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ФГБОУ ВО КОСТРОМСКАЯ ГСХА

Кафедра иностранных языков и русского языка как иностранного

ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)

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*Для контактной и самостоятельной работы студентов,
обучающихся по направлению подготовки 35.03.05 Садоводство,
очной и заочной форм обучения*

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электроэнергетического факультета в качестве учебного пособия
для контактной и самостоятельной работы студентов,
обучающихся по направлению подготовки 35.03.05 Садоводство,
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Издание состоит из тематических текстов для обучения чтению адаптированной и оригинальной литературы по специальности, представлены упражнения для активизации общеупотребительной и профессиональной лексики, грамматический справочник и англо-русский словарь к текстам пособия.

Учебное пособие предназначено для контактной и самостоятельной работы студентов направления подготовки 35.03.05 Садоводство очной формы обучения. Может быть использовано для организации контактной и самостоятельной работы магистрантов и аспирантов на начальном этапе обучения.

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ОГЛАВЛЕНИЕ

ВВЕДЕНИЕ	4
LESSON 1	5
LESSON 2	8
LESSON 3	11
LESSON 4	15
LESSON 5	18
LESSON 6	21
LESSON 7	24
LESSON 8	28
LESSON 9	31
LESSON 10	34
LESSON 11	37
Дополнительные тексты для чтения	42
Грамматический справочник	67
Словарный минимум	86

ВВЕДЕНИЕ

Настоящее учебное пособие предназначено для обучения английскому языку студентов направления подготовки 35.03.05 Садоводство. Цель пособия — заложить основы навыков чтения и перевода текстов профессиональной направленности. Тексты пособия заимствованы из оригинальных источников и подверглись методической обработке с учетом программных требований ФГОС.

Помимо текстов, учебный материал включает систему упражнений, направленных на обучение чтению различных видов (изучающего, ознакомительного, просмотрового, поискового). Каждое занятие начинается с текста профессиональной направленности с пояснениями к нему. Каждый текст предназначен для чтения и перевода, а также последующего его обсуждения. В пояснениях к тексту раскрывается значение тех или иных реалий, фразеологизмов, сокращений и т.п. За пояснениями к тексту следует подлежащий заучиванию лексический минимум, который содержит наиболее употребительные в сельскохозяйственных текстах общенаучные слова и термины.

В пособии предусмотрены упражнения на повторение пройденного материала, а также на закрепление материала по грамматике и лексике. Для развития навыков беспереводного чтения текстов с общим обхватом содержания в раздел «Дополнительные тексты для чтения» включаются тексты с соответствующими упражнениями. Тексты раздела информативны, тематически и грамматически связаны с содержанием основных разделов пособия.

LESSON 1

ГРАММАТИКА И ЛЕКСИКА:

1. Временные формы глагола.
2. Существительное в функции определения.
3. Оборот to be + of + существительное.
4. Значения слов *some, the same*.
5. Парные союзы *either ... or, both ... and*.

ТЕКСТ: CROP PRODUCTION

Crops are plants which have been carefully selected and developed by man. They produce food for people and animals. In all countries of the world crop production has been and will always be an important branch of economy.

There are different practices of crop cultivation on farms, and it depends on many factors in-what way the crop should be grown and harvested. But the aim is always the same: to produce high yields of farm crops as economically as possible. This is of great importance nowadays, as the world population is constantly growing at a rapid rate. Agriculturists of all countries must solve the problem how to provide the increasing supplies of high quality food for people.

Food production can be raised in two ways: either by cultivation of new lands or by the increase in yields on the same agricultural area. In traditional agriculture the first way was more popular. Nowadays yield increases are mostly obtained by introduction of new and improved varieties, by better use of fertilizers, better control of pests and diseases, chemical weed control. Yields may also be increased by application of improved cultural practices, irrigation and drainage, by rapid improvements in mechanization of such operations as seedbed preparation, planting, harvesting, and storage. In some cases a combination of these factors is necessary.

These methods of yield increases have been developed both from the achievements of natural and biological sciences and from practical experience and experiments.

Пояснения к тексту:

in what way – как, каким образом

at a rapid rate – быстрыми темпами

some – какой-то, несколько

the same – тот же самый

Лексический минимум к тексту:

agriculture, crop, to grow, to harvest, farm, land, yield, plant, planting, food, cultivation, practice, cultural practice, variety, to develop, to depend (on), to increase, to improve, quality, to produce, to provide, different, some, the same, either ... or, both ... and, as ... as

Упражнения:

Задание 1. *Определите время и залог сказуемого. Переведите предложения на русский язык:*

- 1.Many new houses have been built in this city.
- 2.The farmers are working in the field.
- 3.After my lessons I usually work in the reading room.
- 4.My friend will go to Leningrad in spring.
- 5.They have translated the text.
6. I read this book last year.
- 7.My friend lives not far from the Academy.
- 8.We have finished our work.
- 9.When did he come from Vladivostok?
- 10.The students of our group go to the collective farm every summer.
- 11.This book was published some years ago.
- 12.When I entered the room, some students were sitting at the tables and reading.
- 13.Some interesting books on biology are translated from English into Russian.
- 14.A new film will be discussed in our club next week.
- 15.He has done the work well.

Задание 2. *Назовите номера предложений, в которых сказуемое употреблено в страдательном залоге:*

- 1.Next year that farm will produce more high quality food products.
- 2.Last year our biologists produced some improved crop varieties which are of great importance for agriculture.
- 3.In this area higher yields are produced by application of improved irrigation practices.
- 4.Next year more fertilizers will be produced in our country.
- 5.Our farm produces food products of high quality;
- 6.Some new chemicals for control of pests have been produced.
- 7.Many years ago higher yields were produced by cultivation of new lands.
- 8.Our industry has produced farm machinery for mechanization of different agricultural processes.
- 9.New machines for drainage are being produced in many countries.

Задание 3. *Укажите номера предложений, в которых действие относится:*

а) к настоящему моменту, б) к прошлому, в) к будущему. Переведите предложения:

1. Many improved crop varieties have been developed in our country.
- 2.This variety was developed some years ago.
3. Our agronomist is working at a very important problem.
4. Yields are often increased by application of fertilizers.
5. Many years ago higher yields were mostly obtained by cultivation of new agricultural areas.
6. We shall begin a new experiment on our farm next month.
7. Different methods of yield increases are used in agriculture.
- 8.These areas will be irrigated next week.
- 9.We do not use drainage in this area.

10. Last spring farmers used more fertilizers than this year.
11. We have greatly raised food production in our area.
12. Intensive methods of crop growing are being developed now.
13. Agriculture supplies people with food products.
14. Crops may be grown by different methods.
15. Not all operations of crop cultivation have been mechanized.
16. There are many problems in agriculture which should be solved.
17. Achievements of biology are used on many farms.
18. New methods of weed control have been used on this farm, and good results have been obtained.

Задание 4. *Переведите следующие предложения, содержащие оборот to be + of + существительное:*

1. This method of crop selection is of great interest.
2. Fertilizers are of great value in such areas.
3. The increase in food production is of great importance for all countries.
4. This farm machine is of great use on our farm.

Задание 5. *В следующих предложениях вместо пропусков употребите as ... as, both ... and, either ... or, such as, as. Переведите предложения.*

1. ... practical experience ... the results of experiments are very important for the development of agricultural science.
2. Yields may be increased ... by cultivation of new areas... by more intensive use of the same land.
3. It is important to increase the supplies of food products in our country... rapidly ...possible.
4. You must use... chemical... biological weed control.
5. This area was irrigated ... often ... it was necessary.
6. In this area combination of ... cultural practices ... introduction of improved varieties, application of fertilizers, and irrigation has been used.
7. These crops should be cultivated in this area ... they are used as food for animals on many farms.

Задание 6. *Назовите номера предложений, в которых вместо пропуска нужно употребить some.*

1. Our agronomist has developed ... new crop varieties.
2. The increase in yield has been obtained by the ... methods as last year.
- 3.... harvest operations are not mechanized on our farm.
4. Irrigation is of great importance in... areas.
5. Agriculturists of different countries may have the ... problems.
6. The world population is not the ... now as it was ten years ago.
7. Drainage is not necessary on ... farms.
- 8.... fertilizers may greatly increase the yields.

Задание 7. *Переведите следующие группы слов, содержащие существительное в функции определения:*

plant organism, animal products, food supplies, crop variety, weed control methods, drainage and irrigation practices, crop production factor, high quality food products, world population increase.

Задание 8. *Ответьте на следующие вопросы к тексту.*

1. Why is crop production important for man?
2. What is the most important aim of all agriculturists now?
3. How can crop production be increased?
4. In what way are higher yields obtained nowadays?
5. Is the development of natural sciences important for agriculture?

LESSON 2

ГРАММАТИКА И ЛЕКСИКА:

1. Временные формы глагола.
2. Особые случаи употребления и перевода пассивного залога.
3. Степени сравнения прилагательных и наречий.
4. Значения *as*; сочетания с *as*.
5. Значения слова *most*.

ТЕКСТ: CROP PLANTS AND ENVIRONMENT

The conditions in which an organism lives are known as environment.

All plants require favourable environmental conditions for their better growth and development. Crops that are not well adapted to the region where they are cultivated will not produce high yields.

In crop selection climate is the most important environmental factor. The crops which grow best under relatively cool or moderate conditions include wheat, oats, barley, rye, potatoes, sugar beets, red clover, and many grasses. Corn, cotton, sorghum, rice, soybeans do best under warmer conditions.

Crops also differ in the length of the growing season required for the optimum development. A frost-free period less than 125 days is unfavourable for most crops.

Another factor influencing the growth of plants is humidity, that is why the average annual rainfall is a very essential characteristic of an area.

Light is necessary for photosynthesis — the process by which plant food is manufactured. Life processes of many plants are influenced by the relative length of day and night. Long-day plants require long days for their better growth, while short-day plants produce flowers and fruit: when the days are short. Most small grains belong to the group of long-day crops, among short-day crops are corn, sorghum, rice, millet, and soybeans. There are also crops which are not affected by the length of day, these are cotton, sunflower, and buckwheat.

Air is an important environmental factor, too. It supplies carbon dioxide for plant growth and oxygen for respiration as well as for chemical and biological processes in the soil.

Пояснение к тексту:

under conditions — при условиях, в условиях

do well (better, best) — растут хорошо (лучше, лучше всего)

a frost-free period — безморозный период

that is why — поэтому, вот почему

most, most of (перед сущ.) — большинство

most (перед прилагат.) — наиболее, самый

Лексический минимум к тексту:

barley, corn, cotton, oats, potatoes, red clover, rye, wheat, sugar beets, small grains, grass, area, soil, climate, air, light, growth, growing season, humidity, environment, conditions, under conditions, to require, to influence, to supply, favourable, development, average, to affect, most, as, as well as

Упражнения:

Задание 1. *Переведите предложения, обращая внимание на залог сказуемого:*

1. Our collective farm has been given some new crop varieties. 2. The agronomist was asked about the methods of weed control which are used on the farm. 3. The biologist will be shown the results of our experiments. 4. Many important problems are being solved by agriculturists of different countries. 5. Last week our farm was visited by a group of specialists in plant diseases.

Задание 2. *Употребите глагол, заключенный в скобки, в соответствующей форме:*

1. Nowadays crop production (to increase) mostly by the use of improved cultural practices. 2. This plant (to grow) well on our farm. 3. On this farm all crops (to plant) and (to harvest) by farm machines. 4. Agriculturists of all countries (to work) much at the development of improved crop varieties. 5. High yields (to obtain) last summer. 6. Next year more food products (to produce). 7. Farms of our area (to raise) the yield of the most important food crops. 8. Many new achievements of biology (to use) in agriculture.

Задание 3. *Переведите предложения со сказуемым в страдательном залоге:*

1. The growth of plants is greatly influenced by environmental conditions. 2. The seedbed preparation was followed by planting the crop. 3. The growth of cotton is badly affected by low temperature. 4. The development of some crops is not influenced by the length of the day. 5. More intensive use of land will be followed by an increase in food production. 6. The development of this crop is highly favoured by rainfall.

Задание 4. *Употребите прилагательное или наречие, заключенное в скобки, в соответствующей форме:*

1. Corn requires (warm) climatic conditions than wheat. 2. Climate is the (important) environmental factor of all. 3. The growing season of this crop is (short) than that of corn. 4. Cotton requires (little) rainfall than many other crops. 5. Today is the (short) day in the year. 6. Environmental conditions of this area are (favourable) for the growth of potatoes than for small grains. 7. If you use fertilizers you will obtain (high) yields. 8. It is the (good) soil for oats.

Задание 5. *Назовите номера предложений, в которых **most** эквивалентно русскому **большинство**:*

1. Crops produce maximum yields under the most favourable conditions. 2. Most grasses are used as food for animals. 3. Irrigation is applied on most farms of this region. 4. The increase of food production is one of the most important problems of our days. 5. Most small grains require much light for their growth.

Задание 6. *Вместо пропусков употребите слова из текста в соответствующей форме:*

1. Environmental ... are a very important factor for good plant growth. 2. Soil humidity is influenced by the average annual.... 3. Most small grains ... to long-day crops. 4. Such crops as ... , ... and ... do not require high temperature. 5. Plants obtain oxygen and carbon dioxide from the 6. The growth of cotton is not... by the length

of the day. 7. Many grasses ... cool climate for their development. 8. Cotton ... best under warm climatic conditions. 9. Different crops require the ... of different length. 10. Crops should be well ... to environmental conditions.

Задание 7. *Расположите вопросы в таком порядке, чтобы они служили планом к тексту, и ответьте на них.*

1. Why is air necessary for plants? 2. What is environment? 3. What environmental conditions are favourable for plants? 4. Which environmental factors are important for plant growth? 5. Do all crops require much light for their growth? 6. What crops develop under cool climatic conditions? 7. What crops require warmer climate?

LESSON 3

ГРАММАТИКА И ЛЕКСИКА:

1. Причастия I и II.
2. Причастие II в постпозиции.
3. Значения слова *one*.
4. Слова-заместители существительного.

ТЕКСТ: CLASSIFICATION OF FIELD CROPS

Crops are variously grouped and classified. For example, they may be classified as cultivated or row crops, such as corn, soybeans and cotton; noncultivated crops, such as wheat and barley; and hay or pasture crops, such as clovers, alfalfa, and many other small-seeded legumes and grasses.

Crops are also grouped according to the duration of their growth. Annual crops are those that complete their life cycle in one season. Biennials start their growth in one season but produce seed and die at the end of the second season. Perennials grow for more than two seasons, producing seed each year.

The most important and most often used classifications are botanical classification and agronomic classification.

Botanical Classification. Botanical classification is based upon similarity of plant parts. Most of our field crops belong to one of the two botanical families, the grasses and the legumes.

The main food plants known belong to the grass family, including all cereal crops and about three fourths of the cultivated forage crops. Cereals are the world's leading food and feed crops. They are grain-bearing grasses such as wheat, corn, rye, barley, oats etc. Forage grasses are the ones that are highly essential for the economic production of livestock products.

Almost all grasses have hollow stems made up of nodes and inter-nodes and varying greatly in length in different plants. The roots are fibrous. Grasses may be either annuals or perennials.

The legume family includes such large-seeded legumes as field beans, field peas, soybeans and such nutritious forage crops as alfalfa and clovers. The plants of this family are the only ones growing in a symbiotic relationship with rhizobia bacteria. Multiplying in the nodules on the roots of the legume crops raised the bacteria are able to fix free atmospheric nitrogen in their bodies and eventually in the plant residues. Plowing under these plant residues, one can increase soil fertility. Being high in protein content the legume crops are also valued as food both for man and farm animals.

Legumes may be annuals, biennials or perennials. The fruit is a pod containing one to several seeds. Legumes have tap roots.

There are some other botanical families that include crop plants widely used by man. Such crops are potatoes, sugar beets, cotton, flax, buckwheat and others.

Пояснения к тексту:

for example – например
according to – согласно, по
three fourths – три четверти
etc. – и так далее
made up of – состоящий из
to plow under – запахать
only — только
the only — единственный

Лексический минимум к тексту:

field, cultivated (row) crop, cereal, forage crop, annual, biennial, perennial, alfalfa, soybeans, flax, legume, stem, root, fibrous root, tap root, seed, life cycle, hay, pasture, soil fertility, nitrogen, content, to plow under, to belong (to), to contain, to complete, to include, to use, to vary (in), one, only, the only.

Упражнения:

Задание 1. *Образуйте причастия I и II и переведите их:*

- а) от стандартных глаголов: to develop, to produce, to supply, to harvest, to obtain, to increase, to improve;
б) от нестандартных глаголов: to grow, to know.

Задание 2. *Переведите следующие предложения, содержащие: а) причастие в постпозиции, б) причастные обороты:*

а) 1. The quality of the grain harvested is high. 2. The quality of the grain depends on the method of harvest used. 3. The yield of all the farm crops grown has increased. 4. They spoke about the yield obtained;

б) 1. Some of the crops requiring cool conditions for their growth are wheat, rye and potatoes. 2. The growing period required by winter wheat is about 300 days. 3. There are many factors influencing crop growth and development. 4. Plants cultivated by man are known as farm crops. 5. Using fertilizers, farmers increase the fertility of the soil. 6. The cultural practices used in crop cultivation are different in different areas. 7. Crops growing well under warm conditions are short-day crops. 8. Growing improved varieties, we obtain higher yields.

Задание 3. *Переведите следующие группы слов, содержащие причастия:*

leading cereal and forage crops, crops adapted to the conditions of the region, collective farms growing wheat, some crops grown by our farm, animals supplying people with food, soil supplied with nitrogen, one of the cereal crops raised, crops requiring much nitrogen, number of years required for growth, wheat varieties best known to people, the only crop producing high yields.

Задание 4. *Выделите причастия в постпозиции и причастные обороты в следующих предложениях. Переведите:*

1. Of the cereal crops grown wheat, corn and rice are the three most important for man. 2. Biennials are plants growing for two years. 3. Similarity of plant parts is the basis used for

botanical classification. 4. Growing forage crops, farmers not only increase soil fertility but also supply their animals with highly nutritious feed, 5. Gaseous nitrogen fixed by bacteria living in the roots of legumes increases nitrogen content of the soil. 6. Crops growing best under cool condition, include wheat, oats, barley, potatoes and rye. 7. The farms obtaining high yields of potatoes every year are known to all agricultural specialists of our region. 8. Of the crops known as cultivated crops our farm grows corn and potatoes. 9. Classifying field crops according to their use, scientists name such groups as grain crops, root crops, forage crops, fiber crops and some others. 10. Completing their growth by the end of the first season, all annual plants die. 11. Almost all small-seeded legumes raised are used for hay on our farm. 12. Some crops are biennials starting their growth in one season and producing the seed in the second season.

Задание 5. Назовите номера предложений, в которых слово *one*: а) заменяет существительное, б) является подлежащим и не переводится, в) эквивалентно русскому «один»:

1. Temperature is one of the most important environmental factors affecting crop growth. 2. Botanical classification is the one based on the similarity of plants. 3. One can group plants according to the duration of their growth. 4. Most important field crops belong to the grass family and corn is one of them. 5. One can improve soil fertility by application of fertilizers. 6. Perennial crops are the ones that grow for more than two years. 7. Rainfall cannot be influenced by man, but one can grow crops by application of irrigation. 8. One should know the crops belonging to the grass family. 9. They use traditional cultural practices in corn production but we use the improved ones and obtain higher yields.

