МИНИСТЕРСТВО СЕЛЬСКОГО ХОЗЯЙСТВА
И ПРОДОВОЛЬСТВИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

ГЛАВНОЕ УПРАВЛЕНИЕ ОБРАЗОВАНИЯ,
НАУКИ И КАДРОВОЙ ПОЛИТИКИ

Учреждение образования
«БЕЛОРУССКАЯ ГОСУДАРСТВЕННАЯ
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И ТРУДОВОГО КРАСНОГО ЗНАМЕНИ
СЕЛЬСКОХОЗЯЙСТВЕННАЯ АКАДЕМИЯ»

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АНГЛИЙСКИЙ ЯЗЫК

VEGETABLES

Пособие
для студентов, обучающихся по специальности общего высшего образования 6-05-0811-01 Производство продукции растительного происхождения

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Приведены тексты для чтения по специальности с последующими упражнениями на расширение лексического запаса, на контроль понимания прочитанного, а также для развития монологической речи.

Для студентов, обучающихся по специальности общего высшего образования 6-05-0811-01 Производство продукции растительного происхождения.

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ВВЕДЕНИЕ

Данное пособие предназначено для студентов первого курса агротехнологического факультета специальности 6-05-0811-01 Производство продукции растительного происхождения. Пособие имеет целью обучение студентов чтению текстов по специальности, а также введение и закрепление специальной лексики.

Пособие состоит из 9 частей, каждая из которых включает поурочный словарь, текст, взятый из оригинальной литературы, и серию упражнений, направленных на снятие языковых трудностей при усвоении новой лексики, а также закрепление навыков употребления лексики в устной речи. Также имеется ряд текстов для дополнительного чтения.

В конце пособия имеется глоссарий.

Тексты, приведенные в пособии, знакомят студентов с процессом выращивания различных овощных культур.

UNIT 1

Vocabulary

smooth – гладкий
lettuce ['letis] – салат
hair – ворсинка
to thrive [Өraiv] – буйно разрастаться
ponderosa – сорт томата
cherry tomato – вишневидный томат
seedling – саженец, рассада
wilt – увядание
bacteria wilt – бактериальное увядание
fruit rot – мокрая грибная гниль
harvest – урожай
warehouse – склад, хранилище
to scald [skɔ:ld] – ошпаривать
skin – кожица
peeling – очистка от кожуры
priest – священник
trellis – подпорка
cluster – гроздь, клубочек (тип соплодия)
fusarium wilt – фузариозное увядание
verticillium wilt – вертициллиозный вилт

TOMATO

Tomato is a plant grown for its smooth, round, juicy fruit. The word tomato refers both to the fruit, which people eat, and to the entire plant. The fruit has a slightly acid taste. There are more than 4,000 varieties of tomatoes.

Botanists classify tomatoes as fruits. However, most people consider tomatoes vegetables because fresh tomatoes are used in much the same way as lettuce, onions, cauliflower, and many other vegetables. Fresh tomatoes are eaten raw or cooked and are served in salads and other dishes. Most tomatoes grown in the United States are processed for use in making food products. These products include ketchup, tomato juice, tomato soup, tomato paste, tomato sauce, and canned whole tomatoes. Tomatoes are an important source of vitamins A and C and of certain minerals.

About 65 million tons of tomatoes are grown throughout the world annually. The United States produces more tomatoes than any other nation. Growers in the United States raise a commercial tomato crop of about 9 million tons yearly.

The tomato plant has a strong smell and has small hairs on its stems. It spreads out while growing and produces clusters of small yellow flowers. The flowers develop into ripe tomatoes in 40 to 75 days, depending on the variety. Tomatoes are green at first, but most turn red, orange, or yellow as they ripen.

Tomatoes thrive in fertile, warm, well-drained soil and in locations that receive at least six hours of direct sunlight each day. Tomatoes are a favorite of home gardeners, because they can be grown in nearly any kind of soil. In addition, a large crop requires relatively little space. Many varieties produce 4.5 to 7 kilogram of fruit per plant.

Researchers and growers have bred tomatoes to increase the number of fruits per plant and to improve their quality and other features. For example, the leading varieties of tomatoes grown in California were developed especially for harvesting by machines. Other types commonly grown in the United States include cherry tomatoes, Sunray, and Big Boy Hybrid. A variety called Ponderosa may produce tomatoes that weigh over 1.4 kilogram. Micro-Tom is a variety that is small enough to be grown in flower pots. A variety called Solar set produces high-quality tomatoes at unusually high temperatures and humidity levels.

Growing, harvesting, and processing. Tomato seeds require 75 to 85 days to develop into mature plants with ripe fruits. In California and other areas that have a long growing season, the seeds can be planted outdoors. They are planted indoors in areas where the growing season is too short for outdoor development. Young tomato plants obtained from the seeds are transplanted outdoors when the seedlings are four to six weeks old. The transplanting takes place about two weeks after the last frost of spring, because tomato plants can be damaged by cold temperatures.

In gardens and greenhouses, most tomato plants are supported with stakes or trellises to keep them from spreading on the ground. Such supports allow the plants to be placed closer together, thus increasing the yield of each unit of land. The supports also help produce a better quality fruit and prevent a disease called fruit rot by keeping the fruits off moist ground.

The most common diseases of the tomato are bacterial wilt, fusarium wilt, and verticillium wilt. Several kinds of insects and worms also attack tomatoes. Plant breeders have developed varieties of the plants that resist some

diseases and pests. In addition, many growers use chemicals and biological control methods to fight the enemies of tomatoes.

Most tomatoes raised to be eaten fresh are picked by hand, but an increasing number of growers use machines to harvest the crop. In the United States machines harvest most tomatoes grown for processing.

Home gardeners pick tomatoes when they are ripe. Commercially grown tomatoes are picked before they ripen. Then they are shipped to warehouses in market areas. Unripe tomatoes are less easily damaged while being shipped. Tomatoes ripen in the warehouses.

Tomatoes grown for processing are harvested when ripe. They are then washed and scalded. Scalding loosens the skins and makes peeling easier. After the tomatoes have been peeled, they undergo different processes, depending on the final product. For example, tomatoes may be cooked or strained. The product is packed into containers, which are heated to destroy harmful bacteria. Finally, the containers are cooled and labeled, and then stored for shipping.

History. Tomatoes originated in South America, and Spanish priests probably brought them to Europe from Mexico in the mid-1500s. People in Spain and Italy then began to grow tomatoes as food. However, many people considered them poisonous because they are related to several poisonous plants. As a result, tomatoes did not become widely accepted as food until the early 1800s.

1.1. Look through the text and say if it is true or false. Correct the false statements.

1. Tomato is a vegetable.
2. The United States are the main producer of tomatoes.
3. The tomato plant produces small white flowers.
4. A large plant requires relatively much space.
5. Tomato plants can be damaged by high temperatures.
6. No insects attack tomatoes.
7. Containers with tomatoes are cooled to destroy harmful bacteria.
8. Tomatoes became widely accepted as food in the early 1700s.

1.2. Complete the sentences with the words, given below.

1. There are more than 4.000 … .
2. ... produces more tomatoes than any other nation.
3. A tomato plant has a strong smell and has small ... .
4. Tomatoes thrive in ... .
5. Researchers breed tomatoes to increase … .
6. Young tomato plants are transplanted outdoors when ... .

7. In gardens and greenhouses most tomato plants are supported with ... .
8. The most common diseases of the tomato are ... .
9. Tomatoes can be harvested ... or ... .
10. Gardeners pick tomatoes when ... or ... .
11. After being harvested tomatoes are ... .
12. Tomato originated in ... .
13. People in Spain and Italy began to grow tomatoes ... .

Hairs, South America, ripe, unripe, the number of fruits per plant, by hand, the United States, washed and scalded, machines, bacterial wilt and fusarium wilt, in fertile soil, 2 weeks after the last frost, varieties of tomatoes, as food, stakes or trellises.

1.3. Answer the questions.

1. What is the tomato crop used for?
2. What does a tomato plant have on its stems?
3. Why do researchers breed new varieties of tomato?
4. When does transplanting young tomato plants take place?
5. How can tomatoes be picked?
6. What processes take place after harvesting tomatoes?
7. Why do most people consider tomatoes vegetables?
8. How many fruits per plant do most of varieties produce?
9. Where are tomatoes planted?
10. What are the most common tomato diseases?

1.4. Put questions to the following answers.

1. There are more than 4.000 varieties of tomatoes. (How many ... ?)
2. Much of the tomato crop is processed for use in making food products. (What … for?)
3. Growers in the United States raise about million tons of tomato crop yearly. (In what country ...?)
4. Tomatoes are green at first. (What colour ...?)
5. The Ponderosa variety tomato may weigh more than 14 kilogram each. (How much ...?)
6. Growers have bred tomatoes to increase the number of fruits per plant. (Why …?)
7. Young tomato plants are transplanted outdoors. (Are...?)
8. Most of tomato plants are supported with stakes or trellises. (What ... with?)
9. Many growers use chemicals to control the enemies of tomato. (Why ...?)

10. Unripe tomatoes are less easily damaged while being shipped. (Are ... ?)

11. Tomatoes did not become widely accepted as food until the early 1800s. (When...?)

1.5. Give English equivalents for the following words and word combinations:

1) консервированные томаты; 2) сочный плод; 3) гроздья желтых цветочков; 4) плодородная почва; 5) цветочный горшок; 6) влажность; 7) семена и рассада томатов; 8) пересаживать; 9) теплица; 10) спелый; 11) распространенная болезнь; 12) насекомые и черви; 13) противостоять; 14) убирать вручную; 15) неспелый; 16) перевозка.

1.6. Insert the necessary prepositions.

Tomato is a plant grown … its smooth juicy fruit. About 61 million tons … tomatoes are grown … the world annually. The tomato plant has small hairs … its stems. Tomatoes can be grown … nearly any kind of soil. The leading variety of tomato, VF 145, was developed … harvesting … machines. Tomato seeds require 75 to 85 days to develop … mature plants. Most tomato plants are supported … stakes or trellises. Most tomatoes are picked … hand. Then they are shipped ... warehouses.

1.7. Insert the verbs in the appropriate forms of Passive.

1. About 61 million tons of tomatoes (to grow) throughout the world annually.
2. The seeds can (to plant) outdoors.
3. Most tomato plants (to support) with stakes or trellises.
4. Such supports allow the plants (to place) closer together.
5. Tomatoes (to harvest) when ripe.
6. The transplanting takes place about two weeks after the last frost, because tomato plant can (to damage) by cold temperature.
7. Most tomatoes grown to be eaten fresh (to pick) by hand.
8. Tomatoes (to ship) to warehouses in market areas.
9. They (to wash) and (to scald).

