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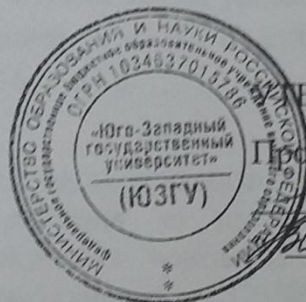
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## FOOD PRODUCTION BASICS

Методические указания по английскому языку для  
студентов 2 курса специальностей 19.03.02, 19.03.03

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**Food production basics:** методические указания по английскому языку для студентов 2 курса специальностей 19.03.02, 19.03.03 / Юго-Зап. гос. ун-т.; сост.: Е.Н. Кондратенко. – Курск, 2016. – 63 с.

Данные методические указания предназначены для студентов 2-го курса специальностей «Продукты питания из растительного сырья», «Продукты питания животного происхождения» основаны на оригинальных текстах с базовой терминологией по специальности.

Материал методических указаний поможет подготовить будущих специалистов к профессионально-ориентированной коммуникации на английском языке на международном уровне по широкому профилю специальности. Основная цель методических указаний – формирование ключевых компетенций, обусловленных лексическими и грамматическими навыками и умениями чтения, говорения, письма, перевода и использования справочной литературы.

Методические указания предназначены для студентов специальностей «Продукты питания из растительного сырья», «Продукты питания животного происхождения» дневной формы обучения.

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# UNIT 1

## FOOD

### I. Match these titles with the texts below

*Main meals*

*Dairy products*

*Fruit and vegetables*

*About food*

*Fast food*

*Fish and meat products*

1. The premier source of energy for a man is food. All necessary elements and vitamins get to our organism with a meal. Proteins, fats, cellulose, carbohydrates and other organic matters are contained in nourishment, that's why it must be balanced and nutritious. Our food can be boiled, fried, parboiled, soured, smoked but the main thing is that eating must be healthy.

2. Breakfast, dinner and supper are the important food ingestions of any man alive but there are also snacks. For example, people in England like to spend their time at lunch or evening tea, which is a national beverage of Englishmen.

Lunch for them is a slight and low-caloric appetizer. Preference at breakfast is given to oatmeal porridge, but soup, meat or fish dishes are included into dinner menu without fail. English people prefer slight dishes as bread with a cheese, fruit and a cup of coffee for supper.

3. The source of health and longevity are vegetables and fruit. They are very useful, because contain antioxidants or vitamins contributing our organism proper operation. Vegetables and fruit are energy-restricted. Cholesterol isn't contained in plant food.

4. Milk is a wonderful eating donated us by nature, because it isn't only helpful but digestible. Kefir, ryazhenka, curd, sour cream, ice-cream and many others are dairy products. A quantity of calcium and proteins is very important for a man.

5. All meat products rich in iron that is necessary to our organism and fish have proteins and cod-liver oil. These particular products are irreplaceable albumen source.

6. The food as hot-dogs, sandwiches, cheeseburgers and hamburgers differ with the highest caloric value and contain cholesterol. Such meal isn't only unsalutary, but also dangerous to health.

**II. Find the words in texts 1 to 6, and match them with the meanings below**

- |                |             |
|----------------|-------------|
| a) first       | f) process  |
| b) essential   | g) edible   |
| c) significant | h) specific |
| d) drink       | i) unique   |
| e) long life   | j) worth    |

**III. Look at text 1-4 again and discuss these questions**

1. What makes our food balanced and nutritious?
2. What food preferences of different nations around the world do you know?
3. What do you think about the problem of fast food? Is it healthy?

**IV. Write a list of as many kinds of food production, as you can think of**

**V. Now read the text below and underline any processes that are not in your list**

**FOOD PRODUCTION**

Food production is the process of transforming raw ingredients into prepared food products. Food production includes industries that take raw food products and convert

them into marketable food items. Home food production includes converting produce into forms for long-term storage.

The food production industry takes fruits, vegetables and grains in their harvested forms as well as meat directly after the butchering process and processes these into the types of food products that are available for sale in supermarkets. Food production ranges from minimal processing, such as cleaning and packaging, to complicated processes involving lots of additives and ingredients. Food production processes create products with longer shelf lives than raw food ingredients.

Some food production techniques go back to prehistoric times. These include smoking and salting meats for long-term storage and fermenting or pickling vegetables. In the 19th century, canning became a popular method of food production. Home cooks sometimes use traditional food production techniques, such as fermenting, pickling and canning, to produce food for their families.

Although food production techniques produce germ-free food products with long shelf lives, they also have drawbacks. During high heat and refining processes, raw foods lose nutrients. Food production industries also add artificial colors and flavors to make foods more appealing. Although government regulatory bodies test all additives, many health advocacy groups question the safety of their use in large quantities.

### **Vocabulary:**

raw - сырой

marketable - товарный, рыночный

storage - хранение

grain - зерно

packaging - упаковка

shelf life - срок хранения

smoking - копчение

fermenting - брожение

pickling – маринование, засоление

canning - консервирование

germ-free - стерильный, свободный от микроорганизмов

nutrients - питательные вещества

drawback - недостаток, изъян

artificial - искусственный

flavor - вкус, аромат

## **VI. Read the text again and find answer to the following questions**

1. What is food production?
2. What industries does food production include?
3. What does home food production include?
4. How does food production range?
5. What production techniques do you know?
6. Who uses traditional food production techniques?
7. How do food production industries make foods more appealing?

## **VII. Find English equivalents for the following word combinations**

*Производство пищи; сырые ингредиенты; долгосрочное хранение; чистка и упаковка; сложные процессы; длительный срок хранения; технологии пищевого производства; государственные контролирующие органы.*

## **VIII. Make up all possible types of questions on the basis of the given sentences**

1. Some food production techniques go back to prehistoric times.
2. During high heat and refining processes, raw foods lose nutrients.

## **IX. Complete the following sentences**

1. Food production includes industries that take raw food products and ... 2. The food production industry takes fruits, vegetables and grains in their harvested forms as well as ... 3. Some food production techniques go back to ...

## **X. Summarize the text *FOOD PRODUCTION* and try to retell it.**



## UNIT 2

# MANUFACTURING

### I. Read the article and check your ideas about food industry problems

A study conducted by Children Now, a California-based child advocacy group, has been released that indicts the food industry for continuing to market unhealthy food to children. Despite many food companies' expressed willingness in years prior to self-regulate themselves and shift their advertising efforts towards more healthy fare, little change has been seen.

The Institute of Medicine made recommendations to the food industry to reform their marketing strategies towards promoting more healthy, nutritious food rather than junk food. Over 12 of the nation's largest food producers agreed to cooperate in changing their advertising strategies.

The current study found that despite their promises, the food industry has generally failed to adopt any of the primary recommendations. Advertisements continue to entice children with nutritionally-deficient foods that are attractive to them, often trying to pass their products off as healthy when they are not.

Dr. Dale Kunkel, the author of the study, has concluded based on years of research that the marketing of junk food is a substantial contributor to childhood obesity. More than 72 percent of television food advertisements aimed at children today are for food products in the worst nutritional category. Only one percent of all advertising is for truly healthy foods.

Prior to 2014 when the initiative began, 84 percent of television ads were for food products in the worst nutritional category, representing a 14-percent drop since that time. Dr. Kunkel sees this as too little and is hoping that Congressional intervention will be the next step.

### II. Read the text **FOOD INDUSTRY** and decide what process of food industry is shown in the pictures below. What is the difference between them?



## FOOD INDUSTRY

The food industry is a very ancient industry. Almost every branch of the food industry and particularly those dealing with grain and bread, meat and meat products, fish and fish products, was a well-defined trade guild.

The food industry developed from the experience of generations.

Milling and baking were well developed in ancient times. There were both private and public ovens for baking bread. Olive oil and honey were widely sold and bought. Cheese was manufactured thousands of years ago. Butter is also an ancient food.

The production of food, as an industry, actually has a history extending as far as the history of modern chemistry because it was considered a part of chemical technology. Thus the book "Chemical Technology" published in 1870 contained the following sections: starch, sugar manufacture, cane sugar, beet sugar, fermentation, wine making, beer brewing, bread baking, manufacture of vinegar, and essential oils.

Let's take some examples. In 1747 Marggraf discovered crystals of sugar in the red beet and suggested that it might be possible to extract it on a commercial basis. Kirchoff suggested the use of starch for sugar production in 1811.

The food industry developed in full with the growth of the processing industries and with improvement in food machines, transportation, refrigeration, storage and packaging.

### Vocabulary:

milling - мукомолье, помол

baking - хлебопечение

oven - хлебопекарная печь

olive oil - оливковое масло

honey - мед

starch - крахмал

cane - сахарный тростник

beet - свекла

beer brewing - пивоварение

vinegar - уксус

essential oil - эфирное масло

commercial - промышленный

packaging - упаковка

processing industry - перерабатывающая промышленность

### **III. Answer the following questions**

1. What branches of the food industry were a well-defined trade guild?
2. How did the food industry develop?
3. What branches of the food industry were well developed in ancient times?
4. Was food technology considered as a part of chemical technology? What proves that?
5. Who discovered crystals of sugar in beets?
6. When did he discover it?
7. Who suggested the use of starch for sugar production?
8. What influenced the development of the food industry in full?

### **IV. Find English equivalents for the following word combinations**

*древние времена; пищевая промышленность; промышленность, имеющая дело с зерном, хлебом, мясом и рыбой; хлеб выпекали в общественных печах; история пищевой промышленности начинается с истории современной химии.*

### **V. Make up all possible types of questions on the basis of the given sentences**

1. The food industry developed from the experience of generations.
2. The production of food has a history extending as far as the history of modern chemistry.

### **VI. Complete the following sentences**

I. The food industry is a very ... 2. There were both private and public ovens for ...  
3. Cheese was manufactured thousands of years ago ... 4. Kirchhoff suggested the use of starch for ... .

### **VII. Summarize the text *FOOD INDUSTRY* and try to retell it.**

## UNIT 3

# NUTRITION

I. Look at the Nutrition Facts tables below. In pairs compare Cereal A and Cereal B, and decide which is the healthier choice. Write five sentences to compare the nutritional value of the two cereals. Use words such as *neither*, *more than*, *not only ... but also* in your descriptions.