Задание 6. Выделите слова-заместители существительного, переведите предложения:

1. The optimum temperature for cotton is higher than that for small grains. 2. Some crops do best under warm conditions; these are corn, cotton, rice and some others. 3. Cereal crops are known as the most important ones for man. 4. Row crops are those that are cultivated during their growth. 5. This soil is better than that one. 6. The growth of corn is more affected by good soil conditions than that of rye. 7. One should know the difference between the roots of grasses and those of legumes. 8. There are many different cultural practices of crop production, this one is traditional.

Задание 7. Выберите подходящее по смыслу причастие. Переведите предложения:

1. In our region there are some collective farms (grown, growing) wheat. 2. These are the crops (grown, growing) by our farm at present. 3. Small grains are the crops (harvesting, harvested) with combines. 4. This crop will grow well on soil (supplying, supplied) with nitrogen. 5. The environmental conditions (required, requiring) by crops for their best development should be favourable. 6. Crops such as wheat, oats, rye and barley are the ones (required, requiring) relatively cool conditions for their growth. 7. Humidity is one of the most important factors (influenced, influencing) the crop growth. 8. Plants (producing, produced) flowers and fruit when days are short are known as short-day plants. 9. The crops (including, included) in the grass family are all cereals and most of forage grasses.

Задание 8. *Переведите следующие группы слов:*

an important branch of economy, new and improved varieties, cultural practices, from the same area, control of pests and diseases, the only method used, seedbed preparation, achievements of biological sciences, practical experience, favourable environmental conditions, under warm conditions, growing season, frost-free period, average annual rainfall, world's leading cereal crops, cultivated crops, large-seeded legumes, plant residues, protein content, fibrous and tap roots.

Задание 9. *Определите функцию слов с окончанием -ed. Переведите предложения:*

1. The methods of yield increases used are effective. 2. The methods of yield increases used on our farm are highly effective. 3. The methods of yield increases are effectively used on most of our farms. 4. The improved methods of yield increases have been developed and are now being used on our collective farms. 5. Last year the farmers used new methods of yield increases.

Задание 10. *Ответьте на следующие вопросы к тексту:*

1. How can farm crops be classified? 2. What is an annual plant? 3. How long do biennial plants grow? 4. What are the most important botanical families? 5. What family does wheat belong to? 6. What other cereals belong to the grass family? 7. Do forage crops also belong to the grass family? 8. What roots have grasses (legumes)? 9. Why are legumes so important? 10. What large-seeded legumes do you know?

LESSON 4

ГРАММАТИКА И ЛЕКСИКА:

- 1.Герундий.
- 2.Отглагольное существительное.
- 3.Значения слов *like, unlike*.
- 4.Значения слова *for*.
- 5.Конверсия.

ТЕКСТ: AGRONOMIC CLASSIFICATION OF FIELD CROPS

Agronomically field crops are most often grouped according to the way in which they are used. Some of our crop plants have several uses; for example, corn is most often grown as a grain crop, but it is also known as one of the most productive forage crops. Another example is soybeans that are most often produced as an oil crop, but they are also grown as a hay or green manure crop.

The most common agronomic classification divides field crops into the following main groups:

I. Cereals or Grain Crops. A cereal is a grass grown for its edible grain. The most important grain crops widely grown throughout the world are wheat, corn, barley, oats, rye, rice, sorghum, and millets. Grain crops are mainly used as bread crops and as concentrates in feeding livestock. They are well adapted to machine harvesting and processing. All of them are annuals, producing seed in the year of sowing.

II. Large-Seeded Legumes. The principal legumes grown for seeds are field peas, field beans and soybeans. The edible legumes are widely grown by man, for they are a very important source of protein. The growing of legumes is very useful for improving soil fertility.

III. Root Crops. Crops known as root crops are cultivated for their enlarged nutritious roots. The most widely grown root crops are vegetable crops used as human food. They are carrots, radishes, beets and others. Unlike cereals, they are biennials. The food collected by them the first year is stored up in their roots and used for producing seeds the second year.

IV. Forage Crops. These are the crops used as feed for animals in a fresh or preserved form. Forage crops including grasses, legumes and some other crops are cultivated and used for hay, pasture and silage. Most forage crops are perennials, that is, they can live and produce seeds for many years in succession.

V. Tuber Crops. The most important tuber crop cultivated throughout the world is potatoes. A tuber is not a root, it is a short thickened underground stem. Like root crops tubers are biennials, but people grow them as annuals.

VI. Fibre crops. As the name shows, these crops are grown for their fibre which is used in making clothes or for different purposes in industry. Almost all fibre crops produce seed containing oil used either as human food or as industrial material. Of the fibre crops cotton, flax and hemp are of greatest importance for man.

Some other groups of field crops can be named, such as sugar crops, drug crops, oil crops, etc.

Пояснения к тексту:

green manure crop – культура на зеленое удобрение, сидеральная культура

that is – то есть

in succession – подряд

like – подобно, как

unlike – в отличие от

for – 1) (предлог) для; в течение; 2) (союз) так как (часто после запятой)

Лексический минимум к тексту:

field beans, field peas, millets, rice, root crop, sorghum, tuber, vegetable, green manure crop, fibre, to adapt, to process, source, valuable, useful, purpose, throughout the world, like, unlike, for, main, mainly.

Упражнения:

Задание 1. *Переведите следующие предложения, обращая внимание на слова с суффиксом -ing:*

1. Harvesting crops is done with special machines. 2. Higher yields of crops can be obtained by using improved varieties. 3. The planting of seed should be done into warm soil. 4. We spoke about his using a new corn harvesting machine.

Задание 2. *Укажите, в каких предложениях слово growing эквивалентно существительному в русском языке:*

1. Growing legumes increases soil fertility. 2. Growing legumes, we increase soil fertility. 3. Farmers growing legumes increase soil fertility. 4. Farmers increase soil fertility by growing legumes. 5. The growing of this legume will increase the fertility of the soil.

Задание 3. *В следующих предложениях определите функцию слов с окончанием -ing. Переведите:*

1. The farmers are harvesting sugar beet now. 2. Using the improved cultural practices the farmers obtain more grain per hectare. 3. Different forage crops are grown for feeding farm animals. 4. Sowing spring wheat in our region should be done in May. 5. Sowing wheat, one should use high quality seed. 6. Preparing the soil for planting potatoes farmers of our collective farm used new tractors. 7. The soil and climatic conditions should be favourable for the developing of corn plants. 8. We know of their producing high yields of potatoes every year. 9. This type of soil is well adapted to potato growing. 10. Planting field crops should begin when the seedbed is warm. 11. There are two ways of raising crop production. 12. They will begin planting potatoes in 3 days.

Задание 4. *Переведите следующие предложения, обращая внимание на выделенные слова:*

1. Corn **like** wheat has a fibrous root system. 2. **Unlike** cereals alfalfa and clover have tap roots. 3. **Unlike** animals plants can manufacture food by the process of photosynthesis. 4. Rice **like** cotton does best under warm conditions. 5. **Unlike** wheat buckwheat is not affected by the day length. 6. Air **like** temperature and light is an important environmental factor.

Задание 5. *Переведите следующие предложения, обращая внимание на разные значения слова «for»:*

1. Many factors are essential for good growth of soybeans. 2. We shall grow cereals in this field for three years. 3. Corn for grain should be grown in the South, for this crop requires the temperature of 25 to 30°C and a short day for its best development. 4. Air is an essential factor, for it supplies carbon dioxide and oxygen necessary for plant growth. 5. Perennial crops are those that can grow and produce seeds for more than two years. 6. Root crops are grown for the food value of their roots. 7. The crop will not grow well, for the temperature of the soil is too low for it.

Задание 6. *Поставьте глагол, данный в скобках, в нужной форме (причастие I, причастие II, герундий):*

1. Grain is the product (to obtain) by man by (to grow) cereals. 2. These are the two crops (to differ) in the structure of the roots. 3. Some soils are rich in all kinds of food (to require) by plants. 4. The grain crops (to require) cool conditions for their best growth are wheat, barley, oats and rye. 5. Crop production can be raised by (to cultivate) new land or by (to increase) crop yields. 6. We know many environmental factors (to influence) the growth of farm crops. 7. Corn, sorghum, rice and millets are the crops (to adapt) to conditions of short day.

Задание 7. *Определите, к какой части речи относятся выделенные слова; переведите предложения:*

1. We value these crops for their fiber. 2. The value of cereals is known to all people. 3. People use the seeds of peas for food. 4. The agronomist spoke about this new field crop and its use in food industry. 5. We worked in the field yesterday. 6. Rye yields well under cool conditions. 7. Rye yields are usually high under cool conditions. 8. Yield increases can be obtained by growing improved varieties. 9. Our farm increases soil fertility by applying fertilizers and growing legumes. 10. Agronomists group field crops according to their use. 11. Corn has many uses. 12. Next summer our group will work on that farm .

Задание 8. *Ответьте на следующие вопросы к тексту:*

1. What is the principle of classifying field crops agronomically? 2. What crops have several uses? 3. How can corn be used? 4. Into what groups are field crops classified agronomically? 5. What is a cereal? 6. Why are large-seeded legumes so important for man? 7. Are root crops annuals or biennials? 8. When do biennial crops produce seed? 9. What is a forage crop? 10. How long can a forage crop grow? 11. What is the most important tuber crop? 12. How can fiber crops be used?

LESSON 5

ГРАММАТИКА И ЛЕКСИКА:

- 1.Сложные формы причастия и герундия.
- 2.Значения слов *due, due to, to be due to*.
- 3.Значения слов *the former, the latter*.

ТЕКСТ: PLANT, ITS PARTS AND THEIR FUNCTIONS

Most of the important crop plants are reproduced by seeds, and they are known as seed plants. In the life cycle of these plants the seed germinates and produces a seedling. The vegetative phase is characterized by increases in the number and size of roots, stems and leaves. Finally, having reached the reproductive phase, the plant flowers and produces seeds, thus completing its life cycle.

Sometimes as much as one half, but in certain root crops more than one half of a crop plant is underground. Being in the soil the roots are as important as the tops because nearly all the water and all the mineral nutrients required are absorbed by roots. Having been absorbed from the soil, the nutrients and water are translocated from roots to other plant parts.

In addition to the main function mentioned the root performs two more functions. It anchors the plant by branching throughout the soil and serves as a storage organ for nutrients in biennial and perennial plants. Due to their having stored up food during the previous year these plants are able to produce new spring growth.

Two general kinds of roots are found in crop plants: fibrous roots and tap roots. The roots of cereals and other grasses belong to the former and those of legumes and root crops — to the latter. Water and nutrients dissolved in it are absorbed through the root hairs found on roots and root branches of both fibrous rooted and tap rooted plants.

The above ground portion of a plant consists of leaves and stems. The leaf plays a highly important role due to its manufacturing carbohydrates through the process known as photosynthesis.

The main functions of the stem are: conducting water and plant nutrients from root to leaf, supporting leaves and storing food materials as in the case of sugarcane and sorghum.

Being young the grasses have solid stems, that is, the ones filled with the pith. Having matured the stems of most grasses become hollow. Some crops as corn, for instance, have stem pith throughout their lives.

A major crop production problem associated with the stem is lodging which is due to the adverse effects of rain and wind. Resistance to lodging, or the capacity of stems to withstand the adverse effect of weather, is an important quality in cereals. Growing lodging resistant varieties is the main controlling measure.

Пояснения к тексту:

as much as (перед цифрой) – до, целых
in addition to – кроме

two more – еще две
due – надлежащий, соответствующий
due to – из-за; вследствие; благодаря
to be due to – объясняться
the former – первый (из двух названных)
the latter – последний (из двух названных)

Лексический минимум к тексту:

to germinate, seedling, to flower, to mature, leaf (leaves), to reproduce, to lodge, tops, nutrients, resistant, resistance, to control, water, rain, amount, size, storage, to store, underground, to reach, kind, number, to find, due, due to, to be due to, the former, the latter, to consist of

Упражнения:

Задание 1. *Переведите следующие предложения, содержащие сложные формы причастия и герундия:*

- a) 1. Being adapted to the conditions of our region sorghum produces high yields. 2. Having been grown for two years legumes increased soil fertility. 3. Having completed its life cycle, the plant died;
b) 1. High yield of potatoes was obtained by their having been grown on a good soil. 2. We know of corn being produced both for grain and for silage. 3. The farmer could improve his soil by having provided it with the necessary mineral elements.

Задание 2. *Переведите следующие предложения, обращая внимание на формы с суффиксом –ing:*

1. Having used improved cultural practices, the farmer obtained higher yield of wheat per hectare. 2. Most farms growing potatoes use potato harvesting machines. 3. Harvesting small grains with combines is widely used throughout the world. 4. Harvesting small grains with combines, man obtains more grain per hectare. 5. Cultivating the soil used for row crops one can control weeds and provide favourable conditions for plant growth. 6. Being raised under favourable environmental conditions the plants grow and flower well and produce much seed. 7. The yield of sugar beet was high due to the farmers' having controlled weeds during the growing season. 8. Having been applied at the due time, fertilizers increased the fertility of the soil. 9. The planting of warm-season crops should be done into warm soil.

Задание 3. *Переведите следующие предложения, обращая внимание на выделенные слова:*

- a) 1. **Due** conditions should be provided for good development of this crop. 2. A large amount of carbon dioxide in soil air **is due** to the respiration of roots and microorganisms. 3. Corn is widely used as feed for animals **due to** its high feeding value;
b) 1. Roots are grouped into fibrous roots and tap roots. **The former** are typical of grasses, **the latter** — of legumes and root crops. 2. There are crops which grow best under cool conditions and those requiring warmer conditions. Wheat belongs to **the former**, while corn can be an example of **the latter**.

Задание 4. Заполните пропуски подходящими по смыслу словами в соответствующей форме:

*to conduct, resistant, to lodge, root, solid, leaf, roots,
water, storage, above ground, plant nutrients, root hairs*

1. The examples of plants having ... are alfalfa and carrots. 2. The root does not only absorb ... and ... from the soil, it also anchors the plant. 3. The plant is divided into two parts — the root system and the ... portion. 4. Both roots and stems may serve as a ... organ. 5. Water and plant nutrients ... by the stem from ... to 6. The smallest roots through which water is absorbed are known as 7. Some crops have ... stems. 8. Small grains often ... due to unfavourable weather conditions. 9. Lodging can be controlled by growing ... varieties.

Задание 5. Определите, какие слова из правой колонки могут сочетаться со словом из левой колонки:

root	long, crop, fibrous, size, water, main, previous, general, tap, small, hairs
stem	adverse, hollow, short, solid, similar, mineral, pith, due, lodging
to obtain	weather, yield, seed, seedlings, flowers, nutrients, food products, rain, measure

Задание 6. Подберите словарные определения к следующим словам и сочетаниям слов:

root, fibrous root, tap root, stem, fertilizer, green manure, plant nutrients

1. Materials absorbed by plants and used by them for growth and development. 2. Any organic or inorganic material that is added to the soil to provide plant nutrients. 3. The kind of a root consisting of many roots of the same diameter and length. 4. The above ground portion of a plant that conducts water and plant nutrients from root to leaf. 5. The part of a plant that absorbs water and nutrients from the soil. 6. A crop grown for plowing under when it is green. 7. The kind of root that consists of the main root and small branches throughout its length.

Задание 7. Ответьте на следующие вопросы к тексту:

1. What is vegetative phase characterized by? 2. When does a plant complete its life cycle? 3. What are the functions of the roots? 4. What kinds of roots are there? 5. Why are leaves so important? 6. What functions does a stem perform? 7. What crops have hollow stems? 8. What is a very important quality of a cereal stem?

LESSON 6

ГРАММАТИКА И ЛЕКСИКА:

1. Независимый причастный оборот.
2. Значения слова *that*.

ТЕКСТ: CROP BREEDING AND IMPROVEMENT

Plant breeding is the science of changing and improving the heredity of plants. In the past the breeders had no scientific knowledge which is available now. The selection of superior types was the most important method of improving crop plants. Variations between plants of the same species were used as the basis for developing new improved varieties.

Now with increased knowledge of genetics and related plant sciences plant breeders are able to influence such plant characteristics as yield, early maturity, drought resistance, winter hardiness, disease resistance, insect resistance and quality.

Plant breeding depends on many sciences, genetics and cytogenetics being the two most important. Other sciences needed by the breeders are plant physiology, plant pathology, entomology, plant biochemistry, agronomy, botany, statistics and computer science. The most successful achievements in plant breeding are due to the combined work of many specialists.

Each crop variety possessing certain desirable and undesirable characteristics, the aim of the plant breeder is the development of a superior variety by eliminating the undesirable qualities and combining the desirable ones in the same variety.

The characteristics desired vary with the crop and the conditions of growing. With wheat, for example, winter hardiness, protein content, milling quality and resistance to lodging are important. In some areas, early-maturing, cold-resistant varieties are needed, while in others later-maturing, drought-resistant varieties will do best, yield and resistance to major diseases and insects being important in all cases.

Three general methods of crop improvement are commonly used. These are introduction, selection and hybridization, the last one being the method of crossing two or more varieties that differ in some inherited characters. These methods are not wholly distinct because hybridization almost always must be preceded or followed or both preceded and followed by some scheme of selection.

Progress in crop breeding can be measured only by experimental tests except when breeding is done for disease resistance, better colour or some other character that can be readily seen. Even then the investigator must know how the new strain compares in yield with the variety replaced. That is why field-plot test² should be conducted.

Пояснения к тексту:

to vary with – различаться в зависимости от; зависеть от
field-plot tests – испытания на делянках в поле

Лексический минимум к тексту:

to breed, plant breeding, plant breeder, selection, hybridization, introduction, species, to cross, winter hardiness, maturity, disease, insect, drought, science, desirable, successful, to precede, to follow, to differ (in), to compare, to vary with, available, to change, early, late, that

Упражнения:

Задание 1. *Выделите независимый причастный оборот в следующих предложениях. Переведите предложения:*

а) 1. Corn being a good source of grain and roughage, farmers grow it widely. 2. Winter wheat having been sown in August, its roots can develop well before winter. 3. The soil containing much plant food, the crops will produce high yields.

б) 1. It is necessary to apply nitrogen into the soil, the amount varying with the crop. 2. Cereals are widely grown for obtaining grain, the latter being mainly used as food for people and feed for livestock. 3. There are many root crops grown by man, the most important being sugar beets, carrots and radishes.

Задание 2. *Сгруппируйте слова по частям речи (существительное; прилагательное; глагол; причастие I, II; наречие):*

gradually, abundant, aggregated, lower, competition, properly, additional, seeder, to decrease, poorer, directly, desirable, careful, limiting, suitable, requirement, removed, maintenance, wider, mixture, mechanical, physiologist, harrowed, fixer, to destroy, finest, follower

Задание 3. *Укажите предложения, содержащие независимый причастный оборот. Переведите предложения:*

1. Plant breeding being the science of changing the heredity of plants, the scientists widely use it in improving crop plants. 2. Many plant sciences are used by plant breeders in developing new varieties of crops, genetics and cytogenetics being most important. 3. Many varieties of corn producing good yields of high quality forage and grain are cultivated throughout our country. 4. Each plant has two parts, the roots and the above-ground portion, the latter consisting of leaves and stems. 5. The stem of corn varies greatly in length in different varieties, the usual length being 5 to 10 feet. 6. Planting machines being used, a smaller amount of seed is required.

