is necessary to show the year in which the durable life date occurs, the year shall be shown first and shall be expressed by at least the last two numbers of the year. The month is shown in words after the year, if the year is shown, and may be abbreviated as prescribed following:

- JA January
- FE February
- MR March
- AL April
- MA March
- JN June
- JL July
- AU August
- SE September

[3] *Food and Drug Regulations Section B.01.007*

- OC October
- NO November
- DE December

The day of the month is shown after the month and shall be expressed in numbers.

A formatting example is below:

Best before
04 JN 28
Meilleur avant

Canada lists the following prepackaged foods as exempt from shelf life dating:

- Fresh fruits and vegetables;
- Individual portions of food that are served by a restaurant or other commercial enterprise with meals or snacks;
- Individual servings of food that are prepared by a commissary and sold by automatic vending machines or mobile canteens;
- Donuts;
- Chopped or shredded fresh fruits or vegetables;
- Modified atmosphere products (labeled by retailer at the time the case is opened).

Canadian regulations are silent on the issue of who determines the expiration date, indicating that it is left up to the manufacturer. The regulations give a hint in this direction: Canadian regulations define “expiration date” for formulated liquid diet foods that specifically refer to a manufacturer’s recommendation.

All foods packaged for consumer use and imported into Canada must comply with basic food labeling requirements specified by the Food and Drugs Act and Regulations and the Consumer Packaging and Labeling Act and Regulations. It is the same for imports as those foods produced domestically. There is no requirement for remaining shelf life for imported products.

Agricultural and fish products for which standards exist may have additional labeling requirements (e.g. grade or country of origin) but nothing about remaining shelf life.

Canada has an importer’s quality control program for labels (3.6.2 Label Review):

- When product is received, labels and advertising material should be reviewed in accordance with the "Guide to Food Labeling and Advertising", and:
  - be compared to the labels received prior to importation (when applicable);
  - accurately reflect the contents of the product;
  - comply with Canadian regulations prior to distribution;
  - records should be maintained.

European Union

In the European Union, shelf life is referred to as durability. The date of minimum

durability is required unless the food is exempt.[4] The regulations also require that storage conditions on which the durability date is based be specified.

The date of minimum durability is defined as the date until which the foodstuff retains its specific properties when properly stored. It is not intended to have any public health significance.

The regulations mandate a format:

- The date shall be preceded by the words:
  - "Best before ..." when the date includes an indication of the day;
  - "Best before end ..." in other cases.
- The words “Best before” or “Best before end” shall be accompanied by:
  - either the date itself, or
  - a reference to where the date is given on the labelling.
- The date shall consist of the day, month and year in uncoded chronological form.

The following are the allowed forms of durability dating:

- For foods which will not keep for more than three months, an indication of the day and the month will suffice;
- For foods which will keep for more than three months but not more than 18 months, an indication of the month and year will suffice;
- For foods which will keep for more than 18 months, an indication of the year will suffice.

The E.U. allows the following exemptions from expiration date labeling:

- Fresh fruit and vegetables, including potatoes (does not apply to sprouting seeds and similar products such as legume sprouts);
- Wines and similar products manufactured from grapes or grape musts;
- Beverages containing 10 % or more by volume of alcohol;
- Soft drinks, fruit juices, fruit nectars and alcoholic beverages in individual containers of more than five litres, intended for supply to mass caterers;
- Bakers' or pastry cooks' wares which, given the nature of their content, are normally consumed within 24 hours of their manufacture;
- Vinegar;
- Cooking salt;
- Solid sugar;
- Confectionery products consisting almost solely of flavoured and/or coloured sugars;
- Chewing gums;
- Individual portions of ice-cream.

In the case of foodstuffs which, from the microbiological point of view, are highly

[4] *E.U. Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs.*

perishable and are therefore likely after a short period to constitute an immediate danger to human health, the date of minimum durability is replaced by the "use by" date. The “use by” date must be followed by a description of the storage conditions which must be observed. The “use by” date shall consist of the day, the month and, possibly, the year, in that order and in uncoded form.

Some examples of highly perishable foods in the E.U. regulations are refrigerated (not frozen) pate, ready made meals and salads, dairy products, desserts, fresh meat, fish and poultry.

It is illegal for any retailer to sell or offer for sale any food after its Use By date. All out of date food must be clearly labeled prior to being destroyed. Re-labeling with fresh dates is viewed as fraud.

E.U. regulations are generally silent on the issue of who determines the dates of minimum durability, indicating that it is left up to the manufacturer. Some major buyers in the E.U. have some guidelines on the issue. For example, SODEXHO, a major catering company in the U.K., has informed its suppliers that 'Use By' and 'Best Before' dates must be determined using a sound protocol, e.g. “Evaluation of Shelf Life for Chilled Foods”, Camden & Chorleywood or Leatherhead Food Development and Research Associations.

The regulations say nothing about admitting imports only with a certain percentage of their shelf lives remaining. Again, SODEXHO has a guideline that:

> No finished product which has exceeded, or is close to, its durability date may be used to supply SODEXHO.

Fresh eggs seem to be a consistent exception to the “hands-off” approach that many governments take toward the issue of shelf life dating. In the E.U., the date of minimum durability must be the date up to which grade A eggs or washed eggs retain their characteristics when properly stored. It shall be fixed at not more than 28 days after laying. Eggs imported from third countries must be clearly and legibly stamped in the country of origin with the ISO code of the country of origin preceded by: "non-EC standards".

There exists no special requirement for imported food products regarding labeling of the expiration dates. Likewise, there are no restrictions on products relative to expiration date.

Below is a tabular summary of the four systems discussed above as well as that of sixteen other countries, gleaned mostly from USDA’s GAIN Reports.

Country	Some dating required	Shelf life determined by government?	Remaining shelf life required for import
Egypt	Yes	Yes	50%
Kuwait	Yes	Yes	50%
Pakistan	Yes	No	50%
U.A.E.	Yes	Yes	50%[5]
India	Yes	No	60%

[5] Frozen meat & poultry products must be imported within four months of their date of production, regardless of the length of their shelf life.

Indonesia	Yes	?	6 months
Bahrain	Yes	Yes	No
Canada	Yes	No	No
Codex	Yes	No	No
Cuba	Yes	No	No
E.U.	Yes	No	No
Hong Kong	Yes	No	No
Malaysia	Yes	No	No
Morocco	Yes	Yes	No
Netherlands	Yes	No	No
New Zealand	Yes	No	No
Russian Fed.	Yes	No	No
Saudi Arabia	Yes	Yes	No
Thailand	No	No	No
U.S.	No	No	No

Overview of Retailers' Additional Requirements to Complement Government Regulations in Providing "Voluntary" Extra Protection to Consumers.

A survey of major E.U. and U.K. retailers (Ahold, Marks & Spencer, Somerfield, Tesco, Sainsbury's, Safeway, Metro Group and Waitrose), as well as two internationally recognized quality management systems for food (Eurepgap and British Retail Consortium) revealed no "voluntary" requirements in the way of shelf life dating beyond E.U. regulations. The closest to any such requirement is the SODEXHO case, mentioned above.

Some retailers are breaking the law. It has been reported that supermarket managers in Central and Eastern Europe are selling out-of-date produce.[6] Leading global retailers such as Ahold and Tesco have been found guilty of re-labeling out-of-date meat products to cut costs and the threat of small fines may not deter them.

The United States has its voluntary program with fresh eggs (also mentioned above), but its voluntary status is questionable since consumers would be less likely to buy eggs that are un-graded (and therefore not in the USDA program of date labeling).

In most systems shelf life dating is not such a big issue as it is in Egypt: most violations are not criminal offenses and shelf life dating is used around the world only in limited ways to control risk to human health since its usefulness as such a tool is likewise limited.

[6] Food&DrinkEurope.com, 08-November-2005

Where Egyptian Regulations on Shelf Life Dating[7] Deviate from International Norms

Product Standards

If a local product standard for a specific item does not exist, Egyptian authorities may apply the standard for that product used in the country of origin. Importers report that they frequently encounter problems because of ill-defined product standards.

The USDA regulates meat and poultry products in the U.S. and each meat & poultry product has a standard. However, the FDA maintains only some 110 product standards ("Standards of Identity"), leaving most of the products they regulate without standards. In fact, the number of standards have decreased recently because they were considered barriers to innovation and dietary trends. The USDA has standards of grades for many of the products regulated by FDA but these are voluntary. Codex has only about 300 food product standards (not counting food & flavor additives) but there exist in the market many products without standards.

Labeling and Packaging Requirements

Dates are accepted in English, but the word "Production" and "Expiry" MUST be written in Arabic.

Production and expiration dates voluntary in the U.S., required in Canada only for products with a shelf life of less than 30 days and required in the E.U. and Codex.

Shelf-Life

Egyptian shelf-life requirements for food products differ in many respects from the standards used by other countries. "Best-Used-By" dates are not acceptable in Egypt. The Egyptian Organization for Standardization and Quality Control (Ministry of Industry) is responsible for setting all product standards and shelf-life specifications, ostensibly to protect the consumer. Shelf-life requirements constitute an integral part of Egyptian product standards. In most cases, reference to a product's shelf-life means that the quality of the product may deteriorate after a certain period of time. In Egypt, any product that exceeds its established shelf life is considered no longer fit for human consumption. It is a criminal offense for an importer to hold or use a product after the expiration date.

In other foreign countries, it is the responsibility of the manufacturer, not the government, to set product quality standards. In the U.S. selling a product after its expiration date is not a criminal offense.

If the product arrives at an Egyptian port with less than 50% of its Egyptian government-mandated shelf-life, the consignment will be rejected.

Neither the U.S., Canada, E.U or Codex has such a requirement.

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[7] Egyptian regulations (in italics) excerpted from Foreign Agricultural Service, GAIN Report (Global Agriculture Information Network) Required Report - public distribution Date: 7/30/2001 GAIN Report #EG1017, *Egypt, Food and Agricultural Import Regulations and Standards Country Report 2001*

Food Stability Analysis: Common Practices in Developed Countries

The following is a summary of common practices in the food industries of developed countries for the determination of shelf life of foods.

Since the shelf life of most products is not mandated or determined by any regulatory agency, the onus is on the manufacturer to determine an appropriate shelf life for each of its products. A shelf life that is unnecessarily short may be resisted or rejected by the trade and eventually returned at the end of that date. A shelf life that exceeds the actual life of the product will harm the company's reputation with the trade and with the consumer. In the worst case, an unrealistically long shelf life may be deemed adulterated by various regulatory agencies toward the end of its stated shelf life. Therefore, it is in the best interest of the manufacturer for its products to bear (when required) a shelf life that neither too short or too long.