Cereal A - Nutrition Facts	Cereal B - Nutrition Facts
<p><b>Nutrition Facts</b></p> <p>Per 2/3 cup (25 grams) Amount</p> <p><b>Calories</b> 100</p> <p><b>Fat</b> 1 g <span style="float: right;">1%</span></p> <p style="padding-left: 20px;">Saturates <span style="float: right;">1%</span></p> <p style="padding-left: 20px;">+ Trans</p> <p><b>Cholesterol</b></p> <p><b>Sodium</b> 140 mg <span style="float: right;">8%</span></p> <p><b>Carbohydrate</b> 21 g <span style="float: right;">7%</span></p> <p style="padding-left: 20px;">Fibre 1 g <span style="float: right;">4%</span></p> <p style="padding-left: 20px;">Sugars 20 g</p> <p><b>Protein</b> 1 g</p> <p>Vitamin A <span style="float: right;">0%</span></p> <p>Vitamin C <span style="float: right;">0%</span></p> <p>Calcium <span style="float: right;">8%</span></p> <p>Iron <span style="float: right;">25%</span></p>	<p><b>Nutrition Facts</b></p> <p>Per 2/3 cup (25 grams) Amount</p> <p><b>Calories</b> 200</p> <p><b>Fat</b> 2 g <span style="float: right;">3%</span></p> <p style="padding-left: 20px;">Saturates <span style="float: right;">2%</span></p> <p style="padding-left: 20px;">+ Trans</p> <p><b>Cholesterol</b></p> <p><b>Sodium</b> 50 mg <span style="float: right;">2%</span></p> <p><b>Carbohydrate</b> 38 g <span style="float: right;">13%</span></p> <p style="padding-left: 20px;">Fibre 6 g <span style="float: right;">24%</span></p> <p style="padding-left: 20px;">Sugars 7 g</p> <p><b>Protein</b> 1 g</p> <p>Vitamin A <span style="float: right;">0%</span></p> <p>Vitamin C <span style="float: right;">0%</span></p> <p>Calcium <span style="float: right;">2%</span></p> <p>Iron <span style="float: right;">15%</span></p>

II. Read the text below and make an outline of it

Nutrition is the science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism. It includes food intake, absorption, assimilation, biosynthesis, catabolism and excretion.

The diet of an organism is what it eats, which is largely determined by the availability, the processing and palatability of foods. A healthy diet includes preparation of food and storage methods that preserve nutrients from oxidation, heat or leaching, and that reduce risk of food-borne illnesses.

An important aspect of nutrition is the daily intake of nutrients. Nutrients consist of various chemical substances in the food that makes up each person's diet. Many nutrients are essential for life, and an adequate amount of nutrients in the diet is

necessary for providing energy, building and maintaining body organs, and for various metabolic processes. People depend on nutrients in their diet because the human body is not able to produce many of these nutrients – or it cannot produce them in adequate amounts.

Nutrients are essential to the human diet if they meet two characteristics. First, omitting the nutrient from the diet leads to a nutritional deficiency and a decline in some aspect of health. Second, if the omitted nutrient is put back into the diet, the symptoms of nutritional deficiency will decline and the individual will return to normal, barring any permanent damage caused by its absence.

There are six major classes of nutrients found in food: carbohydrates, proteins, lipids (fats and oils), vitamins (both fat-soluble and water-soluble), minerals and water.

**Vocabulary:**

nutrition - питательность

maintenance - поддержание, сохранение, обеспечение

disease - болезнь

absorption – впитывание, усвоение

palatability - аппетитность

leaching - выщелачивание

omitting - исключение

deficiency - недостаток, нехватка

decline - снижение, сокращение

barring - запрещение, запрет

**III. Answer the following questions**

1. What is nutrition?
2. What does it include?
- 3 How is the diet of an organism determined?
4. What does a healthy diet include?
5. Is human body able to produce all nutrients?
6. What major classes of nutrients do you know?

#### IV. Find English equivalents for the following word combinations

*Взаимодействие питательных веществ; методы хранения; здоровая диета; риск болезней, вызванных продуктами питания; важный аспект; различные химические вещества; необходимое количество; поддержание органов тела; дефицит питательных веществ.*

#### V. Make up all possible types of questions on the basis of the given sentences

1. The food industry developed from the experience of generations.
2. The production of food has a history extending as far as the history of modern chemistry.

#### VI. Complete the following sentences

1. Nutrition is the science that interprets ...
2. A healthy diet includes preparation of food and storage methods that ...
3. An important aspect of nutrition is ...
4. People depend on nutrients in their diet because ...

#### VII. Retell the text using your outline

#### VIII. Read the text below and make a list of foods that are high in the nutrients listed in the table

Vitamin C	Calcium	Protein	Iron

The labels on most packaged foods include a Nutrition Facts table. This table contains information about the number of calories in a food item as well as 13 different nutrients. The information in the table is always organized in the same order so that consumers can easily compare the nutritional value of different food items.

Here are some steps to take when reading a Nutrition Facts table:

- Look at the serving size (measured in grams, liters or milliliters).

- Look at the number of calories the item contains.
- Look at the % Daily Value to see if there is a little or a lot of a particular nutrient in one serving of the food item.

In general, healthy foods are ones that are high in fibre, vitamins and iron. Less healthy choices are high in fat (particularly saturated and trans fats) and sodium.

## **IX. Read the text and give it a title**

Nutritionists think there are 13 vitamins that humans need. Vitamins are important because they prevent diseases and help to control body processes. Vitamin A is important for healthy skin and eyes. People who do not have enough vitamin A may have night blindness. Some automobile accidents happen in the evening because people who lack vitamin A do not see the road well after they look at the bright headlights of a car. Vitamin A in the diet comes from deep yellow fruits and vegetables, such as carrots, dark green leafy vegetables and milk, liver, cod-liver oil.

When people have enough B vitamins, their appetite is good and their nerves are calm. B vitamins come from meat and vegetables, milk, cheese and whole grain. When grain is processed it loses vitamins.

Vitamin C helps skin tissues to recover from cuts and injuries. Vitamin C is supplied by tomatoes, citrus fruits like lemons and oranges, by cabbage and green peppers. Rose-hip syrup and blackcurrants also supply it.

Vitamin D is called the “sunshine” vitamin. When people are outside, ultraviolet rays from the sun change some fat in their skin to vitamin D. It is also in cod-liver oil, in the yellow of the eggs, milk and butter. Vitamin D helps the body to absorb calcium. It helps to build strong bones, and it prevents a disease in children that is called rickets.

Other vitamins (E, K, M, etc.) prevent other diseases, but all of them have a function in normal nutrition.

## UNIT 4

# BREADMAKING

### I. Read the text below and then match the different types of bread with the countries

Bread is a staple food around the world – one of the cornerstones of civilization, according to archaeologists, who note that bread was being baked in the earliest known historical records of the Egyptians and the Sumerians. Bread can be baked from wheat, rye, oats, corn or a number of other grains. It can be leavened with yeast or with chemical leaveners such as baking soda, or it can be unleavened. It can be baked in an oven or atop a stove or grill. Every world region has their own delicious variation.



For example, the French baguette is elegantly iconic, the long thin loaf of white bread that sticks out of the top of grocery bags. It has a crisp, brittle crust and a fine crumb, and can be used for a variety of purposes such as sandwiches and

canapes. The name means "small baton" or "wand." Bagel is a round bread with a hole in the middle; it is boiled first, then baked to produce a characteristic chewy, shiny crust. Bagels have gained popularity throughout the U.S. as a breakfast food and sandwich base and now come in a wide variety of flavors from sesame seed to blueberry.

Ciabatta, which means "slipper" in Italian, is a wide, flat loaf of white bread with a chewy, porous crumb and a dense, flour-dusted crust. It's used for making sandwiches such as panini, where the crumb can soak up spreads and dressings such as olive oil without becoming soggy. Pita bread comes from the Middle East. The word *pita* is a Greek term, which means "flat." In its classic form, it appears as a round yeasted flatbread, baked in the oven or on a griddle or grill. Some styles of pita have a pocket formed by hot air in the middle; this pocket is often stuffed with various fillings to create a portable sandwich.

Tortilla is a Mexican flatbread formed from lime-treated cornmeal, also known as masa harina. It is unleavened and cook quickly on a griddle. Tortillas are used to wrap various foods for ease of eating. A bloomer is a common term in England for any oblong, rounded loaf of white bread, decorated with a series of diagonal slashes on



top. Bloomers are typically crusty but can be soft, they can be made with a lean dough or can be enriched with butter and milk, can be topped or left plain. Naan is a leavened, oven-baked flatbread found in the cuisines of West, Central and South Asia. It is baked in a distinctive tandoor oven. In India, naan bread is eaten more in the northern regions of the country because of its dry climate.

Pumpernickel is a typically heavy, slightly sweet rye bread traditionally made with coarsely ground rye. It is often made with a combination of rye flour and whole rye berries. At one time it was traditional peasant fare, but largely during the 20th century various forms became popular through delicatessens and supermarkets of Germany. Traditional German Pumpernickel contains no coloring agents, instead relying on the Maillard reaction to produce its characteristic deep brown color, sweet, dark chocolate, coffee flavor, and earthy aroma.

- |                  |            |
|------------------|------------|
| 1) Ciabatta      | a) England |
| 2) Pita          | b) France  |
| 3) White bloomer | c) Germany |
| 4) Pumpernickel  | d) Greece  |
| 5) Bagel         | e) India   |
| 6) Baguette      | f) Italy   |
| 7) Naan          | g) Mexico  |
| 8) Tortilla      | h) USA     |

**II. Read the text below and put the following stages of breadmaking in an appropriate order:**

- Production
- Rounding
- Mixing
- Moulding
- Dividing

## **TECHNOLOGY OF BREADMAKING**

Bread is a valuable food. Excellent bread can be made with flour, yeast, salt and water. Other ingredients may be added, such as sugar, fat, eggs, milk, nuts and fruit.

The first basic step in the production of bread is the mixing of the ingredients to form a dough. This process takes place in mixers.

The mixed dough, undergoes the second main stage of bread production called fermentation. At this time the yeast changes sugar to carbon dioxide and alcohol and the volume of the dough increases.

The fermented dough is cut into pieces by a dividing machine. The dough pieces are taken to the next machine called a rounder. The function of this machine is to round the dough pieces into the form of a ball. The rounded dough balls are then subjected to a short fermentation period called intermediate proofing. After that a special moulding machine shapes the dough pieces into a loaf form. The moulded dough pieces undergo the final proofing in large chambers called proof boxes.

The last and most important step in the production of bread is the baking process, which is performed in the ovens.

Bread may be leavened or unleavened. Salt, fat and a leavening agent such as yeast are common ingredients, though breads may contain a range of other ingredients: milk, egg, sugar, spice, fruit, vegetables, nuts or seeds. But the basic ingredients still are: flour, liquid, leavening agent.