Задание 4. *Назовите номера предложений, в которых слово that эквивалентно русскому «который»:*

1. The climate of Moscow is colder than that of Krasnodar. 2. We know that millets belong to the grass family. 3. That experiment was conducted two years ago. 4. The experiment that was conducted two years ago gave very good results. 5. The optimum temperature for cotton is higher than that for small grains. 6. It has been shown by experiments that the quality of grain depends on the soil used. 7. The variety of wheat that will be grown on our farm is highly productive. 8. We need a good soil for our experiment, that is, the one that is supplied with the necessary amount of water and nutrients. 9. Corn is a good source of grain and forage, that is why it is widely grown by farmers.

Задание 5. *Переведите следующие группы слов:*

for instance, lodging resistant varieties, a major crop production problem, one of the main controlling measures, plant breeding, plant breeder, winter hardiness, to eliminate undesirable characteristics, high disease resistance, to develop a variety, a superior variety, drought-resistant variety, general crop improvement methods, the same variety.

Задание 6. *Ответьте на следующие вопросы к тексту:*

1. Can the heredity of plants be changed? 2. What was the main method of improving crop plants in the past? 3. What plant characteristics can be improved by breeding? 4. How can a superior variety be developed? 5. What do desirable plant characteristics vary with? 6. What are the three general methods of crop improvement? 7. What is hybridization?

LESSON 7

ГРАММАТИКА И ЛЕКСИКА:

1. Повторение причастий I и II.
2. Повторение -ing форм.
3. Условные предложения (союзы if, unless, provided).
4. Значения слова *should*.
5. Значения слов *because, because of*.
6. Значения слов *before, after*.

ТЕКСТ: SEEDS AND SEEDING

Good seed is highly essential to successful crop production. Its purity and germinating power should be known before it is planted.

After threshing seeds usually contain foreign materials such as chaff, dirt, weed seeds and seeds of other plants. These can be removed to a large extent but not entirely by cleaning machinery. The presence of weeds in the seed often increases the labour required for the production of the crop, reduces crop yields and contaminates the product available as well as the seed and soil in future seasons.

Mature seed is preferable to immature seed. Immature seed having a low reserve of food supply because of its small size usually produces poor plants when conditions are adverse at planting time. In addition, immature seeds, high in moisture, are injured by frost.

Most seeds show dormancy, that is, they do not germinate immediately after having become mature even though external conditions favour germination. They must pass through a rest or after-ripening period, the duration of the dormancy varying greatly with different species. One should know the length of the dormancy period of the seed that will be planted. It ranges from a few days to some months or even years. Dormant seeds can survive conditions which would kill them if they were active.

Good stands can be obtained by seeding high-quality seed. However, even the best seed will not produce optimum yields, provided other factors are not proper. A moist, firm and warm seedbed that provides favourable environment for germination is of greatest importance in establishing a vigorous and uniform stand. Unless there is enough moisture in the soil, poor germination will take place.

Two critical factors must be controlled during seeding: depth and rate. Planting at a proper and uniform depth favours quick and uniform germination. The depth of seeding is influenced by the type of the soil and the size of the seed. If fine seed were placed too deeply it would have some difficulty in reaching the surface of the soil. Coarse seeds should be planted much deeper than fine seeds.

The establishment of high-quality stand is also favoured by a proper seeding rate, both underseeding and overseeding reducing potential yield. The former does not allow full utilization of the available moisture, nutrients and light while the latter requires more nutrients than are present in the soil and reduces the yield.

Other agronomic recommendations that should be followed in obtaining a good stand are seeding at optimum time, covering seed properly, using proper weed-control techniques, using proper seeding machines and equipment, and applying proper fertilizers.

Пояснения к тексту:

to ... extent – в ... степени;

in addition – кроме того;

even though – даже если

if – 1. если, 2. если бы;

unless – если ... не (сказ.)

provided – 1. причастие II – обеспеченный; 2. (прош.вр.) – обеспечил (-ли); 3.

союз – при условии если, в том случае если

should – 1. должен, 2. бы (в условных предложениях)

because of (предлог) – из-за; вследствие

because (союз) – потому что

before – 1. (предлог) – до, перед; 2. (союз) – до того как, перед тем как

after – 1. (предлог) – после; 2. (союз) – после того как

Лексический минимум к тексту:

fine (seed), coarse (seed), mature, immature, stand, uniform, vigorous, poor, germinating power, seedbed, firm, moist, warm, moisture, proper, rate, surface, frost, deep, depth, weed, to apply, to reduce, to clean, if, unless, provided, should, because, because of, before, after, germination

Упражнения:

Задание 1. Из данных слов выделите прилагательные и причастия с отрицательными приставками и суффиксами и дайте их русские эквиваленты: unimportant, improper, useless, unimproved, unpopular, hardness, uniform, impossible, internode, uninherited, careless, include, inactive, underground, undesirable, fruitless, unfavourable, undeveloped.

а) Переведите предложения, содержащие условные придаточные: 1. If we grow legumes, the soil fertility will be higher. 2. Corn will grow better if there is much nitrogen in the soil. 3. If the seed is of high quality, we shall obtain a higher yield;

б) 1. If we grew legumes, the soil fertility would be higher. 2. Corn would grow better if there were more nitrogen in the soil. 3. If the seed had been of good quality, we should have obtained a higher yield.

Задание 2. Найдите в следующих предложениях причастия и определите их функцию. Переведите предложения:

а) 1. Using the new method of harvesting, they obtained higher yield of sugar beets. 2. The collective farms using the new method of harvesting obtain higher yield of sugar beets. 3. Our farm is harvesting sugar beets now. 4. The growing period of barley is shorter than

that of other cereals, this crop producing good yield when it is sown in late May. 5. Rye being drought-resistant, any soil can be used for this crop.

b) 1. Most wheat varieties cultivated produce high yields of good quality grain. 2. Wheat varieties cultivated in our country have been developed by our plant breeders. 3. Two wheat varieties are cultivated on their farm.

c) 1. Having stored up nutrients in the first season, root crops are able to grow and produce seed in the second season. 2. Being anchored by roots, plants can withstand the adverse effects of rain and wind. 3. Having been sown in a well-prepared soil, wheat developed well and produced high-quality seed. 4. All farm crops have certain desirable characteristics, the highest yields being obtained from those best adapted to the conditions of growing. 5. Soil fertility having been increased, the farmer could obtain a higher yield of potatoes.

Задание 3. Найдите в следующих предложениях форму с суффиксом *-ing*, которой в русском языке соответствует существительное. Переведите предложения:

1. Conducting water and plant nutrients is the main function of the stem. 2. Conducting water and plant nutrients, the stem performs a very important function for the life of a plant. 3. Improving crop plants was done in the past by selecting superior types. 4. Improving farm crops, plant breeders use three general methods. 5. The yield of potatoes was reduced due to our having planted tubers into too cold soil. 6. Corn requiring much nitrogen, the soil should be well supplied with this element.

Задание 4. Укажите номера предложений, в которых при переводе следует употребить частицу «бы»:

1. If we did not grow legumes, the fertility of the soil would be low. 2. The yield of wheat would be much higher if we applied more fertilizers. 3. If we were botanists we should know the difference between the roots of cereals and those of legumes. 4. This crop will develop well if planting is done at the due temperature. 5. If the new variety is better than the one replaced, the farmers will grow it widely. 6. This variety would be grown on our farm, if it were more drought resistant. 7. If the soil contains too much moisture, corn will not do well on it. 8. If the soil had been better, we should have grown corn.

Задание 5. Определите, в каких предложениях глагол *should* эквивалентен в русском языке частице «бы»:

1. If you could come to our farm we should show you our experimental plots. 2. All cereal crops should be grown on well-prepared soils. 3. We had obtained a good yield, if we should have applied more nitrogen into the soil. 4. Every student should know the difference between the roots of alfalfa and those of wheat. 5. If this crop were resistant to lodging, we should grow it for grain.

Задание 6. Переведите следующие предложения, обращая внимание на союзы *if, unless, provided*:

1. Unless there is enough moisture in the soil the seed will not germinate. 2. Provided temperature conditions of the late summer are not favourable, grain will not ripen properly. 3. The seed would germinate earlier, if there were more moisture in the soil.

4. If the rate of seeding were too high, the plants would have not enough water and nutrients for their growth. 5. Poor results may be obtained with this crop unless it is sown in a warm and moist soil. 6. Good stands can be obtained, provided high-quality seeds are used. 7. Provided the soil is not moist enough at planting time, irrigation should be applied. 8. If a seed placed under favourable conditions does not germinate, it is in a dormant state.

Задание 7. Заполните пропуски подходящими по смыслу словами в соответствующей форме:

dormancy, to favour, immature, to establish, practice,

underseeding, proper, germinating power, overseeding, favourable

1. Quick and uniform germination can be provided by planting seed at a ... depth. 2. Both ... and ... reduce potential yield. 3. Applying proper fertilizers ... seed germination. 4. It is necessary to test ... before the seed is planted. 5. Dormant seed does not germinate even under... conditions. 6. Each species has its... period. 7. A vigorous and uniform stand can ... by proper rate and depth of seeding. 8. Using proper seeding machines is one of the agronomic ... recommended for obtaining good stand. 9. Poor plants may be produced by using... seed.

Задание 8. Определите, какие слова из правой колонки могут сочетаться со словом из левой колонки:

seed	mature, high-quality, dormant, fibrous, hollow, moist, active, useful, immature, weed, successful
stand	desirable, improved, proper, available, poor, frost-free, cool, careful, scientific, vigorous, uniform
to produce	yield, seed, stand, dormancy, threshing, seeding machinery, environment, proper, conditions

Задание 9. Ответьте на следующие вопросы к тексту:

1. What kind of seed is essential to successful crop production? 2. How can weed seed be removed? 3. Why is immature seed undesirable for planting? 4. What is dormancy? 5. Why shouldn't fine seed be planted too deeply? 6. What agronomic practices should be followed for obtaining high quality stand?

LESSON 8

ГРАММАТИКА И ЛЕКСИКА:

1. Инфинитив в функции подлежащего и обстоятельства цели.
2. Оборот for + существительное (местоимение) + инфинитив
3. Парный союз the ... the...
4. Бессоюзные определительные предложения.
5. Значения to be и to have.
6. Парный союз neither ... nor.

ТЕКСТ: SOIL

Being less important than climate, soil properties are essential in determining which crops to grow.

Texture of a soil refers to the size of its particles. Soils range from pure sands to pure clays. The principal textural classes are sand, sandy loam, clay loam, and clay. A soil with a large proportion of clay particles is usually called a heavy soil, and the one with a large proportion of sand — a light soil, the two types differing greatly in the ease of cultivation. Soil structure refers to the manner in which the particles are arranged. An aggregated or compound structure favours good seedbed preparation, ease of cultivation, and protection from wind or water erosion. Aggregated structure normally is found in soils rich in organic matter.

Among soil constituents, water is the most important one. The finer the soil particles, the more water the soil holds. Extremely coarse sandy soils are unable to store moisture in sufficient amounts for crops to grow well.

Air, which makes up from 20 to 25 per cent by volume of an ordinary moist soil, supplies oxygen necessary for root growth and for oxidation of organic matter and other soil constituents.

To grow well crop plants need an adequate supply of plant nutrients during the growing season. About 25 or 30 chemical elements are found in plants, carbon, oxygen and hydrogen being most abundant. The essential mineral elements that are present in plants and are most frequently deficient in soils are nitrogen, phosphorus, and potassium. But in order to grow normally crops also absorb considerable quantities of other minerals, such as calcium, magnesium, and sulfur.

Good soils contain adequate amounts of available nutrients to meet the needs of a crop plant for normal growth. They are not too acid or too alkaline to produce good growth. In general, fertile soils with a good water-holding capacity are favourable for the growth of the most important crop plants. Some soils may have an especially wide range of crop adaptation. However, to apply additional fertilizers is usually a good practice even on the best soils, provided growing conditions are favourable.

Пояснения к тексту:

rich in – с высоким содержанием

to meet the needs – удовлетворять потребности

the + ср. степ. прилагательного или наречия ... the + ср. степ. прилагательного или наречия — чем ... тем

Лексический минимум к тексту:

heavy soil, light soil, clay loam, sand, sandy loam, acid soil, alkaline soil, fine (soil), soil structure, soil texture, soil particle, fertile, organic matter, oxygen, phosphorus, potassium, erosion, wind, deficient, sufficient, to determine, to need, necessary, supply, preparation, quantity, in order (to), the ... the...

Упражнения:

Задание 1. *В следующих предложениях определите функцию инфинитива. Переведите предложения:*

1. Fertilizers are used to improve soil fertility. 2. For these crops to grow well fertilizers should be applied. 3. This soil is fertile enough to produce high yields. 4. To classify crops properly one should know their characteristics. 5. The soil of this area is too poor to produce high yields of grain crops. 6. Plants absorb nutrients from the soil in order to grow well. 7. To obtain nutrients and water from the soil is the main function of plant roots. 8. Botanists study the structure of plants in order to know how they grow.

Задание 2. *Переведите следующие предложения, обращая внимание на функции инфинитива:*

1. To develop good tubers potatoes need sandy or sandy loam soils. 2. Fine soils can store enough moisture for crops to grow normally. 3. To produce high yields crop plants require an adequate supply of plant nutrients and water. 4. Crops also require minerals in order to grow well. 5. The climate of this area is too cold to cultivate corn. 6. To apply fertilizers is the most usual practice in cultivating most crops. 7. For soil to produce good crops, it should not be too acid or too alkaline. 8. In order to improve the structure of this soil we must supply it with organic matter. 9. To get good results the plant grower must know the properties of the soil cultivated. 10. To prepare the proper seedbed is very important for obtaining good results. 11. The soils in our region are too heavy to provide normal development of tubers. 12. Legumes can be grown to improve soil fertility. 13. For soil moisture to be high enough irrigation is often necessary.

Задание 3. *Переведите следующие предложения с парным союзом the ... the:*

1. The better is the soil the higher will be the yield. 2. The more favourable are the climatic conditions the better are the results. 3. The finer are the soil particles the more moisture is stored in the soil. 4. The lighter is the soil the more easily it is cultivated.

Задание 4. *Определите, какие слова из правой колонки могут сочетаться со словами из левой колонки:*

Soil	heavy, rich, sandy, light, cultivation, cultivated, large
nutrients	plant, favourable, available, acid, essential
Growth	proper, normal, plant, adequate, important, considerable, organic
conditions	untavourable, heavy, climate, ordinary, proper, improved, the same, small.

Задание 5. *Переведите следующие предложения на русский язык. Обратите внимание на различные значения глаголов to be и to have:*

1. We have used these crops as green manure to increase the amount of organic matter in the soil. 2. Manure is to add humus to the soil. 3. If soil is low in nitrogen, legume crops are often plowed under. 4. The aim of using green manure crops was to prevent the leaching of plant nutrients from the soil. 5. Sometimes plant growers have to turn under leguminous plants in order to raise the supply of nitrogen in the soil. 6. In our country we have a lot of areas with highly fertile soil. 7. The soil of our farm is rich in phosphorus and potash. 8. Many important problems are to be solved in agriculture. 9. The value of soil fertility is well known to agriculturists. 10. To increase the yields we have to use barnyard manure and fertilizers. 11. Our plan is to obtain good stands by seeding high quality seed. 12. The value of humus has been recognized since early times.

Задание 6. *Назовите номера предложений, где пропущено союзное слово «который»:*

1. The optimum temperature the seed will germinate at varies with different kinds of seeds. 2. The farm our agronomist spoke about is a good producer of forage crops. 3. Cereals that are widely grown in this region are used as food both for man and for livestock. 4. To obtain good stands plant growers should follow the recommendations which are given by the agronomist. 5. The crops farmers grow for plowing under are called green manure crops. 6. We use fertilizers and barnyard manure to supply nutrients the plants have removed.

Задание 7. *Составьте предложения, соединяя части, подходящие по смыслу:*

- | | |
|---|--|
| 1. A fertile soil should be | a) since it supplies soil with humus. |
| 2. Manure is of great value | b) to compensate plant nutrients lost from the soil. |
| 3. Soil fertility is greatly influence | c) neither too acid nor too alkaline. |
| 4. Green manure crops often increase | d) by the amount of organic matter contained. |
| 5. Fertilizers and barnyard manure should be used | e) availability of soil nutrients to plants. |

Задание 8. *Переведите предложения, обращая внимание на различные значения слова since:*

1. We have not discussed this problem since last year. 2. Since this crop requires a long growing season it should be planted in early spring. 3. Since there is not enough organic matter in this soil, green manure crops are to be grown on it. 4. This corn variety has been cultivated in our region since 1980.

Задание 9. *Ответьте на вопросы к тексту:*

1. What textural classes of soil do you know? 2. What is soil structure? 3. What do plants absorb from the soil? 4. What do plants obtain from the air? 5. What are the most important mineral elements required for plant growth? 6. Why can plants grow well on fertile soils? 7. Should fertilizers be applied to fertile soils?

LESSON 9

ГРАММАТИКА И ЛЕКСИКА:

1. Инфинитив в функции определения.
2. Конверсия.

ТЕКСТ: SEEDBED PREPARATION

Good stands start with good seed. However, even the best seed will not produce optimum yields unless other factors are favourable. A good seedbed that supplies the proper environment for germination is of the greatest importance in insuring an optimum stand of the crops to be grown. Such seedbed is to insure adequate moisture for germination at the due seeding depth. The soil particles must be in contact with the seed they surround to allow a maximum water absorption for rapid germination.

Before planting, a grower has to perform cultivation practices that insure the proper environment for germination and at the same time preserve soil structure and minimize water loss due to evaporation from the soil surface. If the soil were too finely pulverized, crusting would occur. To maintain good structure the soil should not be cultivated when it is wet.

The first tillage operation following the preceding harvest is to destroy crop residues and to incorporate them into the soil to be used for seeding. In some regions this is done in the fall, while in areas with short growing season this operation is delayed until early spring. Early cultivation allows more time for organic matter to decompose.

Final seedbed preparation is completed in spring or late summer for crops to be sown in the fall. The first step is to cultivate with discs or harrows, or both. The surface soil is to be worked finely enough to minimize evaporation and to insure fine and mellow seedbed. It has to be cultivated deeply enough to kill early growing weeds. After cultivation, fields are sometimes rolled to insure a firm seedbed. This is quite common in preparing the seedbed for most forage grasses. For crops that require irrigation, beds should be formed before rolling. To conserve moisture, final seedbed preparation should be followed by immediate planting.

However, even the best seedbed will not insure a good stand unless there is enough oxygen and proper temperature for seed germination.

Лексический минимум к тексту:

fall, absorption, evaporation, harrow, mellow, residue, to roll, tillage, temperature, wet, loss, to maintain, to kill, to destroy, to insure (ensure), to allow, to occur, common, quite, rapid, while

Упражнения:

Задание 1. В следующих предложениях выделите инфинитив в функции определения. Переведите приложения:

1. The seedbed to be used for sowing grain crops should be rich in organic matter. 2. The variety of corn to be sown this year has been developed by our agronomists. 3. The best method to recommend for improving soil fertility in this region is to plow under green manure crops. 4. The methods of crop improvement to be applied vary with the conditions of cultivation and some other factors. 5. The application of manure should increase the organic matter content in the soil to be cultivated.