1.8. Translate the following sentences into English.

1. Существует 4.000 сортов томатов.
2. Томаты богаты витаминами А и С и некоторыми минералами.
3. В мире ежегодно выращивается около 61 млн. тонн томатов.
4. Растение томата имеет ворсинки на стебле.
5. Томаты могут расти почти на любом типе почвы.
6. Ученые выводят новые сорта томатов, чтобы увеличить количество плодов с растения и улучшить их качество.

7. Томаты можно выращивать как в открытом грунте, так и в теплицах.

8. Многие растения томата поддерживают при помощи подпорок.

9. Ученые вывели такие сорта томатов, которые устойчивы к болезням и вредителям.

10. Томаты собирают как вручную, так и при помощи машин.

11. Их собирают как спелыми, так и несозревшими.

1.9. Work in pairs. Ask you neighbour the following questions. Then answer them yourself.

1. Do your parents grow tomatoes in their vegetable-garden?
2. Do their tomatoes grow in a greenhouse or outdoors?
3. How long is the growing season of tomatoes?
4. Do their tomatoes resist cold temperatures?
5. Do you help your parents to gather the yield of tomatoes?
6. Do tomatoes suffer from any diseases?
7. Do you use any chemicals while growing tomatoes?

1.10. Imagine that you are planning to grow tomatoes in your vegetable-garden. Try to interest your friend in your plants. Tell him everything you know about tomato. Make sure you use some of the words and word-combinations.

Variety, source of vitamins and minerals, producer, growers, to be grown, ripe, produce, to plant, growing season, to transplant outdoors, cold temperatures, to increase, the yields, diseases, chemicals, to harvest, easily damaged, to destroy, love apple.

UNIT 2

Vocabulary

carotene – каротин, провитамин А
potassium – калий
wild carrot – дикая морковь
by a process of selection – путем селекции
sweet garden sorts – сладкие столовые сорта
white-fleshed field carrots – белые кормовые сорта
stock – скот
muck – навоз, перегной
sandy loam – опесчаненный суглинок
peat – торф

shallow – мелкий
inferior – плохой (по качеству)
slow-growing – тугорослый
delicate – слабый, хрупкий
they cannot compete with weeds – *зд.:* сорняки заглушают их
lb.– libra (лат.) – фунт
to single – прореживать
in. = inch – дюйм
selective weed killer – гербицид
responce – реакция, отдача
maincrop carrots – морковь основного урожая
laborious – трудоемкий
to hoe [hɔu] – мотыжить, рыхлить

CARROT

Carrot is a popular, nutritious vegetable grown throughout the world. It has an orange root. Carrots contain vitamin B_1, and small amounts of vitamins B_2 and C. Carrots also contain *carotene*, a substance used by the human body to produce vitamin A. In addition, carrots are rich in sugar and potassium.

There are numerous varieties, varying from the small sweet garden sorts to the large, white-fleshed field carrots which are grown exclusively for stock.

Carrots grow from tiny seeds that are planted in rows about 1.3 centimeters deep. The rows of seeds are spaced from 30 centimeters to more than 60 centimeters apart, depending on the type of carrot. Carrots grow best in deep, rich soils that contain sand or muck, but large-scale cultivation is almost restricted to two soil types – very deep, sandy loams and the light peats.

No attempt should be made to grow field varieties on shallow or stony land, as the crop is certain to be inferior and unprofitable. Crops grown on heavy land are very difficult and costly to harvest. The importance of clean land for carrots can hardly be overestimated, as the seedlings are so slow-growing and delicate that they cannot compete with weeds. About 4 lb. of seed is sufficient to sow an acre, if the plants are to be singled. A row width of 14 to 18 in. facilitates tractor work. But if the land is free from perennial weeds, and if a selective weed killer is used to deal with annuals, little interrow cultivation is required. Some growers treat the crop, so far as fertilizers are concerned, in much the same way as sugar beet. But on land that is

in reasonably fertile condition the crop gives little response either to phosphate or nitrogen. Potash, however, will usually produce a response. Maincrop carrots are sown in April or early May. In the mildest districts crops for the early market may be sown in February.

The subsequent cultivations consist of keeping the land thoroughly clean by spraying, tractor-hoeing, and hand-weeding. The last is very laborious, and every effort should be made to eliminate it.

Motorized hoe equipment is very suitable. Although carrots can stand a certain amount of frost, it is usual to lift and store in October or November those intended for the winter and early spring market.

A crop takes about 100 days to grow. Large carrot crops are usually harvested mechanically, several rows at a time.

Carrots are native to the Mediterranean region. The ancient Greeks and Romans grew carrots that had thin, tough roots. They used the plants as a medicine but not as a food. Carrots resembling modern types were later developed in France and were common in Europe by the 1200s. Today, leading carrot-producing countries include China, Japan, Poland, the United Kingdom and the USA.

2.1. Answer the following questions.

1. What are carrots rich in?
2. What varieties of carrots do you know?
3. What kind of soil do carrots grow best?
4. Why is clean land important for carrots?
5. When are carrots sown?
6. What cultivation operations can you name?
7. What equipment is used for carrots cultivation?
8. How long do carrots grow?
9. When are carrots harvested?
10. Which countries are the leaders in carrots production?

2.2. Find the information in the text to explain why:

1) carrots are nutritional;
2) carrot is a very popular vegetable;
3) carrots grow best in deep, rich soils;
4) carrots don't grow well on shallow or stony land;
5) clean land is important for carrots;
6) a row width has to be of 14 to 18 inch;
7) little inter-row cultivation is sometimes required;
8) every effort should be made to eliminate hand-weeding.

2.3. Name the tenses used in these sentences.

1. Carrots <u>contain</u> vitamin B1.

2. Our cultivated carrots have been obtained from wild carrot.

3. Large-scale cultivation is almost restricted to two soil types.

4. Potash will usually produce a response.

5. The ancient Greeks and Romans grew carrots that had thin, tough roots.

6. Carrots resembling modern types were later developed in France.

2.4. Complete the sentences below using the active vocabulary.

1. A substance used to produce vitamin A is called _ .

2. Carrots are rich in sugar and ___.

3. Our cultivated carrots have been obtained from __ .

4 . __ are grown for stock.

5. Carrots grow best in deep, rich soils that contain sand or __ .

6. Crops grown on___ or stony land are____and unprofitable.

7. Carrot seeds are so _____ that they cannot_____.

2.5. Express the following in Russian.

1) in addition; 2) a nutritious vegetable; 3) throughout the world; 4) tiny and slowly-growing seeds; 5) are harvested mechanically; 6) at a time; 7) tough roots; 8) leading carrot-producing countries; 9) rich in sugar; 10) used by the human body; 11) are spaced from 1 foot to 2 feet apart; 12) compete with weeds.

2.6. Find in the text the English equivalents for:

1) вещество; 2) путем селекции; 3) питательный овощ; 4) навоз; 5) слабый; 6) реакция; 7) в зависимости от ...; 8) ведущие страны; 9) опесчаненный суглинок; 10) в пищу; 11) сорняки заглушают их; 12) морковь основного урожая; 13) торф; 14) трудоемкий.

2.7. Form adjectives from the nouns with the help of the suffixes *-al, -ous, -able, -y, -ial, -ious.*

Region, sand, culture, selection, experiment, labor, agriculture, profit, substance, commerce.

2.8. Mark the following statements as true or false.

1. Modern cultivated carrots have been obtained from wild carrot.

2. White-fleshed carrots are grown for food.

3. Carrots grow well on shallow and stony land.

4. Crops grown on heavy land are difficult to harvest.

5. If the land is free from perennial weeds, much inter-row cultivation is required.

6. Maincrop carrots are sown in February.

7. Carrots are usually harvested in October or November.

8. Carrots are grown everywhere in the world.

2.9. Discussion.

1. Do your parents grow carrots in the vegetable-garden?
2. Do you help them?
3. Do you grow sweet garden sorts of carrots or white-fleshed field carrots?
4. Do you feed stock with carrots?
5. Do you use muck while growing carrots?
6. What kind of soil do carrots grow in? Is there sandy-loam or peaty soil in your vegetable-garden?
7. Do you grow inferior carrots? Do you grow shallow ones?
8. Do carrots need weeding?
9. How often do you single carrots?

UNIT 3

Vocabulary

nutritional – питательный
niacin – ниацин, витамин РР
reddish – красноватый
purple [pə:pl] – пурпурный
sodium ['sɔudɪəm] – натрий
sulfur [sʌlfə] – сера
breakup – распад
growth – рост
tuber – клубень
variety – сорт
oval [əuvəl] – овальный
to distinguish – различать
layer – слой
outer skin – эпидерма
periderm – перидерма (поверхностный слой)
cortex – кора
vascular ring – сосудистый слой
parenchyma [pərenkimə] – паренхима
cell – клетка
starch – крахмал
pith – сердцевина
coarse [kɔ:s] – крупный

seedball – семенная коробочка
to develop – выводить
to mature ['mətj'uə] – созревать
to range – колебаться (в пределах)
seedpiece – часть семенного клубня
whole [hɔul] – цельный
bud – почка, глазок
rot – гниение
fungicide [fʌndʒisaid] – фунгицид
row – ряд
loam – суглинок
covering – оболочка, покрытие
ridge culture – грядковая культура
level culture – культура, высаженная в пашню
hill – гряда, насыпь
furrow ['fʌrəu] – борозда
to sprout – пускать ростки
to dig – выкапывать
packing shed – склад
to bruise [bru:z] – повредить
warehouse – склад
pest – паразит
late blight – фитофтороз
rhizoctonia – ризоктониоз
ring rot – кольцевой бактериоз
scab – парша
leafroll – войлочная болезнь
mosaic [məu'zeik] – мозаичная болезнь
to dust – посыпать
aphid – тля
flea beetle – картофельный жук
potato beetle – блошка картофельная
psyllid ['silid] – листоблошка
cutworm – совка
grub [grʌb] – червовидная личинка
potato tuber worm – личинка выемчатокрылой моли
wireworm – проволочник
insecticide [in'sektisaid] – инсектицид
pesticide [pestisaid] – пестицид

moisture – влажность
fortnight – две недели

3.1. Before reading the text practice the pronunciation of the following words:

sulfur [‘sʌlfə]
vascular [vʌskjulə]
fungicide [fʌndʒisaid]
insecticide [in'sektisaid]
disease [di'zi:z]
loam [ləum]

POTATO

Potato is the world's most widely grown vegetable and one of the most important foods. Potatoes have a high nutritional value and are grown in most countries.

A potato consists of about 80 per cent water and 20 per cent solid matter. Starch makes up about 85 per cent of the solid material, and most of the rest is protein. Potatoes contain many vitamins, including niacin, riboflavin, thiamine, and vitamin C. They also contain such minerals as calcium, iron, magnesium, phosphorus, potassium, sodium, and sulfur.

