

МИНИСТЕРСТВО СЕЛЬСКОГО ХОЗЯЙСТВА РОССИЙСКОЙ ФЕДЕРАЦИИ  
Федеральное государственное бюджетное образовательное учреждение  
высшего образования  
«КУБАНСКИЙ ГОСУДАРСТВЕННЫЙ АГРАРНЫЙ УНИВЕРСИТЕТ  
имени И.Т. ТРУБИЛИНА»

Факультет агрономии и экологии  
Иностранных языков



УТВЕРЖДЕНО:

Декан, Руководитель подразделения  
Макаренко А.А.  
(протокол от 20.05.2024 № 20)

**РАБОЧАЯ ПРОГРАММА ДИСЦИПЛИНЫ (МОДУЛЯ)  
«ПРОФЕССИОНАЛЬНЫЙ ИНОСТРАННЫЙ ЯЗЫК»**

Уровень высшего образования: магистратура

Направление подготовки: 35.04.04 Агрономия

Направленность (профиль) подготовки: Земледелие

Квалификация (степень) выпускника: магистр

Формы обучения: очная, заочная

Год набора: 2024

Срок получения образования: Очная форма обучения – 2 года  
Заочная форма обучения – 2 года 5 месяца(-ев)

Объем: в зачетных единицах: 3 з.е.  
в академических часах: 108 ак.ч.

2024

**Разработчики:**

Доцент, кафедра иностранных языков Степанова А.П.

Рабочая программа дисциплины (модуля) составлена в соответствии с требованиями ФГОС ВО по направлению подготовки Направление подготовки: 35.04.04 Агрономия, утвержденного приказом Минобрнауки России от 26.07.2017 №708, с учетом трудовых функций профессиональных стандартов: "Агроном", утвержден приказом Минтруда России от 20.09.2021 № 644н.

**Согласование и утверждение**

№	Подразделение или коллегиальный орган	Ответственное лицо	ФИО	Виза	Дата, протокол (при наличии)
1	Иностранных языков	Заведующий кафедрой, руководитель подразделения, реализующего ОП	Непшекуева Т.С.	Согласовано	19.07.2024

## **1. Цель и задачи освоения дисциплины (модуля)**

Цель освоения дисциплины - Целью освоения дисциплины «Профессиональный иностранный язык» (немецкий) является формирование комплекса знаний об организационных, научных и методических основах в совершенной степени владеть иностранным языком и наиболее полно использовать его в научной работе.

Задачи изучения дисциплины:

- систематически следить за иноязычной научной и технической информацией по соответствующему профилю;
- свободно читать и понимать зарубежные первоисточники по своей специальности и извлекать из них необходимые сведения; ;
- оформлять извлечённую информацию в удобную для пользования форму в виде аннотаций, переводов, рефератов и т.п;
- вести беседу на иностранном языке, связанную с научной работой и повседневной жизнью;
- восстановить базовые знания, полученные на 1-2-м курсах общеуниверситетского обучения.;
- сформировать навыки аннотирования, конспектирования, реферирования.;
- обучить навыкам беглого чтения, быстрого предварительного просмотра, извлечения основной темы, идеи, информации, выстраивания отдельных фактов в логической последовательности, их оценки, краткого изложения и др. ;
- сформировать умения правильного построения связного монологического высказывания на иностранном языке;
- развивать навыки самостоятельной работы в режиме информационного поиска в Интернет. Оптимальное количество времени, затрачиваемое на работу в Интернет, составляет в среднем 1-1,5 часа в неделю;
- реализовывать навыки чтения по заголовкам, просмотрового и поискового чтения статей для занятий и изучающего чтения дома ;
- стимулировать самостоятельную творческую работу обучающихся при минимальном контроле со стороны преподавателя;
- активизировать все навыки соответствующих видов речевой деятельности. .

## **2. Планируемые результаты обучения по дисциплине (модулю), соотнесенные с планируемыми результатами освоения образовательной программы**

*Компетенции, индикаторы и результаты обучения*

## **3. Место дисциплины в структуре ОП**

Дисциплина (модуль) «Профессиональный иностранный язык» относится к обязательной части образовательной программы и изучается в семестре(ах): Очная форма обучения - 1, Заочная форма обучения - 1.