Flour is a product made from grain that has been ground into a powdery consistency. It is flour that provides the primary structure to the final baked bread. Commonly available flours are made from rye, barley, maize, and other grains, but it is wheat flour that is most commonly used for breads. Each of these grains provides the starch and protein necessary for the production of bread.

Water, or some other liquid, is used to form the flour into a paste or dough. The volume of liquid required varies between recipes, but a ratio of 1 part liquid to 3 parts flour is common for yeast breads.

Leavening is the process of adding gas to a dough before or during baking to produce a lighter, more easily chewed bread. A simple technique for leavening bread is the use of gas-producing chemicals. There are two common methods. The first is to use baking powder or a self-rising flour that includes baking powder. The second is to have an acidic ingredient such as buttermilk and add baking soda. The reaction of the acid with the soda produces gas. Many breads are leavened by yeast. This yeast ferments carbohydrates in the flour, including any sugar, producing carbon dioxide.

### **Vocabulary:**

flour - мука

yeast - дрожжи

to mix - смешивать, замешивать

dough - тесто

to divide - делить

to round - округлять

to be subjected to smth. - подвергаться чему-л.

proofing - расстойка

to mould - формовать

loaf - булка, буханка (мн.ч. loaves)

### **III. Answer the following questions**

1. How can excellent bread be made?
2. What is the first basic step in the production of bread?
3. How is the second main stage of bread production called?
4. What machines are used for breadmaking?
5. What is the most important step in the production of bread?
6. What is the difference between leavened and unleavened bread?
7. What kind of flour is commonly used?

### **IV. Find English equivalents for the following word combinations**

*Ценный продукт питания; могут быть добавлены другие ингредиенты; смешивание ингредиентов для образования теста; подвергается второй основной стадии производства хлеба; дрожжи превращают сахар в CO<sub>2</sub> и спирт; объем теста увеличивается.*

### **V. Fill in the gaps with the words from the box**

divider; mixing; called; mixed; mixers; subjected; ovens; undergo; loaf; baking
--

1. The first step in the production of bread is ... of the ingredients. 2. The process of mixing takes place in ... . 3. The ... dough undergoes fermentation. 4. The fermented dough is cut into pieces by a ... . 5. The dough pieces are taken to the next machine ... a rounder. 6. The rounded dough pieces are ... to intermediate proofing. 7. The moulding machine shapes the dough balls into a ... form. 8. The moulded dough pieces ... the final proofing. 9. The last step in the production of bread is the ... process. 10. Bread is baked in the ... .

**VI. Match the words on the left with the definitions on the right**

1. fermentation	a. a cereal grain, originally from the Near East and Ethiopian Highlands, but now cultivated worldwide.
2. leavened bread	b. a dry chemical leavening agent used to increase the volume and lighten the texture of baked goods.
3. yeast	c. a product made from grain that has been ground into a powdery consistency
4. buttermilk	d. lighter, more easily chewed kind of bread
5. flour	e. The main ingredient of bread which is premixed with chemical leavening agents
6. wheat	f. the liquid left behind after churning butter out of cream or it also refers to a range of fermented milk drinks, common in warm climates
7. baking powder	g. The process of changing sugar to carbon dioxide and alcohol
8. self-rising flour	h. microorganisms classified in the kingdom Fungi

**VII. Make an outline of the text and retell it.**

# UNIT 5

## DOUGH

### I. Match the pictures with the types of dough making machines

- 1) Pasta machine
- 2) Dough ball making machine
- 3) Bread making machine
- 4) Donuts making machine



a)



b)



c)



d)

## II. Read the parts of the text and put them in the right order

### DOUGH

A. Techniques used in dough production depend on the type of dough and final product. For yeast-based and sponge breads, a common production technique is the dough is mixed, kneaded, and then left to rise. Many bread doughs call for a second stage, where the dough is kneaded again, shaped into the final form, and left to rise a final time before baking. Kneading is the process of working a dough to produce a smooth, elastic dough by developing gluten. This process is both temperature and time-dependent; temperatures that are either too hot or too cold will cause the yeast to not develop, and rising times that are either too short or too long will affect the final product.

B. While breads and other products made from doughs are often baked, some types of dough-based foods are cooked over direct heat, such as tortillas, which are cooked directly on a griddle. Fried dough foods are also common in many cultures.

C. Dough is a thick, malleable, sometimes elastic, paste made out of any grains or leguminous crops. Dough is typically made by mixing flour with a small amount of water and/or other liquid, and sometimes includes yeast or other leavening agents as well as other ingredients such as various fats or flavorings.

D. Pasta is typically made from a dry dough that is kneaded and shaped, either through extrusion, rolling out in a pasta machine, or stretched or shaped by hand. Pasta may be cooked directly after production or dried, which renders it shelf-stable. Doughs for biscuits and many flatbreads which are not leavened with yeast are typically mixed but not kneaded or left to rise; these doughs are shaped and cooked directly after mixing.

E. The process of making and shaping dough is a precursor to making a wide variety of foodstuffs, particularly breads and bread-based items, but also including biscuits, cakes, cookies, dumplings, flatbreads, noodles, pasta, pastry, pizza, pies and similar items. Doughs are made from a wide variety of flours, commonly wheat but also flours made from maize, rice, rye, legumes, almonds, and other cereals and crops used around the world.

#### **Vocabulary:**

malleable - податливый, тягучий

leguminous - бобовый

precursor - предшественник  
dumpling – пельмень, вареник  
noodle - лапша, макароны  
pastry - кондитерские изделия  
maize – кукуруза  
rye - рожь  
legumes - бобовые  
almond - миндаль  
cereals - зерновые  
sponge - бисквит  
to knead - месить  
extrusion - выдавливание, прессование  
flatbread - лепешка  
griddle - сковорода

### **III. Answer the following questions**

1. What is dough?
2. What is a traditional recipe of dough?
3. What kinds of flour are used for dough-making?
4. What is kneading?
5. What types of dough-based foods do you know?
6. How are they cooked?

### **IV. Find English equivalents for the following word combinations**

*Смешивание муки с небольшим количеством воды; широкое разнообразие продуктов питания; общая технология производства; чтобы произвести гладкое, эластичное тесто; тесто для печенья и многих лепешек.*

**V. Make up all possible types of questions on the basis of the given sentences**

1. Techniques used in dough production depend on the type of dough and final product.
2. Pasta is typically made from a dry dough.

**VI. Make an outline of the text “Dough” and retell it**

**VII. Read the text and complete it with the phrases in the box**

- a) more flour is then added
- b) flour, water, salt and yeast
- c) approximately 2-3 hours
- d) the “sponge and dough” method and the “straight” process
- e) close control of processes

**METHODS OF DOUGH MIXING**

Bakery products are made from flour by moistening, processing raw materials. In its basic ingredients, processes and characteristics, bread has changed little since the Stone Age. Namely, .....are mixed into a dough and allowed to ferment for a given number of hours, the dough mass is then divided into pieces of the desired weight, moulded, again allowed to expand during the final proof period and finally are baked. However, ..... produces a more uniform product, and enrichment of materials results in a more nutritious product.

There are two main methods of mixing dough: .....

In the sponge and dough method the yeast is first mixed with warm water and a small quantity of flour and the mixture is worked up into a kind of sponge. This mixture is then put aside and fermented for approximately 3-4 hours;....., and all the ingredients are mechanically mixed and become a dough. The dough is given a short fermentation period, after which it is run through the various makeup equipment.

The straight method differs from the sponge and dough process in that all ingredients are added at one time and that there is only one mixing stage and one fermentation period. The fermentation period for a straight dough is..... After fermentation is complete, the dough enters the divider and continues through the same makeup equipment as for the sponge and dough method.

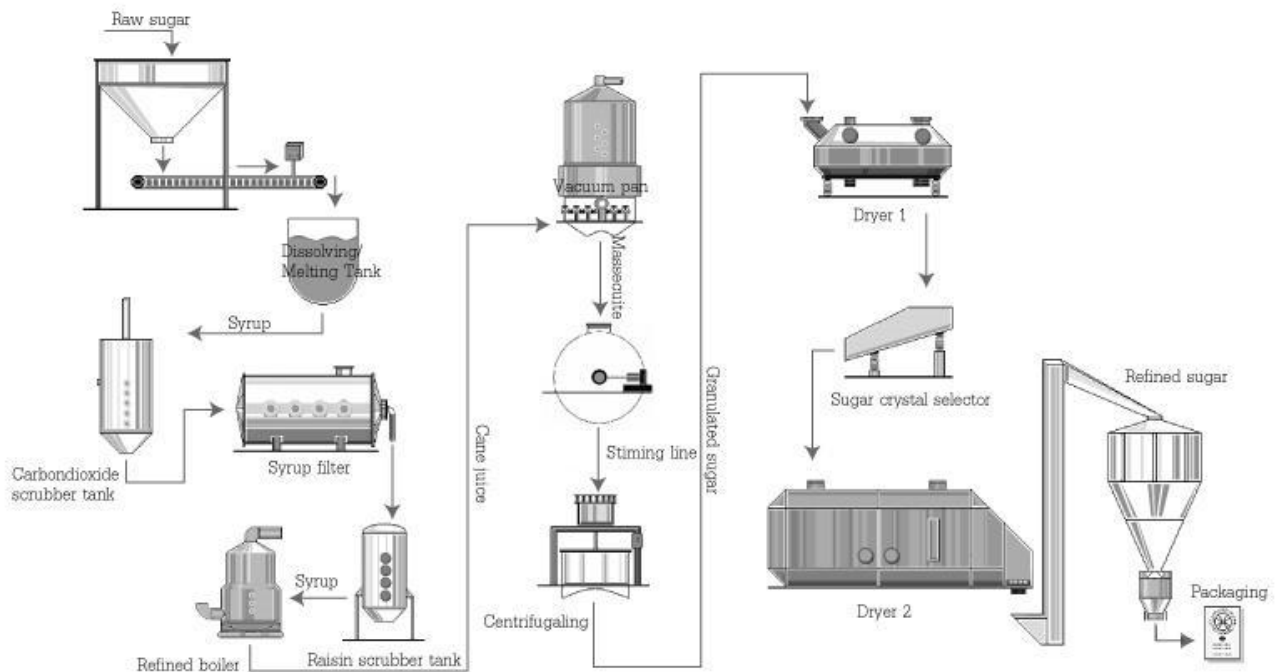


## UNIT 6

# SUGAR

I. Look at the picture showing the sugar production process and try to describe it

White and refined sugar production process



II. Try to answer these questions

1. What plants are used for sugar production?
2. How is sugar extracted from the sugar cane?
3. What is raw sugar?
4. How is dark-brown sugar produced?
5. What does inhibit crystallization of sucrose?
6. How is beet sugar produced?