The potato plant. The edible parts of a potato plant are growths called tubers, which form underground on the stems. Most potato plants have from 3 to 6 tubers. Some have from 10 to 20, depending on the variety, the weather, and soil conditions. Potatoes are round or oval and rather hard. They may grow more than 15 centimeters long and weigh as much as 1.4 kilograms. Their skin is thin and may be brown, reddish-brown, pink, or white. The inside of a tuber is white, and potatoes are often called white potatoes to distinguish them from a vegetable called the sweet potato.

Tubers consist of several layers of material. The outer skin is called the periderm. The next layer, the cortex, serves as a storage area for protein and some starch. The third layer, known as the vascular ring, receives starch from the plant's leaves and stem. The starch moves out of the vascular ring to surrounding tissue made up of parenchyma cells. These cells are the tuber's main storage areas for starch. The center of the tuber, called the pith, consists mostly of water.

The part of the plant that grows aboveground has spreading stems and coarse, dark green leaves. The potato plant grows from 90 to 120 centimeters

tall. It has pink, purple, or white flowers that appear three or four weeks after the plant starts to grow aboveground.

The flowers of potato plants develop seedballs that resemble small green tomatoes. Each seedball contains about 300 yellowish seeds. Scientists use these seeds in developing new varieties of potato plants.

Climate and soil requirements. Potato grows best in regions where soil moisture is available during the growing season. Adequate moisture is especially important from the time tubers begin to form until a fortnight before harvest. Soil and climatic conditions are two factors that largely determine the size of the tubers.

As a farm crop, potato is grown more or less in all kinds of soils except heavy clay or on wet undrained land. Deep, rich and sandy loams are the best suited for this crop. Peaty soil if well-drained is also suitable, although the quality of tubers produced on such land is not quite so good. Like carrots and radishes, potatoes can be grown on light sands and on such soils the quality of tubers is usually high, while the cost of cultivation is comparatively low.

In growing potato, certain soils should be avoided, because they lack the necessary physical and chemical properties or are infected with disease-producing organisms. Neutral or alkaline soil are likely to produce diseased potatoes.

No general recommendation can be made concerning the crops to be grown in rotation with potatoes, as they vary from place to place. In a one-and-half year's rotation potato follows cereals.

Planting and cultivating. Potatoes must be replanted annually because the plants die after the tubers mature. Potato plants grow best in areas where the temperature usually ranges 16 to 21 degrees C.

Farmers plant potatoes in late spring and early summer. The tubers mature in 90 to 120 days, depending on the variety.

Most potato growers plant small, whole tubers and segments called seedpieces, which weigh about 42 grams and are cut from tubers. The whole tubers and the seedpieces are both known as seed potatoes. Each seed potato has at least one eye (bud) from which the stems grow both above and below the ground. Whole tubers are the best seed potatoes because they are less likely to rot and become diseased than seedpieces. Before planting seed potatoes, farmers spray them with fungicides to reduce the possibility of disease.

Commercial potato growers use machines that plant up to six rows of seed potatoes at a time. The seed potatoes are planted from 5 to 10 centimeters deep and 15 to 51 centimeters apart. The rows are planted from 76 to 91 centimeters apart.

Potatoes grow best in loam, a type of soil whose texture varies between that of clay soil and sandy soil. The loam should be aerated (mixed with air), well-drained, and enriched with fertilizer. Farmers occasionally cultivate the soil around the growing plants. Cultivation helps aerate the soil, kill weeds, and supply soil covering for the growing tubers. Potato growers use two basic methods of cultivation, ridge, or hill, culture and level culture.

Level culture is used mostly in areas where growers plant the seed potatoes deep in the soil. They are planted in a deep furrow, which the farmer gradually fills as the plants grow.

Ridge culture is a less common method of cultivation. Farmers use a cultivator to build small hills over the seed potatoes. The hills, which stand from 15 to 20 centimeters high, protect the tubers from sunburn or frost.

After the flowers drop off a potato plant, some farmers spray the leaves frequently with chemicals to prevent the tubers from sprouting after being harvested. In certain areas, farmers sometimes destroy the leaves before the plants reach maturity.

Harvesting. Most commercial potato growers use potato combines to harvest their crop. These machines dig the plants out of the ground, separate the tubers from the soil, and load the potatoes into trucks. The combines dig up two to four rows at a time.

The potatoes are collected and then taken to a packing shed to be washed and packed for shipment. Bruised or diseased potatoes are discarded, and the rest are graded according to size. Some potatoes are shipped directly to food-processing plants or supermarkets. But most potatoes are stored in warehouses at temperatures ranging from 4 to 10 degrees C. The stored potatoes can be marketed as long as a year after being harvested.

Diseases and insect pests. Several diseases may attack potato crops. They include such fungus and bacterial diseases as late blight, rhizoctonia, ring rot, and scab and such virus conditions as leafroll and mosaic.

Late blight is controlled by spraying or dusting the plants with certain fungicides. Rhizoctonia and scab may be partially controlled by planting healthy seed potatoes. Ring rot can be controlled only by the use of disease-free seed potatoes. Virus diseases are best controlled by removing any diseased plants or tubers from the field and by using healthy seed potatoes.

The chief insects that attack potato plants include aphids, flea beetles, potato beetles, and potato psyllids. The tubers are attacked by various insects, including cutworms, grubs, potato tuber worms, and wireworms.

Insects that feed on potato plants can be controlled by spraying insecticides into the furrow at planting time. The roots absorb the insecticides and transport them to the stems and leaves. The pesticides kill insects that feed on

the leaves. Other insecticides may be sprayed directly on the leaves. Insects that attack the tubers are controlled by spraying insecticides into the soil before planting.

From the history of potato. When potatoes were first introduced in Europe, people were sceptical and ate only the leaves (which made them sick) and threw away the rest.

3.2. Translate the international words without a **dictionary.**

Climate, region, season, temperature, factor, physical, chemical, organism, per cent, material, machine, combine, method, culture, farmer, bacterial, virus.

3.3. Choose the adjectives out of the following list of words. Match them with the nouns given below.

Fourth, usually, harvesting, general, most, commercial, chief, especially, growing, before, chemical, potato, reduce, late, solid, green, deep.

Matter, leaves, season, loam, spring, furrow, insects, vegetable, growing, structure.

3.4. Match the Russian expressions and their English equivalents.

1) эпидерма; 2) по крайней мере; 3) созреть; 4) относительно; 5) отправляются непосредственно; 6) повредить;

a) reach maturity; b) concerning; c) to bruise; d) are shipped directly; e) at least; f) outer skin.

3.5. Point out the words having the common stem with the word given at the beginning of the row.

Grow, growing, quality, quite, grown, grower, grew, growth, grows, green, generally, gram.

3.6. Answer the questions to the text.

1. What kind of vegetable is potato?
2. Where are potatoes grown?
3. What does a potato plant consist of?
4. What are the leading potato-growing countries?
5. What do we call the edible parts of a potato?
6. What layers form a tuber?
7. When do potato flowers appear?
8. What are potato seedballs? Seedpieces?
9. Why must potatoes be planted annually?
10. When do farmers plant potatoes?
11. When do farmers spray potatoes with fungicides? Why?

3.7. A. Say in which sentences the word 'harvest' is a verb and in which ones – a noun.

1. Farmers should harvest the potatoes before frost or disease hits the plants.

2. Most potato growers use potato combines to harvest their crop.

3. Adequate moisture is especially important from the time tubers begin to form until a fortnight before harvest.

B. In which word-combinations is the word "plant" a verb, and in which ones − a noun?

A potato plant; plant's leaves; the part of the plant; plant starts to grow; potatoes must be replanted; plants die; farmers plant potatoes; potatoes are planted; potato growers plant whole tubers; machines plant up to six rows of seed potatoes.

3.8. Fill in the blanks with the words, given below.

1. The plants die after the tubers ... .

2. The combines ... up two to four rows at a time.

3. No general recommendation can be made concerning the crops to be grown in ... with potatoes.

4. Most potato plants have from 3 to 6 ... .

5. Potato growers use machines that plant up to six rows of ... at a time.

6. The chief ... that attack potato plants include aphids and flea beetles.

Mature, rotation, tubers, breakup, dig, insects, seed potatoes.

3.9. Define what words from the left and right columns can be combined.

1) nutritional	a) leaves
2) potato-growing	b) country
3) potato	c) matter
4) outer	d) plant
5) dark green	e) culture
6) clay	f) potatoes
7) level	g) skin
8) diseased	h) soil
9) solid	i) value

3.10. Grammar point.

Compare and translate the following sentences with the Present and Past Participles.

1. Potatoes contain many vitamins, including niacin, riboflavin, thiamine, and vitamin C.

2. Other leading potato-growing countries are China, Poland and the United States.

3. Some potato plants have from 10 to 20 tubers, depending on the variety, the weather and soil conditions.

4. The part of the plant that grows above the ground has spreading stems and green leaves.

5. No general recommendation can be made concerning the crops to be grown in rotation with potatoes.

6. Potatoes are grown in most countries.

7. Potatoes are often called white potatoes.

8. The third layer, known as the vascular ring, receives starch from the stem.

9. The starch moves out of the vascular ring to surrounding tissue made up of parenchyma cells.

• Remember the word-combinations with the word "potato".

Small potatoes – пустяки; мелкие людишки.

Quite the potato – как раз то, что надо.

Not (quite) the clean potato – подозрительная личность, непорядочный человек.

UNIT 4

Vocabulary

vine – вьющееся растение
tendril – усик
canopy – шатер
to perceive – понимать, рассматривать
brine – рассол
vinegar – уксус
patch – *зд.* грядка
void – пустота
attain – достигать

CUCUMBERS

History. The cucumber originated in India, where a great many varieties have been observed.

It has been cultivated for at least 3,000 years, and was probably introduced to other parts of Europe by the Greeks or Romans. Records of cu-

cumber cultivation appear in France in the 9th century, in England in the 14th century, and in North America by the mid-16th century.

The cucumber is a creeping vine that roots in the ground and grows uptrellises or other supporting frames, wrapping around supports with thin, spiraling tendrils. The plant has large leaves that form a canopy over the fruit. The fruit of the cucumber is roughly cylindrical, elongated with tapered ends, and may be as large as 60 centimeters long and 10 centimeters in diameter. Much like tomatoes and squash they are often also perceived, prepared and eaten as vegetables. Cucumbers are usually more than 90 % water.

Slicing cucumbers are grown to be eaten fresh. They are mainly eaten in the unripe green form, since the ripe yellow form normally becomes bitter and sour. Slicers grown commercially for the North American market are generally longer, smoother, more uniform in colour, and have a much tougher skin. Slicers in other countries are smaller and have a thinner, more delicate skin. Smaller slicing cucumbers can also be pickled.