В процессе изучения дисциплины студент готовится к видам профессиональной деятельности и решению профессиональных задач, предусмотренных ФГОС ВО и образовательной программой.

## **4. Объем дисциплины и виды учебной работы**

*Очная форма обучения*

Период обучения	Общая трудоемкость (часы)	Общая трудоемкость (ЗЕТ)	Контактная работа (часы, всего)	Внеаудиторная контактная работа (часы)	Практические занятия (часы)	Самостоятельная работа (часы)	Промежуточная аттестация (часы)
Первый семестр	108	3	29	3	26	52	Экзамен (27)
Всего	108	3	29	3	26	52	27

#### *Заочная форма обучения*

Период обучения	Общая трудоемкость (часы)	Общая трудоемкость (ЗЕТ)	Контактная работа (часы, всего)	Внеаудиторная контактная работа (часы)	Практические занятия (часы)	Самостоятельная работа (часы)	Промежуточная аттестация (часы)
Первый семестр	108	3	13	3	10	86	Контроль ная работа Экзамен (9)
Всего	108	3	13	3	10	86	9

### 5. Содержание дисциплины

#### 5.1. Разделы, темы дисциплины и виды занятий (часы промежуточной аттестации не указываются)

#### *Очная форма обучения*

Наименование раздела, темы	Всего	Внеаудиторная контактная работа	Практические занятия	Самостоятельная работа	Планируемые результаты обучения, соотношенные с результатами освоения программы
<b>Раздел 1. Раздел 1. SOYBEAN GROWTH AND DEVELOPMENT</b>	<b>78</b>		<b>26</b>	<b>52</b>	УК-4.1 УК-4.2 УК-4.3

Тема 1.1. SOYBEAN GROWTH AND DEVELOPMENT	6		2	4	УК-5.1 УК-5.2
Тема 1.2. MUNGBEAN	9		3	6	
Тема 1.3. VARIETY SELECTION	9		3	6	
Тема 1.4. CROP FERTILIZATION	9		3	6	
Тема 1.5. Weed.Weed management	9		3	6	
Тема 1.6. Environmental stress	9		3	6	
Тема 1.7. No-till crop management	9		3	6	
Тема 1.8. Crop rotation	9		3	6	
Тема 1.9. Improvement of plants	9		3	6	
<b>Раздел 2. Раздел 2. Итоговая аттестация</b>	<b>3</b>	<b>3</b>			УК-4.1 УК-4.2 УК-4.3
Тема 2.1. Экзамен	3	3			УК-5.1 УК-5.2
<b>Итого</b>	<b>81</b>	<b>3</b>	<b>26</b>	<b>52</b>	

*Заочная форма обучения*

Наименование раздела, темы	Всего	Внеаудиторная контактная работа	Практические занятия	Самостоятельная работа	Планируемые результаты обучения, соответствующие результатам освоения программы
<b>Раздел 1. Раздел 1. SOYBEAN GROWTH AND DEVELOPMENT</b>	<b>96</b>		<b>10</b>	<b>86</b>	УК-4.1 УК-4.2 УК-4.3
Тема 1.1. SOYBEAN GROWTH AND DEVELOPMENT	12		2	10	УК-5.1 УК-5.2
Тема 1.2. MUNGBEAN	12		2	10	
Тема 1.3. VARIETY SELECTION	12		2	10	
Тема 1.4. CROP FERTILIZATION	12		2	10	
Тема 1.5. Weed.Weed management	12		2	10	
Тема 1.6. Environmental stress	9			9	
Тема 1.7. No-till crop management	9			9	
Тема 1.8. Crop rotation	9			9	

Тема 1.9. Improvement of plants	9			9	
<b>Раздел 2. Раздел 2. Итоговая аттестация</b>	<b>3</b>	<b>3</b>			УК-4.1 УК-4.2 УК-4.3
Тема 2.1. Экзамен	3	3			УК-5.1 УК-5.2
<b>Итого</b>	<b>99</b>	<b>3</b>	<b>10</b>	<b>86</b>	

## 5. Содержание разделов, тем дисциплин

### *Раздел 1. Раздел 1. SOYBEAN GROWTH AND DEVELOPMENT*

*(Заочная: Практические занятия - 10ч.; Самостоятельная работа - 86ч.; Очная: Практические занятия - 26ч.; Самостоятельная работа - 52ч.)*