### III. Now read the text and find out if your answers were correct

#### SUGAR

Sugar is extracted from the sugar cane and the sugar beet. Cane sugar is manufactured from the sugar cane. In the manufacturing of sugar cane, the first step is crushing of the cane to express the juice. The juice is then clarified, usually by heating with lime. The clarified juice is then concentrated in vacuum evaporators to a brownish syrup containing about 35 per cent moisture of syrup and crystals.

The crystals are separated from the liquor or molasses by centrifugal machines. The molasses may be evaporated a second and a third time and the crystals are removed. The sugar thus separated from the molasses is known as raw sugar. The raw sugar must be washed, treated with lime, filtered, recrystallized, washed and dried to give the familiar refined sugar.

In some countries cane sugar is produced in small factories without use of centrifuges, and a dark-brown product, noncentrifugal sugar, is produced.

Recovery of crystalline sugar from the sugar beet is not a simple procedure. In its life processes, the sugar beet forms many organic substances other than sucrose and takes up inorganic nutrient elements from the soil. These nonsucrose substances are also brought into solution of sucrose during processing and must be removed. Some are removed by liming and filtering, but those that remain inhibit crystallization of sucrose.

This is how beet sugar is produced. The beets are washed and sliced. The juice which is high in sucrose is leached by hot water. It is then subjected to clarification, filtration, and evaporation, resulting in formation of clear crystals.

#### Vocabulary:

sugar cane - сахарный тростник

sugar beet - сахарная свекла

to crush - измельчать

to express - выдавливать, выжимать

juice – сок

lime – известь

to evaporate – выпаривать

molasses - патока

to remove - удалять

raw sugar - сахар-сырец

to treat - обрабатывать

to refine - очищать

sucrose - сахароза

to inhibit – тормозить, задерживать

to slice - нарезать на кусочки

to result in - приводить к

to be high in = to be rich in быть богатым чем-л., иметь высокое содержание чего-л.

#### **IV. Find English equivalents for the following word combinations:**

*Обработка сахарного тростника; нагревание известью; сахар, отделяемый таким образом от патоки; знакомый рафинированный сахар; восстановление кристаллического сахара; свеклу промывают и нарезают.*

#### **V. Make up all possible types of questions on the basis of the given sentences**

1. The crystals are separated from the liquor or molasses by centrifugal machines.
2. Recovery of crystalline sugar from the sugar beet is not a simple procedure.

#### **VI. Complete the following sentences using the information from the text**

1. Cane sugar is manufactured from ... .
2. Beet sugar is manufactured from ... .
3. In the manufacturing of sugar cane the first step is ... .
4. To produce beet juice the beets are ... .

#### **VII. Make an outline of the text “Sugar” and translate it**

**VIII. Read the text and complete it with the phrases in the box**

- a) of the crystals or granules
- b) the formation of large crystals
- c) one of the important steps
- d) bitter and has an unpleasant odour
- e) if allowed to form without stirring

The formation of crystals in the making of either cane or beet sugar is..... The finer crystals the greater a loss of sugar in the syrup. Crystals,....., may grow to a large size. Rather slow formation over a period of time also permits..... Too large crystals are not desirable.

Most cane sugar is highly refined. If not we have brown sugar. All best sugar is refined; the unrefined sugar is..... White sugar is graded as to size..... Loaf and cube sugars are made by compressing moist white sugar into desired shape and then drying.

## UNIT 7

# CONFECTIONS

I. What are the most popular kinds of confections do you know?

II. Match these pictures of confections with their names



a)



b)



c)



d)



e)



f)

1. Donuts

2. Ice-cream

3. Marshmallow

4. Cookies

5. Cakes

6. Lollipops

**III. Match each confection 1-6 with its definition a-f**

Confection	Definition
1) Donut	a) sweetened frozen food which is usually made from dairy products, such as milk and cream
2) Cake	b) sugar-based confection that consists of sugar, water and gelatin whipped to a spongy consistency
3) Ice-cream	c) a type of fried dough ring-shaped confectionery with various toppings
4) Lollipop	d) small, flat, sweet, baked good, usually containing flour, eggs, sugar and butter or oil
5) Marshmallow	e) form of sweet dessert covered with buttercream or other icings, and decorated with piped borders or candied fruit
6) Cookie	f) a type of confectionery consisting of a sweetmeat of hard candy mounted on a stick

**IV. Read the text and try to answer following questions**

1. What was the beginning of confectionery industry history?
2. What are the most common ingredients of many candies?
3. When did begin the manufacture of chocolate candies in Europe?
4. Who brought chocolate to Europe?
5. When did appear many new types of confectionery items?
6. What types of candies do you know?

Confectionery industry has a long history. It starts with the discovery of honey. Chopped fruits and nuts mixed with honey was the first confectionery item in the world. When in the middle ages cane sugar was brought to Europe it was used for the production of sugar sweets.

There are more than 2000 varieties of confections but the fundamental processes of candy making have much in common because in the majority the chief ingredient is sugar. Next to sugar chocolate is a very common ingredient of many candies. Chocolate was first brought to Europe by Spaniards in the 16th century. At that time it was used as a beverage. Later on the manufacture of chocolate candies was started in France.



The 17th century was a period of considerable progress, in confectionery. Many new types of confectionery items appeared. But till the end of the 18th century most of the processes in confectionery production had been carried out manually (by hand) or by water-driven machines. The invention of steam power engine by James Watt gave rise to the development of confectionery machinery as well. Nowadays all the processes in confectionery production are done by machines.

Confections are divided into several large groups: hard candies, chewy confections, aerated confections and chocolate candies. Common sweeteners used in confections are refined crystalline cane or beet sugar, liquid sugar, corn syrup, starch, honey and some others.

Various types of candies may be prepared by varying the kind of sweetener and amount of liquid, the cooking and cooling time, and the addition of chocolate, milk products, fruits, nuts, etc.

### **Vocabulary:**

confections - кондитерские изделия; конфеты

sweets - конфеты, сладости

candies - конфеты

hard candies - леденцовая карамель

chewy confections - жевательные конфеты

aerated confections - сбивные кондитерские изделия

sugar sweets - сахарные конфеты

confectionery item - кондитерское изделие

corn syrup - кукурузная патока

### **V. Find English equivalents for the following word combinations**

*Кондитерская промышленность; измельченные фрукты и орехи, смешанные с медом; основные процессы производства конфет; имеют много общего; основной компонент; после сахара; широко распространенный компонент.*

**VI. Fill in the gaps with the words and word combinations from the box**

1. chocolate; 2. sweeteners; 3. honey; 4. beverage; 5. candies, 6. cooking and cooling; 7. hard candies, chewy confections, aerated confections, and chocolate candies; 8. chocolate, milk products, fruits, nuts, etc.

1. The first confectionery item in the world was chopped fruits and nuts mixed with ....  
2. In the middle ages cane sugar began to be used for the production of .... 3. Next to sugar ... is a very common ingredient of many candies. 4. In the 16th century chocolate was used as a .... 5. Refined crystalline cane or beet sugar, liquid sugar, corn syrup, starch, honey are common ... used in confections. 6. Confections are divided into several large groups: ... 7. Various types of candies may be prepared by varying the kind of sweetener and amount of liquid, the ... time, and the addition of...

**VII. Make an outline and retell the text.**



## UNIT 8

# CHOCOLATE

### I. What interesting facts about chocolate do you know? Compare them with the following information

#### DID YO KNOW THAT:

- Chocolate acts as a mild anti-depressant, since it emits serotonin and endorphin in brain.
- In spite of the fact that chocolate contains a large amount of fat, it doesn't promote the increase of cholesterol levels in blood.
- Allergies to chocolate are infrequent.
- About 50% of consumption of chocolate in the whole world belongs to America.
- More than 7 billion pounds of chocolate are annually eaten worldwide.

### II. Explain the following noun phrases.

*Examples:* food preparation – preparation of food

a popular drink – a drink which is popular

- 1) beverage foundation
- 2) crushed cocoa
- 3) fashionable club
- 4) body-building substance
- 5) cocoa trees

### III. Read the text. What is it about?

Chocolate is a typically sweet, usually brown, food preparation of cacao seeds, roasted and ground, often flavored, as with vanilla. It is made in the form of a liquid, paste, or in a block, or used as a flavoring ingredient in other foods.

The cocoa bean and the secret of a drink made from it originally came to Europe from Mexico. It had been brought by Hernan Cortes, a Spanish soldier, the conqueror of that country, in the first half of the 16th century. The beans were used as articles of trade as well as the foundation of a beverage, which was much in favour with the native Aztecs. It was made



from crushed cocoa beans and water. The Aztecs drank it cold, flavoured with spices and seasoned with pepper. The Spaniards prepared their drink in a similar way, but mixed it with sugar instead of pepper. They kept the secret of this drink for about 100 years. Then, in the 17th century, knowledge of it spread to France and from there to other countries. It was probably introduced into England in about 1650. It became a popular drink among the rich and the chocolate houses developed into fashionable clubs all over London. At that time chocolate was most unpalatable by comparison with the modern product. No sugar was used in its preparation, and drink frequently included maize and spices. Sugar was introduced into chocolate in the later part of the 18th century. It was only in the 19th century that chocolate was sold specially for eating.

Chocolate is a valuable concentrated food, containing body-building and energy substances and is widely used in the ration of land, sea and air forces.

The cocoa tree is grown in the tropics. The chief producing areas are West Africa, the West Indies and South America. More than half of the world's cocoa comes from West Africa. The trees are very delicate. When young they need protection from direct sun and wind. Cocoa trees do not bear their full crop until they are about 12-15 years old.

#### **Vocabulary:**

seed - семя, зерно, семечко

conqueror - завоеватель, захватчик

articles of trade - товары

Aztecs - ацтеки, древние племена, населявшие Южную Америку

spices - пряности

pepper - перец

fashionable - модный

unpalatable - невкусный

maize - кукуруза

valuable - ценный

ration - рацион, порция

do not bear their full crop - не плодоносят в полную силу

#### **IV. Read the text again and try to answer the following questions:**

1. What is chocolate?
2. How did the Aztecs make chocolate?
3. When was sugar introduced into chocolate?
4. Where is the cocoa tree grown?
5. What chief producing areas are mentioned in the text?
6. When do cocoa trees begin to bear their full crop?