Pickling cucumbers can be pickled for flavour and longer shelf-life. Although any cucumber can be pickled, commercial pickles are made from cucumbers specially bred for uniformity of length-to-diameter ratio and lack of voids in the flesh. Those cucumbers intended for pickling, called picklers, grow to about 7 cm to 10 cm long and 2.5 cm wide. Compared to slicers, picklers tend to be shorter, thicker, less regularly shaped, and have bumpy skin with tiny white or black-dotted spines. They are never waxed. Colour can vary from creamy yellow to pale or dark green. Pickling cucumbers are sometimes sold fresh. The pickling process removes or degrades much of the nutrient content, especially that of vitamin C. Pickled cucumbers are soaked in brine or a combination of vinegar and brine, although not vinegar alone, often along with various spices.

Soils. The cucumbers are not exacting in their soil requirements. They accept almost any good garden soil, well-drained, aerated, and enriched with a generous supply of plant compost or animal manures. Sandy loams which warm up quickly in the spring are preferred for an early maturing crop, but crops can be grown on heavier soils if they are properly managed. Heavier soils have greater water-holding capacity, hence they withstand droughty conditions much better than lighter soils.

One factor that places a definite limit on the culture of cucurbit crops is soil pH. They are uniformly sensitive to acidic soils, and they require a neutral (pH 7) or even better soil with a slightly alkaline reaction. For acidic soils, treatment with lime prior to planting is mandatory.

The cucurbits are subject to infection by several diseases and attack by insects that can damage or even destroy a potentially promising crop without much warning, and within a relatively short time period. Nearly all the important pests are destructive to cucurbits you plant in the home garden.

Harvesting. The proper time to harvest is crucial for obtaining maximum quality of cucumbers. Cucumbers for pickling should be harvested when the young fruits attain a length of 2 to 4 inches, roughly 3 to 4 days after the flower has opened. For dill and larger pickles, harvest is delayed until fruits are 6 inches or more in length. The slicing type is harvested when the fruit is 8 to 10 inches long.

5 Secrets of Growing Tasty Cucumbers

Some cukes start out bitter, but some become bitter because of conditions in their environment many of which you can control. Plants that are stressed are more likely to become bitter; how bitter depends on the severity of the stress. Stress in a plant is most often caused by insufficient and uneven moisture; but temperature extremes and poor nutrition can also play a part. You can minimize stress and maximize flavor if you:

1. Keep them hydrated. Provide plants with plenty of moisture, especially around the plant is flowering and fruiting. Any water stress during this period of rapid growth causes the levels of bitter tasting compounds to rise.

2. Mulch. You can further reduce water stress by mulching plants with an organic mulch. Mulch helps to conserve and moderate moisture levels while blocking out weeds.

3. Give them sunlight and good soil. For the best tasting fruit and optimum yields, grow plants in a sunny spot and in warm, fertile, and well-drained soil rich in organic matter. Raised beds are ideal. Cucumbers require a soil pH between 6.0 and 7.0. Wait to sow seeds or set out transplants until after all danger of frost has passed and the soil has warmed to at least 60 ºF.

4. Fertilize. Cucumbers thrive in light, friable soil. Several inches of organic matter worked into the soil prior to planting helps achieve that goal. Feed the soil with rich compost or aged manure. After the vines develop runners and the first flowers appear, follow up a side dressing of compost, aged manure, or organic fertilizer. If the leaves are yellowish, the plants need more nitrogen. Make room. Giving plants the space they require is just one more ticket to a stress-free environment.

5. Weed control. Keep your cucumber patch and the area around it free of weeds. Some types are hosts for bacterial wilt disease, which is spread by cucumbers beetles.

4.1. Answer the following questions.

1. What is a cucumber?
2. How long has the cucumber been cultivated?
3. Can you describe the fruit of the cucumber?
4. What are slicing cucumbers?
5. What are cucumbers pickled for?
6. How can cucumbers be pickled?
7. What soils are most suitable for cucumbers?
8. What pH is required for cucumbers?
9. Do cucumbers like plenty of moisture?
10. What are the main secrets of growing tasty cukes?

4.2. Mark the following statements as true or false.

1. Cucumbers require a soil pH between 7.0 and 8.0.
2. Cucumbers have been cultivated for at least 3,000 years.
3. Pickled cucumbers are soaked only in brine.
4. Cucumbers can be eaten only fresh.
5. Cucumbers don't like moisture.

4.3. Express the following words and word combinations in Russian:

soaked in brine, slicing cucumbers, bitter and sour, organic mulch, rich compost, environment, during flowering and fruiting, provide, fertilize, root in ground, nutrient content, creeping vine, weed control.

4.4. Find in the text the English equivalents for:

уровень влаги, сорняки, солнечный свет, сохранять, процветать, поддерживающие конструкции, плодородный, пересаживать, сорт, крошечные колючки, бедное питание, грядки, рыхлая почва,. органические удобрения.

4.5. Define what words from the left and right columns can be combined.

1) spiraling	a) compost
2) uneven	b) frames
3) creeping	c) mulch
4) organic	d) vine
5) rich	e) tendrils
6) aged	f) soil
7) yellowish	g) manure

8) friable h) moisture
9) supporting i) leaves

4.6. Complete the sentences using the words given below. Translate the sentences into Russian.

1. The cucumber is a creeping vine that root in the … .
2. The plant has … that form a canopy over the … .
3. Cucumbers grown to eat fresh are called …
4. Those cucumbers intended for pickling are called … .
5. Pickled cucumbers are soaked in … .
6. Provide plants with plenty of … .
7. Some cucumbers start out … , but some become bitter because of conditions in their … .
8. Cucumbers thrive in light, friable …
9. Cucumbers are often prepared and eaten as …
10. … helps to conserve and moderate moisture.

Vegetables, environment, mulch, ground, leaves, fruit, slicers, soil, picklers, brine, bitter, moisture.

4.7. Translate the sentences from Russian into English.

1. Огурцы состоят более чем на 90 % из воды.
2. Хорошо поливайте огурцы во время цветения.
3. Не сажайте огурцы, пока не миновала угроза заморозков.
4. Тщательно пропалывайте грядки с огурцами.
5. Если листья пожелтели, значит растение нуждается в азоте.
6. Процесс засолки уменьшает количество питательных веществ.

4.8. Work in pares. Ask your neighbor the following questions.

1. Do your parents grow cucumbers in their vegetable-garden?
2. What kind of cucumbers do they grow?
3. Do they eat them fresh or pickled?
4. Do cucumbers suffer from any diseases?
5. Do they use any chemicals while growing cucumbers?
6. How often do they water them?
7. Do you help weed cucumbers?

UNIT 5

Vocabulary

cauliflower ['kɔliflauə] – цветная капуста
brussels sprouts – брюссельская капуста

broccoli –брокколи, капуста спаржевая
turnips – репа, турнепс
savoy cabbage – савойская капуста
vein [vein]–прожилка
blistered – пузырчатый
pickled – квашеный
sauerkraut ['sauəkraut] – кислая капуста
celery cabbage – сельдерей
hotbed – парник
flat – поддон, ящик для рассады
seedlings – рассада
to sprout – прорастать
to retard – замедлять
aphid – тля
looper – личинка пяденицы (бабочки)
maggot – личинка
blackleg – «черная ножка»
club-root – кила (крестоцветных)
mildew ['mildju] – мучнистая роса
mosaic [meu'zeik] – мозаичная болезнь
yellows – желтуха
black rot – черная гниль

CABBAGE

Cabbage is a common vegetable native to England and northwestern France but grown throughout Europe, Asia and America. Other leafy vegetables closely related to the cabbage include cauliflower, brussels sprouts, broccoli and turnips.

Kinds of cabbage. There are three kinds of cabbage: white, red and savoy. The leaves of the plant grow close together to form a hard roundhead. The leaves of the white and red cabbage are usually quite smooth but have rather prominent veins. Those of the savoy appear wrinkled or blistered. White cabbage which has pale green leaves is the most popular type in most countries. People eat it raw in salads, cooked as a hot vegetable or pickled as sauerkraut. Red cabbage with its reddish purple leaves is not so popular as the white but it can be eaten raw or cooked. The savoy type perhaps has the best

flavor. Chinese cabbage also called celery cabbage is *not* a true cabbage. Its long thin leaves form stalks similar to celery.

Cultivation. Cabbage grown commercially under normal conditions is a biennial. Seed producers grow the plants one year and leave them in the ground during winter. In the spring the plants produce seeds. Sometimes cabbage plants that have been subjected to cool weather (10º to 13º C) produce seeds rather than marketable cabbage heads. However plant breeders have been able to develop varieties that are resistant to cold temperatures.

Cabbage seeds are small and look like those of cauliflower, broccoli or other similar plants. In regions with a mild climate most farmers prefer to plant the seed directly in the field. They sow the seed in rows about 9 centimetres apart. When the young plants grow, workers thin the rows to allow a space of about 45 to 60 centimetres between the plants. In regions with short growing seasons farmers may start the seeds in a greenhouse or hotbed. They plant the seeds in shallow boxes called flats. Shortly after the seeds appear workers transplant them to larger flats spacing them 5 centimetres apart. The plants grow for another 4 to 6 weeks, then workers transplant them to the field. However each plant must reestablish itself every time it is transplanted so growth is retarded. Therefore, most farmers particularly in mild climates seed cabbage directly in the field. Field seeding is much less expensive than transplanting. Also, the seedlings establish a better root system than transplanted cabbage plants. But transplanting is a more reliable method of cultivation. Home gardeners often prefer to buy the small plants instead of buying the seeds.

Insects and diseases. Cabbage plaints are attacked by aphids, cabbage loopers, maggots, cabbageworms, and other insects. Some insects eat the leaves, destroying the head's shape. Insecticides can control insects.

Diseases that affect cabbage plants include blackleg, club root, mildew, mosaic, black rot, and yellows. Club root and yellows are soilborn diseases. Scientists have developed cabbage varieties resistant to yellows.

5.1. Answer the questions:

1. Where is cabbage grown?
2. What kinds of cabbage do you know?
3. How do farmers seed cabbage?
4. Why do farmers thin the rows of cabbage when the plants are young?
5. What are the disadvantages of transplanting the cabbage?
6. What insects attack the cabbage plant?
7. How do they harm it?

8. How can farmers control pests?

9. What diseases affecting cabbage do you know?

10. Is cabbage a perennial?

5.2. Translate the following word combinations.

1) native to England; 2) leafy vegetables; 3) prominent veins; 4) similar to celery; 5) marketable heads; 6) plant breeders; 7) mild climate; 8) shallow boxes; 9) seedling sprout; 10) reliable method; 11) home gardeners; 12) cabbage loopers; 13) head's shape; 14) club root; 15) soilborn diseases.