#### *Тема 1.1. SOYBEAN GROWTH AND DEVELOPMENT*

*(Заочная: Практические занятия - 2ч.; Самостоятельная работа - 10ч.; Очная: Практические занятия - 2ч.; Самостоятельная работа - 4ч.)*

Изучение и закрепление лексико-грамматического материала по теме

#### *Тема 1.2. MUNGBEAN*

*(Заочная: Практические занятия - 2ч.; Самостоятельная работа - 10ч.; Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.)*

Изучение и закрепление лексико-грамматического материала

#### *Тема 1.3. VARIETY SELECTION*

*(Заочная: Практические занятия - 2ч.; Самостоятельная работа - 10ч.; Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.)*

Изучение и закрепление лексико-грамматического материала

#### *Тема 1.4. CROP FERTILIZATION*

*(Заочная: Практические занятия - 2ч.; Самостоятельная работа - 10ч.; Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.)*

Изучение и закрепление лексико-грамматического материала

#### *Тема 1.5. Weed.Weed management*

*(Заочная: Практические занятия - 2ч.; Самостоятельная работа - 10ч.; Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.)*

Изучение и закрепление нового лексико-грамматического материала

#### *Тема 1.6. Environmental stress*

*(Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.; Заочная: Самостоятельная работа - 9ч.)*

Изучение и закрепление нового лексико-грамматического материала

#### *Тема 1.7. No-till crop management*

*(Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.; Заочная: Самостоятельная работа - 9ч.)*

Изучение и закрепление нового лексико-грамматического материала

#### *Тема 1.8. Crop rotation*

*(Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.; Заочная: Самостоятельная работа - 9ч.)*

Изучение и закрепление нового лексико-грамматического материала

*Тема 1.9. Improvement of plants*

*(Очная: Практические занятия - 3ч.; Самостоятельная работа - 6ч.; Заочная: Самостоятельная работа - 9ч.)*

Изучение и закрепление нового лексико-грамматического материала

**Раздел 2. Раздел 2. Итоговая аттестация**

*(Заочная: Внеаудиторная контактная работа - 3ч.; Очная: Внеаудиторная контактная работа - 3ч.)*

*Тема 2.1. Экзамен*

*(Заочная: Внеаудиторная контактная работа - 3ч.; Очная: Внеаудиторная контактная работа - 3ч.)*

проведение итогового контроля знаний в виде экзамена

## **6. Оценочные материалы текущего контроля**

**Раздел 1. Раздел 1. SOYBEAN GROWTH AND DEVELOPMENT**

*Форма контроля/оценочное средство: Задача*

*Вопросы/Задания:*

1. Helen always ... a bus to get to the office.

take  
will take  
took  
takes

2. We ... coffee in the evening.

drink  
don't drink  
doesn't drink  
drinks

3. Grammar rules ... by heart.

is learned  
are learned  
am learned  
was learned

4. Every day he ... in a hurry to catch the 8 a.m. train.

were  
is  
am  
are

5. I always ... supper with my family

had  
has  
doesn't have  
have

6. A plant that is grown in large quantities, especially as food

Corn  
Seed  
Grass  
Crop



7. Fine powder, usually yellow, that is formed in flowers and carried to other flowers of the same kind by the wind or by insects, to make those flowers produce seeds

Pollen

Dust

Flour

Pistil

8. The three types of fertilizers are:

Nitrogen

Phosphorus

Oxygen

Potassium.

9. Put the words in a right order:

best

growing

control

measure

of

is

resistant

The

varieties.

10. Put the words in a right order:

loose

smuts

of

distinct

in

appearance

barley

Covered

and

false

are

quite

11. Match the words with their translations

Raindrop=ржаветь

Nutrition=стеблевая ржавчина

Stem rust =питание

To rust = внешний вид

Appearance=капля дождя

12. Match the words with their translations

Variety=заменять

To replace=вид, сорт

Susceptible= прибегать, обращаться

Resistant=устойчивый, сопротивляющийся

To resort=восприимчивый

13. Match the words with their translations

Rub =многолетние

Mite=двулетние

Leafhopper=листовая блоха

Perennial=тереть

Biennial=клещ

14. Mungbeans are:

warm season annuals  
spring perennials  
fall annuals  
high-temperature perennials

15. Soybeans are sensitive to:

nitrogen  
ozone  
ozone and sulfur oxide  
ozone and sulfur dioxide

16. Small pods and fewer seeds are the result of:

flooding;  
drought;  
ozone injury;  
soil compaction;

17. .... preplant herbicide application allows greater opportunity for herbicides to be moved into the soil by early season rainfall.