#### **V. Find English equivalents for the following word combinations**

*Вкусовой ингредиент; основа напитка; по сравнению с современным продуктом; напиток часто содержал кукурузу и специи; в рационе сухопутных, морских и воздушных сил; защита от прямых солнечных лучей и ветра.*

#### **VI. Make up all possible types of questions on the basis of the given sentences**

1. The Spaniards prepared their drink in a similar way.
2. Chocolate is a valuable concentrated food.

## VI. Choose the right variant

1. The secret of a chocolate drink was brought to Europe from  
a) India, b) Spain, c) Mexico.
2. The Spaniards prepared their drink in a similar way as Aztecs, but mixed it with  
a) pepper, b) sugar, c) honey.
3. The secret of a drink made from cocoa beans was kept for about  
a) 10 years, b) 100 years, c) 50 years.
4. It was only in the 19th century that chocolate was sold specially  
a) as a drink, b) as a spice, c) for eating.
5. More than half of the world cocoa comes from  
a) West Africa, b) South America, c) The West Indies.

## VII. Make an outline and retell the text about chocolate

## VIII. Fill in the gaps in the text with the words below

operation	aroma	chocolate	manufacture	volume	mixture
-----------	-------	-----------	-------------	--------	---------

The cocoa beans are obtained from the pods of the cocoa tree. The pods are split open by hand on the plantation, and the beans are extracted. The beans are left to ferment for several days and then dried in the sun. When dried they are packed into bags and transported to the countries of \_\_\_\_\_.

Four operations are necessary before the final product is ready. The beans are first roasted, a process which develops the peculiar chocolate flavour, and also loosens the husk, which has an unpleasant taste. After roasting, most manufacturers blend the beans by mixing together different varieties, each of which has its own individual\_\_\_\_\_. Then the beans are ground in a machine known as a “melangeur”; sugar is added together with vanilla or other flavouring if desired. The mixture now becomes a paste.

The third operation is to refine this paste by a machine called a “refiner”, which has three or more rollers<sup>8</sup> which not only grind but tear the fibres which constitute about half the \_\_\_\_\_of the bean.

The final \_\_\_\_\_is to add more “cocoa butter”, a vegetable fat already present to some degree in the mixture. The chocolate \_\_\_\_\_ is then worked in a conche -

a machine consisting of a series of granite troughs, in each of which a heavy roller is turning. For the best qualities of chocolate the mixture is worked in this machine for several days and nights, a process which makes the chocolate so smooth that no separate particles are perceptible to the palate, and which helps to develop the full chocolate flavour. The \_\_\_\_\_ is now ready to be moulded.

## UNIT 9

# MILK AND DAIRY PRODUCTS

### I. Read the following definitions and match them with the terms

Terms	Definitions
a) yogurt	1. A product made from curd with or without added cream.
b) ice-cream	2. A dairy product which is churned from cream.
c) butter	3. A frozen product made from combination of milk products, eggs, water and sugar with flavoring and coloring matter.
d) cheese	4. A product similar to butter, but made of hydrogenated fats with added butter-type flavors and coloring.
e) margarine	5. A milk product fermented by bacteria.

### II. Read the text and find answers to these questions

1. What is the difference between butters and margarines?
2. What are the basic ingredients of ice-cream?
3. What do fermented products use to ferment lactose or milk sugar?
4. How does the processing of raw milk begin?
5. How do separators have two discharge pipes?

Fluid milk for commercial distribution is usually pasteurized, that is subjected to a temperature of 61.7°C for at least 30 min or 71.7°C for 15 sec, and then cooled and bottled. The importance of safety and cleanliness is stressed in the dairy industry. Milk may also be condensed or evaporated, dried, powdered, or separated into skim milk and cream.

Butter is churned from cream. Margarines are similar to butter but made of hydrogenated fats, usually vegetable in origin, with added butter-type flavours and colouring.

Ice cream is the frozen product made from a combination of milk products (cream, butter, or milk - either whole or evaporated, condensed, skimmed, or dried) and two or more of the following ingredients: eggs, water, and sugar, with flavouring and colouring matter. In the manufacture of ice cream, freezing is accompanied by agitation of the ingredients to avoid crystallization and to incorporate air for proper texture.

Cheese is the product made from curd obtained from the whole, partly skimmed, or skimmed milk of cows or other animals, with or without added cream.

Many fermented products are produced from milk. These fermentations require the use of bacteria that ferment lactose or milk sugar.

Most raw milk collected at farms is pumped from stainless steel tanks into tank trucks for delivery to processing plants.

Collection and intake.

The truck drivers are required to check flavour, temperature, and volume of milk in the farm tank and to collect a sample of raw milk for analysis before pumping the milk into the truck. At the receiving station of the processing plant the milk in the farm truck is weighed and pumped into the plant through flexible plastic and stainless steel pipelines.

Separation and clarification.

The actual processing of raw milk begins with either separation or clarification. These machines are essentially similar except that in the clarified the cream and skim milk fractions are not separated.

Separators have two discharge pipes, one for cream and one for skim milk. Clarifiers have only one pipe for whole milk. Separators have a device called cream screw by which the fat content in the cream is regulated. This screw allows more or less cream to pass out through the discharge pipe.

### **Vocabulary:**

dairy products - молочные продукты

fluid milk - питьевое молоко

raw milk - сырое молоко

whole milk-цельное молоко

skim milk - обезжиренное молоко

condensed milk - сгущённое молоко

evaporated milk - концентрированное молоко

dried milk /powdered milk - сухое молоко

cream - сливки

ice cream - мороженое

curd - творог

fermented dairy products - кисломолочные продукты

intake - прием

clarification - очистка

clarifier - очиститель

freeze (froze, frozen) - замораживать

### III. Find English equivalents for the following word combinations:

*Для доставки на перерабатывающее предприятие; брать образец сырого молока на анализ; сепарация и очистка; порции сливок и обезжиренного молока; две отводные трубы; содержание жира в сливках; большее или меньшее количество сливок.*

### IV. Make up all possible types of questions on the basis of the given sentences

1. Ice cream is the frozen product made from a combination of milk products.
2. The actual processing of raw milk begins with either separation.

### V. Complete the following sentences with the words from the box

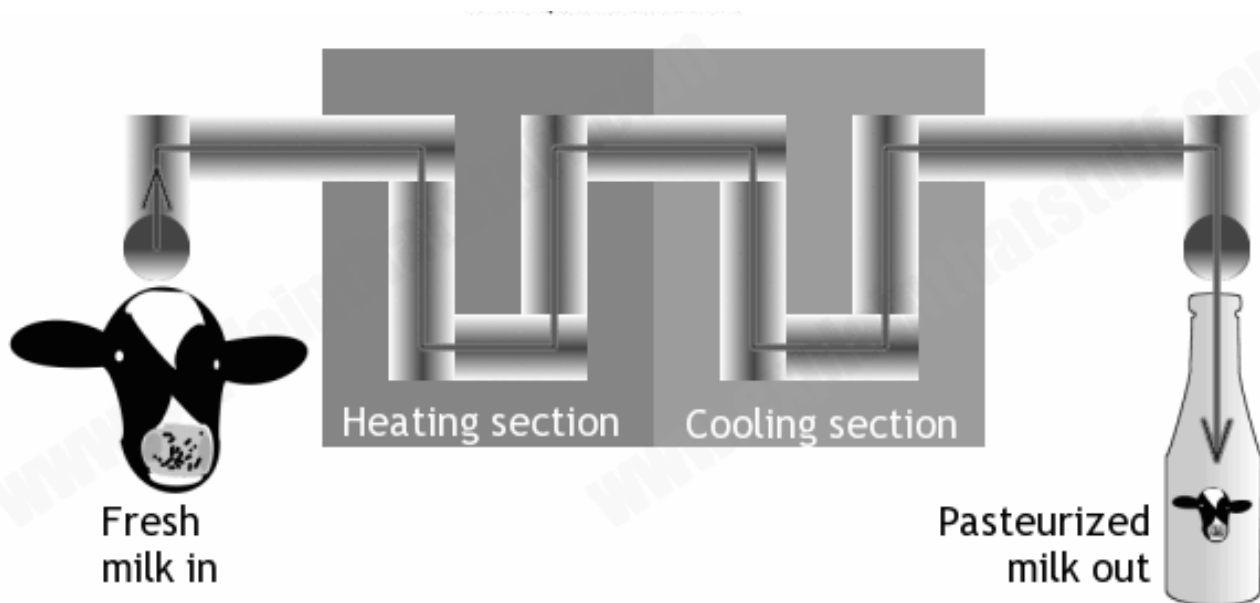
<p><b>1. curd; 2. pasteurized; 3. whole; 4. cream; 5. butter; 6. dairy; skim milk; 8.frozen</b></p>
---

1) Fluid milk for commercial distribution is usually ... . 2) ... is churned from cream. 3) Ice cream is the ... product. 4) Cheese is the product made from ... . 5) Industry processing milk is called ... industry. 6) After separation whole milk is separated into two fractions: ... and ... . 7) Clarifiers have one pipe for ... milk.

### VI. Make an outline of the text and retell it



## VII. Look at the picture and then read the text about milk pasteurization



Food which is kept for too long becomes bad because it will be attacked by germs and bacteria. The value of heat for the preservation of food was not known until the 19th century. It was found that a very mild heat far below boiling point made liquid foods such as milk stay much longer. This scientific improvement on food preservation by heat was the result of the work of the French scientist Louis Pasteur. He discovered that germs could be destroyed by heating liquid foods but not by boiling them. This discovery led him to invent pasteurization which is a method of preventing foods from going bad. It serves two purposes. It prevents milk from becoming sour, and it kills the bacteria which cause dangerous diseases. Milk is rendered free of pathogenic bacteria by pasteurization. Milk is heated to a specified temperature and held at that temperature for a specified time. (145°F for 30 min when milk is pasteurized in a vat or at least 161°F for 15 sec when milk is pasteurized continuously).

Pasteurization on a batch operation requires a jacketed vat where steam or hot water can circulate and heat the milk. This treatment requires the longer times at lower temperatures to accomplish pasteurization (LTLT pasteurizer). Modern methods of processing milk and milk products utilize the high-temperature short-time (HTST) pasteurizer.

In Europe and to a limited amount in the United States, milk and milk products may be ultra-heat-treated (UHT). This process may use equipment similar to that used for HTST. The UHT processing requires a minimum heat treatment of 280°F for 2 sec. UHT dairy foods have extended shelf-life because all of the bacteria that would survive even HTST pasteurization have been destroyed.

### How a pasteurizer works

A typical pasteurizer is completely automatic. You pour milk in one end and it flows between a set of heating pipes or plates for a set period of time (long enough to kill off most of the harmful bacteria), then between a set of cooling pipes, before emerging from an outlet pipe into the bottles. Heating and cooling times and temperatures vary according to the type of pasteurization process being used.