5.3. Find the equivalent.

1) появляться – appear, appearance, apply

2) листья – leave, lives, leaves

3) коммерческий – commercially, commercial

4) производить – produce, producer, producing

5) цветная капуста – cauliflower, savoy, turnips

6) поддон для рассады – seedling, plant, flat

7) пересаженный – transplanted, transitional, transportation

8) желтуха – yellow, yellowish, yellows

5.4. Match the word combinations in Russian with their equivalents in English:

1) красновато-фиолетовый	a) brussels sprouts
2) скороспелый	b) prominent veins
3) большие поддоны	c) reddish-purple
4) черная ножка	d) grown commercially
5) непосредственно на поле	e) premature
6) между растениями	f) prefer to plant
7) брюссельская капуста	g) between the plants
8) выступающие прожилки	h) larger flats
9) выращиваемый на продажу	i) directly in the field
10) предпочитают сажать	j) blackled

5.5. Degrees of comparison. Complete the table by inserting the missing forms.

1 small	smaller	(the) smallest
short		
.	more reliable	
.	larger	
.	more	
.		(the) best
.	less	
. cold		
.		(the) youngest
.	less expensive	
1. popular		

5.6. Correct these false statements:

1. Cabbage is only grown in England and in France.
2. Red cabbage is the most popular type in the United States.
3. Cabbage is a perennial.
4. In regions with a mild climate, most farmers prefer to plant the seed in a greenhouse or hotbed.
5. Small, shallow boxes for planting cabbage seeds are called hotbeds.
6. By transplanting cabbage plants growth is not retarded.
7. Head's shape can be controlled by insects.
8. Scientists have developed cabbage varieties resistant to insects.

5.7. Complete the chart.

Kinds of cabbage	Vegetables closely related to cabbage	Insects	Diseases

5.8. Translate the sentences from Russian into English.

1. Есть несколько видов капусты, такие, как белокочанная, красно-кочанная, савойская.
2. Капусту выращивают по всей Европе, в Азии и в Америке.
3. Листья капусты образуют кочан.
4. Самый распространенный вид капусты – это белокочанная капуста с бледно-зелеными листьями.
5. Капуста – это двухлетняя культура.
6. Селекционеры вывели сорта капусты, устойчивые к низким температурам.

7. Большинство фермеров предпочитают высаживать семена непосредственно на поле.

8. Можно начать высев с теплицы или парника, затем пересадить рассаду на поле.

9. Растения капусты поражают такие насекомые, как тля, капустные черви, а также личинки.

10. Используя инсектициды, можно бороться с вредителями.

11. К болезням капусты относятся такие, как черная ножка, кила, мучнистая роса, мозаичная болезнь, черная гниль и желтуха.

5.9. Discussion.

1. Do your parents or grandparents grow cabbage in their vegetable-garden?
2. Do you leave cabbage in the ground during winter?
3. What kind of cabbage do they grow?
4. Do you grow cabbage in a green-house or outdoors?
5. Is cabbage cultivating profitable?
6. How do you control insects?

5.10. Work in pairs. Tell your partner about cabbage.

5.11. Imagine that you are a farmer. You would like to plant cabbage and to gather high yields. Ask your partner how to do it.

UNIT 6

Vocabulary

odor – запах, аромат
flavor – вкус
dehydrate – обезвоженный, дегидрированный
pickled – маринованный
vapor – испарение
bulb – луковица
slender – тонкий
globe-shaped – шаровидный
papery – бумажный
cluster – кисть, пучок
tip – верхушка
onion set – лук-севок
limp – вялый, поникший
decay – порча, гниение.

ONION

Onion is a vegetable that has a strong odor and flavor. Onions rank as one of the world's most popular foods. They are used chiefly as a seasoning and are eaten raw, cooked, dehydrated, and pickled. When cut, raw onions give off a vapor that causes people's eyes to water.

The onion plant. Most onion plants are biennials (plants that require two years to complete their life cycle). When fully grown, they consist of leaves, a bulb, and roots. The long, slender leaves are hollow cylinders that grow upright. They thicken at the base to form a bulb, the part of the plant that people eat most frequently. Onion bulbs grow partially aboveground. They tend to be globe-shaped, but some are wide and flat and others are slender and upright. A thin papery covering made up of dried outer leaves encloses the onion bulb.

Onion bulbs may be red, white, or yellow. A cluster of short root fibers grows from the bottom of the bulb. During its second year of growth, an onion plant produces rounded clusters of small, greenish-white, seed-bearing flowers at the tips of its flower stalks. Most onions are harvested during the first year and thus do not produce flowers.

Onions are classified as short-day onions or long-day onions, depending on the amount of daylight needed to begin bulb formation. Short-day onions require 10 to 11 hours of daylight and grow best in the Southern United States. Long-day onions need 14 to 15 hours of daylight and grow best in the northern part of the country. To form a bulb, all onion plants require an average temperature higher than 16 degrees C.

Cultivation. Onion growers plant onion sets (small bulbs), seeds, or seedlings. Seedlings are grown in a greenhouse or in areas that have a warm climate during winter. Seeds are planted at a depth of about 1.3 centimeters. Sets are pressed into the ground but left uncovered. Onions require rich soil. They also need plenty of water, especially when they are young. When the bulb is ready to be harvested, the plant's leaves become limp and fall over. To avoid decay, growers dry and store harvested bulbs in a cool place.

Onions differ in the strength of their flavor. People use strong-tasting onions in soups and stews. Mild onions are often eaten raw in salads or on sandwiches. Onions harvested when their bulbs are immature are called green onions or salad onions. Green onions are sold with their leaves attached.

Onions probably first grew in central or southwestern Asia. Today they are grown throughout the world.

6.1. Translate from English info Russian.

1) when cut
2) a thin papery covering
3) at the tips of its stalks
4) short-day onions
5) grow best
6) to avoid decay
7) differ in the strength of their flavor
8) leading onion-growing states
9) long-day varieties
10) is ready to be harvested
11) when fully grown
12) rounded clusters

6.2. Translate the sentences, paying attention to the words it, that, one.

1. Onion is a vegetable that has a strong odor and flavor.
2. Onions grow well when it is warm.
3. Onions rank as one of the world's most popular foods.
4. Short-day onions require 10 to 11 hours of daylight, long-day ones need 14 to 15 hours.
5. Biennials are plants that require two years to complete their life cycle.
6. Seedlings are grown in areas that have a warm climate during winter.
7. When cut, raw onions give off a vapor that causes people's eyes to water.
8. The onion is a vegetable with a bulb. It can be eaten raw or used in cooking.
9. The leaves are hollow cylinders that grow upright.

6.3. Answer the following questions.

1. What kind of vegetable is onion?
2. Are onion plants perennials or biennials?
3. What color are onion bulbs?
4. How are onions classified?
5. How much daylight do short-day onions require? Long-days onions?
6. What kind of soil do onions require?
7. What onions are called green onions or salad onions?
8. What leading onion-growing countries do you know?
9. What encloses the bulb?
10. How do onion growers plant onions?
11. What onion varieties are eaten raw?
12. What parts does an onion plant consist of?

6.4. Make the questions to the following sentences beginning with the words in brackets.

1. Onions are eaten chiefly raw or cooked. (How ...?)
2. Most onion plants are biennials. (Are ... or ...?)
3. A bulb is the part of the plant that people eat most frequently. (What ...?)
4. A thin papery covering encloses the onion bulb. (What ...?)
5. During its second year of growth, an onion plant produces rounded clusters at the tips of its stalks. (When ...?)
6. Short-day onions require 10 to 11 hours of daylight. (How many ...?)

6.5. Complete the sentences :

1. When cut, raw onions give off a vapor . . . .
2. The long, slender leaves are hollow cylinders that ... .
3. Most onions are harvested during ... .
4. Short-day onions require ... .
5. Seeds are planted ... .
6. Onions harvested when their bulbs are immature are called ... .
7. Onions probably first grew ... .
8. Onion bulbs tend to be ... .

6.6. Complete the chart using the following words.

White; flat; slender; short-day; bulb; globe-shaped; long-day; slender; leaves; red; wide; yellow; roots.

Onion plant parts	Shape of onion bulbs	Color of onion bulbs	Kinds of onion

6.7. Match the worlds in Column A with the words in Column B.

Column A

1. Onion bulbs grow ...
2. During its second year of growth, an onion plant ...
3. Onions are classified as ...
4. Seedlings are grown ...
5. When the bulb is ready to be harvested ...
6. Onions are harvested ...

Column B

a) produces rounded clusters of small flowers.
b) when their bulbs are mature or immature.

c) short-day onions and long-day onions.
d) partially aboveground.
e) in a greenhouse.
f) the plant's leaves become limp and fall over.

6.8. Join the words with the similar meaning.

Odor, chiefly, frequently, globe-shaped, tip, variety, require, greater, plenty of, mostly, a lot of, smell, higher, round, often, top, species, need.

UNIT 7

Vocabulary

casserole – запеканка
vine – вьющееся растение
leaflet –листок, лепесток
thread – нить
tendril – усик
blossom – цвет, цветок
pod – стручок
legumes – бобовые
split – дробленый (лущеный)
grain drill – зерновая сеялка
mowing machine – косилка
stem blight – бактериальная пятнистость
bacterial blight – бактериоз
pea weevil – зерновая гороховка
pea moths – моль гороховая
pea aphids – тля гороховая
suck – поглощать, сосать

PEA

Pea is a plant grown chiefly for its round edible seeds, which are also called peas. Cooked peas are a popular food. People also add peas to soups, salads, and casseroles. Peas are also used as feed for livestock. Peas are a good source of protein and vitamins A and C.

Pea plants have vines with soft stems that measure 15 to 182 centimeters long. Each leaf consists of one to three pairs of leaflets, and it ends in a curly thread called a tendril. Most pea plants have white flowers. Some have red-

dish-purple blossoms. Pea plants bear pods that contain four to nine or more seeds.

Peas belong to a large family of plants called legumes, which produce pods. Other legumes include beans, peanuts, and alfalfa.

Kinds of peas. There are two main types of peas, field peas and garden peas. Field peas have smooth, hard seeds that may be green, yellow, white, gray, blue, brown, or spotted. Some varieties of yellow and green field peas are marketed as split peas for making soup. Other varieties are used as fresh pasture for livestock, or are made into hay or silage. Garden peas generally have green, wrinkled seeds, though some varieties have smooth seeds. Garden peas are sweeter and softer than field peas and popular with home gardeners. Varieties known as edible-podded peas are eaten with the pods and are often used in Oriental cooking.

Growing peas. The pea plant is an annual – that is, it must be replanted each year. Peas require rich soil, constant moisture, and a cool growing season to develop well. Peas are planted in early spring and are harvested 60 to 70 days later.

Field peas are usually planted with a grain drill, a machine that drops the seeds and covers them with soil. They are harvested with a combine. Garden peas are usually planted and harvested by hand. They are planted 2.5 to 5 centimeters deep in rows 51 to 76 centimeters apart.