Early  
Late  
Season  
All of the above

18. .... weeds are much more difficult to eliminate than the annual ones  
..... weeds are much more difficult to eliminate than the annual ones

## ***Раздел 2. Раздел 2. Итоговая аттестация***

*Форма контроля/оценочное средство:*

*Вопросы/Задания:*

.

## **7. Оценочные материалы промежуточной аттестации**

*Очная форма обучения, Первый семестр, Экзамен*

*Контролируемые ИДК:*

*Вопросы/Задания:*

1. What do plants vary in?

вопросы к экзамену

2. How are field crops classified agronomically?

3. What plants are called farm crops?

4. What is environment?

5. Which environmental factors are important for plant growth?

6. What do plants play a very important part in?

7. What are the main functions of roots?

8. What is the function of leaves?

9. What is the function of flowers?
10. What is a flower?
11. By what means do most plants reproduce?
12. What is a complete flower made up of?
13. What does a seed consist of?
14. What factors are necessary for germination?
15. Why is good seedbed necessary?
16. How are field crops classified according to their growth habit?
17. How are field crops classified according to their use?
18. What is botanical classification?
19. What plant family does corn belong to?
20. How many days does the growing season of corn last?
21. What are climatic requirements of corn?
22. What kind of plant is wheat?
23. What areas are good for wheat?
24. What factors define the quality of wheat?
25. What is plant breeding?
26. What three general methods of crop improvement are most commonly used?
27. What is selection?
28. What classes of soil do you know?
29. What is soil structure?
30. What is soil water needed for?
31. What is crop rotation?
32. What is crop rotation used for?
33. Why are legumes included in the rotation?

34. What is the aim of application of commercial fertilizer?

35. What elements are most extensively used in the production of grains?

36. Перевод без словаря Text № 1

Corn is a cereal. It belongs to the tropical plants. But it is well adapted to the temperate zone. Corn is a native of America. Columbus introduced it into Europe from America. The leading countries in the production of this crop are the United States, Russia, Argentina and Egypt. Corn belongs to the same family of plants as timothy and wheat. Its roots are fibrous and the stem is made up of nodes and internodes. The corn stem has a hard fibrous coat and a soft spongy pith unlike the hollow stem of most grasses. The usual height of corn plant is from 5 to 10 feet. Corn requires long and warm growing period and enough rainfall during the period of rapid growth. The most critical months are July and August. A growing season is usually from 80 to 160 days. This time is necessary for corn to mature. Corn does best in warm, rich, moist, well-drained loam soils. Soil fertility is more important for corn than for many other cultivated plants. Corn requires well drained, fine and mellow soil. We must plant the maize when the soil is warm enough. Corn will not do well when it is planted in cold wet ground. The best time for planting corn in the North of the USA is that of planting potatoes.

37. Перевод без словаря Text № 2

Seed

A seed must be looked upon as an embryonic plant of the new generation with enough stored food to start it off in life and seed coats for protection. Thus a seed consists of: a) the embryo plant in a dormant state known also as the embryo or germ; b) the food supply stored either inside the embryo or, as with the cereals, around it on the outside, in which case it is called the endosperm; c) one or more seed coats surrounding and protecting the other parts. Some seeds as those of the legumes do not contain an endosperm, the entire supply of food in them being stored inside the embryo in its seed leaves or cotyledons. Thus, in the seed the plant stores up food to be used at some future time. It is on this stored food that the young plant feeds until it is sufficiently developed to provide food for itself.

Germination. The dry seeds being placed under favorable conditions, the young dormant plant begins to grow. This change from a dormant state to one of activity is known as germination. For seeds to germinate well they should be well developed and have high viability. For seeds to retain their vitality well they should be thoroughly air-dried as soon as mature and kept in dry place.