Задание 2. Переведите следующие предложения. Обратите внимание на разницу в переводе определений, выраженных причастным оборотом и инфинитивом:

1. The soil to be used as a seedbed should be warm, moist and mellow. 2. The soil cultivated when it is too wet will not provide conditions for normal plant growth. 3. Seed planted deep enough will have a sufficient supply of moisture and nutrients. 4. Developing a new variety to be cultivated in a given area one should know its soil and climatic requirements. 5. We were given the seed to be used for sowing. 6. The seedbed prepared in spring is to provide the proper environment for seed germination. 7. Fertilizers to be applied must be of the highest quality. 8. The yield of root crops produced last year was rather low. 9. The yields to be obtained on our farm greatly depend on soil condition. 10. The increase in corn yield to be produced greatly depends on the amount and quality of fertilizers and manure added to the soil.

Задание 3. Выделите слова и группы слов, служащие определением к существительному (причастные обороты, инфинитив, определительные предложения). Переведите предложения:

1. The seedbed we prepare for sowing this crop must provide optimum conditions for plant development. 2. Before planting the farmer has prepared a seedbed insuring optimum conditions for seed germination. 3. The soil to be used as a seedbed should not be too finely pulverized. 4. The soil that is too wet will not provide proper germination. 5. The seedbed used for growing forage grasses must be firm enough. 6. The amount of seed to be sown per hectare should be well known. 7. The fertilizers applied produced good effect on the growth of the plants. 8. The period the potato tubers form and develop should be cool enough.

Задание 4. Определите, какой частью речи является выделенное слово. Переведите предложения:

1. One must water the flowers regularly. 2. Water is required by all plants. 3. There exist some water plants which grow in water. 4. The practice of minimum tillage often produces good results. 5. Such practice results in much higher yields. 6. Every farmer knows that he must plant seeds in a well prepared seedbed. 7. This plant requires a long frost-free period. 8. We use this method for increasing food production. 9. The use of legumes for food is well known. 10. Our aim is to increase yields of the main crops. 11. This crop yields better when fertilizers are applied.

Задание 5. *Переведите предложения, обращая внимание на: due, due to, to be due to:*

1. This soil has been improved due to the growing of legumes. 2. The seedbed should be prepared at the due time. 3. The increase in yield was due to the proper management of the soil. 4. Seed should be sown at the due depth. 5. Losses of nutrients from the soil may be due to different factors. 6. Due to mechanization the work on the farm has become much more effective.

Задание 6. *Ответьте на вопросы к тексту:*

1. Why is good seedbed necessary? 2. Is moisture required by germinating seeds? 3. What is cultivation done for? 4. Why is it recommended to cultivate the soil early in the season? 5. What should be done to conserve moisture? 6. Is a good seedbed the only factor providing proper germination of seed?

LESSON 10

ГРАММАТИКА И ЛЕКСИКА:

1. Инфинитивные конструкции. Сложное подлежащее и сложное дополнение.
2. *No* как определение.
3. Союз *whether*.

ТЕКСТ: CULTURAL PRACTICES

There are many ways in which the yield can be affected by management of a crop.

No crop will grow well unless it gets a good start in a suitable seedbed. The seedbed must be either fine or coarse, it must have fine soil at the depth where the seed is to be sown, and it should be moist. Different crops require different seedbed. Sowing a crop must be done properly. The seed is to be drilled in at the right depth, depending on the size of the seed and the season. Generally the smaller the seed the closer it has to be sown to the surface. The time of sowing the crop depends on the length of the growing season and of the variety chosen, as well as on the moisture conditions. The sowing rate must be lower in dry areas with no rain for long periods. In such areas plants compete strongly for soil water, and irrigation should be done to obtain higher yields. The soil being rich in nutrients, the rate of sowing may be increased. This factor is of great importance, for too thick or too thin sowing will lower grain production.

Proper cultivation of a crop is often essential if the highest yield is to be obtained, and the main reason of cultivation is to kill weeds when they are young.

To harvest a crop at a proper time is also one of the conditions greatly affecting the crop production. However, before fixing the time for harvesting we should know, whether the crop is to be used for hay or for silage. Crops to be harvested for silage must be cut when they are bulky and still succulent. Crops used for hay are usually cut before they set seed. As to grain crops, they should not be harvested until the grain is mature, and hot dry weather is usually the best for grain harvests.

Mechanical harvesting helps the farmers to harvest field crops while they are in peak condition, more timely harvest reducing the risk of bad weather causing a loss in quantity and quality. For modern harvesting equipment to be of greater effect, crop varieties better adapted to mechanical harvesting have been developed. They are more uniform in height and ripen more evenly. Also crops with shorter growing season are being developed. Some grain varieties do not shatter easily as they are cut with modern harvesters.

The problem of choosing proper soil management practices is highly essential as it not only affects the yield, but also maintains high fertility level, prevents soil erosion, and improves soil structure.

Пояснения к тексту:

no crop will grow – никакая культура не будет расти

Лексический минимум к тексту:

to drill, dry, equipment, to cut, management, to ripen, silage, to shatter, hot, thick sowing, thin sowing, to cause, to compete, close, to get, to prevent, suitable, no, weather, whether.

Задание 1. В следующих предложениях определите, какую функцию выполняет инфинитив. Переведите предложения:

1. The aim of our work is to prepare a sufficiently fine seedbed. 2. We spoke about new winter hardy crop varieties to be developed for northern regions. 3. To prepare a good seedbed we must use both disc and harrow on this soil. 4. To have sufficient amount of hay and silage we must grow forage crops on rather big areas. 5. Crops grown in this region should be frost resistant in order to be able to withstand adverse effects of cold and windy weather. 6. As the weather was very hot and dry, the farmers had to irrigate the crop area. 7. For grasses to germinate more rapidly farmers have to add some manure to the soil. 8. This soil being low in organic matter, a lot of barnyard manure is to be applied. 9. The soils of our region are too acid to produce good stands of alfalfa. 10. Fertilizers to be applied should contain required amounts of nitrogen, phosphorus and potassium. II. We do not grow enough forage crops on our farm to feed our livestock properly.

Задание 2. Назовите номера предложений, при переводе которых перед инфинитивом нужно употребить: а) чтобы, б) который:

1. Small seeds are to be sown close to the soil surface. 2. To increase yields in dry areas with long rainless periods irrigation is to be used. 3. Crops to be harvested mechanically should be uniform in height. 4. Proper soil management practices should be applied to maintain soil fertility and prevent erosion. 5. To get a good start in a proper seedbed is of great importance for the plant to develop normally. 6. The sowing rate to be followed varies with soil and climatic conditions of the area. 7. Our aim is to develop new varieties better adapted to dry conditions. 8. The weather is too bad to begin harvesting. 9. We have to delay harvesting these crops because of the grain being still immature. 10. Crops to be used for hay are to be cut before they set seed. 11. The main reason of some tillage operations is to kill weeds. 12. In order to harvest all the field crops at the due time we must use modern harvesting equipment.

Задание 3. Переведите следующие сочетания слов:

weather conditions; soil management practices; grain crop varieties; high soil fertility; higher soil fertility; the highest soil fertility; more fertilizers; much more fertilizers; less fertilizers; more useful practice; the most useful practice.

Задание 4. Переведите предложения, содержащие отрицательное местоимение **no**:

1. No plant can grow without water. 2. There will be no germination if the soil is not warm enough. 3. Seed requires no light for its germination. 4. There has been no rain for 2 months.

Задание 5. Переведите предложения, обращая внимание на различные значения **for**:

1. Students worked on this farm for a month. 2. Seed must have enough moisture for germination. 3. This seed does not germinate well, for the soil is not moist enough. 4. We could work in the field for some days, for the weather was too rainy for harvesting.

Задание 6. *Переведите предложения, обращая внимание на сложное подлежащее:*

1. Legumes are known to improve soil fertility. 2. This soil has been found to be deficient in some plant nutrients. 3. This seedbed is believed to contain too much moisture. 4. That farm was said to produce high quality cotton. 5. Alfalfa and clover are known to belong to forage crops. 6. This area was considered to be suitable for growing cereals. 7. Our farm is expected to produce high yield of rye this year. 8. He is thought to become an experienced agronomist in some years.

Задание 7. *Переведите следующие предложения, содержащие сложное подлежащее:*

1. Proper crop rotation is sure to help in maintaining soil fertility and producing higher yields. 2. Crop rotation alone is unlikely to increase fertility of this soil. 3. Such rotation does not seem to be suitable for the temperate zone. 4. The alternation of grasses and legumes is likely to increase the organic matter content of the soil. 5. Continuous growth of the same crop is certain to cause the loss of organic matter from the soil. 6. Good development of this crop seems to be the result of growing it after a legume crop.

Задание 8. *Переведите предложения, содержащие сложное дополнение:*

1. We know organic matter to affect soil fertility greatly. 2. Any student knows different crops to require different kinds of seedbed. 3. The agronomist says this soil to be rich in all nutrients. 4. The farmer believes the application of commercial fertilizers to improve soil fertility. 5. All farmers know proper preparation of the seedbed to insure a good stand. 6. We know the time of sowing to depend on the variety chosen as well as on the moisture conditions of the soil.

Задание 9. *Назовите номера предложений, содержащих сложное дополнение:*

1. This crop is likely to belong to the grass family. 2. All students of agriculture know both spring and winter wheat to be annuals. 3. The farmer expects the green manure he has plowed under to improve the soil structure. 4. Too much nitrogen is sure to cause lodging in cereals. 5. The agriculturists know continuous cereal growing to result in the loss of organic matter from the soil. 6. Plants are to absorb most of their nutrients from the soil. 7. Winter hardiness is considered to be of great importance in winter varieties. 8. Oats are believed to be not so cold resistant as wheat and barley.

Задание 10. *Расположите вопросы в таком порядке, чтобы они могли служить планом к тексту, и ответьте на них:*

1. Why are proper soil management practices important? 2. What does the proper time of sowing depend on? 3. Do different crops require the same kind of seedbed? 4. Is crop production affected by the time of harvesting? 5. Why is mechanical harvesting used? 6. What does the sowing rate vary with?

LESSON 11

ГРАММАТИКА И ЛЕКСИКА:

1. Части речи. Словообразование.
2. Предлоги.
3. Союз as

ТЕКСТ: GARDENING AS A PROFESSION

Gardening, as a professional activity, encompasses a diverse range of practices and fields that require a deep understanding of horticulture, landscape design, and environmental stewardship. **Professional** gardeners, landscapers, horticulturists, and agricultural specialists play crucial roles in enhancing green spaces, promoting biodiversity, and ensuring sustainable practices in plant cultivation.

Overview of Professional Gardening

Horticulture: At the core of professional gardening is horticulture, the science and art of cultivating plants. This includes studying plant biology, propagation techniques, soil health, pest management, and climate considerations. Horticulturists often specialize in particular types of plants, such as flowers, vegetables, fruits, or trees.

Landscape Design: Professional gardeners often engage in landscape design, which involves planning and designing outdoor spaces. This field combines aesthetics with functionality, considering factors like local ecology, client preferences, and intended use. Landscape architects and designers create visually appealing environments, which can include gardens, parks, commercial properties, and residential settings.

Environment Sustainability: In recent years, there has been an increasing emphasis on sustainable gardening practices. Professionals in this field advocate for environmentally responsible methods, such as organic gardening, permaculture*, and integrating native plants into landscapes. These practices reduce waste, conserve water, and support local ecosystems, making professional gardening a vital component of environmental conservation. Only a professional gardener can take care of the environment properly. A gardener can create a sustainable garden by proper monitoring of the soil, application of organic fertilizers, making the soil suitable for plants, conserving water as needed and planting different species of trees there. As a result, our ecosystems will be healthy in the long term and the fertility of the land will be ready for the future.

Agricultural Production: Many professional gardeners focus on agriculture, working to cultivate crops that meet both local and global demands. This can involve large-scale farming or urban agriculture initiatives that prioritize fresh, healthy food sources. Professionals in this area may also engage in research and development to improve crop yields and introduce innovative farming techniques.

Education and Community Engagement: Professional gardeners often take on roles as educators or community leaders, sharing their knowledge and skills with others. This can include leading workshops, organizing community gardening projects, or engaging in public outreach to promote the benefits of gardening. Education is a critical aspect, as it empowers individuals to understand the importance of plants and responsible gardening practices.

Professional gardening is a multifaceted career that combines science, art, and environmental stewardship. As society becomes increasingly aware of the importance of green spaces and sustainable practices, the demand for skilled professionals in this field is likely to grow. With their expertise, professional gardeners play a crucial role in enhancing the beauty of our surroundings, promoting sustainability, and fostering a connection between people and nature.

Пояснения к тексту:

at the core of – в основе

climate considerations – (зд.) климатические условия

client preferences – предпочтения клиентов

intended use – предполагаемое использование

in public outreach to promote the benefits of gardening – в общественной работе по пропаганде преимуществ садоводства

environmental stewardship – забота об окружающей среде

visually appealing environments – визуально привлекательную среду

advocate for environmentally responsible methods – выступают за экологически ответственные методы

***Пермакультура** — подход к проектированию окружающего пространства и система ведения сельского хозяйства, основанные на взаимосвязях из естественных экосистем

Лексический минимум к тексту

horticulture – садоводство

permaculture – пермакультура

landscape design – ландшафтный дизайн

biodiversity – биоразнообразие

to ensure – обеспечивать

sustainable – устойчивый

sustainability – устойчивость; экологичность

propagation techniques – методы размножения

soil health – здоровье почвы

pest management – борьба с вредителями

to enhance – улучшать

to engage – вовлекать

to promote – продвигать

waste – отходы

vital – жизненно важный

to foster – содействовать

as – как, в качестве; когда, по мере, по мере того как; так как

Упражнения:

Задание 1. Выберите правильную форму глагола из предложенных в скобках, чтобы заполнить пропуски в предложениях:

1. Gardening, as a professional activity, (encompasses / encompassing) a diverse range of practices.
2. Professional gardeners (play / playing) crucial roles in enhancing green spaces.
3. Horticulture (is / being) at the core of professional gardening.
4. Landscape architects (create / creating) visually appealing environments.
5. These practices (reduce / reducing) waste and conserve water.
6. Many professional gardeners (focus / focusing) on agriculture.
7. Education (empowers / empowering) individuals to understand the importance of plants.
8. The demand for skilled professionals (is / being) likely to grow.

Задание 2. Образование существительных: преобразуйте глаголы в скобках в существительные, чтобы заполнить пропуски в предложениях:

1. Professional gardeners require a deep (understand) of horticulture.
2. Landscape (design) is crucial in (create) outdoor spaces.

3. Sustainable practices focus on waste (reduce) and water conservation.
4. Many professionals engage in crop (cultivate).
5. Public (outreach) promotes the benefits of gardening.
6. The (combine) of science, art, and environmental stewardship is key in professional gardening.
7. They work on (improve) crop yields and introduce new techniques.
8. The (engage) of community is important for sharing skills and knowledge.

Задание 3. Прилагательные и наречия: заполните пропуски, используя правильную форму прилагательных или наречий, производных от слов в скобках:

1. They play (crucial) important roles.
2. They create (visual) appealing environments.
3. Professionals advocate for (environment) responsible methods.
4. The demand for skilled professionals is (likely) to grow.
5. They engage in (sustain) practices.
6. The (long) term health of ecosystems depends on sustainable actions.
7. They work to (proper) take care of the environment.
8. The soil needs to be monitored (regular) for health.

Задание 4. Предлоги: выберите правильный предлог, чтобы заполнить пропуски в предложениях:

1. Horticulture is at the core _____ professional gardening.
2. They specialize _____ particular types of plants.
3. They consider factors like client preferences and intended use _____ landscape design.
4. They advocate _____ environmentally responsible methods.
5. They focus _____ agriculture to meet demands.
6. Professionals engage _____ research to improve crop yields.
7. They share their knowledge _____ others.
8. They foster a connection _____ people and nature.

Задание 5. Словообразование и части речи: определите часть речи (существительное, глагол, прилагательное, наречие) выделенных слов и объясните их роль в предложении:

1. Professional gardeners **play** crucial roles.
2. The **science** and art of cultivating plants.
3. They create **visually** appealing environments.
4. The **increasing** emphasis on sustainable practices.
5. They **conserve** water.
6. **Education** is a critical aspect.

7. The **beauty** of our surroundings.
8. The demand for **skilled** professionals.

Задание 6. *Ответьте на вопросы к тексту:*

1. Which of the following is NOT a core component of professional gardening according to the text?
a) Horticulture b) Landscape Design c) Agricultural Production d) Financial Management
2. According to the text, all gardeners can effectively take care of the environment. (True / False)
3. Why is education considered a critical aspect of professional gardening?
4. What are some of the environmentally responsible methods that professionals in sustainable gardening advocate for?
5. How do professional gardeners contribute to the health of ecosystems in the long term?
6. Where can professional gardeners apply landscape design principles?
7. Based on the text, what is meant by the term “environmental stewardship” in the context of professional gardening?
8. According to the text, when did the emphasis on sustainable gardening practices increase?

1. Дополнительные тексты для чтения

Текст №1: FARM MANURE

Fertility is one of the most essential properties of the soil, as high crop production always greatly depends on it.

A lot of factors may help to produce soil fertility. A fertile soil is warm, moist and well structured; it is neither too acid nor too alkaline, and contains a great amount of soil nutrients. Since good structure and the supply of nutrients depend on organic matter, one can say that fertility of a soil is greatly affected by the organic matter it contains.

However, plant nutrients are lost from the soil in different ways. To compensate the nutrients the growing crops remove, as well as those lost through erosion and leaching farmers have to use barnyard manure and green manure crops.

Farm or barnyard manure is highly important for growing crops, its value for maintenance of soil productivity having been recognized since early times. Manure can improve the soil that is cropped because it contains such substances as nitrogen, phosphorus and potash. It also adds humus which is the product of organic matter decomposition.

When the soil is low in organic matter, the growing of crops which are to be plowed under may be desirable. Such crops are referred to as green manure crops. The aim of growing them is to increase organic matter and nitrogen content of the soil. Cover crops which are used to protect the soil surface should commonly be turned under for green manure, too.

Green manure is primarily used in order to increase the yield of subsequent crops as well as to improve the fertility of the soil, supplying organic matter and thus compensating for its losses through cultivation. The purpose of applying green manure is also to prevent the leaching of plant nutrients from the soil during periods between regular crops, and to increase the supply of combined nitrogen when leguminous plants are turned under.

However, it is not always practically possible to increase the organic matter content of a given soil to any considerable extent. The beneficial results often obtained from incorporating a green manure crop are due to increased availability of soil nutrients rather than to an increase in the organic matter content in the cultivated soil.

Задания к тексту №1:

1. Переведите текст устно.
2. Найдите в тексте место, где дается характеристика плодородной почвы.

Текст №2: CROP ROTATION

Crop rotation is known to be a system of growing different kinds of crops one after another on the same land. A rotation may be considered good or bad depending on its effect on soil productivity. It should also be measured by its economic returns.