Diseases and pests. The most common diseases of pea plants are leaf spot, stem blight, bacterial blight, and fusarium wilt. Leaf spot, stem blight, and bacterial blight produce spots on the plants. Fusarium wilt restricts the growth of pea plants and makes them yellow. Scientists have developed varieties of peas that can resist these diseases. Leaf spot, stem blight and bacterial blight can also be controlled with pesticides.

Pea plants are also attacked by such insect pests as pea weevils, pea moths, and pea aphids. Pea weevils and pea moths produce young that burrow into the pods and eat the seeds. Pea aphids damage a plant by sucking its juices and spreading virus diseases. Farmers control most of these pests with insecticides.

7.1. Complete the following sentences.

1. Garden peas generally have _____seeds, though some varieties have__seeds.
2. Varieties known as _____ peas are eaten with the pods.
3. Field peas are usually planted with _____ and harvested with __ .
4. _____ produce spots on the plants.

5. _____and_____ produce young that burrow into the pods and eat the seeds.

6. Some varieties of yellow and green field peas are marketed as___.

7.2. Match the words in column A with the words in column B.

Column A	Column B
1) field	a) moisture
2) green	b) seeds
3) smooth	c) spot
4) fresh	d) drill
5) garden	e) peas
6) split	f) spring
7) wrinkled	g) plant
8) edible-podded	h) pasture
9) hard	i) soil
10) blue	j) machine
11) annual	k) season
12) rich	1) blight
13) constant	m) harvester
14) growing	n) pest
15) early	o) moths
16) grain	p) disease
17) mowing	
18) combine	
19) leaf	
20) stem	
21) insect	
22) pea	
23) virus	

7.3. Match the following statements as true of false. Correct the false ones.

1. Peas are a good source of protein.
2. Pods contain more than nine seeds.
3. Field peas have smooth seeds.
4. Edible-podded peas are eaten without the pods.
5. Peas are harvested in early spring.
6. Stem blight is an insect pest.

7. Pea plants cannot be attacked by insect pest.
8. Peas belong to legumes.

7.4. Choose the phrase which best completes each sentence.

1. Peas are planted
a) in early spring
b) in a cool season
c) in summer.
2. Pea is grown
a) for its edible pods
b) as a source of vitamin B
c) for its edible seeds.
3. Peas are a good source of
a) protein
b) vitamins A and C
c) protein and vitamins A and C.
4. Peas are usually planted
a) with a combine
b) with a grain drill
c) by hand.

7.5. Answer the following questions.

1. What do people grow peas for?
2. How long are soft stems of the vines?
3. What family do peas belong to?
4. Which two types of peas do you know?
5. Is a pea plant annual or biennial?
6. What are field peas usually planted with?
7. Can pea diseases be controlled with pesticides?

7.6. Make sentences of your own to describe pea cultivation. Use the following prompts:

two main types, to be used as fresh pasture for livestock, to be planted;

to have smooth (green, wrinkled) seeds, to be popular with home gardeners, to be eaten with pods, to be an annual, the most common diseases;

to be harvested, to resist diseases, to be controlled with pesticides, to be attacked, by insect pests, to damage a plant.

UNIT 8

Vocabulary

beetroot – подсвекольник
greens – зелень
strip – полоска, узкий кусок
tan – рыжевато-коричневый
fleshy – мясистый
sugar cane – сахарный тростник
cluster – кисть, пучок
atop – наверху
cone – конус
beet – свекла
to taper – сужаться, сбегать на конус
taproot – конусообразный корень
wilting – увядание
to dig up – выдергивать, выкапывать
branched – разветвленный
stalk – стебель
leaf spot – пятнистость листьев
beet yellows желтуха
top – ботва
mill – пресс для отжима сахара.

SUGAR BEET

Beet is a plant grown for food. There are many varieties of beets. The root of the table beet is cooked as a vegetable. Sugar beet is also grown for its root, a leading source of sugar. Both varieties are important commercial crops. The mangel-wurzel is a large beet grown widely in Europe. It is used for livestock feed. Beets originally grew wild in the area around the Mediterranean Sea.

The thick roots of table beets may be round or pointed and dark red, whitish or golden-yellow. The roots are usually canned, either whole, sliced, or diced (cut in small pieces). They may also be pickled by packing them in vinegar or acetic acid (an acid found in vinegar). Fresh roots are usually boiled in water for an hour or more before they are eaten. Table beet roots are a low-calorie, low-carbohydrate food containing iron and calcium. The

greens (leaves) from young plants are an excellent source of calcium, iron, and vitamin A.

The long, pointed root of the sugar beet is creamy-white. Sugar beets provide about half of the sugar produced in the United States and much of that produced in many other parts of the world.

Beets are also a common garden vegetable. The seeds should be planted in early spring, about 2.5 centimeters deep in rows from 30 to 38 centimeters apart. Young plants should be thinned out so they are from 8 to 13 centimeters apart.

Sugar beet is a plant grown for the sugar contained in its large, fleshy root. Sugar beets supply about 40 per cent of the world's commercial sugar. Only sugar cane provides more. Before its breakup, the Soviet Union was by far the world's largest producer of sugar beets, though France, Germany, and the United States were also important producers.

The sugar beet has a cluster of dark-green leaves atop, a short stocky stem called the crown. Beneath the crown is the creamy-white, cone-shaped root. The enlarged upper part of the root is called the beet. The root tapers down to form a thin taproot, which extends 0.6 to 1.5 meters into the soil. The long taproot can obtain water that lies far belowground.

Sugar is produced in the plant's leaves by photosynthesis and then transported to the root. The roots weigh from 0.7 to 1.4 kilogram. About 15 to 20 per cent of this weight is sugar called sucrose.

Raising sugar beets. Sugar beets grow best in regions that have sunny days and cool nights. Farmers plant the seeds in early spring and apply fertilizer early in the growing season. Sugar beets require a large amount of water to prevent them from wilting, and in most growing areas, the plants are irrigated.

Plants grown for sugar are harvested at the end of the first growing season, after the roots have developed. When grown for seed, the plants require a second year of growth. In areas that have mild winters, roots are simply left in the ground after the first growing season. In areas with cold winters, farmers dig up the roots in autumn, store them over the winter, and then replant them in spring. During the second year, the plants develop tall, branched stalks with tiny flowers that produce the seeds.

A number of diseases, insect pests, and nematodes (roundworms) attack sugar beets. Leaf spot and other fungal diseases are troublesome in regions with hot, humid summers. In areas with mild winters, sugar beets may be damaged by such viral diseases as curly top and beet yellows. During the winter, viruses that cause these diseases are found in various insects and

weeds. In the spring, they are transmitted to sugar beets by such insects as aphids and leaf hoppers. Farmers control these diseases and pests by planting disease-resistant varieties of sugar-beet plants, by applying pesticides, and by using crop rotation.

Harvesting. Sugar beets that are grown for sugar are harvested in late September or early October in most states, though California has a longer growing season. First, a plant is topped that is, its leaves and crown are removed – and then its root is dug up. Both operations are done mechanically.

The tops are fed to livestock or are used as fertilizer. The beets are shipped to a factory, where the sugar is extracted.

Practice pronunciation of the words before reading the text.

mangel-wurzel – кормовая свекла

carbohydrate [ka:bəˈhaidreit] – углевод

sucrose [su:krɔuz] – сахароза

8.1. Find in the text the English equivalents of the following words and word combinations.

1) главный источник; 2) зелень молодых растений; 3) выделяет сахар; 4) мясистый корень; 5) состоит из пучка темно-зеленых листьев; 6) где растение накапливает сахар; 7) достигает; 8) глубоко в земле; 9) поставляется в корень; 10) сахароза; 11) прохладные ночи; 12) вегетативный период.

8.2. Choose the best word or phrase, which best fits each sentence.

1. The long root of the sugar beet is
a) red
b) whitish
c) golden-yellow
d) creamy white.
2. Sugar beet is grown for...
a) livestock fodder crop
b) sugar
c) leaves
d) vegetables.
3. Young plants should be... to provide enough growing place.
a) cultivated
b) harvested
c) digged
d) thinned.
4. Sugar beet is planted in
a) autumn

b) winter
c) summer
d) spring.

8.3. Complete the sentences with the words from the box.

irrigate	sugar beet	sugar
fleshy	topped	disease-resistant
mangel-wurzel	obtained	producer

1. Before its break up the Soviet Union was the world's largest ... of sugar beets.
2. There are two kinds of beet – the table beet and the … .
3. In regions with little rainfall growers ... the plants.
4. ... beet grown widely in Europe.
5. Sugar is ... from sugar beets.
6. Sugar is contained in the large, ... root of sugar beet.
7. A plant is ... – that is, its leaves and crown are removed.
8. Farmers control diseases by planting ... varieties of sugar-beet plants.
9. Sugar beets provide about half of the ... produced in the United States.

8.4. Open the brackets, using the correct form of the verb in Active and Passive.

1. The ball-shaped roots of beetroot (to cook) as a vegetable.
2. Young plants should (to thin) to provide enough growing place.
3. Sugar beet (to supply) about 40 per cent of the world's commercial sugar.
4. The long taproot can (to obtain) water.
5. Sugar (to manufacture) in the plant's leaves by photosynthesis.
6. Sugar beet (to harvest) in autumn.

8.5. Answer the following questions.

1. What is the leading source of sugar?
2. What are beet greens from young plants rich in?
3. In what way is sugar manufactured in the leave?
4. When should beet be planted?
5. What kind of plant is sugar beet?
6. What does a sugar beet consist of?
7. Where does sugar beet grow best?
8. When do sugar beet plants produce seeds?
9. What diseases of sugar beet plants do you know?
10. Sugar beet that is grown for sugar is harvested in autumn, isn't it?

8.6. Put questions to the words in italics.

1. Sugar beet grows best *on fertile* soils.
2. Many hectares of ploughed lands can't be used for sugar beet cultivation *due to the Chernobyl accident.*
3. *Sugar beet and other vegetables* are cultivated in Belarus.
4. *About 40%* of the world's commercial sugar is supplied by sugar beets.
5. Sugar beet is cultivated *all over the world.*
6. *It is difficult* to get high yields of sugar beet.

8.7. Put the words into the right column.

Parts of a beet	Beet diseases	Kind of beet plant

Beetroot, mangel-wurzel, greens, cluster of leaves, crown, cone-shaped root, taproot, stalks, leaf spot, curly lop, licet yellows, table beet, sugar beet, root, stem, seed, flower.

8.8. Speak about sugar beet according to the plan.

1. Sugar beet as a source of sugar.
2. Parts of a sugar beet plant.
3. Production of sugar.
4. Sugar beet cultivation.
5. Diseases and insect pests of sugar beet.
6. Harvesting.