### **VII. Using the text above choose the right variants**

1. If food is kept for a long time it becomes  
A. cold. B. soft C. bad. D. hot.
  
2. Heat is important for  
A. preserving food. B. making milk sour.  
C. protecting germs. D. causing diseases.
  
3. According to the passage, germs can be destroyed by ..... liquid foods.  
A. heating and boiling B. heating but not boiling  
C. spraying D. freezing
  
4. What did Louis Pasteur actually discover?  
A. Germs. B. A method for preventing food from going bad  
C. A method for boiling food D. Boiling food is better than heating it.
  
5. The heat for preserving food must be  
A. to a mild degree. B. at a boiling point.  
C. above boiling point. D. just smoke.
  
6. The phrase “to destroy germs” means to  
A. protect them. B. kill them.  
C. discover them. D. increase their number.
  
7. It is necessary to heat milk for about.....  
A. 60 minutes. B. half an hour.  
C. a quarter of an hour. D. 20 minutes.
  
8. Not until the 19th century did people know.....  
A. that heat preserves food. B. about bacteria.  
C. the importance of milk. D. the cause of diseases.

9. The underlined word “it” refers to.....

A. food. B. heat.

C. bacteria. D. pasteurization.

10. Pasteurization prevents ..... from going bad.

A. fruits B. vegetables

C. fish D. liquid foods

## UNIT 10

# FATS AND OILS

### I. Read the text and find answers to these questions

1. What is the difference between fats and oils?
2. What edible oils do you know?
3. What is the function of fats and oils in the diet?
4. How are oils produced?
5. How are fats produced?
6. What fat-soluble vitamins are mentioned in the text?

One of three major classes of food products are fats and oils. Along with carbohydrates and proteins, fats and oils supply the energy requirements of man and animals. Fats are usually defined as solid or plastic at ordinary temperatures. Oils are liquid at room temperatures. Oils have a high carbon and hydrogen content and are usually flammable and slippery. Fats and oils in the diet serve to increase palatability and enhance the flavour of foods. In a bakery product fat improves the quality. Oils are also used for flavoring and for modifying the texture of foods.

The two major groups are animal fats and vegetable oils. Butter is a special animal-fat product from milk. Cocoa butter is the fat pressed or extracted from cocoa beans. It is used in medicine and as coating fat for confections and other foods.

The vegetable oils are pressed or extracted from a variety of plant seeds. Of primary importance as sources of edible oils are soybeans, sunflower, cotton seed, corn germ, olives, etc. Olive oil has an excellent natural flavour and is used as a salad or

cooking oil without processing. Corn oil, produced from corn germ, is a product of corn-milling industry. Soybean oil is used mostly in shortening, margarine, and salad oil. Coconut oil is used principally as cooking oil, for confectionery fats and in margarine. Cotton seed oil is processed for salad oil, shortening and for use in margarine.



Sunflower seeds oil is high quality edible oil. It is used in cooking, salad dressing, margarine and soap, and as a drying oil in paints.

Fats and oils serve as carriers for the fat-soluble vitamins A and D and are the chief source of vitamin E.

Processing of oilseeds can be carried out by pressing, extraction with solvents or a combination of the two. Oils can be extracted using chemical solvents, or expeller pressing (i.e., squeezed directly from sunflower seeds by crushing them). Cold-pressing oil under low-temperature conditions is a preferred method. This extraction process doesn't involve chemical solvents, as well as for people following a raw foods diet.

Animal fats can be recovered from fatty tissue of the meat by the process of rendering. Fats serve both as energy sources for the body, and as stores for energy in excess of what the body needs immediately.

### **Vocabulary:**

animal fat - животный жир

vegetable oil - растительное масло

edible oil - съедобное масло

sunflower - подсолнечник

cotton - хлопок

corn germ - зародыш кукурузы

tissue - ткань

rendering - вытопка

recover – получать

### **II. Using the text above choose the right variants**

1. Fats are obtained

a) from seeds, b) from fatty tissues of slaughtered livestock, c) from milk.

2. Rendering is

a) heat treatment, b) manufacture of oils, c) olive oil pressing.

3. Rendered fats are termed
  - a) shortening, b) tallows, c) salad oil.
4. Olive oil is produced from
  - a) soya beans, b) olives, c) corn.
5. Corn oil is produced from
  - a) corn germ, b) beans, c) lard.
6. Coconut oil is produced from
  - a) cocoa beans, b) cotton, c) coconut.
7. Soybean oil is produced from
  - a) cotton seed, b) corn germ, c) soybeans.
8. Cocoa butter is the fat produced from
  - a) coconut oil, b) cocoa seeds, c) cocoa beans.

### **III. Find English equivalents for the following words and word combinations**

*Жиры и масла, снабжать (поставлять), потребности, вкусовые качества, вкус и аромат, разнообразие, съедобные масла и жиры, первостепенное значение, переносчики жирорастворимых витаминов, главный источник, переработка производится, процесс вытопки*

### **IV. Make up all possible types of questions on the basis of the given sentences**

1. The two major groups are animal fats and vegetable oils.
2. Fats and oils serve as carriers for the fat-soluble vitamins A and D.

### **V. Fill in the gaps with the words from the box**

<p><b>1. rendering; 2. fats, oils; 3. the flavour; 4. oils; 5. fats; 6. butter; 7. pressing, extraction; 8. Oil</b></p>
---

1. ... and ... are one of three major classes of food products.
2. ... are usually solid at the room temperature.
3. ... are usually liquid at room temperature.
4. Fats and oils enhance ... of foods.
5. A special animal-fat product from milk is ... .
6. Different plant seeds contain ... .
7. Processing of oilseeds is carried out by ... or ... with solvent.
8. ... is used for recovering fat from fatty meat tissue.

**VI. Answer the questions and discuss your opinion with your groupmates**

- 1) Do you think that fat and oil can cause different diseases and getting more weight?
- 2) Do you think that fat and oil can cure (treat) diseases?

**VII. Make an outline of the text and retell it.**

# TESTS

## TEST 1

### 1. What is the function of proteins in the body?

- a) They are needed for digestion.
- b) They needed for energy.
- c) They are needed for growth and repair of the body.

### 2. What food is a good source of protein?

- a) Eggs
- b) Potatoes
- c) Sugar

### 3. What is the function of carbohydrates in the body?

- a) They are needed for digestion.
- b) They needed for energy.
- c) They are needed for growth and repair of the body.

### 4. What are starch and sugar types of?

- a) Fat
- b) Vitamin
- c) Carbohydrate

### 5. Which type of fat comes from an animal source?

- a) Unsaturated
- b) Saturated
- c) Dissaturated

### 6. What food is a good source of fat?

- a) Butter
- b) Vegetables
- c) Bread



**7. What food is a good source of vitamin C?**

- a) Bread
- b) Oily fish
- c) Fruit

**8. What is the function of vitamin D in the body?**

- a) Energy
- b) Formation of red blood cells
- c) Strong teeth

**9. What is the function of iron in the body?**

- a) Energy
- b) Formation of red blood cells
- c) Strong teeth

**10. What food is a good source of calcium?**

- a) Milk
- b) Meat
- c) Sugar

**TEST 2**

**1. Why is food packaged?**

- a) To preserve it
- b) To promote it
- c) To transport it
- d) All of the above

**2. Which material is most commonly used for packaging baby foods?**

- a) Plastic
- b) Cardboard
- c) Glass

**3. Which material is most commonly used for packaging soup?**

- a) Metal
- b) Cellophane
- c) Plastic

**4. Modified-Atmosphere Packaging (MAP) is used for which of these products?**

- a) Baby food
- b) Smoked fish
- c) Eggs

**5. What is recyclable packaging?**

- a) Packaging that can be cleaned and re-used.
- b) Packaging that will easily break down in the soil or the atmosphere.
- c) Packaging that is made of materials that can be used again after processing

**6. What is biodegradable packaging?**

- a) Packaging that can be cleaned and re-used.
- b) Packaging that will easily break down in the soil or the atmosphere.
- c) Packaging that is made of materials that can be used again after processing

**7. For a can of baked beans, what type of packaging is the can?**

- a) Transit packaging
- b) Primary packaging
- c) Secondary packaging

**8. Which of the following does NOT have to be printed on a food label by law?**

- a) Manufacturer's name and contact details
- b) Name and description of the product
- c) Price

**9. Which of the following is excluded from having to display the weight of the product?**

- a) Bread
- b) Flour
- c) Tin of peas

**10. The Food Standards Agency in the UK have devised a way of making it easier for consumers to know nutritional content. What is this called?**

- a) Pie chart system
- b) Eatwell plate
- c) Traffic light system

### **TEST 3**

**1. What is the first stage when developing a product?**

- a. Brief
- b. Market research
- c. Design specification

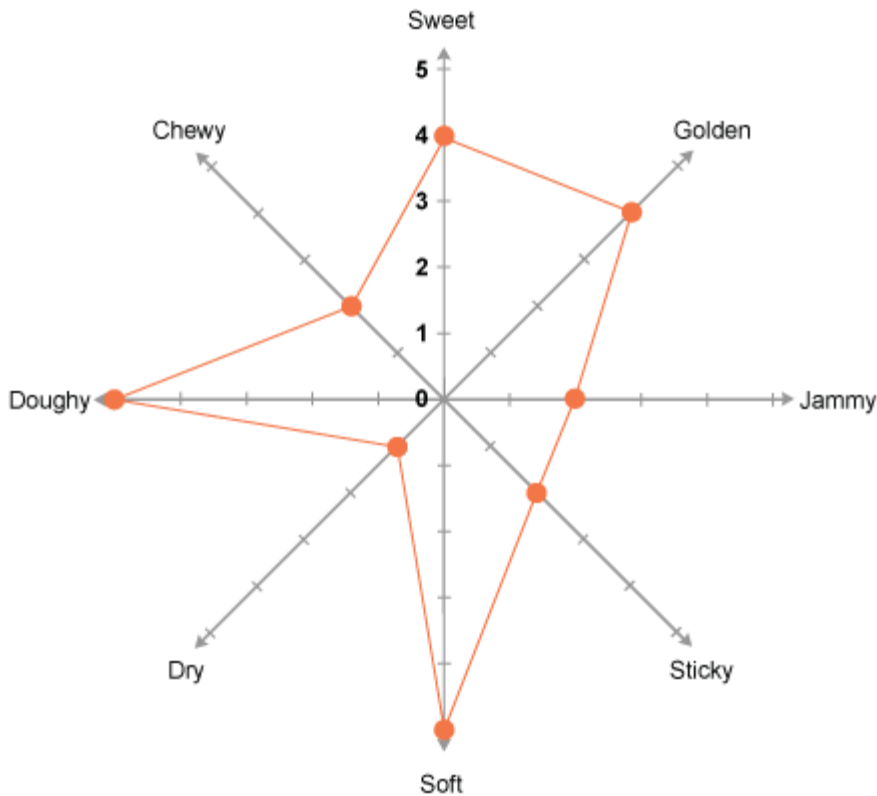
**2. What is concept screening?**

- a) Checking the purity of food using an X-Ray machine.
- b) Deciding which ideas meet the specification and should be tested further.
- c) Making a final single choice of product for manufacture.