Continuous growth of the same crop has been found to result in the loss of organic matter from the soil, which is sure to have a bad effect on its tillage. The growth of grass pasture and deep-rooted legume crops in rotation is likely to correct this situation through maintenance of organic matter. Besides, the alternation of deep-rooted and shallow-rooted crops prevents continuous absorption of plant nutrients from the same root zone year after year. As to nitrogen for non-leguminous crops, it may be provided by legumes included in the rotation. However, it should be mentioned that rotations are unlikely to supply other plant nutrients in which the soil may be deficient.

Legumes are more efficient in fixation of nitrogen on soils with low rather than high nitrogen content. For this reason, a legume is considered to be a better nitrogen fixer when two or more crops come between applications of barnyard manure. Naturally, legume crops are usually grown previous to crops that require large amounts of nitrogen. Thus, increased yields of crops that follow alfalfa seem to result from the addition of nitrogen to the soil contributed by alfalfa crop.

The preceding crop has an important influence on crop yields. So, if deep-rooted legumes are followed by corn, the latter may yield more as a result of better root penetration as well as due to nitrogen residues.

Crop sequences are very important under dry land conditions because of the difference in residual soil moisture left by various preceding crops. Thus, small grains yield more after corn than after small grains or sorghum, because corn leaves more moisture in the soil.

Though the proper rotation is of great importance in farming, this practice alone is unlikely to produce maximum yields. For the highest yields to be obtained both crop rotation and fertilization are to be used.

Задания к тексту №2:

1. Переведите текст.
2. Ответьте на вопросы к тексту:
 1. What is crop rotation?
 2. What is crop rotation used for?
 3. Why are legumes included in the rotation?
 4. What examples of crop rotations can you give?
 5. Can the proper rotation alone provide the highest yield?

Текст №3: CEREAL OR GRAIN CROPS

Cereals are those members of the grass family which have edible starchy seeds. Everybody knows wheat, barley, rye, oats, maize (known as corn in America), rice, sorghum and millets to be the most common cereals. They are all spring or winter annuals, that is, they complete their life cycle in a single growing season. The temperate zone cereals or cool-season species known as small grains (wheat, barley, oats, and rye) are to be planted in the fall or spring and harvested in mid-to-late summer. The rest of the cereals belong to warm-season species sown in late spring or early summer and harvested in the fall. The main aim in growing cereals is to produce grain to be used either as human food or as feed for livestock.

Of the cereals raised wheat, rice and corn are the world's three major grain crops, all being about equally important in terms of world production. Although rice seems to constitute the main food of more people, wheat is the first in importance on a world scale of all the cereals as to both the total area sown and the annual production. It is the main source of carbohydrates for human nutrition.

There is a number of reasons why cereals are the man's leading food source. We know cereals to be annuals, they produce food in a relatively short period of time. In addition, they are well adapted to a variety of soils, climates and cropping systems. As cereals require relatively little labour, large areas of land can be cropped, and the return in terms of food per unit of labour is high. They are known to be rather resistant to diseases and insects. But above all the grain the cereals produce is easily harvested, cleaned and stored, all these operations, including sowing, being highly mechanized.

General cultural practices required in growing grain crops are quite similar. It is known that they do best on moderately fine but not pulverized seedbeds containing a proper amount of moisture near the soil surface. The seeding depth has been found to vary from 1 to 3 inches. The farmer cannot expect cereals to grow well if they have been sown too shallow because in this case the plants will be poorly supplied with water due to its evaporation from the soil surface.

A problem common to all cereals is lodging resulting from excessively high rates of nitrogen and heavy seeding rates which may produce tall, weak-stemmed plants that fall to the ground. The aim of plant breeders is to develop varieties that will not lodge.

Though cereals do not supply enough protein and vitamins necessary for a balanced diet, they are sure to remain a major source of food for people throughout the world.

Задания к тексту №3:

1. Переведите текст устно.
2. Ответьте на вопросы к тексту устно:
 1. What cereals belong to cool-season species (to warm season species)?
 2. What is the aim of growing cereals?
 3. Why is wheat the most valuable of the cereals raised by man?
 4. Why are cereals the leading food source for people?
 5. What soils are best for cereals?
 6. Why shouldn't cereals be seeded too shallow?
 7. What are the reasons of lodging grain crops?
 8. Are cereals high in protein?

Текст №4: WEEDS

A weed may be defined as a plant growing where it is not wanted. It means that any plant including a crop plant may be classified as a weed in certain situations. Most people, however, do not consider crop plants to be weeds, regardless of where they are found growing. To most of them a weed is a troublesome, wild plant that has invaded their fields. Whether crop plants should be called weeds would depend largely on how objectionable they actually are. For example, barley growing in a field of oats that is to be used as feed for livestock could hardly be considered a weed because it is not objectionable under such conditions. On the contrary, if the same field of oats is being grown for seed, the mixture would be undesirable because considerable time and labour would be required in removing the barley seed. In this case barley would undoubtedly be considered a weed.

Weeds in field crops are objectionable and harmful for a variety of reasons. They reduce the yields of crops as well as their quality. There are weeds which are known to be poisonous both to livestock and man. One should also remember that some weed species serve as host plants for certain insects and diseases that attack crops. They may thus act as sources of infection for farm crops.

The adverse effect of weeds on crop production is mainly associated with the decreased economic return from the land. Estimates show that weeds are responsible for an overall reduction of somewhat more than 10 percent in the yield of the major world crops, representing a huge annual loss of good supplies. Much of this loss occurs because weeds deprive the crop of water, mineral nutrients and light which would otherwise be available and so prevent it from producing high yields.

The extent to which yields may be reduced as a result of competition caused by weeds varies greatly. It depends on the competitive ability of the crop grown, on the type of weeds present, on the degree of infestation and on the season the crop is sown or planted at.

There exist different methods of controlling weeds in farm crops. The oldest but still common method is believed to be early and frequent cultivation of the land with different types of cultivators and harrows. These implements can be used to advantage in weedy fields of row crops such as corn, potatoes, soybeans, sugar beets and beans. Crop rotation is another valuable aid in destroying weeds since many of them are associated with certain crops. That is why the number of weeds increases, provided a crop is continuously grown on the same land. The control of weeds through the use of chemical herbicides has expanded considerably. For a herbicide to be effective it should be used at a certain stage of the crop growth when it produces the least or no injury to the crop, the rate and method of applying the herbicide being of great importance as well.

Задания к тексту №4:

1. Переведите текст устно.
2. Назовите причины вредоносности: сорняков в полевых культурах, о которых говорится в тексте.

Текст №5: CROP VARIETIES

Crop production depends on different factors. Many of them cannot be controlled by man, but some of them can.

One of the important factors of high crop production depending on the farmer is selection of the best varieties. The most popular varieties for the area are those which produce high yields of high quality product. These varieties should also be resistant to pest and diseases which are often a problem in many regions.

Information on the most important crops grown in the area may be obtained from regional experiment stations. They inform farm agronomists about yields, quality, disease resistance and other characteristics of different varieties. On the basis of such information the agronomists select the varieties for their farms.

But as it is not possible to select ideal varieties, much work is done on their improvement. The aim of such improvement is development of a variety with combination of all the necessary characteristics.

Задания к тексту №5:

1. Прочтите текст, не пользуясь словарем.
2. Исходя из содержания текста, скажите, какие основные свойства сельскохозяйственных культур следует учитывать при отборе сортов для выращивания.
3. Сформулируйте кратко основную идею текста.

Текст №6: PLANTS IN ECOSYSTEM

Ecosystem is the smallest unit in nature that can live independently. It includes all plants, all animals, and the non-living part of the environment, such as soil and climatic factors of a natural geographic area.

Plant is always part of an ecosystem. Different parts of a natural ecosystem should be always in balance. This natural balance must not be destroyed by man.

The environment is constantly developing, this process is known as evolution. In the process of evolution new plant varieties may be developed.

However, natural evolution is a very long process. Nowadays agriculturists of all countries have their programme of plant improvement. Under this programme the evolution of crop varieties may not require more than some years.

As a result some new varieties well adapted to the environmental conditions will be developed, and crop production in the area will be higher.

Задания к тексту №6:

1. Прочтите текст, не пользуясь словарем. Исходя из содержания текста, скажите по-русски, почему при наличии процесса естественной эволюции растительного мира существует необходимость в улучшении растений человеком.
2. Определите, какие предложения не соответствуют содержанию текста. Исправьте их:
 1. Natural evolution is the most important way of crop improvement.
 2. Ecosystem includes both living and non-living parts of the environment.
 3. Crop production is not influenced by evolution of the environment.

Текст №7: LIFE CYCLE

According to their life cycle plants are classified as annuals, biennials and perennials. The life cycle of a plant includes all the phases of plant growth starting with a seed. Many important crop plants complete their life cycle in one growing season. Such plants are known as annuals. Some annuals are spring annuals planted in spring and harvested in autumn. There are also winter annuals planted in autumn and harvested next summer. Winter wheat is an example of a winter annual and corn is a typical spring annual. Some plants complete their life cycle in two seasons. During the first season stems and roots are produced. Second-year plants produce flowers, fruit and seed and at the end of the second season they die. Beet is a good example of a biennial plant. People use roots of biennial plants and harvest root crops at the end of the first season. Many plants live for more than two seasons, such plants are known as perennials. They produce seed every year. After seeds have been produced, the plants do not die. They are not active during winter, but in spring they produce new growth. Many of our hay and pasture crops are perennials. The examples of perennial crops are alfalfa and clovers.

Задания к тексту №7:

1. Прочтите текст, не пользуясь словарем, и скажите, какие культуры приводятся автором в качестве примеров озимых и яровых однолетних культур, двулетних культур и многолетних злаков.
2. Прочтите текст еще раз. Разделите его на 4 абзаца и озаглавьте каждый из них.

Текст № 8: LEGUMES FOR PROTEIN AND OIL

Cereals are the main source of energy in the human diet. But they do not contain much protein. Edible legumes are high in plant protein which is necessary both for man and farm animals.

The main edible legumes grown in the United States include soybeans, field beans and field peas. Soybeans are now one of the leading farm crops in this country. Soybeans area has increased and now this crop is economically as important as corn.

The soybean plant is adapted to different soil and climatic conditions. There are many varieties of this crop. Some of them are adapted to northern and some to southern conditions.

Soybeans are mainly grown for forage, grain or as a vegetable. They can also be grown as a green manure crop. As a forage crop soybeans are used for pasture, hay and silage. Soybean grain is highly nutritious and many human foods are produced from it. The protein content of soybean seed varies from 30 to 50 percent and the oil content from 15 to 25 percent. The grain can be processed into oil used either as human food or as industrial material.

The crop for grain should be harvested when seeds are low in moisture, not more than 13 percent. In regions where soybeans are harvested with high moisture content air ventilation should be provided in the storage.

Задания к тексту №8:

1. Просмотрите текст и скажите, о какой культуре говорится в нем.
2. Назовите все факторы, указывающие на важность сои.
3. Передайте содержание последнего абзаца.

Текст № 9: PHOTOSYNTHESIS

1.The most important difference between plants and animals is that plants can produce food from inorganic materials. The process by which carbohydrates are produced is known as "photosynthesis". It is also the only process by which oxygen is supplied into the air.

2.The process of photosynthesis is very complex consisting of many individual reactions. The conditions necessary for photosynthesis are light, carbon dioxide, water, some essential nutrients and due temperature.

3.Light energy is necessary to transform carbon dioxide and water into carbohydrates. Water and nutrients required for manufacturing carbohydrates come from the soil through the roots. That is why leaves will function well if the plant has a highly developed root system. Carbohydrates produced by plants are the most important source of food for all plants and animals.

4.The main limiting factor for the daily amount of photosynthesis is the duration and intensity of sunlight. The process may also be limited by the amount of carbon dioxide, the supply of water and unfavourable temperature.

5.The word "photosynthesis" consists of two parts, "photo" which is "light" and synthesis which is "building". So, photosynthesis is building with light.

Задания к тексту №9:

1. Прочтите текст и переведите текст.
2. Скажите, почему процесс фотосинтеза так важен для человека. Подтвердите свой ответ соответствующими предложениями из текста.
3. Укажите номера абзацев, в которых содержится ответ на вопрос: "От чего зависит хорошее функционирование листьев с точки зрения фотосинтеза?"

Текст № 10: A NEW HYBRID

A new hybrid has been developed by crossing wheat and rye. It is the first man-made cereal named triticale. Its name comes from a combination of the scientific names for wheat, *Triticum*, and rye, *Secale*.

The aims of hybridization between the two crops are increasing protein content of wheat and combining high yields of wheat with drought-resistance of rye.

The first hybrids between wheat and rye were obtained in 1875. But those hybrids were highly sterile and did not reproduce. Triticale as a variety was first produced in Hungary in 1968. In North America the first variety of triticale was developed in 1970. A few thousand hectares of triticale were grown in the Soviet Union in 1973.

At present there are triticales that can be produced commercially. The crop is classed now as a feed grain. As such it is equivalent to other cereals. But the grain quality is not very good for bread making.

Protein content of the hybrid can be 30 percent, compared to 8 or 10 percent in corn and 13 - 15 percent in rye and wheat. Triticale protein is high in essential amino acids which make the crop very good as feed for livestock.

Plant breeders are now working at developing triticales with shorter stems that will not lodge. Much breeding work should be done in improving the grain quality and increasing the yield.

Задания к тексту №10:

1. Расположите вопросы так, чтобы они могли служить планом к тексту.
 - 1.What triticale characteristics should be improved?
 - 2.What is triticale?
 - 3.What are the uses of the crop?
 - 4.Are there any varieties of triticale?
 - 5.What characteristic makes triticale superior to wheat and rye?
 6. What are the aims of crossing wheat and rye?
2. Дайте оценку тритикале по сравнению с пшеницей и рожью (устно).

Текст № 11: GERMINATION

1. When environmental conditions are favourable a young dormant plant begins to grow. This change from a dormant condition to that of activity is known as germination.

2. Seeds of various kinds of plants require specific conditions for germination. These conditions include adequate moisture, due temperature and proper amount of air. Seeds of a very few plants require light as well. Unless all these conditions are provided, the seeds will not germinate properly.

3. The most favourable temperature for germination varies with the crop. Some seeds require high temperature for good germination, others will germinate best at lower temperature. Oats, for example, germinate at a much lower temperature than corn.

4. When the seed is sown in a firm, moist seedbed, quick and uniform germination is obtained, provided other conditions are favourable. A firm seedbed is desired because under such conditions the seed and soil come into closer contact and moisture becomes available to the seed. Too much moisture is undesirable because it may reduce germination due to deficiency of air.

5. Air is needed for germination, for oxygen is necessary for certain chemical reactions that take place in the plant food stored in the seed.

Задания к тексту №11:

1. Прочтите текст, не пользуясь словарем, и укажите номер абзаца, где говорится о том, какой должна быть почва для хорошего прорастания семян.
2. Определите, какие утверждения не соответствуют содержанию текста: 1. Seeds do not require light for germination. 2. Any seed begins germinating when conditions are favourable. 3. Germinating seeds require more moisture than air.
3. Исходя из содержания текста, скажите, при каких условиях семена не прорастут.

Текст № 12: SOIL WATER

Soil water is one of the most important factors affecting crop production. The success of a cropping system may sometimes depend on adequate irrigation and drainage programme.

Water must be available in the soil to compensate its losses through some natural processes during the growing season. Soil water is needed as it conducts nutrients for growing crops. It also has a great effect on aeration and temperature conditions in the soil. The soil must be able to provide water for maximum yield to be obtained.

However, the moisture content of a soil is not always optimum for the highest crop production. Usually there is either a deficiency or a too big amount of it, and crop production is reduced.

Some soils contain too much water at all times, and to be used for agriculture they require special drainage. There are soils which are always deficient in moisture because of inadequate rainfall, and will produce poor crops unless they are irrigated. Most agricultural soils have enough water to meet plant requirements during a considerable part of the year.

Soil water is also a very essential factor in cultivation. It often determines the time and the depth of sowing. If there is too much water, the use of machine cultivation and of harvesting machinery may be not possible. Insufficient amount of moisture makes the soil too hard and very difficult to cultivate.

Задания к тексту №12:

1. Прочтите текст, найдите место в тексте, где говорится о роли воды в снабжении растений питательными веществами.
2. Скажите максимально кратко, какую роль выполняет почвенная влага при выращивании с.-х. культур.

Текст № 13: TILLAGE

After seedbed preparation and the planting of the crop, the young plants start to grow in a few days. When row crops such as corn, soybeans, and cotton are grown, farmers have to cultivate to control weeds. Cultivation includes some tillage operations. One of the purposes of tillage is to maintain good soil tilth, that is the physical condition of the soil providing normal plant growth. A soil with a good tilth will be mellow, friable and easily worked. These conditions are necessary for the roots to absorb nutrients, water and air needed for plant development.

Tillage at the due time and with the proper machines will produce desirable soil tilth. However, too much tillage in preparing the seedbed or cultivating crops may be undesirable.

Nowadays the traditional tillage practice is increasingly replaced by minimum tillage, its main advantages being better soil protection from erosion and lower soil compaction. Under minimum tillage the crop yield is usually as good as under traditional cultivation, while the number of operations is reduced. Farm equipment used now can prepare the soil, apply fertilizers, and plant the seed in one operation.

Vegetable and small fruits can sometimes be grown with no tillage after planting the crop, weeds being controlled with herbicides. Yields of potatoes, carrots and some other crops grown under such system are sometimes even higher than yields when cultivation is practiced.

Задания к тексту №13:

1. Прочтите текст и переведите его устно.
2. Исходя из содержания текста, закончите следующие предложения:
 1. When no tillage is practised, weeds are ...
 2. Under traditional cultivation yields may be as high as under....
 3. Minimum tillage better protects the soil from

Текст № 14: DRAINAGE AND IRRIGATION

One way of drainage is the natural property of the soil to allow water to pass deeply into the ground. The ease with which water can pass through a soil is influenced by soil texture. The coarser the particles, the more rapidly the water passes through the soil. So, light sandy soils are more water permeable than heavy clays.

Another way is artificial drainage, that is the removal of water which is not needed in order to maintain correct balance of air and water in the soil. Good drainage makes a soil easier to cultivate and increases the feeding area for plant roots. A well drained soil will also have enough air for aerobic bacteria to decompose organic matter into humus and so to provide food for the plant.

Where and when the supply of water is insufficient, irrigation is needed. There are two main sources of irrigation water: surface water and ground water. The former may be obtained from different rivers and other water reservoirs, while the latter is provided by the underground water stores.

The amount of water required for irrigation depends on a number of factors. These are the type of soil, the water deficit in the soil, the type of crop and its phase of growth. The irrigation requirement of a crop is not the same throughout its growing period, most plants requiring larger quantities of water during the later periods of growth.

Задания к тексту №14:

1. Прочтите текст, найдите в первых двух абзацах текста предложения, в которых говорится об основных способах осушения почвы.

2. Ответьте на вопросы к тексту:

1. When is drainage necessary?
2. When is irrigation necessary?
3. Do plants need the same amount of water during the growing season?

Текст № 15: ESSENTIAL MINERALS

To grow well, plants, like animals and people, need a balanced diet of several specific minerals.