Most consumers have the idea that shelf life of a food product is a very precise measurement determined by rigorous scientific methods. In some cases this is true but the reality is that most products are out of the manufacturer's control during most of their shelf lives. Since shelf life of a given product (with its process and package already determined) depends only on its storage conditions, there is no way a manufacturer can predict shelf life with any scientific certainty or precision. Therefore, manufacturers tend not to rely heavily on purely scientific determinations of shelf life prediction. They are expensive, time-consuming and rarely useful.

The determination of shelf life of a food product is usually accomplished by one (or more) of four methods: faith, example, storage and theory. These methods are outlined below:

Faith

Many smaller food companies do not consider shelf life testing an issue. Products get developed, rushed into production and introduced to the trade as quickly as possible. The shelf life for some products is adequate and is inadequate for others. The products with inadequate shelf lives fail and the small companies are hurt by the returns and the long memories of their buyers. The corrective action is usually stopping the manufacture of the product or even discharging an innocent technical person, if one exists on the staff.

It is difficult to say how companies get into such a rut. It may be that most of these companies are run by people with business backgrounds who have only peripheral experience in the food industry, such as foodservice or bakery. Because the organization is small, it can not afford (or chooses not to hire) an adequate technical staff. The technical staff they do have is frequently a department of one very junior person who is responsible for only the most rudimentary of Quality Control functions.

Most "faith-based" shelf life testing is done in the United States because there are few requirements for expiration dates or even open production codes. Most other countries require the shelf life of most foods to be labeled, inspiring even the smaller companies to abandon this non-method and move up, at least, to the method of example, below.

Example

Many companies, when faced with the issue of shelf life, will turn to a similar product already in the trade and assign the same shelf life. These companies tend to be the smaller to medium size companies which do not want to invest the resources or the time necessary for the determination of shelf life for their specific product. As simplistic as this method may sound, it is most likely not that bad, since:

- These companies are rarely innovative in their product lines and there are many similar products in the trade, and
- Their products experience the same or similar conditions in distribution channels as their competitors.

The “Example” method relies entirely on the experience of others, information which is free, can be obtained quickly and is generally reliable. Interestingly, the more sophisticated methods of shelf life determination (below) also necessarily rely on experience but in less overt manners.

The “Example” method may also be used internally by large companies when introducing a product or line extension similar to some other product they manufacture whose shelf life is established.

Storage

Where any shelf life testing is accomplished, the large majority of products are tested for shelf life by storing the product at different temperatures and observing changes in the product and/or package over time. This is called a storage test.

There are many ways to conduct a storage study. Below is a description of just one method for foods that are shelf-stable. The products that begin a storage study are usually not strictly representative of on-going production. Frequently they were produced in a pilot plant of in the factory during a carefully controlled plant trial. The storage conditions (or legs) chosen for shelf-stable foods are usually 0^0F (-18^0C), for those products that will show no ill-effects on freezing, 40^0F (4.4^0C), 70^0F (21^0C), 90^0F (32^0C) at 70% relative humidity, or RH (for products with packages permeable to moisture), and 90^0F with humidity uncontrolled (this condition is quite dry). Temperatures in excess of 90^0F are generally not used in storage studies since chemical reactions take place at higher temperatures which do not take place under normal conditions of distribution and storage.

Either the frozen or the refrigerated samples are usually taken as the “control” samples. These samples would not be expected to change with time. Over the course of time in a storage study, these samples would be referred to as “zero time” even though they have the same age as the controls. The 70^0F leg of the storage study is assumed to represent average conditions prevalent in normal distribution and storage. Experience has shown this assumption to be reasonably true: if a product will hold up after twelve months at 70^0F, it will hold up for a year under normal conditions of storage and distribution. Both 90^0F legs of the study represent accelerated storage conditions and are used in order to obtain a faster read-out on shelf life, since waiting for the 70^0F samples to mature in real time will delay introduction unacceptably. The different levels of relative humidity at 90^0F indicate the rate of quality deterioration without loss of moisture (in the case of 70% RH) and with moisture loss (in the case of ambient RH).

The above begs several questions, among them “How much of an accelerated read-out does 90^0F offer?” From a strictly theoretical viewpoint, this question has no answer without detailed knowledge of the chemical reactions taking place and the response of their kinetics to temperature. From a practical standpoint, 90^0F will accelerate the deterioration of a shelf stable food by a factor of between two to three, depending on the product. Usually a company will assume a factor of two, follow the 90^0F for six months and assign an interim shelf life of one year during the introduction period. The 70^0F samples continue to be followed to determine the ultimate shelf life, after which the interim shelf life is usually replaced with a longer one since shelf stable foods usually last

longer than a year. Meanwhile, after six months of storage, on-going production samples become available and are also stored at the same temperatures to assure that there are no large differences between the stability of the original samples and on-going production.

Products in storage are tested at periodic intervals using a number of methods. The principal method is simply tasting the product and comparing it to the "zero time" or refrigerated control. This tasting is accomplished in an informal manner on the bench-top by technical people who were close to the development of the product. At any non-zero time, the 70 and 90^0F products will be different from the zero time products and will not be as good. Just showing a difference or a lack of side-by-side preference are not criteria for shelf life. The criterion is the collective judgment of the individuals tasting the product: will the average consumer still accept this product for what it is supposed to be? This criterion is highly subjective and relies, again, on experience.

Physical and chemical measurements are frequently taken of stored products and evaluated side-by-side with the sensory attributes.

Storage studies for frozen, refrigerated and other perishable foods (like fresh fruits and vegetables) can not be accelerated by using higher temperatures. Frequently the storage life of these products is accelerated by a microbiological challenge test in which a certain number of certain organisms are inoculated into the product, the product is stored under normal (non-accelerated) conditions, and the growth (or sometimes death) of these organisms are monitored over time. After the organisms grow to a certain level that is considered unacceptable, an interim shelf life is assigned on this basis and the final shelf life determined by the performance of the samples that were not inoculated.

The storage method leaves a lot to be desired in terms of its reliance on arbitrarily chosen storage conditions and the judgment of a few individuals. In short, it's not scientifically rigorous, making a more theoretical approach (below) seem more desirable.

Theory

Many books and literature on the shelf life of foods would have one believe that shelf life can be (and is) determined by theory alone. Some present a more balanced view.[8] In this book, Mizrahi presents several techniques for modeling the deterioration of food products in storage. One of the simplest techniques is called the "initial rate approach" which may be applicable to cases where the deterioration process can be monitored by an extremely accurate and sensitive analytical method. In such a case, it is possible to get the kinetic data of the initial rate of the deterioration process at a very early stage of the storage process. To predict how the actual shelf-life, one needs only to know or to evaluate how the deterioration process behaves as a function of time. In chemical reactions that information is provided by the order of reaction (n). In the case of monitoring the change in concentration c of a component of interest, the kinetic equation may be expressed as:

$$\frac{dC}{dt} = KC^n$$

The complications arise when simple chemical kinetics are applied to complex food

[8] The Stability and Shelf Life of Food, Kilcast, D. and Subramaniam, P. (eds.); CRC Press; Boca Raton, Boston, New Your, Washington, D.C. (2000)

systems whose kinetic properties and chemical reactions are not well understood. For example, some chemical entity must be measured and its increase over time observed. This chemical entity must relate to shelf life and that relationship must be proven. Is the reaction (n) first order or second order? Observing the change in C over time will answer that question as long as C is arising from a single reaction. The temperature dependence of C is built into K which is an exponential function of the absolute temperature. The value of K at various temperatures may be inferred by storing product at different temperatures.

Eventually, mathematical modeling of the deterioration of food products in storage begin to sound a lot like storage studies with some mathematics added to help explain what has happened. Except for the simplest of cases (such as a water based product in a moisture permeable package whose shelf life ends when the net weight is no longer in compliance), strictly analytical methods are not useful for shelf life prediction.

Estimating "Distribution and Circulation" Cycles of Food Products from Factory or Port to the Final Consumers

Thus far, this estimate has been elusive, other than a general statement made by one of the members of the EOS committee on expiration date labeling. This individual opined that if three months were required to be remaining on the shelf life of any shelf-stable product then "no manufacturer or importer would have a problem with it."

An Evaluation of the Mechanism by Which Egypt's Shelf Life Standards are Developed

EOS is currently revising Parts 1 and 2 of the Egyptian Standard 2613, *Shelf Life for Food Products, General Requirements* and *High Perishable (sic) Foods High Risk*, respectively. The draft Part 1 (Arabic in Appendix I, EOS's English translation of same in Appendix II) is a mainly statement of principles and definitions. Part 1 explicitly states that the Standard intends to apply risk analysis to the issues of shelf life dating of foods and of remaining shelf life required for products to enter the country. The idea is that Part 2 would list only the products that are considered to be "High Risk" and only these products would bear a government-mandated expiration date as well as have a requirement for remaining shelf life to enter the country. The products not listed in Part 2 would bear an expiration date determined by the manufacturer and would have no minimum amount of their shelf lives remaining in order to enter the country.

The concepts stated in Part 1 represent exactly where the industry should be heading: more dependence on the manufacturer for determination of shelf life, only high-risk products the subject of mandated shelf lives and (presumably) fewer products having a minimum shelf life remaining before entering the country. Some of the details of Part 1 are troubling only in that it (or the translation) is not clear about what it intends to do. The scope is not well-defined, some definitions are presented that are not used in the text, some provisions are repeated or unnecessary, and there is no differentiation in date statements between products that are high-risk and those that are not. At the request of EOS, the consultant attempted to remedy some of these potential problems in the draft Part 1 (English in Appendix III, Arabic in Appendix IV, summary of suggested changes in Appendix V).

As promising as the draft of Part 1 is, the draft of Part 2 is disappointing (Arabic Appendix VI, English, EOS translation Appendix VII). Included in this high-risk category are products such as peanut butter, canned corn, sterilized milk, evaporated milk, sweetened condensed skim milk, flavored sterilized milk, sterilized cream, table salt, baker's yeast, salted and other products which can not support the growth of pathogens, canned hot dogs and many frozen products including ice cream[9].

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[9] In some frozen foods, the risk to consumers actually decreases with storage time. Parasites die in frozen fish within a few weeks; it is compulsory (in the E.U.) to freeze and keep frozen some

The inclusion of many of the products listed in Part 2 is neither scientifically justifiable or even logical. A discussion between EOS and the consultant on the subject on the inclusion of peanut butter in Part 2 is indicative of some of the committee's thinking:

> EOS: "You know that peanut butter is an allergen and can also contain aflatoxin. These are certainly risks to the consumer."
>
> Consultant: "Yes, peanut butter is an allergen and that is a risk. But peanut butter is an allergen from its first day of manufacture to the last day of its life. Stamping a date code on the outside of the package will not change or reduce that risk. Changing the expiration date will not affect the risk to the consumer either. The same is true with aflatoxin."

After a few minutes of private discussion, the committee allowed that the consultant was correct.