38. Перевод без словаря Text № 3

Crops vary in their climatic requirements. Corn can be grown in various climatic conditions. It does best where the average summer temperature is between 70 and 80°F. Low wheat yields may often result from too low temperatures and abnormally dry weather. Wheat and corn may sometimes be grown in rotation with each other, because wheat is a winter and spring crop and corn is a summer crop. Potatoes, oats and barley do best in cool, moist climate. Both quality and yield of potatoes are better in cool regions. It is necessary to select a proper variety best adapted to the conditions of the region it is to be grown in.

Man cannot influence climatic conditions. The farmer cannot regulate the amount of rainfall, but he can prevent loss of moisture by proper cultivation. He can conserve moisture in the soil by applying large amounts of organic matter. In some dry areas lack of moisture can be compensated by irrigation. Temperature factor: is also very important for successful plant growth. Some plants grow best in cool climates not only because of direct effect of temperature but because of higher supply of water under such conditions. Sunlight is also very important for many processes which take place in the growing plant.

39. Перевод без словаря Text № 4

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. They are grain-bearing grasses such a 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 internodes 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 plants residues.

#### 40. Перевод без словаря Text № 5

##### Environment and its Changing

The life of every living organism, from the simplest bacterium to the largest animal, is known to depend on the structure and physiology of the living organism and also on the kind of the environment it lives in. Physical and biological factors act to make a wide variety of environments in different parts of the world. Conditions are rather constant in some tropical lands and seas, but over much of the Earth the temperature and moisture relations and sunlight change markedly with the season. The life of each plant or animal species is closely connected with the life of plants or animals of other species. No animal lives entirely to itself. On the contrary, each is part of an integrated living community that includes representatives of its kind, many different types of animals and plants of few or many kinds. Animals and plants are affected by various physical and chemical factors, the most important being sunlight, temperature, water, physical substrate, gases and some others. All the factors mentioned are interrelated and none acts independently. Sunlight provides energy used by plants in photosynthesis, but it also warms animal environment and animals themselves.

#### 41. Перевод без словаря Text № 6

##### Maize

Some scientists consider that the cultivation of maize began in the New World and was introduced into Europe only at the end of the 15th century after the discovering of America by Christopher Columbus. The word "maize" is generally used throughout Europe, Asia, Latina America and Caribbean Islands. In North America and in some countries associated with the USA the term "corn" is used. According to another theory, however, maize was brought to Europe from Asia. They say it was introduced into Spain by the Arabs in the 13th century. The production of maize played a big part in the development of the North America. In the whole world maize is one of the most important cereals now. In Russia cultivation of maize is also of great importance for the development of agriculture as well as for the food and light industries. Various factors are responsible for the rapid successful expansion of the usage of maize. First, it is a plant which possesses remarkable adaptability and versatility because of its great diversity of forms. Unlike wheat and rice, the cultivation of which is limited by climate, maize flourishes under the most varied conditions.

#### 42. Перевод без словаря Text № 7

Winter wheat sown in the fall does best in regions where the climate is cool and moist during the fall, winter and early spring months, and then develops into a warm and somewhat dry harvest period. Low yields may often result from too low temperatures and abnormally dry weather. Though a good winter wheat climate is not the same as that for corn these crops may sometimes be grown in rotation with each other, because wheat is a winter and spring crop, whereas corn is a summer crop, not being planted until after the soil has been well warmed up. Oats and barley do best in cool, moist climate, as well as potatoes. Both quality and yield of potato tubers are better in cool regions. Cotton is a highly important crop throughout the warmer parts of the world. It can withstand periods of drought and still produce satisfactory yields if the season later becomes favorable. Vegetables, because of their high adaptability, are grown over a wide range of soil and climatic conditions, soils of good physical properties are especially important. The more succulent types of vegetables, such as tomatoes and cucumbers, are often grown on a large scale under glass.

#### 43. Перевод без словаря Text № 8

Each flowering plant has leaves. A typical leaf consists of a green, broad, thin portion, which contains a system of vascular tubes called veins. The latter serve as channels for the distribution of water and dissolved substances and for removing a part of the food which is manufactured in the

leaves for the use by the plant. The shape and the position of the leaves vary to a considerable extent with the species. Leaves may be born on a leaf stem, or attached directly to the plant. They may be compound as with clovers and potatoes, or simple as in the case of the poplar tree. The roots grow downward into the soil and have two main functions - to absorb plant nutrients and water from the soil and to anchor the plant. As to stem and leaves, they are usually above the ground. The food used in growth by green plants is manufactured in the leaves from the raw materials taken from the soil and air. This process is known as photosynthesis. To support the leaves and to connect them with the roots are the main functions of the stem. Plants are highly important sources of food for man. They supply us with clothing and many other things as well.