The minerals required by plants may be divided into two groups: macronutrients needed in relatively large amounts, and micronutrients needed in much smaller amounts.

Among macronutrients, nitrogen, potassium, and phosphorus are known to be primary plant feeds. They are most often applied as commercial fertilizers. But to be absorbed and used by plants each of them must be combined with some other elements. For example, nitrogen is believed to be more available to plants when it is combined with oxygen as a nitrate or with hydrogen, making ammonia.

Among the other macronutrients, calcium is an important plant food, being the main constituent of lime. If a soil is very acid, with a PH value less than 5.0, lime can be added to correct acidity. All plants are affected by the degree of acidity or alkalinity of the soil, high acidity making some elements unavailable to plants. The presence of lime is found to make essential plant food elements more easily available. Nitrogen, phosphorus and potassium are more easily available in a well limed soil than in an acid soil.

There are seven micronutrients — iron, manganese, zinc, molybdenum, copper, and chlorine. They are not often applied as fertilizers. But they are also essential for plant growth and may play some role in respiration or photosynthesis.

Задания к тексту №15:

1. Прочтите текст, исходя из содержания текста, скажите, в каком виде основные минеральные вещества лучше усваиваются растениями.
2. Сформулируйте как можно короче основное содержание текста.

Текст № 16: BENEFICIAL EFFECTS OF PROPER ROTATIONS

Proper crop rotation is one of the essential factors of good farm management.

Continuous growing of a crop is likely to produce good effect for a few years, but well-planned rotations are best over a long period of time because they conserve and improve the soil.

The physical condition of the soil is known to be unfavourably affected by growing cultivated crops for many years. However, if sod-forming grasses and legumes are included in the rotation, the tilth is considerably improved. Legumes are also valuable because they add organic matter to the soil. Besides, they are able to fix nitrogen from the air and convert it into a form that can be used by all growing crops.

Various crops differ in the kind and amount of nutrients they take from the soil, that is why crop rotation helps to maintain the proper nutritional balance in the soil.

Most weeds and pests are believed to be controlled by crop rotation. Diseases and insects usually attack certain crops, and they cannot develop during the periods when resistant crops are grown.

With crop rotation labour is distributed more uniformly, as peak work periods on farms growing different crops come not at the same time.

Finally, the risk of poor production is usually greater with one crop than when several crops are grown.

Задания к тексту №16:

1. Прочтите текст и переведите устно.
2. Прокомментируйте роль бобовых в севообороте культур.
3. Перечислите, какие преимущества при выращивании сельскохозяйственных культур дает использование системы севооборота.

Текст № 17: BREAK CROPS

The acreage of cereals may sometimes be increased considerably by growing these crops one after another on the same area. It is not uncommon to find four, five or even more successive or following one after another cereal crops in a rotation. If cereal crops are grown on the same land for many years in succession, such practice is known as continuous cereal growing. In the past this practice often resulted in low yields due to weeds and diseases. Today there is better control of these by chemicals such as fungicides and herbicides and thus farmers have the possibility of growing cereal crops for longer periods of time.

In practice, it is common to grow wheat for two or three years, barley for longer period and then to break the sequence with a crop which is called a break crop. The aim of a break crop is to prevent diseases from increasing.

The farmers usually grow those break crops which are as profitable to grow as cereal crops.

The break crop to be grown varies with the soil and climate, farming and rotation systems and other factors.

There are two main types of break crops:

1. Combinable break crops. They are peas, beans, oil seed crops, corn, etc.
2. Other break crops, such as root crops and forage crops.

Задания к тексту №17:

1. Прочтите текст, не пользуясь словарем, и скажите, что такое «a break crop».
2. Исходя из содержания текста, опровергните следующие утверждения (устно):
 1. Continuous cereal growing is less practiced at present than in the past.
 2. The only possible way of controlling diseases in growing cereals is the application of chemicals.
 3. Environmental and other factors do not affect the choice of a break crop to be grown

Текст № 18: RYE

Rye seems to be rather a new crop as compared with wheat and barley. Specialists consider rye to have been found first as a weed in wheat in central Europe. Then it was separated from the wheat and used as a new crop. It seems to have been cultivated first in western Asia and southern Russia.

Soil requirements of rye are not as exacting as those of other small grains. It is more productive on infertile, sandy, or acid soils than wheat, oats, or barley. Rye often is the only small-grain crop that can be grown successfully on sandy soils, but it grows best being sown in a well-prepared, firm seedbed.

There exist both winter and spring varieties of rye. However, the latter are less productive than the former and are grown to only a limited extent. Spring rye should be sown at the time spring wheat is seeded, i.e., when the ground can be worked. The time of seeding winter rye will depend on the use to be made of the crop.

The usual depth of seeding is from 1/2 to 2 inches. The depth will vary with the type of soil and season. On sandy soils and in dry seasons the seed should be placed deeper. Better results are usually obtained from seeding with the drill than from broadcasting the seed. The former method is almost universally practised.

Rye is harvested in the same manner as other small grains.

Задания к тексту №18:

1. Прочтите текст, не пользуясь словарем. Найдите и прочтите предложения, в которых говорится о том, как и где началось возделывание ржи.
2. Расположите вопросы в виде плана к тексту и ответьте на них (устно).
 1. What does the depth of seeding rye depend on?
 2. On what soils can rye be successfully grown?
 3. What rye varieties are more productive?

Текст № 19: OATS

In world production oats rank fourth among all cereals, being exceeded only by wheat, rice and corn. Oat varieties may be divided into several classes, depending on the principle of classification. As regards to time of seeding there are spring and winter varieties, the winter oats being seeded in the fall. But as oats are known to be less winter-hurdy than either wheat or barley, a small percentage of the total oat crop is fall-sown. Probably, about 80 per cent of the world crop of oats is spring-sown. Soil requirements of oats are believed to be lower than those of any other cereal. They do better on a seedbed of medium compactness than on a very loose or very compact one. Deep plowing is not as essential as for corn, cotton, or wheat. A good practice is to plow and thoroughly pulverize the seedbed, and to sow the seed with a grain drill. Oats are sown either by broadcasting or drilling, but drilled oats yield better as a rule. The reasons for this are: (a) drilled seeds are covered at a uniform depth and better germination is secured; (b) drilled seeds will better withstand dry and cold weather; (c) drilling requires less seed per acre. Besides, broadcasting is not recommended on light and droughty soils where moisture is likely to be limited. We know combining to be the most popular method of harvesting oats today. For good results oats should not contain more than 13 to 14 per cent moisture at the time they are combined.

Задания к тексту №19:

1. Прочтите текст, не пользуясь словарем. Разделите текст на абзацы и озаглавьте их.
2. Задайте своему товарищу вопрос по содержанию одного из абзацев.
3. Укажите, какие из следующих утверждений не соответствуют содержанию текста. Обоснуйте свой ответ:
 1. Moisture content of the grain at the time of combining may be different.
 2. Winter oats are not so widely grown as spring oats.
 3. Less seed is required when oats are sown by broadcasting.
 4. Drilling oats is preferred to broadcasting.
 5. Oats require loose soil for producing higher yields.

Текст № 20: CORN

Corn is believed to have been a highly developed cultivated crop in the New World long before its discovery. The origin of corn is unknown since the plant has been found only under cultivation. How corn is more widely distributed over the world than any other cereal crop.

Corn is a member of the grass family. It is an extremely variable plant and there exist a large number of varieties that differ widely in size and shape.

Corn is a warm-weather plant that requires high temperatures day and night during the growing season. It has been found to be highly susceptible to frost injury any time of its growth.

Actually corn requires a relatively small amount of water for each pound of dry matter produced, its high water requirement being due to the potential high acre production. When growing rapidly in July and August, corn needs much water because of the high rate of evaporation from the soil and transpiration from the leaves. Corn makes its beet growth if planted in a fertile, well-drained, loam soil. Besides, soils high in organic matter are ideal for this crop for they have a high water-holding capacity.

In addition to fertile soil and adequate moisture an abundance of sunshine is necessary for the plants to manufacture large quantities of food to be stored in the grain. Cool, cloudy weather results in heavy vegetative growth and low yields of grain.

The object is to plant corn at the depth that will provide optimum soil temperature and water and result in rapid germination. Corn planting depth varies widely with the soil conditions and climate. As corn should be planted deep enough to place the seed in contact with warm moist soil, the usual depth is 2 to 3 inches in rows from 30 to 40 inches apart. The soil being rather cold, the depth of 1 to 1 1/2 inches may be advisable.

Corn is cultivated primarily to control weeds and to a less extent to conserve moisture and aerate the soil.

Corn is grown principally for (a) grain, (b) fodder, (c) silage, and (d) pasturing. Nearly 90 per cent of the corn grain harvested is used directly as livestock feed. When cut for silage or harvested for fodder, corn does not usually leave the farms on which it is produced. Corn has numerous industrial uses. Its stems or leaves seem to have been used for making paper from ancient times.

Задания к тексту №20:

1. Переведите текст устно. Найдите в тексте и прочтите предложение, в котором говорится о цели обработки кукурузы.
2. Укажите, какие предложения противоречат содержанию текста. Обоснуйте свой ответ.
 1. Corn is grown primarily for the production of grain.
 2. There is a great number of corn varieties differing in certain characteristics.
 3. The main aim of cultivating corn is to conserve moisture in the soil and to aerate.

4. Cool weather accompanied by high precipitation is known to be favourable for the production of corn grain.
5. Corn is usually planted to the depth of 1 to 1 1/2 inches, if the soil is rather cold.
6. Corn doesn't need much moisture, as a relatively small amount of water is required to produce one pound of dry matter of this plant.
7. Soils having high water-holding capacity are believed to be best for corn.
8. When fed to livestock, corn is usually produced on the same farm.
9. The depth of planting corn is uniform for all soils.
10. At the beginning of the growing season water requirements of corn are the highest.

Текст № 21: GROWING POTATOES

Potatoes should be grown in a planned crop rotation to keep the soil fertile, maintain its friable texture and organic matter content, and reduce crop loss from insects and diseases. The rotation for potatoes depends on the crops grown in the area. It has been found that the highest potato yield and the best quality are obtained when the potato crop follows alfalfa and is planted on the same land only once in six or seven years.

Fertilization of the potato crop varies greatly on different soil types. A green manure crop preceding potatoes is considered desirable, and animal manure is excellent as a fertilizer. The potato plant responds well to available nitrogen. Complete fertilizer is generally used in commercial potato-producing regions, although sometimes nitrogen may not be necessary on muck soils. Where manure is used, the only additional material needed may be superphosphate.

For many years the most commonly followed method of applying fertilizers has been side dressing. But experiments have shown that the use of one half of the fertilizer applied broadcast before plowing, with the latter half applied in the usual manner gives better results than when all is applied as side dressing.

Weed control is also very important. A number of early-season annual weeds can be controlled by herbicides applied immediately after planting, before the potatoes come up. Where late-season annual weeds are a problem, herbicides may be applied after the last cultivation.

Задания к тексту №21:

1. Прочтите текст, не пользуясь словарем. Перечислите виды удобрений, используемых под картофель, и способы их внесения.
2. Скажите, после какой культуры и почему картофель дает наивысший урожай.

Текст № 22: BEETS

1. Beet crop is one of the most widely grown root crops. There are two major groups of beets, sugar beets and table beets. Both of them are best adapted to growing in the temperate climate.
2. Table beets are generally consumed when young, a few weeks after planting. They are about 8 percent carbohydrates and 2 percent protein. Cultivated beets are believed to have been originated from the wild beet of northern Europe, *Beta maritima*. Table beets are likely to have been developed as a garden crop only in the sixteenth century.
3. Sugar beets have much more commercial value than table beets. Through selection and breeding sugar content has been increased from 2-4 percent that is normal in table beets to as much as 20 percent. Most of the crop is grown in Europe including the Soviet Union.
4. A good percentage of soil organic matter supplied naturally, by manuring or by legume residues favours best yields. Loam or sandy loam soils predominate in most of the sugar beet areas, but heavy soils are also used to some extent, though the latter are less favourable for high yields. The sugar content of beets is highest on soils that also produce best yields.
5. Irrigation water is necessary for successful commercial sugar beet production where rainfall is less than about 18 inches.
6. The crop has the highest sugar content in areas where summer temperature averages about 67 to 72°F. The plant is not injured by cool nights. Cool autumn weather favours sugar accumulation in the roots.
7. Sugar beets are usually grown in rotations including a legume crop, a small grain crop, and frequently potatoes, corn, or beans. The growing of sugar beets in the continuous culture results in reduced yields due to different diseases.
8. Sugar beets should be left in the field until they reach a maximum sugar content. Maturity is indicated by browning the lower leaves and yellowing the upper ones.

Задания к тексту №22:

1. Просмотрите текст и скажите, какому виду свеклы в нем уделяется большее внимание и почему.
2. Прочтите текст внимательно и скажите, в каких абзацах содержится информация о столовой свекле.
3. Укажите, в каком абзаце говорится: 1) о связи между урожаем и содержанием сахара в свекле, 2) о том, почему не следует выращивать свеклу на одной и той же почве из года в год.
4. Составьте план текста (письменно).

Текст № 23: RED CLOVER

Red clover is the most widely grown and the most important of the true clovers. Its widespread use is due to the following: (a) it produces a high yield of good quality hay; (b) it is an excellent source of pasturage; (c) it fits into most rotations well; (d) it is valuable for soil improvement.

This legume is best adapted to fertile, well-drained silt and clay loam types of soil that are relatively high in the content of organic matter. It does best when moisture is abundant, and rather poorly on soils with a low water-holding capacity. In some years it may be injured by winterkilling when grown on poorly drained soils.

Although red clover does best in a cool, moist, climate, it is not injured to any considerable extent by hot weather, provided sufficient moisture is available. It tolerates soil acidity better than alfalfa, but grows, better on properly limed soil. In addition to lime, the soil should contain sufficient amounts of available phosphorus and potassium to support a good growth of red clover. Generally, red clover is easier to grow than alfalfa.

Because of its biennial habit, red clover is mainly used in short rotations. An example of a common three year rotation is the one that includes corn or some other cultivated crop, small grain and red clover or red clover plus timothy. Red clover is beneficial to corn in such a rotation, as it adds considerable organic matter and nitrogen to the soil.

Задания к тексту №23:

1. Прочтите текст, не пользуясь словарем, и озаглавьте его.
2. Определите, какие из следующих утверждений соответствуют содержанию текста.
 1. Corn grows better when it follows red clover.
 2. Red clover is as sensitive to soil acidity as alfalfa.
 3. Available potassium and phosphorus are necessary for profitable yields of red clover.
 4. Red clover is mainly used for soil improvement.
 5. If poorly drained, soils must not be used for growing red clover.

2. ГРАММАТИЧЕСКИЙ СПРАВОЧНИК

1. Таблица временных форм глагола

Временные формы глагола в действительном залоге (Active Form) (на примере стандартного глагола)

	Indefinite (to ask)	Continuous (to be asking)	Perfect (to have asked)
Present	ask asks (he, she, it)	am asking is asking are asking	have asked has asked
Past	asked	was asking were asking	had asked
Future	shall (I, we) ask will ask	shall be asking will be asking	shall have asked will have asked

Временные формы глагола в страдательном залоге (Passive Form)

to be (в соответствующем времени) + причастие II

	Indefinite (to be asked)	Continuous	Perfect (to have been asked)
Present	am asked is asked are asked	am being asked is being asked are being asked	have been asked has been asked
Past	was asked were asked	was being asked were being asked	had been asked
Future	shall be asked will be asked	-	shall have been asked will have been asked

2. Страдательный залог глагола

Сказуемое в действительном залоге показывает, что действие, обозначенное им, выполняется лицом или предметом, обозначенным подлежащим.

In summer many students work on collective farms. Летом многие студенты работают в колхозах.

We have increased the yield of some crops. Мы повысили урожай некоторых культур.

Сказуемое в страдательном залоге показывает, что лицо или предмет, обозначенный подлежащим, испытывает на себе действие, обозначенное сказуемым.

Higher yields were obtained last year.

В прошлом году были получены более высокие урожаи.

Many new crop varieties have been developed by agriculturists.

Много новых сортов культур выведено работниками сельского хозяйства.

В английском языке сказуемое в страдательном залоге употребляется значительно шире, чем в русском языке. Поэтому часто английскому предложению со сказуемым в страдательном залоге будет соответствовать русское предложение, в котором сказуемое употреблено в действительном залоге. При этом подлежащему английского предложения в русском предложении будет соответствовать дополнение.

I was given an interesting book last week.

На прошлой неделе мне дали интересную книгу.

The agronomist is often asked about new high yielding varieties.

Агронома часто спрашивают о новых высокоурожайных сортах.

Следует обратить внимание на глаголы, которые в русском языке требуют после себя предлога, а в английском нет. Эти глаголы часто употребляются в пассивном залоге:

to influence – влиять на, воздействовать на

to affect – влиять на, воздействовать на

to follow – следовать за

Spring is followed by summer.

За весной следует лето.

The growth of plants is influenced by environmental conditions.

На рост растений влияют условия окружающей среды.

Тренировочное упражнение

Укажите, в каких предложениях сказуемое употреблено в страдательном залоге:

1. Plant development is influenced by temperature conditions.
2. A new club has been built on our farm.
3. Planting should follow the seedbed preparation.
4. More progressive methods of crop production will influence the yields.
5. Crop improvement practices should be followed by higher yields.

3.Существительное в роли определения

Если употребляются подряд два или более существительных без предлогов, образуя так называемую «цепочку существительных», то все предшествующие существительные являются определениями к последнему в «цепочке». В русском языке существительному в функции определения может соответствовать либо прилагательное (institute library - институтская библиотека), либо существительное в родительном падеже (crop yield -урожай с/х культур), либо существительное с предлогом (farm economist экономист по вопросам сельского хозяйства). Бывают более длинные цепочки, например: food production increase - увеличение производства продуктов питания; weed and pest control methods - методы борьбы с вредителями и сорняками. В этом случае перевод удобнее начинать с последнего существительного в «цепочке».

Тренировочное упражнение

Укажите, в каких предложениях существительное crop является определением:

1. This crop is not used for man.
2. He is a good specialist in crop improvement.
3. Last year we obtained high yield of this crop.
4. Crop production increase problem is very important.
5. He is the best crop improvement expert on the farm.

4. Сочетание to be + of + существительное

В этом сочетании глаголу to be в русском языке соответствует «иметь», «представлять».

This book on biology is of great interest for students.

Эта книга по биологии представляет большой интерес для студентов.

Is the new method of crop improvement of any value for your farm?

Новый метод улучшения культур представляет какую-нибудь ценность для вашего хозяйства?

The problem of higher crop yields is of the greatest importance now.

Проблема повышения урожаев имеет сейчас огромное значение.

Тренировочное упражнение

Укажите, в каком предложении имеется сочетание to be + of + существительное.

1. This method is popular because of its great value.
2. This popular method of farming is of great value.
3. We spoke of the great value of this popular method.
4. The great value of this popular method is known to every farmer.

5. Причастие I (простая форма)

Причастие I (причастие настоящего времени действительного залога) образуется от формы инфинитива прибавлением суффикса –ing: increase + ing → increasing – увеличивающийся, увеличивая.