The committee is attempting to use date coding to regulate risks that are unaffected by date coding. They are beginning to realize the limitations of date coding in reducing risk to the consumer. A more in-depth discussion of these limitations is below.

Regulating Risk by Expiration Dates on Food Products

Nearly all food products carry with them a certain level of risk to the consumer. Some of these risks are fairly well-known to most consumers, such as saturated fat, trans fat and high levels of sodium. These risks tend not to be regulated except through nutritional labeling to inform the consumer that these components are present in the food and at what levels.

Most consumers are unfamiliar with many other risks: some foods are allergens, some carry a risk of choking, some carry an unacceptably high level of foreign material, chemical contaminants or microorganisms; others might have defective packaging or contain mycotoxins such as aflatoxin.

Allergens are typically regulated by their presence on the label. Contaminants and packaging are regulated by Good Manufacturing Practice. The FDA, in recognition of some of these less known risks, regulate many of them as "Natural and Unavoidable Defects" or as "Poisonous or Deleterious Substances." For example, FDA permits certain levels of aflatoxin in nut and grain products; filth, polychlorinated biphenyls (PCB's), DDT, lead, cadmium and mercury in other products, the presence of which might shock an average consumer.

This list of risks, although not intended to be exhaustive, represents risks that are either inherent in the product itself (i.e. hot dogs and peanut butter, respectively, represent the number one and number two causes of choking among children under two in the United States), or occur as a result of poor manufacturing practice.

Other risks become established farther down the food chain: packages break and products are exposed to contamination, frozen foods are allowed to thaw and refrigerated foods are allowed to become warm. These defects tend to be enforced at the local and even retail levels.

In managing risk it is important to recognize the limitations of the tools available. Labeling the expiration dates of food products offers only five degrees of freedom:

- Whether to declare the expiration date or not

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fish usually eaten raw; fermented cheeses made from raw milk should be kept for two months to kill pathogenic bacteria.

- What that expiration date should be
- What other verbiage should accompany the date (eg. “Sell by…”)
- Where to print the date, and
- How large the print should be

Interestingly, none of the risks mentioned above can be regulated or managed through the use of a date code. Products that are allergens or are choking hazards will be such from the first day of manufacture to the end of their useful lives. Using a date code or manipulating that date will not eliminate or reduce these hazards. It is the same with products that were not manufactured well. Products with foreign material, chemical or biological contamination or defective packaging will carry whatever problems may be associated with the defect throughout their lives.

That brings us to the issue of improper handling down the food chain that we attempt to regulate through the use of date coding. Leaving aside the issue of container abuse which can be readily detected by a buyer or a consumer, it is tempting to think that a date code could mitigate the effects of temperature abuse of frozen or refrigerated products. But a date code on a product implies a certain level of control existing in the manufacture, storage and distribution of that product. Lacking that control at any stage, the date on which that product becomes hazardous or even undesirable is also not in control and can not be described by a single date. The only option to manage the risk is for the date code to be short enough to accommodate even the worst of conditions, such as no refrigeration or freezing at all, thus effectively eliminating these products from local distribution. Lacking any other enforcement system, any compromise from a worst-case expiration date would surely let some bad product through the system and punish the processors/distributors that are doing a good job with an unnecessarily short expiration date. Therefore, it seems that improper handling can not be regulated or managed through the use of a date code either.

The risks that may be regulated and managed through the use of a date code are limited. My belief is that they are limited only to products that are not subject to abuse and pass through a “normal” sequence of manufacture and distribution. It is my further belief that whatever risks that may be associated with shelf stable or frozen foods can not be regulated or managed by a date code. The risks associated with certain refrigerated foods can be regulated and managed with a date code since hazards can arise from these products over time under normal conditions recommended on the label.

Therefore, it seems that Part 2 of the draft regulation (High Perishable Foods-High Risk) should include only foods normally manufactured and distributed under refrigeration, and of those only the foods that have pH > 4.6 and Aw (water activity) > 0.85. It should contain no products that are commercially sterile at the time of manufacture, no vegetable oils, no foods that are frozen and no foods whose pH and Aw are outside the above ranges.

Remaining Shelf Life of a Product Prior to its Being Admitted to Commerce or to the Country

There are at least three questions:

- Whether to have such a restriction at all,
- If so, what should it be, and
- If so, should the remaining life vary with product or be a single number

As to the first issue, there is no room to compromise, either a restriction exists or it does

not. Let's say for now that such a restriction will continue to exist. However, the restriction should be based on risk to human health only in those cases where expiration date labeling can be effective. These products would be shown in the revised Part 2 of the regulation and would contain only refrigerated foods within certain ranges of pH and Aw. If it were desirable to have this restriction apply to other products, the rationale should be something other than risk.

As for how many months of shelf life (or what percentage) should remain, there is very little that technology can add to this discussion. If an importer accepted product that exceeded (or was close to) its expiration date before it reached the consumer that product would not be sold at a premium price. Therefore, it is to the importer's advantage to bring in fresher product unless his business is to bring in nearly dated product at a discount and likewise sell it for a discount[10].

As to what the remaining shelf life should be, it's more a matter of consensus among the interested parties, but since it is likely to apply only to a small group of highly perishable products, the time is likely to be short.

As for whether the minimum remaining shelf life should vary by product, since the time is likely to be short, a single number might suffice.

[10] This represents a condition whereby an importer may be tempted to alter or remove the manufacturer's date of expiration. This practice may in fact be happening. About three years ago in Egypt, certain U.S. brands carried closed (unreadable by an average consumer) dates of production which were some three to four months prior to the dates of production shown in Arabic. Since then, most U.S. companies have "harmonized" their dates with the Arabic declaration but in most cases the closed manufacturing code is no longer printed on the container, even though these same brands still carry closed codes in the U.S. In another case, a can of whole tomatoes from Italy bears an Arabic production date of March 2005. Yet no tomatoes are manufactured in Italy in March. As egregious as these practices may be, they will not be affected by whatever remaining expiration date is enacted unless no restriction is mandated. Therefore, these cases are not relevant here.

Appendix I: Shelf Life for Food Products, EOS Draft (Arabic)

المواصفات القياسية المصرية

ES

[السنة] م ق م : ٢٦١٣-١/

فترات صلاحية المنتجات الغذائية

الجزء الاول :

الاشتراطات العامة

جمهورية مصر العربية

الهيئة المصرية العامة للمواصفات والجودة

فترات صلاحية المنتجات الغذائية

الجزء الأول : الاشتراطات العامة

المقدمة

هذه المواصفة تلغى الجزء الاول من المواصفة القياسية المصرية رقم ٢٦١٣-٢٠٠٢/١(فترات صلاحية المنتجات الغذائية - الجزء الأول : الاشتراطات العامة) وتحل محله.

المجال

تختص هذه المواصفة القياسية بالشروط العامة الواجب مراعاتها فيما يتعلق بفترات صلاحية المنتجات الغذائية عالية المخاطر المصنعة والمعدة بغرض الاستهلاك المباشر.

التعاريف

فترة الصلاحية Date of Minimum Durability :

فترة زمنية يحتفظ فيها المنتج بصفاته الأساسية، ويظل حتى نهايتها مستساغاً ومقبولاً وصالحاً للتسويق، وذلك تحت الظروف المحددة للتعبئة والنقل والتخزين .

تاريخ الإنتاج Date of Manufacture :

التاريخ الذى يصبح فيه الغذاء على شكل المنتج الذى تحدد البيانات صفاته.

تاريخ التعبئة Date of Packaging :

التاريخ الذى وضع فيه الغذاء فى العبوة المباشرة التى سيباع فيها فى النهاية .

يباع قبل التاريخ Sell – by - Date :

أخر تاريخ لعرض الغذاء على المستهلك .

يفضل إستهلاكة قبل Best Before :

التاريخ الذى يدل على نهاية الفترة التى يظل المنتج فيها فى ظروف التخزين المبينةقابلاً للتسويق تماماً ومحتفظا باى صفات منوه عنها صراحة أو ضمناً.

يستهلك قبل تاريخ (آخر تاريخ موصى باستهلاك المنتج قبله ،أو تاريخ انتهاء الصلاحية) Use – by-Date:

التاريخ الذى يدل على انتهاء الفترة التقديرية التى قد لا يحتفظ المنتج بعدها فى ظروف التخزين المبينة بصفات الجودة التى يتوقعها المستهلك ،وينبغى ألا يعتبر المنتج قابلاً للتسويق بعد هذا التاريخ .

الغذاء Food:

اى مادة سواء كانت مجهزة أو نصف مجهزة أو خاماً ، والقصد منها هو ما يتناوله الانسان بغرض الاستهلاك الآدمى وتشمل المشروبات ولبان المضغ أو اى مادة أخرى تكون قد استخدمت فى تصنيع الغذاء أو تحضيره أو معاملته، ولا يشمل ذلك مواد التجميل أو التبغ أو المواد التى تستخدم فقط كعقاقير .

إضافة غذائية Food Additive :

أى مادة لا تستهلك عادة كغذاء قائم بذاته ، كما لا تستخدم عادة كعنصر نمطى فى مكونات الغذاء ،سواء كانت أو لم تكن لها قيمة غذائية ،وتؤدى أو من المرجح ان تؤدى إضافتها عن قصد إلى الغذاء لاغراض تكنولوجية (بما فى ذلك الخواص الحسية مثل اللون والطعم والرائحة) فى تصنيع الغذاء ، أو تجهيزه أو اعداده ، أو معاملته ،أو تعبئته أو تغليفه ،أو نقله، أو حفظه ،إلى أن تصبح هذه المادة أو منتجاتها الثانوية ، بشكل مباشر أو غير مباشر ، عنصرا يؤثر على خواص هذا الغذاء . ولا يشمل هذا المصطلح " الملوثات " أو المواد التى تضاف إلى الغذاء للمحافظة على صفاته التغذوية أو تحسينها .

المكونات الغذائية Ingredient :

أى مادة بما فى ذلك أى اضافة غذائية ، تستخدم فى تصنيع أو تحضير الغذاء وتوجد فى المنتج النهائى ولو فى صورة معدلة .

بطاقة البيانات Label:

أى بطاقة تشمل علامة ، ماركة ، صورة أو أى بيانات وصفية أخرى تكتب ، تطبع ، تختم أو توضع على عبوة الاغذية أو ترفق بها .

وضع بطاقة البيانات على العبوات Labelling:

يشمل أى مادة تكتب ، تطبع ، أو تصور فى بطاقة البيانات المصاحبة لعبوة الاغذية ،أو توضع بالقرب من الاغذية المعروضة للبيع ، بما فى ذلك ما يكون الغرض منه هوالترويج لبيعها أو تصريفها .

دفعة المنتجات (التشغيلة) Lot:

كمية محددة من السلعة أنتجت فى نفس الظروف .