**3. What are rating tests used for?**

- a) To choose five or six ideas based on which ideas best meet the design specification.
- b) To profile a product
- c) To find out if a specific characteristic is different in two products

**4. In this star diagram for a donut, what rating did testers give the sticky characteristic?**



- a) 1
- b) 2
- c) 4

**5. What is the purpose of the manufacturing specification?**

- a) Recording the production process and characteristics required in the final product.
- b) To detail where and when the product will be made
- c) Outlining the first attempt at listing the needs of the final product

**6. Which kind of checks inspect flavour, texture and aroma?**

- a) Organoleptic checks
- b) Microbiological checks
- c) Specification checks

**7. Which of the following is not part of the quality-assurance system?**

- a) Nutritional-value check
- b) Temperature check
- c) Acidity / alkalinity check

**8. Which of the following is a check to ensure that no health hazard is present in food?**

- a) Microbiological checks
- b) Weight checks
- c) Visual checks

## **TEST 4**

**1. Which of these statements about fats is correct?**

- a) Fats shorten pastry.
- b) Fats act as a bulking agent.
- c) Fats are needed for healthy teeth and bones.

**2. What is the purpose of adding starch to a sauce?**

- a) Starch helps to flavour a sauce.
- b) Starch gives the sauce a better colour.
- c) Starch helps to thicken a sauce.

**3. What is aeration?**

- a) Incorporating air
- b) Thickening to form a liquid
- c) Slow cooking

**4. Which of these is a way of preserving food?**

- a) Coagulation
- b) Tenderising
- c) Pickling

**5. What does enrobing mean?**

- a) Adding an ingredient to improve quality
- b) Thickening to form a liquid
- c) Coating a food with another ingredient

**6. Why would egg be added to a biscuit mixture?**

- a) To bind it
- b) To bulk it
- c) To set it

**7. Which of these is a finishing technique?**

- a) Browning
- b) Coating
- c) Flavouring

**8. Which of these is an example of a foam**

- a) Cheese sauce
- b) Mayonnaise
- c) Whipped cream

**9. Which of these an artificial additive?**

- a) Caramelised sugar
- b) Tartrazine
- c) Salt

**10. Why might salt be added to a food?**

- a) To preserve it
- b) To colour it
- c) To enrich it

## Supplementary texts

### Text 1

#### THE PRESENT DAY OF FOOD INDUSTRY

The assortment of products of the food enterprises is a wide and varied one.

Bread and macaroni, meat and fish products, milk and butter, canned foods<sup>1</sup> and vitamins, sugar and sweets, tea and coffee, beer and wine and dozens and hundreds of other items are produced at the food mills and factories of the country.

The technological processes and methods of treating<sup>2</sup> raw materials<sup>3</sup> are wide and varied. The food enterprises use heat and refrigeration, high pressure and deep vacuum, electric energy and radiation.

While mechanical methods prevail at some enterprises, invisible chemists work at others - microorganisms and enzymes.<sup>4</sup> - They are used at such enterprises which are based on fermentation: bread-baking, production of beer, vinegar, wine.

The food industry produces such foods that look and taste<sup>5</sup> like meat but are made from soyabean proteins. If soyabean proteins are dissolved in alkali they form a sticky liquid. This liquid may be extruded<sup>6</sup> through tiny holes and then recoagulated in an add bath in the form of fibers. The fibers then can be spun into ropes<sup>8</sup> with texture approaching the fibrous texture<sup>9</sup> of chicken or beef muscle tissue. The fabricated tissue then can be interlaced with fats, food flavouring<sup>10</sup> and food colours. Products are almost indistinguishable from chicken meat, fish, ham or beef. The products also may be dehydrated,<sup>11</sup> compressed or otherwise processed.

#### NOTES:

1. canned foods - консервированные продукты
2. to treat - обрабатывать, перерабатывать
3. raw material - сырье
4. enzyme - фермент
5. to taste-иметь вкус
6. to extrude - экструдировать, выдавливать
7. fiber - волокно
8. rope - жгут
9. texture - текстура, структура
10. flavouring - вкусовое (ароматическое) вещество
11. to dehydrate - сушить, обезвоживать

## **Text 2**

### **MINERALS**

There are more than 20 different minerals in the body. The human body contains 65 per cent oxygen, 18 per cent carbon, 10 per cent hydrogen, 3 per cent nitrogen, about 2 per cent calcium and 1 per cent phosphorus. Then there are small quantities of sulphur, chlorine, magnesium, iron, copper, iodine, fluorine, cobalt, zinc and others.

Three of the most important minerals are calcium, phosphorus and iron. Calcium and phosphorus work together. The bones and teeth have 99 per cent of the calcium in the body, in the form of calcium phosphate. If people have enough calcium and phosphorus their bones and teeth will be strong and hard. In addition, their muscles, nerves and Heart will work correctly. Milk and hard cheeses are the best sources of calcium. Calcium compounds are present in fruits, vegetables and fish, phosphates in eggs, meat and fish. In general, if one gets enough protein and calcium he will also get enough phosphorus.

The red colour of the blood is the colour of the hemoglobin, which contains one atom of iron among its ten thousand atoms. As iron carries oxygen, people who do not have enough iron do not get enough oxygen for their normal activities. Iron is found in kidney,<sup>1</sup> liver<sup>2</sup> other meat products, some vegetables, dried fruits and bread.

A small quantity of iodine is also necessary for good nutrition - probably less than one ten-thousandth of a gramme daily. Deficiency of iodine results in an overgrowth of the thyroid gland.<sup>3</sup> Sea foods are rich in this element.

Fluorine is a constituent of the enamel of the teeth but it is absent from most foods. So many diets now add traces of fluorine to the water supply, besides small amounts of fluorine are added to various toothpastes.

#### **NOTES:**

1. kidney - почка
2. liver - печень
3. thyroid gland - щитовидная железа

## **Text 3**

### **FROM THE HISTORY OF BREAD**

There are no records of when or where bread originated. It is certain, however, that the known history of bread is longer than the history of any other food; and that the history of bread runs parallel with the known history of man.



Although the history of bread is nearly as old as the history of mankind, the basic formulation<sup>1</sup> has changed little. The history of bread is actually the history of the baking oven, and of the raw materials used in the preparation of bread - mainly the flour and leaven.<sup>2</sup>

In very early times grain was pounded<sup>3</sup> and consumed as a watery paste. During the Stone Age grain was crushed between stones and gave a crude flour<sup>4</sup> which was mixed to a dough with water, shaped to a round, flat cake<sup>5</sup> and then cooked on a large flat stone over a fire. As you may imagine the result - a rather hard bread - was very different from the loaf we know today. The next step was baking of fermented doughs. An old story says that a forgetful<sup>6</sup> young Egyptian<sup>7</sup> left<sup>8</sup> some uncooked dough sitting for some time before he remembered it, and during this time the dough fermented. This caused the dough to rise, then it was made into loaves. After baking the loaves, our young Egyptian baker found he had produced the first light textured risen bread.<sup>9</sup>

#### NOTES:

1. formulation - рецептура
2. leaven - закваска
3. grain was pounded - зерно толкли
4. crude flour-грубая, непросеянная мука
5. flat cake - плоская лепешка
6. forgetful - забывчивый
7. Egyptian - египтянин
8. to leave (left, left) - оставлять
9. light textured risen bread - легкий, пышный хлеб

### **Text 4**

## **SUGAR CROPS**

Sugar crops are crops produced as major sources of sugar, syrup, and other substances.

Sugar beet and sugar cane. These are crops which serve as a source of sucrose, the sugar of commerce. Sugar is a broad term applied to a large number of carbohydrates that have a more or less sweet taste. The primary sugar, glucose, is a product of photosynthesis and occurs in all green plants. Through chemical union, diverse sugars and starches are elaborated and become the major reserve food in storage organs, fruits and sap<sup>1</sup> of plants. In most plants the sugars occur as a mixture that cannot

be readily separated into the components. In the sap of some plants the sugar mixtures are condensed into syrup. The juices of sugar cane and sugar beet are unusually rich in pure sucrose. These two sugar crops serve as the sources of commercial sucrose.

Other sugar crops are sweet sorghum,<sup>2</sup> sugar maple,<sup>3</sup> sugar palm,<sup>4</sup> honey and corn sugar.

Sugar maple. Colonists learned from the American Indians the art of making sugar and syrup from the sap of certain maple trees of the Great Lakes and St. Lawrence River region. The techniques,<sup>5</sup> once used only - for maple sugaring at home, have been for many years the basis of commercial production of sugar and syrup.

The trees are tapped<sup>6</sup> for sap in early spring before the buds<sup>7</sup> open. A large tree may be tapped each spring for many years. Trees vary greatly in yield<sup>8</sup> of sap and sugar. The sugar in maple is almost 100% sucrose.

Sugar palm. Palm sugar is obtained from the sap of several species<sup>9</sup> of palm in tropical regions of the world. In eastern Asia and Malaysia, where the production of palm sugar is an important village industry, the sugar palm is the major source of sap. The sap is collected from the stalk<sup>10</sup> of the male flower rather than by tapping the trunk<sup>11</sup> of the palm, as practiced with the maple tree. The sap contains 10-16% sucrose. In processing, the sap is condensed by heating until it becomes a thick syrup in which the sucrose crystallizes. The viscous mass is poured into molds to form small cakes of sweet substance.

Corn sugar and syrup. These are produced by the inversion of starch to its component sugar. These sweeteners have wide use in bakery, confectionery, and beverage industries.

Some varieties of corn have a sweet juice in the stalks. Cornstalk juice is reported to have been a source of a sweet substance used by Indians of Central America.