В предложении причастие I может быть:

1. определением к существительному, в этом случае оно может употребляться перед определяемым словом (т.е. слева от определяемого существительного) и после него (т.е. справа). В последнем случае причастие вместе с относящимися к нему словами образует причастный оборот.

In the field we saw the working students.

Мы видели в поле работающих студентов.

We saw the students working in the field.

Мы видели студентов, работающих в поле.

2. обстоятельством, в этом случае причастие с относящимися к нему словами употребляется в начале или в конце предложения и при переводе соответствует деепричастному обороту.

Working in the field the students discussed their plans for the next month.
The students discussed their plans for the next month, working in the field.

Работая в поле, студенты обсуждали свои планы на следующий месяц.
Студенты обсуждали свои планы на следующий месяц, работая в поле.

3. частью сказуемого, употребленного во временной форме “Continuous” , при переводе соответствует личной форме глагола.

This student is working in the field now.

Этот студент сейчас работает в поле.

Итак:

ПРИЧАСТИЕ I			
(слева от сущ.) причастие в функции опре- деления	(справа от сущ.) причастие в определительном причастном обо- роте	(в начале или в конце предлож.) соответствует деепричастному обороту	входит в состав временных форм “Continuous” (to be + прич. I)

Тренировочное упражнение

Укажите, в каких предложениях причастие I является частью сказуемого:

1. Crops growing on our farm are used as food for man and animals.
2. We are growing different crops on our farm.
3. Growing, such crops, farmers obtain much food for their animals.
4. When we were growing these crops we had more food for our animals.

6. Причастие II

Причастие II (причастие прошедшего времени страдательного залога) стандартных глаголов образуется от формы инфинитива прибавлением суффикса -ed, а причастие II нестандартных глаголов является третьей формой (см. таблицу нестандартных глаголов).

harvest + ed – harvested

grow – grown

В русском языке причастию II соответствуют причастия с окончанием - мый, - ный, -тый. Например, harvested - убранный, убираемый; grown -выращенный, выращиваемый. В предложении причастие II может быть:

1. определением к существительному, при этом оно может употребляться перед определяемым словом (слева) или после него (справа), во втором случае образуя вместе с относящимися к нему словами причастный оборот.

The harvested crops will be used as feed for livestock.

Убранные культуры будут использованы как корм для скота.

The crops harvested last week
will be used as feed for livestock.

Культуры, убранные на прошлой неделе,
будут использованы как корм для скота.

2. частью сказуемого в страдательном залоге (Passive).

These crops are harvested late in summer.

Эти культуры убираются в конце лета.

3. частью сказуемого во временной форме “Perfect”.

We have finished our work in the field. Мы закончили работу в поле.

Итак:

ПРИЧАСТИЕ II			
(слева от сущ.) причастие в функции опреде- ления	(справа от сущ.) причастие в определятельном причастном обо- роте	входит в состав сказуемого в Passive (to be + прич. II)	входит в состав сказуемого во временной форме Perfect (to have+ прич. II)
перевод			

Тренировочное упражнение

Укажите, в каких предложениях причастие II является частью сказуемого:

1. The yields were increased by more intensive use of land.
2. The increased yields are the result of the new method of cultivation.
3. We have greatly increased the yields of grain crops on our farm.
4. Fertilizer used for these grain crops greatly increased the yields.

7. Причастие II в функции правого определения к существительному (причастие в постпозиции)

Причастие II без поясняющих слов, также может употребляться справа от существительного. При переводе предложения такое причастие употребляется перед существительным.

The varieties grown are of very high quality. Выращиваемые сорта очень хорошего качества.

Причастие II в этой функции следует отличать от причастия II в причастном обороте, которое тоже стоит справа от определяемого существительного, но имеет пояснительные слова.

Тренировочное упражнение

Укажите, при переводе каких предложений причастие II следует употребить перед определяемым существительным:

1. The farmers discussed new methods of cultivation recommended for their area.
2. The new methods used produced good results.
3. The yields of crops largely depend on the methods of cultivation used.
4. The grain crops grown on this farm produced high yields.

8. Отглагольное существительное и герундий

В английском языке есть три формы с суффиксом -ing: причастие I, отглагольное существительное и герундий. Эти формы важно различать, чтобы суметь найти их эквиваленты в русском языке.

Русский эквивалент причастия I зависит от того, какую функцию выполняет эта форма в предложении. Отглагольное существительное в этом смысле трудностей не представляет, т.к. в русском языке ему всегда соответствует тоже существительное.

the growing of wheat - выращивание пшеницы

Герундий обозначает название процесса, т.е. "делание". Это сближает его с существительным. В отличие от причастия, герундий может быть в предложении подлежащим и дополнением. Например: Applylag fertilizers increased soil fertility. - Внесение удобрений повысило плодородие почвы.

В русском языке формы аналогичной герундию нет. Ему может соответствовать существительное, неопределенная форма глагола, деепричастие и глагол в личной форме, если перед ним имеется притяжательное местоимение или существительное с суффиксом 's. Выбор соответствующего эквивалента при переводе зависит от контекста.

Applying proper fertilizers is of great importance.

1. Внесение соответствующих удобрений очень важно.
2. Вносить соответствующие удобрения очень важно

Yields may be increased by applying proper fertilizers.

- Урожаи могут быть повышены
1. внесением соответствующих удобрений.
 2. внося соответствующие удобрения.

Good results will largely depend on your applying proper fertilizers.

Хорошие результаты во многом будут зависеть от того, примените ли вы соответствующие удобрения.

Тренировочное упражнение

Определите, в каких предложениях слову с суффиксом – ing в русском языке может соответствовать существительное:

1. The using of the new method produced good results.
2. The farmers grow wheat, using the new method of cultivation.
3. Using fertilizer usually is effective on this type of soil.
4. We are using the method recommended by our agronomist.
5. We began using these fertilizers last month.
6. Farmers using improper cultural practices do not obtain good results.

9. Сложные формы причастия I и герундия

Причастие I в функции обстоятельства может употребляться в следующих формах:

	Active	Passive
Present	planting сажая	being planted будучи посажены (когда сажают)
Perfect	having planted посадив	having been planted будучи посажены (после того как посадили)

Сравните:

Using farm machinery we can prepare the seedbed better.

Having introduced new machines we made the field work much easier.

Being applied in time fertilizers usually increase the yield.

Having been studied well, this method could be used in different regions.

Используя с/х машины, мы можем лучше подготовить пашню.

Внедрив новые машины, мы намного облегчили полевые работы.

Будучи внесены (когда вносятся)вовремя, удобрения обычно повышают урожай.

После того как этот метод был хорошо изучен, он мог быть применен в различных районах.

Формы герундия полностью совпадают с формами причастия I:

	Active	Passive
Present	increasing	being increased
Perfect	having increased	having been increased

Простая форма (Indefinite) указывает на то, что действие, выраженное герундием, происходит одновременно с действием, выраженным сказуемым. Перфектная форма (Perfect) показывает, что действие, выраженное герундием, предшествует действию, выраженному сказуемым; в русском языке этой форме соответствует глагол в прошедшем времени.

Increasing the yields of grain crops was of great importance. 1. Повысить урожай зерновых культур было очень важно.

2. Повышение урожаев зерновых культур имело большое значение.

We know of their having greatly increased the yields of grain crops. Мы знаем, что они сильно повысили урожай зерновых культур.

Тренировочное упражнение

Укажите, какую форму причастия нужно употребить в следующих предложениях:

1. ... the new chemicals we can better control pests.
2. ... for pest control in our area, the new chemicals produced good results.
3. ... the new chemicals the farmers obtained better results in controlling pests.

1. having used, 2. being used, 3. using, 4. having been used

10. Независимый причастный оборот

Независимый причастный оборот - это причастный оборот со своим подлежащим. Он распознается по следующим признакам:

1. Наличие своего подлежащего, отличного от подлежащего основной части предложения.

2. Причастие находится после подлежащего, т.е. на том месте, на котором обычно стоит сказуемое.

3. От основной части предложения независимый причастный оборот отделяется запятой.

Предложение, содержащее независимый причастный оборот, строится следующим образом: (П1 - подлежащее предложения, П2 - подлежащее независимого причастного оборота).

П1 + сказуемое ... , П2 + причастие

или

П2 + причастие ... , П1 + сказуемое

В русском языке аналогичного оборота нет, ему соответствует предложение. При переводе предложения, содержащего независимый причастный оборот, причастию соответствует сказуемое, при этом перфектным формам причастия соответствует глагол в прошедшем времени.

Если оборот следует после основной части предложения, при переводе перед ним могут употребляться слова "причем", "при этом", "и". Если оборот предшествует основной части предложения, он переводится с союзами "так как", "когда", "если", в зависимости от смысла всего предложения.

Farmers using complete fertilizers, the yield of wheat may be considerably increased.

Так как земледельцы используют комплексные удобрения, урожай пшеницы может быть значительно повышен.

Crops being grown under favourable environmental conditions, higher yields are usually obtained.

Когда культуры выращиваются при благоприятных условиях, обычно получают более высокие урожаи.

We increased yields of the main small grains, some cold resistant varieties having been grown.

Мы повысили урожай основных зерновых культур, при этом были выращены некоторые холодоустойчивые сорта.

Тренировочное упражнение

Укажите, какие предложения содержат независимый причастный оборот:

1. Farmers growing improved crop varieties usually obtain good results.
2. Being reproduced by seeds, these plants are known as seed plants.
3. Crop plants may have fibrous roots or tap roots, the roots of legumes belonging to the latter.
4. Potatoes being the most important tuber crop, all farmers throughout the world grow it widely.
5. We know of their having developed some lodging resistant varieties.

11. Условные предложения

Условные предложения вводятся союзами if - если, provided - если, unless - если не. Если в главном предложении имеется should или would, а в условном придаточном сказуемое употреблено в прошедшем времени, на русский язык и главное и придаточное предложения переводятся с частицей «бы».

If you apply more fertilizers the yield will be higher.

Если вы внесете больше удобрений, урожай будет выше.

If you applied more fertilizers, the yield would be higher.

Если бы вы внесли больше удобрений, урожай был бы выше.

Тренировочное упражнение

Укажите, какие предложения переводятся с частицей «бы»:

1. Provided you had used better adapted varieties, you would have obtained higher yield.
2. The farmers will not obtain good yield unless they irrigate the area.
3. If the weather were not so rainy, we should begin planting today.
4. One should know characteristics of the varieties used.
5. You would get better results in plant improvement, if you used the latest achievement of genetics.

12. Инфинитив в функции подлежащего

Инфинитив, стоящий в начале предложения, перед глаголом-сказуемым, является подлежащим. Вместе с относящимися к нему словами такой инфинитив образует группу подлежащего. В русском языке инфинитиву в функции подлежащего соответствует глагол в неопределенной форме или существительное.

To increase food production is one of the most important problems of our days.

Увеличить производство продуктов питания – одна из важнейших задач нашего времени.
Увеличение производства продуктов питания – одна из важнейших задач нашего времени.

13. Инфинитив в функции обстоятельства цели

Инфинитив (или инфинитивная группа) в функции обстоятельства цели может стоять в начале предложения (перед подлежащим) или в конце предложения (после дополнения или обстоятельства). Такой инфинитив может вводиться союзом *in order* «чтобы», «для того чтобы», который, однако, часто опускается.

(In order) to grow well plants need water and nutrients.

Чтобы расти хорошо, растениям нужна вода и питательные вещества.

Plants need water and nutrients (in order) to grow well.

Растениям нужна вода и питательные вещества, чтобы расти хорошо.

Таким образом, при переводе инфинитиву в начале предложения может соответствовать либо неопределенная форма глагола (если это инфинитив в функции подлежащего), либо неопределенная форма глагола с союзом «чтобы» (если это инфинитив в функции обстоятельства цели).

To prepare a good seedbed is very important.

Подготовить хорошую пашню очень важно.

To prepare a good seedbed we must plow the soil in spring.

Чтобы подготовить хорошую пашню, мы должны вспахать почву весной.

Инфинитиву после слов too (слишком), enough, sufficiently (достаточно) в русском языке также соответствует неопределенная форма глагола с союзом «чтобы», «для того чтобы».

This soil is fertile enough to produce good crop.

Эта почва достаточно плодородна, чтобы дать хороший урожай.

Тренировочное упражнение

Укажите, при переводе каких предложений перед инфинитивом нужно употребить союз «чтобы».

1. This soil contains too much moisture to use it for potato growing.
2. It is necessary to increase the yields of most grain crops.
3. To obtain good crops it is necessary to prepare the seedbed properly.
4. Different chemicals are used in order to control pests.
5. To develop high yielding varieties is one of essential aims of our agriculturists.

14. Оборот «for + существительное (местоимение) + инфинитив»

В русском языке такому обороту соответствует придаточное предложение, при этом «for» соответствует союз «чтобы», а инфинитиву – сказуемое.

For seeds to germinate well the seedbed should be thoroughly prepared.

Чтобы семена хорошо проросли, пашня должна быть тщательно подготовлена.

Тренировочное упражнение

Укажите, при переводе каких предложений перед инфинитивом нужно употребить союз «чтобы» («для того чтобы»).

1. For plants to grow better mature seeds should be used.
2. We cannot begin planting, for the soil is not warm enough.
3. Proper seeding rate is essential for good stands to be obtained.
4. Agriculture should produce more food products for people.
5. This area has been under cultivation for many years.

15. Значение to be и to have

Глаголы to be и to have могут иметь разные значения в зависимости от того, какая часть речи следует за ними в предложении. Соответственно различаются и их русские эквиваленты.

to be

1. to be + существительное (иногда с предлогом) или прилагательное: переводится как «быть», «находиться», «являться», часто не переводится

This is a collective farm.

Это колхоз.

We are on the farm.

Мы (находимся) в колхозе.

The farm is large.

Это хозяйство большое.

2. be + причастие I: служит для образования форм продолженного времени.

Different machines are working in the field. Различные машины работают в поле.

3. be + причастие II: служит для образования страдательного залога.

Fields are often plowed in spring.

Поля часто пашут(ся) весной.

4. be + инфинитив: переводится как 1. «должен», 2. «состоит в том, чтобы».

We are to develop new corn.

Мы должны вывести новые сорта кукурузы.

Our aim is to develop new corn varieties.

Наша цель состоит в том, чтобы вывести новые сорта кукурузы.

Если по смыслу предложения to be перед инфинитивом не может соответствовать – «должен», следует употребить «состоит в том, чтобы».

to have

1. have + существительное: переводится как «иметь».

This soil has good structure.

Эта почва имеет хорошую структуру.

2. have + причастие II: служит для образования перфектной формы.

We have improved this soil by using fertilizers.

Мы улучшили эту почву, используя удобрения.

3. have + инфинитив: «должен».

We have to apply organic matter to this soil.

Мы должны вносить органические удобрения в эту почву.

Тренировочное упражнение

Укажите, в каких предложениях глаголы to be и to have не имеют значения долженствования.

1. We have grown these vegetable crops for many years.
2. Better varieties are to be selected.
3. Next year improved varieties will be seeded.
4. We have to supply this soil with proper amount of organic matter.
5. The farmers are preparing the seedbed for wheat.

16. Бессоюзное присоединение определительных придаточных предложений

В определительных придаточных предложениях союзные слова that, which, who могут быть опущены. Если за двумя рядом стоящими существительными (не образующими «цепочку» существительных) или существительным и личным местоимением в именительном падеже следует глагол в личной форме, второе существительное (или местоимение) обычно является подлежащим придаточного предложения, которое присоединено к главному без союза.

The soil the farmers use as a seedbed is rich in organic and mineral matter.

Такие придаточные предложения на русский язык переводятся с добавлением союзного слова «который»:

Почва, которую фермеры используют в качестве пашни, богата органическими и минеральными веществами.

Если в конце такого придаточного предложения имеется предлог, при переводе он ставится перед союзным словом.

The soil we speak about can be used for growing potatoes.

Почва, о которой мы говорим, может быть использована для выращивания картофеля.

Тренировочное упражнение

Укажите, в каких предложениях при переводе на русский язык нужно добавить союзное слово «который».

1. The classification of farm crops given in this book is based on their use.
2. The climate of this area is not favourable for growing rye.
3. All the area you have seen belongs to our farm.
4. The temperature these seeds germinate at is rather low.
5. The fertilizers the farmers use to increase soil fertility contain nitrogen, phosphorus and potassium.

17. Глаголы со значением долженствования

Есть несколько глаголов, имеющих значение долженствования. За ними непосредственно следует инфинитив. После глаголов *must* и *should* инфинитив употребляется без частицы *to*:

We must use fertilizers.

We should use fertilizers.

We are to use fertilizers.

We have to use fertilizers.

We ought to use fertilizers.

→ Мы должны использовать удобрения.

Тренировочное упражнение

Укажите, в каких предложениях имеется глагол со значением долженствования:

1. You should plow this soil in spring.
2. Crop production is to be increased.
3. Crop production has been greatly increased.
4. We should obtain higher yields if the soil were more fertile.
5. You have to control weeds better.
6. We shall use combine harvester in this area.
7. Most farms of this area take measures for protection from erosion.
8. These fields must be irrigated.

18. Инфинитив в функции определения

Инфинитив или инфинитивная группа, следующие непосредственно после существительного, могут являться не только обстоятельством цели, но и правым определением к этому существительному (обычно инфинитив в функции определения имеет пассивную форму – *to be used*, *to be applied*). В русском языке такому инфинитиву соответствует определительное придаточное предложение с союзным словом «который». Сказуемое этого придаточного предложения обозначает действие, которое должно произойти.

Crops to be grown in this region should be adapted to the environmental conditions.

Культуры, которые будут (должны) выращиваться в этом районе, должны быть приспособлены к условиям окружающей среды.

The problem to be solved in the nearest future is to obtain more high quality food products.

Проблема, которую нужно решить в ближайшем будущем, состоит в том, чтобы получить больше высококачественных продуктов питания.

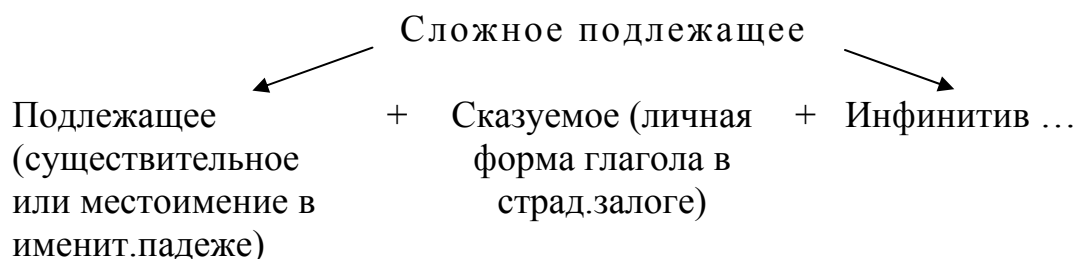
Тренировочное упражнение

Укажите, при переводе каких предложений нужно употребить слово «который».

1. We use irrigation to increase the amount of moisture in the soil.
2. The seedbed to be prepared will be used for sowing wheat.
3. These crops are to be used as green manure.
4. Cover crops to be turned under as green manure are used to protect the soil.
5. Plant nutrients lost from the soil have to be compensated.

19. Инфинитивная конструкция «сложное подлежащее»

Эта конструкция строится по следующей модели:



В качестве сказуемого при таком подлежащем используются глаголы: to know - знать, to say - говорить, to think - думать, to believe - полагать, to consider - считать, полагать; to expect - ожидать, надеяться; to report - сообщать, to suppose - предполагать, to find - находить.