مغلفة /معبأة Prepackaged:

مغلفة أو موضوعة سلفا فى عبوة ، وتكون جاهزة للعرض على المستهلك أو لاغراض الاستهلاك المباشر

المادة المساعدة فى التجهيز Processing Aid :

أى مادة بخلاف الاجهزة والادوات ، لا تستخدم كعنصر غذائى فى حد ذاتها ولكنها تستخدم عن قصد فى تجهيز المواد الخام أو الاغذية أو مكوناتها ، لتلبية اغراض تكنولوجيا معينة اثناء عمليات

المعاملة أو التجهيز ، وقد تتخلف عنها متبقيات أو مشتقات منها فى المنتج النهائى دون قصد ولكن بشكل لا يمكن تجنبه بشرط ان لا تمثل هذه المتبقيات اى ضرر للمستهلك.

الاغذية المخصصة لاغراض الاستهلاك المباشر Food for Catering Purpses :

الاغذية التى تستخدم فى المطاعم والمحلات والمقاصف ، والمدارس ، والمستشفيات وغيرها من المؤسسات التى تقدم فيها الاغذية للاستهلاك المباشر .

الاشتراطات العامة

مع عدم الإخلال بما نصت عليه المواصفات القياسية المصرية رقم ١٥٤٦ والخاصة ببيانات بطاقات منتجات المواد الغذائية المعبأة والمواصفات القياسية المصرية الخاصة بكل منتج غذائى، يجب ان تكون البيانات مكتوبة باللغة العربية ، كما يجوز كتابتها إلى جانب ذلك بأى لغة أخرى، على أن تكون هذه البيانات والتواريخ محفورة أو نافرة أو مطبوعة أو مختومة بحبر ثابت على جميع العبوات مباشرة أو على بطاقتها الأصلية، ومن قبل الجهة المنتجة فقط ،ولا يسمح بوضع أية ملصقات إضافية بتاريخ الإنتاج وتاريخ انتهاء الصلاحية ،وألا يكون هناك أكثر من تاريخ للإنتاج أو الانتهاء على العبوة الواحدة ،كما يجب عدم شطب أو كشط أو تغيير أو محو أو ازالة أو نزع بأى من التاريخين أو أية بيانات أخرى على العبوة ، وبالنسبة لمستلزمات الإنتاج والخامات الأولية الوسيطة تكون البيانات مكتوبة بواحد او اكثر من اللغات التالية :(العربية أو الإنجليزية أو الفرنسية) على أن يوضح على بطاقة العبوة تاريخ الإنتاج وتاريخ انتهاء الصلاحية بطريقة غير رمزية سواء بالحروف أو بالأرقام كما يلى :

(يوم – شهر) للمنتجات الغذائية التى يكون الحد الأدنى لفترة صلاحيتها حتى ثلاثة شهور .

(شهر – سنة) للمنتجات الغذائية التى يكون الحد الأدنى لفترة صلاحيتها أكثر من ثلاثة شهور.

على ان تحسب فترة الصلاحية حتى نهاية الشهر المسجل فيه انتهاء الصلاحية، على أن يدخل شهر الإنتاج ضمن فترة **الصلاحية.**

(صالح حتى) للمنتجات الغذائية التى يكون مدة صلاحيتها حتى ١٥ يوم يكتفى بكتابة تاريخ انتهاء الصلاحية (يوم / شهر).

٢/٣ تتناول المواصفة القياسية ٢٦١٣ فترات صلاحية المنتجات الغذائية و تعتمد على اسلوب **تقييم المخاطر فى مراحل الانتاج و التجهيز و التعبئة و التخزين و التداول و العرض.**

١/٢/٣ يتم التصريح بدخول المنتجات الغذائية عالية المخاطر High Risk التى تم تقييمها على اساس مبادئ تحليل المخاطر المشار اليها و المعدة للاستهلاك المباشر طبقا للفترات المتبقية الموضحة بالجزء الثاني من المواصفـــة القياسية ٢٦١٣ .

٢/٢/٣ مع عدم الاخلال بما جاء بالجزء الثانى من المواصفة ٢٦١٣، يتم تحديد فترة صلاحية المواد الغذائية الا خرى"منخفضة المخاطر" Low Risk والتى لم يرد ذكرها بالجزء الثانى من المواصفة بمعرفة المنتج و على مسئوليته استرشادا بالجزء الثالث.

٤/٣ لا تحتاج المنتجات التالية لبيان تاريخ انتهاء الصلاحية :

١/٤/٣ الفاكهة والخضر الطازجة ، بما فيها البطاطس والتى لم يتم تقشيرها أو تقطيعها أو معاملتها بما شابه ذلك .

٢/٤/٣ الانبذة بأنواعها .

٣/٤/٣ المشروبات التى تحتوى على ١٠ ٪ أو اكثر (بالحجم) كحول.

٥/٣ بالاضافة الى تاريخ انتهاء الصلاحية ، يجب توضيح أية ظروف خاصة بتخزين الغذاء على بطاقة البيانات ، اذا كان التاريخ المحدد يعتمد على ذلك.

٦/٣ تستخدم التعبيرات التالية للتعبير عن الصلاحية:

١/٦/٣ تاريخ إنتهاء الصلاحية بالنسبة للمنتجات سريعة التلف طبقا للبند (١/٣/٣)

٢/٦/٣ يستهلك قبل تاريخ 0000

٣/٦/٣ يفضل استخدامه قبل تاريخ 0000

٤/٦/٣ يفضل استخدامه قبل نهاية 0000

٥/٦/٣ صالحة لمدة 0000000 من تاريخ الإنتاج .

٦/٦/٣ يباع حتى تاريخ 000000

وفى حالة وجود عبارة " يفضل استخدامه قبل 000 " و/أو إحدى العبارات السابق الإشارة إليها وتاريخ انتهاء الصلاحية يؤخذ بتاريخ انتهاء الصلاحية بشرط ان يكون لاحقاً للتعبيرات السابقة.

٧/٣ فى حالة تصدير أى منتج غذائى يجوز كتابة البيانات والتواريخ بلغة الدولة المستوردة (المصدرإليها) أو حسب شروط التعاقد، وفى حالة طرحها فى الأسواق المحلية يشترط ان يتم وضع بطاقة بيان تحوى كافة البيانات باللغة العربية .

٨/٣ فى حالة استعمال بطاقة للبيانات يجب أن توضع البطاقة على العبوة بطريقة ظاهرة وواضحة ليسهل على المستهلك قراءتها ،على أن يتم لصق هذه البطاقة بطريقة لا يسمح بنزعها من على العبوة، سواء أكانت العبوات من صفيح أو بلاستيك أو زجاج 000 إلخ .

المصطلحات الفنية

Expiration date	**تاريخ انتهاء الصلاحية**
Date of minimum durability	**فترة الصلاحية**
Date of manufacture	**تاريخ الإنتاج**
Date of packaging	**تاريخ التعبئة**
Sell – by - Date	**يباع قبل التاريخ**
Best Before	**يفضل إستهلاكة قبل**
Use – by-Date	**يستهلك قبل تاريخ**
Food Additive	**إضافة غذائية**
Ingredient	**المكونات الغذائية**
Label	**بطاقة البيانات**
Labelling	**وضع بطاقة البيانات على العبوات**
Lot	**دفعة المنتجات (التشغيلة)**
Processing Aid	**المادة المساعدة فى التجهيز**
Food for Catering Purposes	**الاغذية المخصصة لاغراض الاستهلاك المباشر**
Risk assesment	**تقييم المخاطر**
High risk	**عالى المخاطر**

Appendix II: Shelf Life for Food Products, EOS Draft (English)

DRAFT

EGYPTIAN STANDARD

ES # 2613 / Year

Shelf Life for Food products

Part 1: General Requirement (General Stipulation)

Introduction

This Standard replace part one from the Egyptian standard number 2613 / 2002.

1 – Scope

This standard applies the general requirement for shelf life of food products with high risk ready for direct consumption.

2 – Definition

2 /1 Date of Minimum Durability:
means the date which signifies the end of the period under any stated storage conditions during which the product will remain fully marketable under specific conditions of packaging, transport and storage.

2 / 2 Date of Manufacture:
means the date on which the food becomes the product as described.

2 / 3 Date of Packaging:
means the date on which the food is placed in the immediate container in which it will be ultimately sold.

2 / 4 Sell – by – Date:
means the last date of offer for sale to the consumer after which there remains a reasonable storage period in the home.

2 / 5 Best Before:
means the date which signifies the end of the period under any stated storage conditions during which the product will remain fully marketable and will retain any specific qualities for which tacit or express claims have been made.

2 / 6 Use – by – Date:
(Recommended Last Consumption Date, Expiration Date) means the date which signifies the end of the estimated period under any stated storage conditions, after which the product probably will not have the quality attributes normally expected by the consumers. After this date, the food should not be regarded as marketable.

2 / 7 Food:
means any substance, whether processed, semi-processed or raw, which is intended for human consumption, and includes drinks, chewing gum and any substance which has been used in the manufacture, preparation or treatment of “food” but does not include cosmetics or tobacco or substances used only as drugs.

2 / 8 Food Additives:
means any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or

holding of such food results, or may be reasonably expected to result, (directly or indirectly) in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include “contaminants” or substances added to food for maintaining or improving nutritional qualities.

2 / 9 Ingredient:
means any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form.

2 / 10 Label:
means any tag, brand, mark, pictorial or other descriptive matter, written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of food.

2 / 11 Labeling:
Includes any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal.

2 / 12 Lot:
means a definitive quantity of a commodity produced essentially under the same conditions.

2 / 13 Prepackaged
means packaged or made up in advance in a container, ready for offer to the consumer, or for catering purposes.

2 / 14 Processing aid:
means a substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfill a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final product.

2 / 15 Food for Catering Purposes:
Means those foods for use in restaurants, canteens, schools, hospitals and similar institutions where food is offered for immediate consumption.

3 – General Requirement (General Stipulations)

3 /1 In regard to Egyptian Standard number 1546 Information required on label for prepackaged foods. Information must be written in Arabic and other languges may be used. Information and dates on the label cannot be easily erased, scratched or altered. Double dates are not accepted.
Production and expiration dates must be clearly shown on the package and printed by mamufacturer. No additional labelling should be used for production and expiry dates.

The day, month and year shall be declared in uncoded numerical sequence

3 / 1 / 1 the day and the month for products with a minimum durability of not more than three months

3 / 1 / 2 the month and the year for products with a minimum durability of more than three months. Durability will be calculated till the of the month indicated. The month of production will include within the validity date.

3 / 1 / 3 Use – by – date: Food products with with 15 days validity, Expiry date is sufficient to print (day / month)

3 / 2 This standard # 2613 applies Risk analysis principals during production, preparation, packaging, storage, handling and for sale.