#### NOTES:

1. sap - сок (растений)
2. sorghum - сорго
3. sugar maple - сахарный клен
4. palm - пальма
5. technique – метод, способ
6. to tap - делать надрез (на дереве)
7. bud - почка (растения)
8. yield - выход продукта
9. species - вид, род
10. flower stalk - цветоножка
11. trunk - ствол (дерева)

## Text 5 CANNING

The canning of fruit and vegetables is very important as this food preservation process does not seriously injure<sup>1</sup> the natural flavour of fresh food.

The first stage in the process consists of preparing the raw material by removing diseased fruit, and throwing away the waste portions such as stalks<sup>2</sup> from plums, cherries or blackcurrants. Vegetables, carrots, potatoes are peeled and washed. Most of this work is done mechanically. Delicate fruits, such as strawberries<sup>3</sup> and raspberries<sup>4</sup> are prepared entirely by hand, and filled directly into the cans.

When fruits or vegetables are filled into the cans, brine<sup>5</sup> is added to the cans of vegetables or syrup to the cans of fruit. The syrup is made by dissolving sugar in water, and sometimes a small amount of colouring matter is added.

The filled cans pass through a pre-heating process which removes any gases from the tissues of the fruit or vegetables. After heating during 5 to 12 minutes the cans are supplied with lids<sup>6</sup> and hermetically sealed by a closing machine. They are then ready for sterilizing. Fruits, because of their high acidity,<sup>7</sup> are easily sterilized in boiling water for 8 to 15 minutes. Vegetables, which have little acidity, cannot be sterilized at boiling point, and are heated for about 30 minutes under steam pressure at a temperature of 240°F.<sup>8</sup> The sterilization is usually done in steel vessels<sup>9</sup> holding about 1,000 cans.

After sterilization the cans are cooled down to a temperature of about 90°F. Then they are labelled<sup>10</sup> by automatic machines which can label 150 cans a minute and are packed into fiber-board cases, either by hand or by automatic machinery.

### NOTES:

1. injure - повредить, испортить
2. stalk - стебель, черенок
3. strawberries - земляника, клубника
4. raspberries - малина
5. brine - рассол, соляной раствор
6. lid - крышка
7. acidity - кислотность
8. F - Fahrenheit - температурная шкала Фаренгейта
9. vessel - сосуд
10. label *v* - прикреплять или наклеивать ярлык; *n* - этикетка, ярлык

## Text 6

### DRIED FRUIT

1. For many centuries the only method of keeping fruit eatable between one harvest<sup>1</sup> and the next was drying. The fruit, whole or cut in half was dried on trays in the sun. Today this method is still used in regions with good climates, like the Mediterranean countries, California and parts of South Africa and Australia.

2. Other methods were invented as early as the 1st century A.D.,<sup>2</sup> when figs<sup>3</sup> were put in oven to dry, and now there are modern driers with hot air circulated by machinery. These methods of drying are both quicker and more reliable than drying fruits in the sun,

3. To help drying or to improve the quality some fruits are first dipped in caustic soda<sup>4</sup> to weaken their skins before drying. Others may be exposed to the fumes<sup>5</sup> of burning sulphur to prevent them from losing their colour and to stop microorganisms growing on them. The fruits most often dried are prunes, figs, grapes, dates<sup>6</sup> and apricots.

4. The prune is made from a type of plum with solid flesh and much sugar. The most important countries for dried figs are Turkey, Greece, Italy and Algeria. Grapes are dried in many countries and according to the variety of the grapes and the method used, are made into raisins<sup>7</sup>, sultanas<sup>8</sup> and currants.<sup>9</sup> Apricots are cut in half, stoned<sup>10</sup> and dried on trays in the sun and later in the shade or modern driers may be used.

5. In recent times other methods of preservation have been developed but drying remains one of the most important. One estimate is that about 5,000,000 tons of fresh fruit are used each year to produce some 1,000,000 tons of dried fruit.

#### NOTES:

1. harvest - урожай, уборка урожая
2. A.D. - Anno Domini - нашей эры
3. figs - инжир
4. caustic soda - едкий натр
5. fume - дым, пар
6. dates - финики
7. raisins - изюм
8. sultanas - султана (сорт изюма без косточек)
9. currants - коринка (изюм)
10. to stone - вынимать косточки из фруктов

## Text 7 SUGARS

Lactose. Cow's milk is about 38% lactose or milk sugar. When milk is converted into cheese, the lactose remains in the whey, from which it may be easily isolated and purified. Lactose is a disaccharide<sup>1</sup> which is split by hydrolysis into glucose and galactose. It is about one-tenth as soluble<sup>2</sup> in water as sucrose and one-sixth to one-half as sweet, depending on concentration. (Uses are actively being sought.)

Maple Sugar. When America was discovered by white man, the Indians were collecting and concentrating the juice of the hard maple, thus making maple syrup<sup>3</sup>. The practice was quickly accepted by the new settlers, and the production of maple syrup has been an industry since in the regions where hard maples are common, principally the northeastern United States.

Research has disclosed the curious fact<sup>4</sup> that the maple flavour does not exist in the sap but is developed by heating it. By additional heating at about 120°C, a flavour four or five times more intense can be developed. Maple syrup so produced is of special value for adding flavour to the less expensive products of the sucrose industry. Maple sugar is sucrose of about 90 - 95% purity; the delicious flavour makes only a small percent. Fairly satisfactory imitations of maple flavours are available.

Glucose and fructose are simple sugars found in many fruits and in honey, and glucose is used as the basis of some sweets. Glucose is also made when starch is digested in the body and it is the chief form in which sugar is carried round the body as a sugar solution. Although cane sugar or sucrose is obtained from the stem of the sugar cane, much of it comes from the root of the sugar beet. Maltose is the sugar of malt, made from germinating barley<sup>5</sup>. When it is digested, maltose turns to glucose, while sucrose turns to glucose and fructose. All the sugars easily dissolve<sup>6</sup> in water and have a sweet taste.

### NOTES:

6. disaccharide - дисахарид
7. soluble - растворимые
8. maple syrup - кленовый сироп
9. curious fact - любопытный факт
10. germinating barley - пророщенный ячмень
11. dissolve - растворять

## Text 8

### PROCESSING OF FRUIT AND VEGETABLES

Drying, salting, cold storage, freezing, bottling<sup>1</sup> and canning are methods used to preserve vegetables and fruit. If foods are kept for a few days in the air, they spoil because of the action of yeasts, bacteria and other types of microorganisms. Food preserving methods destroy these organisms or prevent their re-entry or slow down their growth.

As bacteria need moisture for their development, they cannot grow if foods are dried. Salting, like drying, reduces the moisture content of food, and in addition, salt destroys certain organisms. Drying and salting have been practiced for many centuries. Drying is still used commercially for preserving various fruit, such as grapes, apples, apricots, and vegetables, such as potatoes, onions, peppers and carrots. In some countries fruit, herbs<sup>2</sup> and mushrooms are dried at home. Beans and sauerkraut<sup>3</sup> are often salted, and salt and vinegar<sup>4</sup> are combined in making pickles<sup>5</sup>, such as cucumber pickles.

The first bottling was done about 180 years ago. In bottling and canning the food is heated to destroy spoilage organisms. In canning the container is sealed<sup>6</sup> before it is heated; in bottling it is sealed afterwards. Bottling is cheaper because the bottles can be used again and again, but canned foods are more convenient for storage. At present bottling and canning are used for preserving a great variety of fruit and vegetables.

#### NOTES:

1. bottling - консервирование в стеклянной таре
2. herb - трава, лекарственное растение
3. sauerkraut - квашеная капуста
4. vinegar - уксус
5. pickles - соленья, маринады
6. to seal - закатывать (банки)

## Text 9

### MARGARINE AND BUTTER

Margarine was produced from low-cost animal and vegetable fats and milk by-products<sup>1</sup> and was developed as low-cost replacement for butter in 1869. With advances in science and technology the quality of margarine has advanced to the point where it is virtually indistinguishable from butter. Because of certain improvements over the

natural product, such as better keeping and spreading qualities, many people today prefer margarine.

Butter is a food fat product made exclusively from milk or cream or both, with or without common salt and added colouring. Butter contains not less than 80% milk fat. As a spread<sup>2</sup> for bread, in baked products and in confections, butter is prized for the flavour that comes from the action of selected microorganisms on cream.

At the creamery,<sup>3</sup> cream having a fat content of 30 - 40% is skimmed<sup>4</sup> from milk by centrifuging. Pasteurization and spraying, or stripping,<sup>5</sup> under vacuum remove undesirable flavours and odours and reduce the action of microorganisms. Butter may be made from sweet or ripened cream. In the batch process<sup>6</sup> sweet or ripened cream is agitated in large rotary churns.<sup>7</sup> This action converts the emulsion from water-in-oil to an oil-in-water type.

At least six different continuous processes for butter manufacture are available, each of which utilizes specialized processing equipment and technology. Continuous processes for making butter generally are economically advantageous and finding increasing use.

#### NOTES:

1. by-products - побочные продукты
2. spread - паста
3. creamery - маслозавод
4. skim - снимать сливки
5. stripping - очистка
6. batch process - периодический процесс
7. churn - маслобойка

### **Text 10** **CULTURED MILK PRODUCTS<sup>1</sup>**

Many fermented or cultured products are produced from milk. These fermentations require the use of bacteria that ferment lactose or milk sugar.

Cultured buttermilk<sup>2</sup>.

Skim milk or low-fat milk is pasteurized at 180° F for 30 min, cooled to 72° F, and inoculated<sup>3</sup> with an active starter culture<sup>4</sup>. The mixture is incubated at 21° C and cooled when acidity is developed to approximately 0.8%. This viscous product is then agitated, packaged and cooled. The desired flavour is created by volatile acids<sup>5</sup>.

Yogurt<sup>6</sup>.

One of the oldest fermented milks known is yogurt. Historically the people of the Middle East relied on yogurt as an important food item. Later consumption increased rapidly in Europe.

Yogurt is prepared using whole or low-fat milk with added non-fat milk solids. The milk is heated to approximately 180° F for 30 min, homogenized, cooled to 115° F, inoculated with an active culture and packaged. The product after inoculation is incubated until approximately 0.9% acidity has developed and then cooled.

In the United States, greater Sales are realized in yogurts that contain added fruit than in the unflavored product. Three types are marketed: fruit mixed throughout, fruit on top, and fruit on bottom. Yogurt is a custard like<sup>7</sup> food and is generally eaten with a spoon.

#### NOTES:

1. cultured milk products - кисломолочные продукты
2. cultured buttermilk - сквашенная пахта
3. to inoculate - вносить закваску
4. starter culture - закваска
5. volatile acids - летучие кислоты
6. yogurt - йогурт
7. custard like - кремообразный

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