Все эти глаголы формально являются сказуемыми, а по сути передают лишь отношение к содержанию высказывания.

This cultural practice is known to be of great use on farms.

1. Этот прием возделывания, как известно, широко используется в хозяйствах.

2. Известно, что этот прием возделывания широко используется в хозяйстве.

This soil was believed to be deficient in nitrogen.

1. Эта почва, как полагали, содержит недостаточно азота.

2. Полагали, что эта почва содержит недостаточно азота.

The new variety has been found to grow well under such climatic conditions.

1. Новый сорт, как установлено, хорошо растет в таких климатических условиях.

2. Установлено, что новый сорт хорошо растет в таких климатических условиях.

Следовательно, при переводе предложения, содержащего конструкцию «сложное подлежащее», инфинитиву соответствует сказуемое, а «формальному» сказуемому – либо вводные слова (как известно, как полагают и т.д.), либо неопределенно-личное предложение с последующим союзом «что» (известно, что ...; полагают, что ... и т.д.).

Тренировочное упражнение

Укажите, в каких предложениях имеется конструкция «сложное подлежащее»:

1. Weather conditions are known as one of the most important factors in crop production.
2. Weather conditions are known to be one of the most important factors in crop production.
3. Weather conditions of this area are known to all agriculturists as most favourable for growing cotton.
4. It is supposed that this farm will obtain high yields of grain crops this year.
5. This farm is supposed to obtain higher yields of grain crops this year.

20. Конструкция «сложное подлежащее» со сказуемым в действительном залоге

Несколько глаголов, использующихся в качестве сказуемого при сложном подлежащем, употребляются в действительном залоге. В русском языке им соответствуют «оценочные» слова (т.е. слова, выражающие уверенность или неуверенность говорящего): to seem, to appear, to be likely – «вероятно», «по-видимому», to be unlikely – «вряд ли», to be sure, to be certain – «безусловно», «наверняка».

Top-dressing is likely to be the best way of applying fertilizers to this crop.

Поверхностная подкормка, по-видимому, является лучшим способом внесения удобрений под эту культуру.

Potatoes are sure to grow well on light soils.

Картофель наверняка будет хорошо расти на легких почвах.

Тренировочное упражнение

Укажите, в каких предложениях имеется сложное подлежащее:

1. A mixed fertilizer is sure to improve this soil.
2. The agronomist was sure that mixed fertilizers should be applied.
3. Fertilizers are known to be applied in different ways.
4. Too much nitrogen is likely to cause lodging of the crop.
5. It is unlikely that phosphoric fertilizers will be of some use on this soil.

21. Инфинитивная конструкция «сложное дополнение»

Эта конструкция строится по следующей модели:

I	II	III
Подлежащее	Сказуемое в действительном залоге	Сложное дополнение: существительное или местоимение в объектном падеже + инфинитив

«Сложное дополнение» употребляется после следующих глаголов: to want, to know, to think, to believe, to consider, to expect, to find, to suppose и некоторых других. Эти глаголы используются в функции сказуемого предложения, но, в отличие от конструкции «сложное подлежащее», употребляются в действительном залоге.

При переводе предложения на русский язык «сложному дополнению» соответствует придаточное предложение с союзами «что», «чтобы», при этом инфинитив передается сказуемым русского предложения.

We expect the new system of crop rotation to result in higher soil fertility.

Мы надеемся, что новая система севооборота в результате повысит плодородие почвы.

The farmers wanted the agronomist to give them recommendations on using legumes in crop rotation.

Колхозники хотели, чтобы агроном дал им рекомендации по использованию бобовых в севообороте.

Тренировочное упражнение

Укажите, в каких предложениях инфинитив употреблен в конструкции «сложное дополнение»:

1. We know the agronomist to grow legumes for increasing the nitrogen content of the soil.

2. The students of our group want to work on the vegetable growing farm this summer.
3. Increased yields seemed to result from using the proper system of crop rotation.
4. Farmers have found the continuous growing of the same crop to result in the loss of nutrients from the soil.
5. The agronomist wanted the practice of minimum tillage to be applied on the farm.

22. Сложные формы инфинитива

В английском языке существует несколько форм инфинитива:

	Active	Passive
Indefinite	to grow	to be grown
Continuous	to be growing	-
Perfect	to have grown	to have been grown

Формы инфинитива, в составе которых имеется глагол «to have», называются перфектными. В инфинитивных конструкциях перфектные формы обозначают действие, предшествующее действию, выраженному сказуемым. В русском языке им соответствует сказуемое в прошедшем времени.

Сравните:

Wheat is known to be grown under different climatic conditions.

Известно, что пшеница выращивается при различных климатических условиях.

Wheat is known to have been grown under different climatic conditions.

Известно, что пшеница выращивалась при различных климатических условиях.

Сравните также:

We know wheat to be grown under different climatic conditions.

Известно, что пшеница выращивается при различных климатических условиях.

We know wheat to have been grown under different climatic conditions.

Известно, что пшеница выращивалась при различных климатических условиях.

Тренировочное упражнение

Укажите, в каких предложениях инфинитив нужно переводить сказуемым в прошедшем времени:

1. This crop is considered to have been cultivated in this region 20 years ago.
2. Wheat has been found to grow well in this region.
3. Scientist expected this plant to be adapted to moderate climate.
4. High rainfall is known to have resulted in lodging of the crops.
5. We believe cereals to have been grown before our era.

23. Неполные придаточные предложения

Группы слов, состоящие из союзов when (когда), while (в то время, как), if (если), until (пока не), unless (если не), though (хотя) и причастия или прилагательного, рассматриваются как неполные придаточные предложения.

Например:

When accompanied by high temperatures, heavy rainfall is unfavourable for wheat.

Такую группу слов можно превратить в полное предложение, введя в нее недостающее подлежащее (то же, что и в главном предложении) и глагол «to be» в соответствующем времени, лице и числе.

When heavy rainfall is accompanied by high temperatures, it is unfavourable for wheat. – Когда обильные осадки сопровождаются высокой температурой, они неблагоприятны для пшеницы.

Тренировочное упражнение

Укажите, в каких предложениях имеются неполные придаточные предложения:

1. When the land is fall plowed, it is better exposed to the effects of weather.
2. When fall plowed, the land is better exposed to the effects of weather.
3. If planted too deeply, the seed will have some difficulty in germinating.
4. If the seed is planted too deeply, it will have some difficulty in germinating.
5. While choosing the variety to grow, we must consider several factors.

24. Усилительная конструкция «It is ... that»

Данная конструкция служит для смыслового выделения члена предложения (подлежащего, дополнения или обстоятельства).

It is (was) + выделяемые слова + that (which, who) ...

При переводе предложения этой конструкции соответствует слово «именно».

It is high temperature during tuber formation that results in lower yields. – Именно высокая температура во время образования клубней приводит к более низким урожаям.

It is during tuber formation that high temperature results in lower yields. – Именно во время образования клубней высокая температура приводит к более низким урожаям.

Тренировочное упражнение

Укажите, в каких предложениях употребляется усилительная конструкция:

1. It is with the drill that wheat is most commonly sown.
2. It is important that combine harvesting should be done when moisture content of the grain is not more than 14 per cent.
3. It was our Experimental Station that developed this new corn variety.
4. It is necessary that the farmers apply fertilizers at a proper time.
5. It is the yielding capacity of wheat that must be considered first of all.

25. Значение слова «that (those)»

Слово «that (those)» может употребляться:

1. как указательное местоимение в значении «тот(же)»:

That soil is better for growing potatoes than та почва лучше для выращивания this one. картофеля, чем эта.

2. как заместитель упомянутого существительного. В этом случае часто употребляется с предлогом «of» и на русский язык переводится существительным, которое «that» заменяет.

The yield of corn was higher than that of oats. Урожай кукурузы был выше, чем урожай овса.

3. как союзное слово «который» (стоит после существительного):

The soil should provide the plant with nutrients that are necessary for its growth. Почва должна обеспечивать растению питательные вещества, которые необходимы для его роста.

4. как союз «что» (стоит после глагола-сказуемого):

We know that plowing is the first step in the preparation of the soil. Мы знаем, что вспашка является первым шагом в подготовке почвы.

5. как часть усиительной конструкции “It is ... that ...”, которая переводится словом «именно»:

It is the rotation of crops that helps to maintain the fertility of the soil. Именно севооборот культур помогает поддерживать плодородие почвы.

6. как союз «чтобы» в предложениях типа “It is necessary that ...”

It is necessary that the soil for this crop be plowed in the fall. Необходимо, чтобы почва под эту культуру была вспашана осенью.

7. в выражениях:

that is – то есть

that is why – вот почему, поэтому

so that – так что, так чтобы

26. Предложения с вводящим *there*

В сочетаниях с глаголами there самостоятельного значения не имеет, на русский язык переводится только глагол.

There are many different ways of applying fertilizers. Имеется (есть) много различных способов внесения удобрений.

There exist many systems of crop rotation. Существует много систем севооборота.

There may be not enough nutrients in some soils. В некоторых почвах может быть недостаточно питательных веществ.

Если в предложении с вводящим there имеется наречие *there* («там»), оно употребляется в конце.

There are many different farm machines there. Там имеется много различных с/х машин.

Тренировочное упражнение

Укажите, в каком предложении слову «there» соответствует «там»:

1. There exist different systems of soil management.
2. Some new irrigation practices are used there.
3. There may often be nitrogen deficiency in the soil.
4. There are different methods of applying the required nutrients to the soil.

27. Конверсия

Конверсия – это способ словообразования без добавления суффиксов и префиксов и без изменения основной формы слова.

to use – использовать

use – использование

to farm – вести хозяйство

farm – хозяйство

to increase – увеличивать

increase – увеличение

Тренировочное упражнение

Укажите, в каких предложениях подчеркнутое слово является глаголом:

1. As they use proper fertilizers soil fertility will be improved.
2. Effective use of fertilizers resulted in higher yields.
3. You must water the plants regularly.
4. Plants cannot grow without water.

28. Значения слова «it»

Местоимение «it» может выполнять различные функции в предложении. Оно может быть:

1. личным местоимением в именительном падеже. В этом случае в русском языке ему соответствует «он», «она», «оно».

We shall use the new system of soil management, as it is more suitable for our conditions.

Мы будем использовать новую систему обработки почвы, так как она больше подходит для наших условий.

2. указательным местоимением, русский эквивалент – «это».

It is our collective farm.

Это наш колхоз.

3. формальным подлежащим в безличных предложениях. В русском языке такому предложению соответствует безличное предложение (т.е. без подлежащего).

It is cold.

Холодно.

It is necessary to begin planting in time.

Необходимо начать посадку вовремя.

4. частью усилительной конструкции «it is ... that ... », которой в русском языке соответствует «именно».

It is wind erosion that we have to control first.

Именно с ветровой эрозией мы должны бороться в первую очередь.

29. Значение слова «one»

Слово «one» может быть:

1. числительным «один»:

Wheat is one of most important grain crops.

Пшеница – одна из важнейших зерновых культур.

2. заместителем ранее названного существительного. В этом случае «one» либо не переводится, либо переводится тем существительным, которое оно замещает:

This method did not give good results, let's use another one.

Этот метод не дал хороших результатов, давайте используем другой (метод).

3. формальным подлежащим, если употребляется перед глаголом в личной форме. При переводе такому предложению соответствует безличное предложение (т.е. без подлежащего):

One should know different classifications of farm crops.

Следует знать различные классификации с/х культур.

30. Предложения типа «it is necessary that»

После предложений, выражающих совет, рекомендацию, необходимость, желательность и т.п. (it is necessary ..., it is important ..., it is advisable... и т.п.), придаточное предложение вводится союзом «that», которому в русском языке соответствует «чтобы». Сказуемое в таких придаточных предложениях выражается либо формой глагола, совпадающей с инфинитивом (без частицы «to»), либо сочетанием should + инфинитив (без частицы «to»). В русском языке обеим этим формам соответствует глагол в прошедшем времени.

It is necessary that harvesting be finished
(should be finished) in a week.

Необходимо, чтобы уборка была закончена
через неделю.

Тренировочное упражнение

Укажите, в каких предложениях that соответствует «чтобы»:

1. He said that it was important to develop cold resistant varieties for our region.
2. It is recommended that cold resistant varieties should be sown.
3. The agronomist spoke about new machines that should be used for harvesting.
4. It is the improved variety of wheat that produced the highest yield.
5. It is necessary that farmers use more nitrogenous fertilizers in this area.

3. Словарный минимум

A

absorption – поглощение
acid soil – кислая почва
adapt – адаптировать(ся)
affect – влиять на
after – после
agriculture – сельское хозяйство
air – воздух
alfalfa – люцерна
alkaline soil – щелочная почва
allow – позволять
amount – количество
annual – однолетник , однолетний
apply – применять
area – площадь
as – как, так как
as ... as – такой же как
as well as – так же
available – доступный, имеющийся в наличии
average – средний

B

barley – ячмень
be due to – объясняться , обуславливаться
because – потому что
because of – из-за
before – до
belong (to) – относиться к...
biennial – двулетник, двулетний
both ... and – и...и; как..., так и...
breed – разводить

C

cause – вызывать
cereal – злак
change – изменять
clay – глина, глинистый
clay loam – жирный суглинок
clean – чистить
climate – климат
close – тесный, близкий
coarse (seed) – грубое
common – общий, распространенный
compare – сравнивать

compete – конкурировать
complete – завершать
conditions – условия
consist of – состоять из
contain – содержать
content – содержание
control – контроль, борьба
corn – кукуруза
cotton – хлопок
crop – с/х культура
cross – скрещивать
cultivated (row) crop – возделываемая культура
cultivation – возделывание, выращивание
cultural practice – агротехнический прием
cut – косить

D

deep – глубокий
deficient – недостаточный
depend (on) – зависеть (от)
depth – глубина
desirable – желательно
destroy – разрушать
determine – определять
develop – развивать, выводить
development – выведение, развитие
differ (in) – отличаться
different – разные
disease – болезнь
drill/ drill – заделывать (семена), сеялка, сеять, высевать
drought – засуха
dry – сухой
due – надлежащий, соответствующий
due to – из-за, вследствие, благодаря

E

early – рано
either ... or – или...или
environment – окружающая среда
equipment – оборудование
erosion – эрозия
evaporation – испарение

F

fall – осень

farm – хозяйство
favourable – благоприятный
fertile – плодородный
fertilizer – удобрение
fibre – волокно
fibrous root – мочковатый, волокнистый
field – поле
field beans – полевые бобы
field peas – полевой горох
find – найти
fine (seed) – мелкое
fine (soil) – мелкозем
firm – плотный, твердый
flax – лен
flower – цветок, цвести
follow – следовать за
food – пища
for – для, в течение, так как
forage crop – кормовая культура
frost – мороз

G

germinate – прорасти
germinating power – всхожесть
germination – прорастание, всхожесть
get – получать
grass – трава
green manure crop – сидеральная культура, зеленое удобрение
grow – расти, выращивать
growing season – сезон роста
growth – рост

H

harrow – борона, боронить
harvest – (собирать) урожай
hay – сено
heavy soil – тяжелая почва
hot – жаркий, горячий
humidity – влажность
hybridization – гибридизация

I

if – если
immature – незрелый
improve – улучшать

in order (to) – для того, чтобы
include – включать в себя
increase – увеличивать ,увеличение
influence – влиять на...
insect – насекомое
insure (ensure) – обеспечивать, гарантировать
introduction – введение, внедрение

К

kill – уничтожать
kind – вид

L

land – земля
late – поздно
leaf (leaves) – лист (листья)
legume – бобовая (культура)
life cycle – вегетационный период
light – свет, светлый , легкий
light soil – легкая почва
like – как, подобно
lodge – полегать
loss – потеря

М

main – главный
mainly – главным образом
maintain – поддерживать, сохранять
management – содержание, управление, возделывание
mature – зрелый
mature – зрелый, созреть
maturity – зрелость
mellow – созреть, спелый
millets – просо
moist – влажный
moisture – влажность , влага
most – большинство, большая часть, самый, наиболее

N

necessary – необходимый
need – нуждаться
nitrogen – азот
no – никакой
number – количество
nutrients – питательные вещества

О

oats – овес

occur – случаться, происходить

one – один

only – только

organic matter – органическое вещество

oxygen – кислород

Р

pasture – пастбище

perennial – многолетник, многолетний

phosphorus – фосфор

plant – сажать растения, растение

plant breeder – селекционер

plant breeding – растениеводство

planting – посадка

plow under – запахивать

poor – слабый

potassium – калий

potatoes – картофель

practice – прием

precede – предшествовать

preparation – подготовка

prevent – предотвращать

process – обрабатывать

produce – производить, производство

proper – правильный, соответствующий

provide – обеспечивать

provided – при условии

purpose – цель

Q

quality – качество

quantity – величина

quite – довольно, совершенно

R

rain – дождь

rapid – быстрый

rate – норма

reach – достигать

red clover – красный клевер

reduce – снижать

reproduce – воспроизводить

require – требовать(ся)
residue – остаток
resistance – сопротивление, устойчивый
resistant – стойкий, устойчивый
rice – рис
riper – созреть
roll – прикатывать, укатывать (почву)
root – корень
root crop – корневая культура
rye – рожь

S

sand – песчаный, песок
sandy loam – песчаный суглинок
science – наука
seed – семя
seedbed – пашня
seedling – сеянец, саженец
selection – отбор
shatter – осыпаться (о зерне)
should – должен
silage – силос
size – размер
small grains – мелкие зерна, мелкозерновые
soil – почва
soil fertility – плодородие почвы
soil particle – элемент (частица) почвы
soil structure – строение почвы
soil texture – текстура почвы
some – несколько, некоторые
sorghum – сорго
source – источник
soybeans – соя
species – вид(ы)
stand – травостой, всходы
stem – стебель
storage – хранение
store – хранить
successful – успешный
sufficient – достаточный
sugar beets – сахарная свекла
suitable – подходящий
supply – запас, снабжать
supply – снабжать
surface – поверхность

T

tap root – стержневой
temperature – температура
that – что, который
the ... the – чем... тем
the former – первый (из двух названных)
the latter – последний (из двух названных)
the only – единственный
the same – тот же самый
thick sowing – густой (плотный) посев
thin sowing – редкий посев
throughout the world – во всем мире
tillage – обработка почвы
tops – верхняя часть
tuber – клубень

U

under conditions – в условиях
underground – подземный
uniform – равномерный
unless – если не
unlike – в отличие от
use – использовать
useful – полезный

V

valuable – ценный
variety – сорт
vary (in) – различать, зависеть (от)
vary with – изменяться
vegetable – овощ
vigorous – энергичный, сильный

W

warm – теплый
water – вода, поливать
weather – погода
weed – сорняк
wet – мокрый
wheat – пшеница
whether – частица «ли»
while – в то время, пока
wind – ветер
winter hardiness – зимостойкость

Y

yield – (давать) урожай

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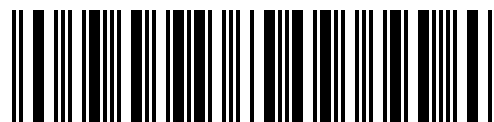
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