3 / 2 / 1 Food products classified as High Risk based on Risk analysis concept (principals) will be permitted to entry the country as per part two ES 2613 (remaining of shelf life period)

3 / 2 / 2 In regard to ES 2613 Part 2 , other food products classified as low risk and not mentioned in Part 2 , shelf life will be determined by the manufacturer and under his responsibility in accordance with Part 3.

3 / 4 date of expiry shall not be required for:

3 / 4 / 1 fresh fruits and vegetables, including potatoes which have not been peeled, cut or similarly treated;

3 / 4 / 2 wines, all types

3 / 4 / 3 beverages containing 10% or more by volume of alcohol

3 / 5 In addition to expiry date, storage conditions must be declared if food expiration depends on storage.

3 / 6 The following terms may be used for validity:

3 / 6 / 1 Expiry date for perishable foods as per item 1 / 3 / 3

3 / 6 / 2 Consume before --------

3 / 6 / 3 Best before -------

3 / 6 / 4 Best before end ------

3 / 6 / 5 Valid for ----- from production date

3 / 6 / 6 Sell by --------

In case best before --- and/or other statement and expiration date. Expiration date will be considered.

3 / 7 In case of export of food products, information and dates may be written by languages used on the import country or as per agreement. If this products will re-launch on the local market an additional label with Arabic can be used.

4 / 8 In case of using label must be visible and adhere completely to container.

Appendix III: Shelf Life for Food Products, Consultant's Draft (English)

DRAFT

EGYPTIAN STANDARD

ES # 2613 / Year

Expiration Date Labeling for Prepackaged Food Products

Part 1: General Requirements

Introduction

This Standard replaces Part One of the Egyptian standard number 2613 / 2002.

1 – Scope

This standard applies the general requirement for the labeling of expiration dates of prepackaged food products.

2 – Definition

2 /1 Date of Minimum Durability:
means the date which signifies the end of the period under any stated storage conditions during which the product will remain fully marketable under specific conditions of packaging, transport and storage.

2 / 2 Date of Manufacture (or Date of Production):
means the date on which the food is placed in the immediate container in which it will be ultimately sold and becomes the product as described. The production date shall be considered to be the beginning of the month or day indicated on the label.

2 / 3 Expiration date:
means either the date of minimum durability or the use-by date. The expiration date will be considered as passed at the beginning of the month or day indicated on the label.

2 / 4 Sell – by – Date:
means the last date of offer for sale to the consumer after which there remains a reasonable storage period in the home.

2 / 5 Best Before:
means the date which signifies the end of the period under any stated storage conditions during which the product will remain fully marketable and will retain any specific qualities for which tacit or expressed claims have been made.

2 / 6 Use – by – Date:
means the end of the estimated period under any stated storage conditions for foods which, from a microbiological point of view, are highly perishable and are therefore likely after a short period to constitute an immediate danger to human health . After this date, the food should not be regarded as marketable.

2 / 7 Food:
means any substance, whether processed, semi-processed or raw, which is intended for immediate human consumption..

2 / 10 Label:

means any tag, brand, mark, pictorial or other descriptive matter, written, printed, stenciled, marked, embossed or impressed on, or attached to, a container of food.

2 / 11 Labeling:
Includes any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal.

2 / 13 Prepackaged
means packaged or made up in advance in a container, ready for offer to the consumer, or for catering purposes.

2 / 15 Food for Catering Purposes:
Means those foods for use in restaurants, canteens, schools, hospitals and similar institutions where food is offered for immediate consumption.

3 – General Requirement (General Stipulations)

3 /1 In regard to Egyptian Standard Number 1546: Information required on the label for prepackaged foods. Information must be written in Arabic. Other languges may be used Production and expiration dates must be clearly shown on the package in one of the following formats:

> 3 / 1 /1 The day, month and year (when required) shall be declared in un-coded numerical sequence.
>
> 3 / 1 / 2 the day and the month shall be declared for products with an expiration date of not more than three months from the date of manufacture.
>
> 3 / 1 / 3 the month and the year shall be declared for products with an expiration date of more than three months from the date of manufacture. Manufacturers may include an optional day code for this class of products.

3 / 2 Standard # 2613 applies risk analysis principals to setting expiration dates of prepackaged foods.

> 3 / 2 / 1 Food products classified as highly perishable and therefore high risk will be permitted entry to local commerce and (for the case of imports) entry to the country as per Part Two ES 2613 (time before expiration date).
>
> 3 / 2 / 2 Expiration dates for food products not mentioned in Part Two will be determined by the manufacturer and it shall bear the responsibility for its adequacy..

3 / 4 date of expiry shall not be required for:

3 / 4 / 1 fresh fruits and vegetables, including potatoes which have not been peeled, cut or similarly treated;

3 / 4 / 2 wines, all types

3 / 4 / 3 beverages containing 10% or more by volume of alcohol

3 / 4 / 4 Bakers' or pastry-cooks' wares which, given the nature of their content, are normally consumed within 24 hours of their manufacture
3 / 4 / 5 Vinegar
3 / 4 / 6 Food grade salt
3 / 4 / 7 Solid sugars
3 / 4 / 8 Confectionery products consisting of flavored and/or colored sugars\
3 / 4 / 9 Chewing gum.

3 / 5 In addition to expiration date, storage conditions must be declared if the date depends on storage.

3 / 6 The following terms may be used for validity:

3 / 6 / 1 For high risk products (3 / 2 / 1) the expiration date shall be preceded by the words "use by" and shall be considered a use-by date as defined above.

3 / 6 / 2 For all other products the expiration date shall be considered a date of minimum durability as defined above. The following terms may be used for these products only to express the expiration date:

3 / 6 / 2 / 1 Best before -------

3 / 6 / 2 / 3 Valid for ----- from production date

3 / 6 / 2 / 4 Sell by --------

3 / 7 In the case of foods intended for export, dates and other information may be written in the language(s) required by the import country or as per agreement. Arabic is not required on these labels unless they are also intended for or are ultimately offered for sale in the local market. In these cases, the Arabic label may be applied at any time although the dates shown on the original package must also appear on the Arabic label..

4 / 8 The label must be clearly visible and adhere or be attached in some fashion to the container.. Dates and other information contained on the label must not be easily erased, scratched or altered.

4 / 9 All labels shall also bear the date of manufacture printed in close proximity to the expiration date.

Appendix IV: Shelf Life for Food Products, Consultant's Draft (Arabic)

مسودة

[السنة] م ق م : ٢٦١٣-١/

بيانات فترات صلاحية المنتجات الغذائية المغلفة /المعبأة سلفاً على بطاقة البيانات الغذائية
الجزء الأول :
الاشتراطات العامة

جمهورية مصر العربية

الهيئة المصرية العامة للمواصفات والجودة

المقدمة

هذه المواصفة تلغى الجزء الأول من المواصفة القياسية المصرية رقم ٢٦١٣-٢٠٠٢/١ (فترات صلاحية المنتجات الغذائية - الجزء الأول : الاشتراطات العامة) وتحل محله.

المجال

تختص هذه المواصفة القياسية بالشروط العامة الواجب مراعاتها فيما يتعلق بفترات صلاحية المنتجات الغذائية المغلفة/المعبأة سلفاً على بطاقة البيانات الغذائية.

التعاريف

فترة الصلاحية Date of Minimum Durability :

فترة زمنية يحتفظ فيها المنتج بصفاته الأساسية، ويظل حتى نهايتها مستساغاً ومقبولاً وصالحاً للتسويق، وذلك تحت الظروف المحددة للتعبئة والنقل والتخزين .

تاريخ التصنيع (أو تاريخ الإنتاج) Date of Manufacture :

التاريخ الذي يوضع فيه المنتج في العبوة المباشرة التي سيباع فيها في النهاية ويصبح على شكل المنتج الذي تحدد البيانات صفاته. ويتم إعتبار تاريخ الإنتاج هو بداية الشهر أو اليوم المحدد في بطاقة البيانات الغذائية.

تاريخ إنتهاء الصلاحية Expiration Date :

يعني إما تاريخ فترة الصلاحية أو يستهلك قبل تاريخ. ويعتبر تاريخ إنتهاء الصلاحية قد مر في بداية الشهر أو اليوم المحدد في بطاقة البيانات الغذائية.

يباع قبل التاريخ Sell – by - Date :

أخر تاريخ لعرض الغذاء على المستهلك الذي تبقى بعده فترة تخزين مناسبة للمنتج في المنزل.

يفضل إستهلاكة قبل Best Before :

التاريخ الذى يدل على نهاية الفترة التى يظل المنتج فيها فى ظروف التخزين المبينة قابلاً للتسويق تماماً ومحتفظا باى صفات منوه عنها صراحة أو ضمناً.

يستهلك قبل تاريخ Use – by-Date:

التاريخ الذي يدل على إنتهاء الفترة التقديرية في ظروف التخزين المبينة للأغذية التي تكون، من الناحية الميكروبيولوجية، سريعة التلف والتي من المحتمل، بعد فترة قصيرة من الزمن، أن تشكل خطراً على صحة الإنسان. بعد هذا التاريخ لا ينبغي إعتبار المنتج قابلاً للتسويق .

الغذاء Food:

اى مادة سواء كانت مجهزة أو نصف مجهزة أو خامة، والقصد منها هو ما يتناوله الانسان مباشرة بغرض الاستهلاك الآدمى .

١٠/٢ بطاقة البيانات الغذائية Label:

أى بطاقة تشمل علامة، ماركة، صورة أو أى بيانات وصفية أخرى تكتب ، تطبع ، تختم أو توضع على عبوة الاغذية أو ترفق بها .

١١/٢ بيانات بطاقة البيانات الغذائية على العبوات Labelling:
يشمل أى مادة تكتب ، تطبع ، أو تصور فى بطاقة البيانات المصاحبة لعبوة الاغذية ،أو توضع بالقرب من الاغذية المعروضة للبيع ، بما فى ذلك ما يكون الغرض منه هوالترويج لبيعها أو تصريفها .

١٣/٢ مغلفة /معبأة سلفاً Prepackaged:
مغلفة أو معبأة سلفا فى عبوة ، وتكون جاهزة للعرض على المستهلك أو لأغراض الاستهلاك المباشر.

١٤/٢ الاغذية المخصصة لاغراض الاستهلاك المباشر Food for Catering Purpses :
الاغذية التى تستخدم فى المطاعم والمحلات والمقاصف، والمدارس، والمستشفيات وغيرها من المؤسسات التى تقدم فيها الاغذية للاستهلاك المباشر .

الاشتراطات العامة

فيما يتعلق بالمواصفة القياسية المصرية رقم ١٥٤٦ والخاصة ببيانات بطاقات منتجات المواد الغذائية المعبأة/المغلفة سلفاً، يجب أن تكون البيانات مكتوبة باللغة العربية، كما يجوز كتابتها بأي لغات أخرى. ويجب أن توضح تواريخ الإنتاج وإنتهاء الصلاحية بوضوح على العبوة بأي شكل من الأشكال التالية:

يتم توضيح اليوم، التاريخ، والسنة، (حسبما تقتضي الضرورة) على هيئة تسلسل رقمي غير رمزي.