UNIT 9

Vocabulary

virtually – практически
variety – сорт
eggplant – баклажан
pungent – острый
to bloom – цвести
to stunt – задерживаться в росте
topdressing – поверхностное внесение удобрений
to soak – смачивать
shedding – опадание плодов
covering – покрытие
pruning – обрезка
leaf miner – муха
budworm – листовертка

hornworm – гусеница
weevil – долгоносик
cutworm – совка
maggot – червь
damping off – увядание
leaf spot – пятнистость листьев
to ripen – зреть
pod – плод

Peppers

Tomatoes, peppers and eggplants are all members of the same family. They require virtually the same climatic conditions to grow in the home garden. They are considered warm season crops. Thus they are suited to spring, summer, and autumn growing.

Probably the most important step for the gardener in growing peppers is to select the proper varieties to plant. Many varieties of the crops are well adapted for home gardens.

Pepper groupings. Pepper varieties are easily classified as sweet, mild or hot depending on the amount of the heat or pungent compound, capsaicin, present in the fruit. However, there are many different common or commercial names for the hundreds of fruit types and shapes.

Planting, fertilizing. Plant peppers where they will receive a maximum amount of direct sunlight. A fertile, well-drained soil is required for best results. If the soil is not naturally fertile, fertilize it, preferably with a combination of manure and commercial fertilizer. The crops are moderately tolerant to an acid soil (pH 5.5 to 6.8), but strongly acid soils should be limed according to soil test recommendations.

Fertilize peppers about the same way. However, since it is more important that peppers start quickly and grow rapidly after transplanting, give them a little more nitrogen and potassium. If peppers start blooming and set fruit while the plants are too small, they will be stunted and fail to develop the plant size needed for a good yield.

When the plants have set several fruits, apply topdressing of the same type of fertilizer to prevent the plants from slowing down in vegetative growth. If the soil is very low in fertility, you may need to fertilize it more frequently. Poor foliage color and stunted growth call for additional fertilizer.

Peppers need water each week during the growing season. If rainfall is deficient or you live in an arid area, soak the plants thoroughly once a week.

If the soil is sandy, you may need to water them more frequently. Heavy soakings at weekly intervals are better than many light sprinklings.

Peppers particularly need abundant water during flowering and fruit set to prevent shedding of flowers and small fruits.

Transplanting. Peppers may be seeded directly into the garden in areas with a long growing season, but transplanting into the garden generally is recommended. After planting, keep the soil moist until the seeds germinate. When early peppers are desired, or the growing season is likely to be too short for heavy yields, use purchased or home grown transplants.

If there is danger of frost after the plants are put outside, protect them with paper or plastic coverings, newspapers, or boxes. Remove the covers during the day.

Weed control. The area around peppers should be kept free of weeds because of competition for sunlight, soil nutrients, and water. You can do this by mulching, hand pulling, or cultivating. Pepper roots are particularly slow growing; thus any amount of root pruning can cause stunted growth and flowers to drop. Avoid cultivation when the soil is wet since it can lead to clumping of the soil and soil compaction.

Insects attacking peppers such as leaf miners, aphids, budworms, flea beetles, hornworms, pepper weevils, cutworms, and the pepper maggot can be controlled with timely applications of insecticides used according to the manufacturer's directions.

Common pepper diseases include seedling damping off, bacterial leaf spot, phytophthora root rot, and mosaic virus diseases. Seed treatment and applications of fungicides or soil fumigation can help reduce losses. Several fungicides give adequate control of most leaf spot diseases.

Harvesting. Green sweet peppers are harvested when they reach a good usable size and still retain their dark green color. Red peppers, either sweet or hot, are allowed to develop full red color before picking. Hot peppers can be harvested early for green sauce or canning or allowed to ripen, then harvested.

Pepper fruit will be ready for harvesting between 70 days for early green fruits, to 130 days for some of the fully mature red pods. Peppers are generally harvested by breaking them from the plant with the stems left attached to the fruits.

9.1. Find the answers to the questions.

1. When do we need to fertilize the soil?
2. How can we protect the plants against frost?
3. What gives good control of most leaf spot diseases?

4. When can hot peppers be harvested?

5. What kind of soil is needed for growing peppers?

6. How can insects attacking peppers be controlled?

7. When do peppers need abundant water?

9.2. Translate the sentences into Russian.

1. Tomatoes, peppers and eggplant are all members of the same family.

2. Probably the most important step for the gardener in growing peppers is to select the proper varieties to plant.

3. Pepper varieties are classified as sweet, mild and hot.

4. Plant peppers where they will receive a maximum amount of direct sunlight.

5. Peppers respond very well to drip irrigation.

6. Plant peppers in rows 30 to 42 inches apart and spaced 12 to 18 inches apart in the row.

7. Insects attacking peppers can be controlled with timely applications of insecticides used according to manufacturer's directions.

8. Pepper fruits will be ready for harvesting between 70 days for early green fruits, to 130 days for some of the fully mature red pods.

9.3. Ask the questions to the following sentences.

1. Peppers are considered warm season crops.

2. The small red hot peppers were discovered by Columbus.

3. Peppers grow rapidly after transplanting.

4. Peppers need water during the growing season.

5. We must protect peppers with newspapers or boxes.

6. Insects attacking peppers can be controlled with insecticides.

7. Immature peppers are soft.

8. Peppers are generally harvested by breaking them from the plant.

9.4. Open the brackets and put the Present Simple Passive form.

1. Peppers (to suit) to summer and autumn growing.

2. Pepper varieties (to classify) as sweet, mild or hot.

3. A fertile, well-drained soil (to require) for best results.

4. Transplanting of peppers into the garden generally (to recommend).

5. Green sweet peppers (to harvest) when they reach a good usable size.

6. Red peppers (to allow) to develop full red color before picking.

9.5. Complete the table. Be ready to tell about peppers with the help of the information in the table. Discuss in the groups the advantages and disadvantages of growing peppers in our country.

Types of soil	Fertilizers	Measures of weed control	Insects	Diseases	Colours

9.6. Tell about pepper growing, using the following words and word combinations:

to require climatic conditions; to be native to…; to be used commercially; to be well adapted; many different commercial names; to be required; for best results; to grow rapidly; soils of good fertility; to need water.

ТЕКСТЫ ДЛЯ ДОПОЛНИТЕЛЬНОГО ЧТЕНИЯ

Asparagus

Asparagus is the name a genus of plants within the flowering plant family Asparagaceae. This vegetable has been used from very early times for culinary purposes, owing to its delicate flavor and diuretic properties (elevates the rate of bodily urine excretion). As a vegetable, the tender, succulent shoots of asparagus not only touches upon people's senses of taste, touch, smell, and vision, but also provides excellent nutrition, providing folic acid, iron , rutin , various vitamins, and other beneficial elements.

There are up to 300 species in *Asparagus*, all from the Old World. They have been introduced in many countries in both hemispheres and throughout temperate and tropical regions.

Members of *Asparagus* range from herbs to somewhat woody climbers. Most species have flattened stems that serve the function of leaves. Three species are dioecious species, in other words, with male and female flowers on separate plants. The others may or may not be hermaphroditic.

Varieties and cultivation

The garden vegetable variety of asparagus *officinalis* is cultivated in three basic varieties; green, white, and purple. Asparagus can be grown from seeds, but is more commonly grown by purchasing three to four year old roots or "rhizomes." The rhizomes are also commonly referred to as "crowns." The edible stalks are harvested in the early spring and then allowed to continue their growing cycle throughout the summer and fall. They produce a delicate, fern-like appearance, similar to their decorative species. Being a perennial plant, asparagus, if cared for, can produce yields for 12–15 years.

The green or common garden asparagus ranges from pencil thin to three fourths of an inch thick stalks and is most commonly grown in the United States.

White asparagus is cultivated by denying the plants light and increasing the amount of ultraviolet light exposed to the plants while they are being grown. The edible stalks are considered to be milder in taste, more tender than the green varieties, and less woody in texture. White asparagus is preferred and more common in Europe.

Purple asparagus is different from its green and white counterparts, mainly as it is characterized by high sugar and low fiber levels. Purple asparagus was originally developed in Italy and was commercialized under the variety name "Violetto d'Albenga". Since then, breeding work has continued in countries such as United States and New Zealand.

As food

Widely cultivated for its tender, succulent, edible shoots, asparagus cultivation began more than 2,000 years ago in the eastern Mediterranean region. Greeks and Romans prized asparagus for its unique flavor, texture, and alleged medicinal qualities. They ate it fresh when in season and dried the vegetable for use in winter.

Unlike most vegetables, where the smaller and thinner are the more tender, thick asparagus stalks have more tender volume to the proportion of skin. When asparagus has been too long in the market, the cut ends will have dried and gone slightly concave. When selecting asparagus, care must be taken to choose stalks that are not too long, more than 6 inches in length, nor too woody. Woody stems are not pliable and indicate that the stalk was not harvested when it was young and tender.

In their simplest form, the shoots are boiled or steamed until tender and served with a light sauce like hollandaise or melted butter or a drizzle of olive oil with a dusting of Parmesan cheese. A refinement is to tie the shoots into sheaves and stand them so that the lower part of the stalks are boiled, while the more tender heads are steamed. Tall cylindrical asparagus cooking pots have liners with handles and perforated bases to make this process foolproof.

Radish

Radish (Raphanus sativus) is a cultivated plant, a root vegetable. There are radishes of various colors: from bright red to yellow and white. When asked how much 1 radish weighs, you can answer that the average weight of

one unit is 15–35 grams, but there are also large varieties weighing up to 100–150 grams.

As a root vegetable, the radish has been cultivated since pre-Roman times. Its sharp taste offers a unique culinary experience and today radishes are grown and consumed throughout the world.

Varieties of radish are now broadly distributed around the world, but almost no archeological records are available to help determine their early history and domestication.

However, scientists tentatively locate the origin of Raphanus sativus in southeast Asia, as this is the only region where truly wild forms have been discovered. India, central China, and Central Asia appear to have been secondary centers where differing forms were developed.

The first written records that mention radishes come from 3rd century BC.

Varieties and cultivation

Radishes grow best in full sun and light. They are in season from April to June and from October to January when the weather is warm. Other times of the year the radishes you find in your local grocery are brought in from warmer or cooler areas. Some varieties grow best in the cool days of early spring, while others are planted in late summer, to mature in the cooler, more moist days of fall. Radish has its own characteristics. This plant is demanding of humidity, as well as soil fertility. This is the most precocious root-bearing plant: it takes from 18 to 60 days to form a root crop. Because they grow so quickly, radishes are a common crop in children's gardens. The bright red-skinned variety with the white interior we are most familiar with is called Cherry Belle. Spring and Fall radishes can also be found in varying shades of white and purple. Winter radish or Daikon originates in Japan. Black Spanish or Black Spanish Round, which are sometimes simply called the black radish, has a rough black skin with hot-flavored white flesh. The seeds of radishes are edible, and are sometimes used as a crunchy, spicy addition to salads. In fact some species are grown specifically for their seeds or seed pods, rather than their roots. The seeds are sometimes sold sprouted in small plastic containers and add a sharp, tasty crunch to the simplest salad.