يتم توضيح اليوم والشهر للمنتجات التي لا يزيد تاريخ إنتهاء صلاحيتها عن ثلاثة أشهر من تاريخ الإنتاج.

يتم توضيح اليوم والسنة للمنتجات التي لا يزيد تاريخ إنتهاء صلاحيتها عن ثلاثة أشهر من تاريخ الإنتاج. ويجوز للمصنعين أن يدرجوا رمز يوم خياري لتلك الفئة من المنتجات.

٢/٣ تطبق المواصفة القياسية ٢٦١٣ أسلوب تقييم المخاطر عند وضع تواريخ إنتهاء الصلاحية الخاصة بالأغذية المعبأة/المغلفة سلفاً.

١/٢/٣ يتم التصريح بدخول المنتجات شديدة التلف والتي تكون بالتالي عالية المخاطر في السوق المحلي (وفي حالة الواردات) داخل البلاد طبقاً للجزء الثاني من المواصفة م ق م ٢٦١٣ (الوقت قبل تاريخ إنتهاء الصلاحية).

٢/٢/٣ يتم تحديد تواريخ إنتهاء صلاحية المنتجات الغذائية الأخرى والتى لم يرد ذكرها بالجزء الثانى من المواصفة بمعرفة المنتج وعلى مسئوليته.

٤/٣ لا تحتاج المنتجات التالية لبيان تاريخ انتهاء الصلاحية:

١/٤/٣ الفاكهة والخضر الطازجة، بما فيها البطاطس والتى لم يتم تقشيرها أو تقطيعها أو معاملتها بما شابه ذلك .

٢/٤/٣ النبيذ بأنواعه.

٣/٤/٣ المشروبات التى تحتوى على ١٠ ٪ أو اكثر (بالحجم) كحول.

٤/٤/٣ الخبز (مثل الخبز البلدي)، مع إعتبار طبيعة محتوياته، الذي يكون مستهلكاً خلال ٢٤ ساعة من إنتاجه.

٥/٤/٣ الخل

٦/٤/٣ الملح المستخدم في الإغذية

٧/٤/٣ السكريات الصلبة

٨/٤/٣ الحلويات المحتوية على السكريات المنكهة و/أو الملونة

٩/٤/٣ اللِبان

٥/٣ بالاضافة الى تاريخ انتهاء الصلاحية ، يجب توضيح التاريخ وظروف التخزين على بطاقة البيانات، اذا كان التاريخ المحدد يعتمد على التخزين.

٦/٣ تستخدم التعبيرات التالية للتعبير عن تاريخ إنتهاء الصلاحية:

١/٦/٣ بالنسبة للمنتجات عالية المخاطر (١/٢/٣)، يسبق تاريخ إنتهاء الصلاحية عبارة "يستخدم قبل تاريخ" وسيتم إعتباره التاريخ الذي يوصى باستهلاك المنتج قبله كما هو محدد عاليه.

٢/٦/٣ بالنسبة لكافة المنتجات الأخرى، يتم إعتبار تاريخ إنتهاء الصلاحية هو تاريخ فترة الصلاحية كما هو موضح أعلاه. ويمكن إستخدام المصطلحات التالية لتلك المنتجات فقط للتعبير عن تاريخ إنتهاء الصلاحية:

١/٢/٦/٣ يفضل استخدامه قبل تاريخ .....

٣/٢/٦/٣ صالح حتى_____من تاريخ الإنتاج

٤/٢/٦/٣ يباع حتى تاريخ .....

٧/٣ بالنسبة للمنتجات التي يكون من المقرر تصديرها، يجوز كتابة التاريخ والبيانات الأخرى باللغة (اللغات) المتطلبة من قبل الدولة المستوردة ولا تكون اللغة العربية متطلبة على تلك البطاقات إلا إذا كان من المقرر بيعها أو طرحها في السوق المحلي. في تلك الحالات، يمكن وضع البطاقة باللغة العربية في أي وقت بالرغم من أن التواريخ الموضحة على العبوة الأصلية على البطاقة يجب أن تظهر أيضاً باللغة العربية.

٨/٤ يجب أن تكون بطاقة البيانات الغذائية ظاهرة وواضحة وأن تكون ملتصقة بطريقة لا يسمح بنزعها من على العبوة. ولا يجب أن يتم محو أو خدش أو تغيير التواريخ والبيانات الأخرى الموجودة على البطاقة بسهولة.

٩/٤ يجب أن تحمل كل البطاقات أيضاً تاريخ الإنتاج بحيث يكون مطبوعاً بجانب تاريخ إنتهاء الصلاحية مباشرة.

Appendix V: Summary of Changes to Part 1 Suggested in Consultant's Draft

Section	Change	Rationale
Title	Add "Expiration Date Labeling…."	Limits scope to expiration date labeling of prepackaged foods
	Delete "…shelf life…"	
	Add "…Prepackaged…"	
1 - Scope	Delete "…shelf life…"	Term not defined in draft regulation
	Insert "…the labeling of expiration dates…"	More descriptive of scope.
	Delete "…with high risk…"	Part 1 deals with both high and low-risk products
	Delete "…ready for direct consumption…"	The phrase is covered in the revised definition of "food."
2 / 2-Definition	Combine definitions of "Date of Manufacture" and "Date of Packaging" to mean the same thing	No need for both definitions.
	Add that the production date should be considered the beginning of the month or day stated on the label.	For clarity in calculating expiration dates.
2 / 3-Definition	Add definition of "Expiration Date" to include both "use-by date" (for high risk products) and "Date of Minimum Durability" for other products.	Since Part 1 includes both classes of products, it is convenient to have a term that will describe the validity date for both.
2 / 6-Definition	Change the definition of "use-by date" to a date after which the product is likely to be an immediate danger to human health.	Harmonize term with E.U.
2 / 7-Definitions	Restrict the definition of food.	So that ingredients, food additives and processing aids are not affected by this regulation.
2 / 8-Definitions	Delete definition of food additives	Term not used in the regulation
2 / 9-Definitions	Delete definition of ingredient	Term not used in the regulation
2 / 12-Definitions	Delete definition of lot	Term not used in the regulation
3 / 1-General Requirements	Delete "…information on dates… …or altered" and place in section 4 / 8	Better organization
	Delete "Double dates are not accepted."	I don't know what this is.
3 / 1 / 1	Add "(when required)" after year	Some products will not require labeling of the year.
3 / 1 / 1 to 3	Deleted use-by date format for products with 15 days validity	Format already covered in new 3 / 6 / 1; choice of use-by date or date of minimum durability dictated by Part 2.

	Tied expiration date to the date of manufacture	Clarity in determining what “15 days validity” is
	Gives manufacturers of stable foods (>3 months) the option of declaring the day, not just the month of expiration.	Provides flexibility
3 / 2	Rewording	
3 / 2 / 1	Replace ”…high risk… …concept (principles)” with “highly perishable and therefore high risk…”	
	Add “…to local commerce and…”	Reflect national treatment compliance
	Replace (remaining of shelf life period) with (time before expiration date)	Consistency with definitions
3 / 2 / 2	Replace “…shelf life…” with expiration dates	Consistency with definitions
3 / 4	Expand exemptions	Harmonize with E.U., Codex
3 / 6 / 1	Reserved “use-by” designation for high risk products	Harmonize with E.U.
3 / 6 / 2	Reserved “minimum durability date” for other products	To separate requirements for high and low risk foods.
	Delete the “Consume before ------“ and “Best before end ------“ options	These option are open only to manufacturers who will be assigning their own validity dates and can choose either from “Best before ------“, “Valid for ------- from the production date” or “Sell by ------“ The wording options should be kept to a minimum to avoid confusing the consumer.
3 / 7	Clarify that Arabic not required on any label intended for export.	Clarification

Appendix VI: High Perishable Foods (Part 2), EOS Draft (Arabic)

المواصفات القياسية المصرية

ES

[السنة] م ق م : ٢٦١٣-٢/

فترات صلاحية المنتجات الغذائية
الجزء الثانى
السلع سريعة التلف (عالية المخاطر)

HIGH RISK

جمهورية مصر العربية

١ - جدول فترات صلاحية الأسماك ومنتجاتها

أسماك مجمدة تحفظ عند درجة حرارة لا تزيد على (- ١٨° س)

إسم المنتج	رقم المواصفة	إسم المواصفة	مدة الصلاحية	نوع العبوة	الفترة المتبقية
أسماك مدخنة على البارد أسماك مدخنة على الساخن أسماك مدخنة نصف ساخن	٢٨٨ / ٢٠٠٥	الأسماك المدخنة	٥ شهور ثلاثة شهور ونصف ثلاثة شهور ونصف	عبوة مناسبة عبوة مناسبة عبوة مناسبة	شهرين ونصف شهرين شهرين
الجمبرى والقشريات	٥١٦ /١٩٩٣	الجمبرى المجمد	٨ شهور	عبوة بلاستيك أو كرتون	٤ شهور

١ - جدول فترات صلاحية الأسماك ومنتجاتها

أسماك مجمدة تحفظ عند درجة حرارة لا تزيد على (- ١٨° س)

إسم المنتج	رقم المواصفة	إسم المواصفة	مدة الصلاحية	نوع العبوة	الفترة المتبقية
الأسماك المجمدة	٨٩٩ / ٢٠٠٥	الأسماك المجمدة	٦ شهور	- أكياس بولى اثيلين داخل صناديق كرتون مقوى ومحزمة بشنابر متينة -عبوات مناسبة فى حالة الأسماك كبيرة الحجم	٣ شهور
الحبار (السبيط) المجمد	٢٨٠٠ / ١٩٩٥	الحبار (السبيط) المجمد	١٠ شهور السبيط المجمد مزال الأحشاء. ٨ شهور السبيط المجمد غير مزال الأحشاء	عبوة مناسبة	٥ شهور ٤ شهور

أسماك مبردة تحفظ عند درجة حرارة من صفر س° إلى ٤° س

إسم المنتج	رقم المواصفة	إسم المواصفة	مدة الصلاحية	نوع العبوة	الفترة المتبقية
الأسماك المملحة	١٧٢٥ – ١ / ٢٠٠٥ ١٧٢٥ – ٢ / ٢٠٠٥ ١٧٢٥ – ٣ / ٢٠٠٥	الأسماك المملحة - الفسيخ السردين المملح الملوحة	١٢ شهرا	عبوة مناسبة	٦ شهور
الكافيار	٣٠١٨ / ١٩٩٦	البطارخ والكافيار	٦ شهور للكافيار المبستر المعبأ تحت التفريغ	عبوة مناسبة	٣ شهور
البطارخ	٣٠١٨ / ١٩٩٦	البطارخ والكافيار	٦شهور للبطارخ المعبأة تحت التفريغ	عبوة مناسبة	٣ شهور
الأسماك المملحة	١٧٢٥ / ٢٠٠٥	الأسماك المملحة	٦ شهور	عبوة مناسبة	٣ شهور
البطارخ	٣٠١٨ / ١٩٩٦	البطارخ والكافيار	٣ شهور	عبوة مناسبة	شهر
البطارخ	٣٠١٨ / ١٩٩٦	البطارخ والكافيار	٩ شهور عند درجة حرارة من – ٢° س إلى – ٤° س	معبأة تحت تفريغ فى عبوة مناسبة	**٤ شهور**

١ - جدول فترات صلاحية الأسماك ومنتجاتها

أسماك مجمدة تحفظ عند درجة حرارة لا تزيد على (- ١٨° س)

إسم المنتج	رقم المواصفة	إسم المواصفة	مدة الصلاحية	نوع العبوة	الفترة المتبقية	
	الكافيار			١٨ شهر للكافيار المبستر عند درجة حرارة من – ٥° س ألى – ١٠° س		**٩ شهور**
				١٢شهر للكافيار المبستر عند درجة حرارة من – ٢ إلى – ٤ س		٦ شهور

٢- جدول فترات صلاحية الألبان ومنتجاتها

البان ومنتجاتها تحفظ على درجة حرارة مناسبة:

اسم المنتج	رقم المواصفة	اسم المواصفة	فترة الصلاحية	نوعية العبوة	الفترة المتبقية
اللبن المعقم	/١٦٢٣ ٢٠٠٥	اللبن المعقم طويل العمر	٦ شهور	عبوة مناسبة	٣شهور
اللبن المبخر	/١-١٨٣٠ ٢٠٠٥	الألبان المركزة – الجزء الأول : الألبان المبخرة المركزة غير المحلاة	١٢ شهرا ٦ شهور	عبوة معدنية عبوة مناسبة	٥ شهور ٣ شهور
اللبن المكثف المحلى	/٢-١٨٣٠ ٢٠٠٥	الألبان المركزة – الجزء الثانى : الألبان المكثفة المركزة المحلاة	١٢ شهرا ٦ شهور	عبوة معدنية عبوة مناسبة	٥ شهور ٣ شهور
اللبن المطعم المعقم	/١٦٤١ ٢٠٠٥	اللبن المطعم المحلى المعقم بالطريقة اللحظية	١٢ شهرا ٦ شهور	عبوة معدنية عبوة مناسبة	٥ شهور ٣شهور
القشدة المعقمة	/١٥٤ ٢٠٠٥	الألبان ومنتجاتها	١٢ شهرا ٦ شهور	عبوة معدنية عبوة مناسبة	٥ شهور ٣شهور
الجبن المطبوخ ومعجون الجبن المطبوخ بمسمياته	-٩٩٩ ٢٠٠٥/١ -٩٩٩ ٢٠٠٥/٢	الجبن المطبوخ ومعجون الجبن المطبوخ	١٢ شهرا	عبوة معدنية	٥ شهور
الجبن الطرى المسوى	/١٠٠٨ ٢٠٠٥	الجبن الطرى	١٢ شهرا	عبوة مناسبة	٦شهور
الجبن الفيتا	-١٠٠٨ ٢٠٠٥/١٢	الجبن الطرى- الجبن الفيتا	١٢ شهرا	عبوة مناسبة	٦شهور
الكريمة السائلة نباتية الدهن	/١٦٠٠ ٢٠٠٥	الكريمة السائلة نباتية الدهن المعدة للخفق	٦ شهور ١٢ شهر	عبوة مناسبة عبوة معدنية	٣شهور ٥ شهور
الجبن المطبوخ ومعجون الجبن المطبوخ نباتى الدهن	١-١١٣٢ ٢٠٠٥/ ٢-١١٣٢ ٢٠٠٥/	الجبن المطبوخ المحتوى على زيوت ودهون نباتية معجون الجبن المطبوخ المحتوى على زيوت ودهون	١٢ شهر	عبوة معدنية	٥ شهور
الجبن الطرى المسوى نباتى الدهن	/١٨٦٧ ٢٠٠٥	الجبن الطرى نباتى الدهن	١٢ شهر ٦ شهور	عبوة معدنية عبوة مناسبة	٥ شهور ٣ شهور

ألبان و منتجاتها مبردة عند درجة حرارة من صفر° س إلى ٥° س :

اسم المنتج	رقم المواصفة	اسم المواصفة	فترة الصلاحية	نوعية العبوة	الفترة المتبقية
الجبن المطبوخ معجون الجبن المطبوخ بمسمياته	٢٠٠٥/١-٩٩٩ ٢٠٠٥/٢-٩٩٩	الجبن المطبوخ معجون الجبن المطبوخ	٦ أشهر	عبوة مناسبة	٣شهور

اسم المنتج	رقم المواصفة	اسم المواصفة	فترة الصلاحية	نوعية العبوة	الفترة المتبقية
الجبن نصف الجاف	٢٠٠٥/١١٨٣	الجبن نصف الجاف وأجزائها	٩ شهور	عبوة مناسبة	٤ شهور
الجبن الطرى الثلاجة	٢٠٠٥/٥-١٠٠٨	الجبن الطرى- جبن الثلاجة	٦ شهور	عبوة مناسبة	٣ شهور
الجبن المطبوخ ومعجون الجبن المطبوخ نباتى الدهن	٢٠٠٥/١-١١٣٢ ٢٠٠٥/٢-١١٣٢	الجبن المطبوخ المحتوى على زيوت ودهون نباتية معجون الجبن المطبوخ المحتوى على زيوت ودهون نباتية	٦ شهور	عبوة مناسبة	٣ شهور

البان ومنتجاتها مجمدة تحفظ عند درجة حرارة لاتزيد على (- ١٥° س) :

اسم المنتج	رقم المواصفة	اسم المواصفة	فترة الصلاحية	نوعية العبوة	الفترة المتبقية
الأيس كريم	٢٠٠٥/١-١١٨٥ ٢٠٠٥/٢-١١٨٥ ٢٠٠٥/٣-١١٨٥	المثلوجات اللبنية والمائية (الأيس كريم) : المثلوجات اللبنية المثلوجات المائية المثلوجات نباتية الدهن	١٢ شهرا	عبوة مناسبة	٦ شهور

٣- جدول

فترات صلاحية الحبوب والبقول ومنتجاتهما

اسم المنتج	رقم المواصفة	اسم المواصفة	فترة الصلاحية	نوعية العبوة	الفترة المتبقية
زبدة الفول السودانى	١٩٩٧/٣٢٥٨	زبدة الفول السودانى	٩ شهور	عبوة مناسبة	٤ شهور
الذرة السكرية المعلبة	٢٠٠٥/٣٢٧٢	الذرة السكرية المعلبة	سنة	عبوة معدنية او زجاجية	٥ شهور
العجائن المجمدة	١٩٩٣/٢٤٧١	العجائن المجمدة	٦ شهور على أن تحفظ على درجة حرارة - ١٨° س	عبوة مناسبة	٣ شهور

٤ - جدول

فترات صلاحية الخضر والفاكهة ومنتجاتهما

منتجات مجمدة تجميد سريع ومحفوظة عند درجة حرارة لاتزيد على – ١٨° س

اسم المنتج	رقم المواصفات	اسم المواصفات	مدة الصلاحية	نوع العبوة	الفترة المتبقية
خضر مجمدة	١٩٨٩/١٧٤٦	الخرشوف المجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٨٩/١٧٦٦	ورق عنب مجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/١٧٧٦	خضر مشكلة مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/١٧٤٣	فاصوليا خضراء مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/١٦٨١	ملوخيا خضراء مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٨٩/١٧٤٧	عصير طماطم مجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/١٧٤٨	بسلة خضراء مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/١٧٤٩	سبانخ خضراء مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/١٧٠٢	باميا مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٣/٢٣٦٥	بطاطس نصف مقلاة مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٣/٢٤٧٣	عجينة الطعمية المجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٣/٢٤٧٥	الفلفل الأخضر المجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٣/٢٤٧٢	الجزر الأصفر المجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٤/٢٧٢٢	القلقاس المجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/٢٨٢٧	الباذنجان المجمد	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٥/٢٨٥١	البطاطس المجمدة	١٨ شهر	عبوة مناسبة	٩ شهور
	١٩٩٣/٢٣٦٨	فراولة مجمدة	١٨ شهر	عبوة مناسبة	٩ شهور

٥- جدول

فترات صلاحية اللحوم ومنتجاتها

لحوم ودواجن مجمدة تحفظ عند درجة حرارة لاتزيد على – ١٨ درجة مئوية

أسم المنتج	رقم المواصفة	أسم المواصفة	مدة الصلاحية	نوع العبوة	الفترة المتبقية
بيرجر اللحم المجمد	١٦٨٨/ ١٩٩١	بيرجر اللحم المجمد	٣ شهور على ألا يتجاوز تاريخ انتهاء اللحم المعد منه	عبوة مناسبة	-
اللحم المفروم المخلوط ببروتين فول الصويا	٢٠٩٧/ ١٩٩٢	اللحم المفروم المخلوط ببروتين فول الصويا	٣ شهور ولا تقل عن ٧ أيام على ألا يتجاوز تاريخ انتهاء اللحم المعد منه	عبوات مناسبة غير منفذه للرطوبة	-
مفروم اللحم الصافى	١٦٩٤/ ١٩٩١	مفروم اللحم الصافى	٣ شهور ولاتقل عن ٧ أيام على ألا يتجاوز تاريخ انتهاء اللحم المعد منه	عبوات مناسبة غير منفذة للرطوبة	-
الكبد المجمد	١٤٧٣/ ١٩٩٠	الكبد المجمد	٧ شهور من بدأ التجميد ٢ شهر من تاريخ التعبئة على ان لا تتجاوز تاريخ انتهاء صلاحية المنتج النهائى تاريخ انتهاء صلاحية الكبد المعد منه	أكياس بولى ايثلين عبوات كرتون غير منفذه للرطوبة	٣ شهور -
الكلاوى والقلوب والطحال والمخ والبنكرياس واللسان المجمدة	٢٠٦٢/ ١٩٩١	الكلاوى والقلوب والطحال والمخ والبنكرياس واللسان المجمد	٤ شهور للكلاوى والقلوب واللسان ٢ شهر للمخ والبنكرياس والطحال من بدء الذبح	عبوات مناسبة	شهرين -
اللحوم المجمدة	١٥٢٢/ ١٩٩١	اللحوم المجمدة	٩ شهور للحم البقرى والجملى والجاموسى ٦ شهور للحم الأغنام والماعز ٦ شهور لحم البرسكت والفلانك وذلك من تاريخ الذبح	غلاف محكم مناسب أكياس البولى ايثلين كرتون معامل غير منفذ للرطوبة	٤ شهور ٣ شهور
منتجات لحم الدجاج والدجاج الرومى ١- كفتة الدجاج	٢٩١٠/ ١٩٩٥	منتجات لحم الدجاج والدجاج الرومى المجمدة :	٣ شهور من تاريخ التصنيع ولاتتجاوز هذه المدة فترة صلاحية الدواجن المعد منه	عبوة مناسبة	-