Vitamins

Radishes are rich in ascorbic acid, folic acid, and potassium. They are a good source of vitamin c and B6, riboflavin, magnesium, copper, and calcium.

Radish contains a lot of liquid, for example, 100 grams contains 93–94 grams of water. It also has a lot of proteins and carbohydrates, but little fat. There is no alcohol or cholesterol in the root crop. A small proportion is ash.

Diseases and pests of radishes Although radishes do not have so many pests and diseases, even they can destroy most of the crop.

Pests

Also, the plant is attacked by pests. Cruciferous fleas are often found – small beetles of dark color, jumping well from place to place. They damage the radish leaves. And if the damage reaches a critical size, the plant stops growing and dies.

Interesting facts

The world's heaviest radish was grown by Manabu Oono (Japan) and weighed 31.1 kg on 9 February 2003 at the Sakurajima Radish Contest, Kagoshima, Japan. It had a circumference of 119 cm .

Radish was chosen as one of the first vegetables grown on the International Space Station. This plant grows well in zero gravity and delivers "live" vitamins to the astronauts' table almost continuously. In addition, it is convenient that radishes have edible root vegetables and tops. Previously, with the help of this root crop, they got rid of bruises and bruises. To do this, it was enough to squeeze the radish juice on a napkin and attach it to the bruised place.

Corn

Domestication and history

Corn was first domesticated by native peoples in southern Mexico about 10,000 years ago. Modern corn is believed to have been derived from the Balsas teosinte (*Zea mays parviglumis*), a wild grass. Its culture had spread as far north as southern Maine by the time of European settlement of North America, and Native Americans taught European colonists to grow the indigenous grains. Since its introduction into Europe by Christopher Columbus and other explorers and colonizers, corn has spread to all areas of the world suitable to its cultivation.

Physical description

The corn plant is a tall annual grass with a stout, erect, solid stem. The large narrow leaves have wavy margins and are spaced alternately on opposite sides of the stem. Staminate (male) flowers are borne on the tassel terminating the main axis of the stem. The pistillate (female) inflorescences, which mature to become the edible ears, are spikes with a thickened axis, bearing paired spikelets in longitudinal rows; each row of paired spikelets

normally produces two rows of grain. Varieties of yellow and white corn are the most popular as food, though there are varieties with red, blue, pink, and black kernels, often banded, spotted, or striped. Each ear is enclosed by modified leaves called shucks or husks.

Types of corn

Commercial classifications, based mainly on kernel texture, include dent corn, flint corn, flour corn, sweet corn, and popcorn. Dent corn, primarily grown as animal feed and for food manufacturing, is characterized by a depression in the crown of the kernel caused by unequal drying of the hard and soft starch making up the kernel. Flint corn, containing little soft starch, has no depression; it is used for decoration and is eaten as hominy in the Americas. Flour corn, composed largely of soft starch, has soft, mealy, easily ground kernels and is an important source of corn flour. Sweet corn, commonly sold fresh, frozen, or canned as a vegetable, has wrinkled translucent seeds; the plant sugar is not converted to starch as in other types. Popcorn, an extreme type of flint corn characterized by small hard kernels, is devoid of soft starch, and heating causes the moisture in the cells to expand, making the kernels explode. Improvements in corn have resulted from hybridization, based on crossbreeding of superior inbred strains.

Food and nutrition

Corn is the third largest plant-based food source in the world. Despite its importance as a major food in many parts of the world, corn is inferior to other cereals in nutritional value. Its protein is of poor quality, and it is deficient in niacin. Diets in which it predominates often result in pellagra (niacin-deficiency disease). Corn is high in dietary fibre and rich in antioxidants.

Unlike many other cereal grains, corn flour is gluten-free and cannot be used alone to make rising breads. It is widely used, however, in Latin American cuisine to make masa, a kind of dough used in such staple foods as tortillas, arepas, and tamales. In the United States and many other places, sweet corn is boiled or roasted on the cob, creamed, converted into hominy (hulled kernels) or meal, and cooked in corn puddings, mush, polenta, griddle cakes, cornbread, and scrapple. It is also used for popcorn, confections, and various manufactured breakfast cereal preparations.

Corn oil, valued for its bland flavour and light colour, is used primarily for food. It is favoured as a salad oil and frying oil because it contains little cholesterol. Corn oil can be converted into margarine by hydrogenation, a process in which the oil is combined with hydrogen at high temperature and pressure in the presence of a catalyst.

Corn is also fermented into a number of alcoholic beverages, notably bourbon and other corn whiskeys.

GLOSSARY

A
aphid – тля
atop – наверху
attain – достигать

B
bacteria wilt – бактериальное увядание
bacterial blight – бактериоз
beet – свекла
beet yellows желтуха
beetroot – подсвекольник
black rot – черная гниль.
blackleg – "черная ножка"
blistered – пузырчатый
to bloom – цвести
blossom – цвет, цветок
branched – разветвленный
breakup – распад
brine – рассол
broccoli – брокколи, капуста спаржевая
to bruise [bru:z] – повредить
brussels sprouts – брюссельская капуста
bud – почка, глазок
budworm – листовертка
bulb – луковица
by a process of selection – путем селекции

C
canopy – шатер
carotene – каротин, провитамин А
casserole – запеканка
celery cabbage – сельдерей
cell – клетка
cherry tomato – вишневидный томат
club-root – кила (крестоцветных)
cluster – гроздь, клубочек (тип соплодия)
cluster – кисть, пучок
coarse [kɔ:s] – крупный
cone – конус
cortex – кора
covering – оболочка, покрытие
cutworm – совка

D
damping off – увядание
decay – порча, гниение.
dehydrate – обезвоженный, дегидрированный
delicate – слабый, хрупкий
to develop – выводить
to dig – выкапывать
to dig up – выдергивать, выкапывать
disease [di'zi:z]
to distinguish – различать
to dust – посыпать

E
eggplant – баклажан

F
flat – поддон, ящик для рассады
flavor – вкус
flea beetle – картофельный жук
fleshy – мясистый
fortnight – две недели
fruit rot – мокрая грибная гниль
fungicide [fʌnʤisaid] – фунгицид
furrow ['fʌrəu] – борозда
fusarium wilt – фузариозное увядание

G
globe-shaped – шаровидный
grain drill – зерновая сеялка
greens – зелень
growth – рост
grub [grʌb] – червовидная личинка

H
hair – ворсинка
harvest – урожай
hill – гряда, насыпь
to hoe [hɔu] – мотыжить, рыхлить
hornworm – гусеница
hotbed – парник

I
in. = inch – дюйм
inferior – плохой (по качеству)
insecticide [in'sektisaid] – инсектицид

L
laborious – трудоемкий
late blight – фитофтороз
layer – слой
lb. – libra (лат.) – фунт
leaf miner – муха
leaf spot – пятнистость листьев
leaflet – листок, лепесток
leafroll – войлочная болезнь
legumes – бобовые
lettuce ['letis] – салат
level culture – культура, высаженная в пашню
limp – вялый, поникший
loam [ləum] – суглинок
looper – личинка пяденицы (бабочки)

M
maggot – личинка
maggot – червь
maincrop carrots – морковь основного урожая
to mature ['mətj'uə] – созревать
mildew ['mildju] – мучнистая роса
mill – пресс для отжима сахара
moisture – влажность
mosaic [məu'zeik] – мозаичная болезнь
mowing machine – косилка
muck – навоз, перегной

N
niacin – ниацин, витамин РР
nutritional – питательный

O
odor – запах, аромат
onion set – лук-севок
outer skin – эпидерма
oval [əuvəl] – овальный

P

packing shed – склад
papery – бумажный
parenchyma [pərenkimə] – паренхима
patch – зд. грядка
pea aphids – тля гороховая
pea moths – моль гороховая
pea weevil – зерновая гороховка
peat – торф
peeling – очистка от кожуры
to perceive – понимать, рассматривать
periderm – перидерма (поверхностный слой)
pest – паразит
pesticide [pestisaid] – пестицид
pickled – квашеный
pickled – маринованный
pith – сердцевина
pod – плод
pod – стручок
ponderosa – сорт томата
potassium – калий
potato beetle – блошка картофельная
potato tuber worm – личинка выемчатокрылой моли
priest – священник
pruning – обрезка
psyllid ['silid] – листоблошка
pungent – острый
purple [pə:pl] – пурпурный

R

to range – колебаться (в пределах)
reddish – красноватый
responce – реакция, отдача
to retard – замедлять
rhizoctonia – ризоктониоз
ridge culture – грядковая культура
ring rot – кольцевой бактериоз
to ripen – зреть
rot – гниение
row – ряд

S

sandy loam – опесчаненный суглинок
sauerkraut ['sauəkraut] – кислая капуста
savoy cabbage – савойская капуста
scab – парша
to scald [skɔ:ld] – ошпаривать
seedball – семенная коробочка
seedling – саженец, рассада
seedlings – рассада
seedpiece – часть семенного клубня
selective weed killer – гербицид
shallow – мелкий
shedding – опадание плодов
to single – прореживать
skin – кожица
slender – тонкий
slow-growing – тугорослый
smooth – гладкий
to soak – смачивать
sodium ['sɔudɪəm] – натрий
split – дробленый (лущеный)
to sprout – прорастать
to sprout – пускать ростки
stalk – стебель
starch – крахмал
stem blight – бактериальная пятнистость
stock – скот
strip – полоска, узкий кусок
to stunt – задерживаться в росте
suck – поглощать, сосать
sugar cane – сахарный тростник
sulfur [sʌlfə] – сера
sweet garden sorts –сладкие столовые сорта

T

tan – рыжевато-коричневый
to taper – сужаться, сбегать на конус
taproot – конусообразный корень

tendril – усик
they cannot compete with weeds – *зд.:* сорняки заглушают их
thread – нить
to thrive [Ɵraiv] – буйно разрастаться
tip – верхушка
top – ботва
topdressing – поверхностное внесение удобрений
trellis – подпорка
tuber – клубень
turnips – репа, турнепс

V
vapor – испарение
variety – сорт
vascular [vʌskjulə]
vascular ring – сосудистый слой
vein [vein] – прожилка
verticillium wilt – вертициллиозный вилт
vine – вьющееся растение
vinegar – уксус
virtually – практически
void – пустота

W
warehouse – склад, хранилище
weevil – долгоносик
white-fleshed field carrots – белые кормовые сорта
whole [hɔul] – цельный
wild carrot – дикая морковь
wilt – увядание
wilting – увядание
wireworm – проволочник

Y
yellows – желтуха
cauliflower ['kɔliflauə] – цветная капуста

СОДЕРЖАНИЕ