أسم المنتج	رقم المواصفة	أسم المواصفة	مدة الصلاحية	نوع العبوة	الفترة المتبقية
والدجاج الرومى المجمدة ٢- كبة الدجاج والدجاج الرومى والكفتة المضاف إليها الأرز المجمدة ٣- بيرجر الدجاج والدجاج الرومى المجمد		١- كفتة الدجاج والدجاج الرومى ٢- كبة الدجاج والدجاج الرومى ٣- بيرجر الدجاج والدجاج الرومى المجمد			
سجق الدجاج والدجاج الرومى المجمد	٢٩١١/ ١٩٩٥	سجق الدجاج والدجاج الرومى المجمد	٣ شهور من تاريخ التصنيع ولاتتجاوز هذه المدة فترة صلاحية الدواجن المعد منه	عبوة مناسبة	-
الطيور الداجنة والأرانب المجمدة	١٠٩٠/ ١٩٩٦	الطيور الداجنة والأرانب المجمدة	٩ شهور	أكياس بولى ايثلين محكم الغلق توضع الأكياس فى صناديق من الكرتون متينه ونظيفة غير منفذة للرطوبة	٤ شهور
السجق المجمد	١٩٧٢/ ١٩٩١	السجق المجمد	٣ شهور ولاتقل عن ٧ أيام على ألا يتجاوز تاريخ أنتهاء اللحم المعد منه	عبوات مناسبة	-
الكفتة المجمدة	١٩٧٣/ ١٩٩١	الكفتة المجمدة	٣ شهور ولا تقل عن ٧ أيام على ألا يتجاوز تاريخ أنتهاء اللحم المعد منه	عبوة مناسبة غير منفذ للرطوبة	-
منتجات لحم الطيور الداجنة المجمدة	٣٤٩٣/ ٢٠٠٠	منتجات لحم الطيور الداجنة	٣ شهور من تاريخ التعبئة للمنتج المجمد المطهى ونصف المطهى على ألا تتجاوز صلاحية المنتج صلاحية الدجاج المعد منه	عبوة مناسبة	-
الفورانكفورتر والهوت دوج والسوسيس المجمد	٣٤٩٢/ ٢٠٠٠	الفرانكفورتر والهوت دوج والسوسيس	٣ شهور للمجمد ٢٤ شهر للمعلب	عبوة مناسبة	- ١٢ شهر
لحوم نعاميات مجمدة	٣٧٠٨/ ٢٠٠٢	لحوم النعاميات المبردة والمجمدة	٦ شهور للمنتج المجمد من تاريخ الذبح	عبوات مناسبة	٣ شهور

٦ ـ منتجات غذائية متنوعة

أسم المنتج	رقم المواصفة	أسم المواصفة	فترة الصلاحية	نوعية العبوة
ملح الطعام اليودي	٢٧٣٢/ ٢٠٠٥	ملح الطعام " المدعم باليود "	٢٤ شهر	
الخميرة الطازجة	١٩١-١/ ٢٠٠٥	الخميرة	١٠ أيام على درجة ٣ ـ ٥°س ٤٨ ساعة على درجة حرارة الغرفة ٣٠°س	عبوة مناسبة

Appendix VII: High Perishable Foods (Part 2), EOS Draft (English)

1 - Durability of fish and its products

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Frozen fish store at ---					
Smoked fish / cold process	288 / 2005	Smoked fish	5 months	suitable	2.5 months
Smoked fish / hot process			3.5 months	suitable	2 months
Smoked fish/ semi hot			3.5 months	suitable	2 months
Shrimps and Shellfishes	516 / 1993	Frozen shrimps	8 months	Plastic or carton	4 months
Frozen fish	899 / 2005	Frozen fish	6 months	PE in carton	3 months
Frozen Calamari	2800 / 1995	Frozen Calamari	10 months Tr	suitable	5 months
			8 months untr	suitable	4 months
Chilled fish store at 0 - 4 C					
Salted fish	1725-1/2005	Salted fish	12 months	suitable	6 months
	1725-2/2005				
	1725-3/2005				
Caviar	3018/1996	Fish roe & Caviar	6 months-past	suitable	3 months
Fish roe	3018/1996	Fish roe & Caviar	6 month -UV	suitable	3 months

Salted fish	1725/2005	Salted fish	6 months	suitable	3 months
Fish roe	3018/1996	Fish roe & Caviar	3 months	suitable	1 month
Frozen fish store at ---					
Fish roe	3018/1996	Fish roe & Caviar	9 months 2/4C	Under Vacuum	4 months
Caviar pasteurized	3018/1996	Fish roe & Caviar	18 months5/10C	Under Vacuum	9 months
			12 months 2/4C		6 months

2 - Durability of Dairy and its Products

Dairy and its Products store at suitable Temp.

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Sterilized milk	1623/2005	Long life sterilized milk	6 months	suitable	3 months
Evaporated milk	1830-1/2005	Concentrated milk - Part1	12 months	Metal	5 months
			6 months	suitable	3 months
Sweetened Condensed milk	1830/2-2005	Concentrated milk - Part2	12 months	Metal	5 months
			6 months	suitable	3 months
Flavored Sterilized milk	1641/2005	Flavored sweetened milk	12 months	Metal	5 months
			6 months	suitable	3 months

Sterilized Cream	154/2005	Milk and its products	12 months	Metal	5 months
			6 months	suitable	3 months
Processed cheese	999/1-2005	Processed cheese	12 months	metal	5 months
Soft cheese - Ripened	1008/2005	Soft cheese	12 months	suitable	6 months
Feta cheese	1008/2-2005	Soft cheese - feta	12 months	suitable	6 months
Liquid Cream/Veg.Fat	1600/2005	Liquid cream for whip	12 months	Metal	5 months
			6 months	suitable	3 months
Processed cheese/Veg.fat	1132/1-2005	Processed cheese/Veg.fat	12 months	Metal	5 months
Soft cheese / veg. fat	1867/2005	Soft cheese / veg. fat	12 months	Metal	5 months
			6 months	suitable	3 months

2 - Durability of Dairy and its Products

Dairy Products store chilled from 0 - 5 C

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Processed cheese	999/1/2-2005	Processed cheese	6 months	suitable	3 months
Semi-hard cheese	1183/2005	Semi-hard cheese	9 months	suitable	4 months
Soft cheese-chilled	1008/5-2005	Soft cheese-chilled	6 months	suitable	3 months
Processed	1132/1/2-	Processed	6 months	suitable	3 months

cheese/veg.fat	2005	cheese/veg.fat			

Dairy Products Store at -15 C

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Ice Cream	1185/1/2/3-2005	Ice cream & edible ices	12 months	suitable	6 months

3 - Durability of Cereals and Legumes and its Products

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Peanuts Butter	3258-1997	Peanuts Butter	9 months	suitable	4 months
Canned sweetebd maize	3272-2005	Canned sweetebd maize	1 year	Metal or Glass	5 months
Frozen Pasta	2471-1993	Frozen Pasta	6 months at -18C	suitable	3 months

4 - Durability of Fruits and Vegetables and its Products

Frozen Products store at -18 C

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Frozen Vegetables	1746-1989	Frozen Artichoke	18 months	Suitable	9 months
	1766-	Frozen Grape leaves	18 months	Suitable	9 months

	1989				
	1776-1995	Frozen mixed Veg.	18 months	Suitable	9 months
	1743-1995	Frozen green peas	18 months	Suitable	9 months
	1681-1995	Frozen Mulokhaya	18 months	Suitable	9 months
	1747-1989	Frozen Tomato Juice	18 months	Suitable	9 months
	1748-1995	frozen green beans	18 months	Suitable	9 months
	1749-1995	frozen spinach	18 months	Suitable	9 months
	1702-1995	frozen okra	18 months	Suitable	9 months
	2365-1993	frozen semi-fried potato	18 months	Suitable	9 months
	2473-1993	frozen falafel	18 months	Suitable	9 months
	2475-1993	frozen green peper	18 months	Suitable	9 months
	2472-1993	frozen yellow carrots	18 months	Suitable	9 months
	2722-1994	frozen oats	18 months	Suitable	9 months
	2827-1995	frozen eggplant	18 months	Suitable	9 months
	2851-1995	frozen potato	18 months	Suitable	9 months
	2368-1993	frozen strawberry	18 months	Suitable	9 months

5 - Durability of meat and its products

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Burger from frozen meat	1688-1991	Burger from frozen meat	3 months	suitable	
Minced meat mixed w. soya	2097-1992	Minced meat mixed w.soya	3 months	suitable	
Minced meat - pure	1694-1991	Minced meat - pure	3 months	suitable	
Frozen liver	1473-1990	Frozen liver	7 months	suitable	3 months
Frozen Kideny,Heart,..etc	2062-1991	Frozen Kideny,Heart,..etc	4 months	suitable	2 months
Frozen brain,Pencarace..			2 months	suitable	
Frozen meat-cow,camel,buff	1522-1991	Frozen meat	9 months	suitable	4 months
Frozen meat-goat,cheep			6 months	suitable	3 months
frozen Flank,….			6 months	suitable	3 months
Turkey and Chiken products	2910-1995	Turkey and Chiken products	3 months	suitable	
Turkey and Chiken susages	2911-1995	Turkey and Chiken susages	3 months	suitable	
Frozen livestock and Rabiets	1090-1996	Frozen livestock and Rabiets	9 months	suitable	4 months

Frozen susages	1972-1991	Frozen susages	3 months	suitable	
Frozen Kufta	1973-1991	Frozen Kufta	3 months	suitable	
Frozen livestock meat products	3493-2000	Frozen livestock meat products	3 months	suitable	
Frozen Frankfurter,hot dogs	3492-2000	Frozen Frankfurter,hot dogs	3 months	suitable	
Canned franfurter,hot dogs			24 months	suitable	12 months
Frozen Osterech meat	3708-2002	Frozen Osterech meat	6 months	suitable	3 months

6 - Other food products

Product	STD #	Std. Title	Durability	Package	Remaining Shelf Life
Iodized table salt	2732-2005	Iodized table salt	24 months	suitable	
Fresh yeast store 3-5C	191/1-2005	Yeast	10 days	suitable	
Fresh yeast store ambient			2days		