#### 44. Перевод без словаря Text № 9

Animals and plants are affected by various physical and chemical factors, the most important being sunlight, temperature, water, physical substrate, gases and some others. All the factors mentioned are interrelated and none acts independently. Sunlight provides energy used by plants in photosynthesis, but it also warms animal environment and animals themselves. Sunlight raises the temperature of water leading to evaporation which in turn results in precipitation of rain and snow. Water is the solvent for soil nutrients used by plants as food. It is a necessity for maintaining animal life and is the medium<sup>2</sup> in which many animals live.

It is interesting to note that attempts to change the weather processes over wide areas have not had much success. However, it is possible to make some changes in the microclimate, that is, in the environment near the organisms. Most of the methods used are aimed at changing either the water balance or the heat balance of an area. As these two things are interrelated, a change in one results in a change in the other. For example, the use of greenhouses or different materials to cover the soil changes the heat balance of an area and leads to different requirements for water.

#### 45. Перевод без словаря Text № 10

### IMPROVEMENT OF PLANTS

Crop plants have not always been as productive and useful as they are today. Long ago they were growing wild. Gradually, man discovered that certain plants were more useful to him, and that if he gathered only the best seeds for planting and used certain cultural practices, he could get better yields. This method of developing better plants is said to continue for many centuries. As civilization progressed, man began studying plants more carefully. He discovered many of the new functions of plants, their structure and requirements for growth. Soon plant science appeared and great progress in the improvement and growing of plants followed.

Compared to the long history of plants on the Earth the plant breeders have improved plants for only a short time, but in this short period they have contributed much to agriculture.

The aim of the plant breeder is to combine the most important characteristics in one variety. The characteristics are known to vary with the crop and the conditions under which it is to be grown.

Selection is a simple but important method of improving plants. This method consists of selecting the best types with most important characteristics for a given area.

#### 46. Перевод без словаря Text № 11

### PHOTOSYNTHESIS

Green plants manufacture their food by a process known as photosynthesis. A number of requirements must be met for photosynthesis to occur. They are:

- sufficient light, carbon dioxide, water and other essential nutrients;
- a favorable temperature;
- the presence of living cells which contain a green material known as chlorophyll.

Chlorophyll converts carbon dioxide and water into sugar. Light is necessary for this process. Plant nutrients carry out many functions. At present 15 elements are essential for proper plant growth.

Thus in the process of photosynthesis plant absorbs the energy of a solar rays that fall on the Earth. This energy is then transmitted together with vegetable food to the bodies of animals and men. He called the plant the intermediary between the sun and life on our planet. "The green leaf" or, to be more precise, the microscopic green grain of chlorophyll, is the focus, the point in the world to which solar energy flows on one side while all the manifestations of life on earth take their source on

the other side.

#### 47. Перевод без словаря Text № 12

Many things people use in everyday life are made from plants. The paper they write on, the clothes they wear, the tables they sit at, all from plants. Plants are used as timber in the making of furniture and as fuel. Many drugs are made from plants.

Plant culture began a great many years ago. The most important plants in the world are said to have been grown 4000 years ago.

There exist very many species of plants. But the best known to most people are those that are useful to men. They are grown and cultivated by farmers and are called farm crops. These crops are used for many different purposes.

Some are used directly by men, some are consumed by animals, others are used in industry and medicine. We can certainly expect new uses to be found and the value of other plants to be discovered.

As plants are so important to men, they must be well cared for and grown under suitable conditions. Then they will give greater yields.

For the plants to grow well they must also be well protected against pests and diseases. With this in view scientists have worked out a system of measures for plant protection which is being in socialist society.

#### 48. Перевод без словаря Text № 13

##### 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.

#### 49. Перевод без словаря Text № 14

##### PLANT, ITS PARTS AND THEIR FUNCTIONS

Plants are highly important sources of food for man. They supply us with food, clothing and many other things as well.

Many plants are being grown and used for many purposes. To have knowledge of plant growth it is necessary to study the principal parts of the plant and their functions. There are three principal parts of a plant: 1 - the root system; 2 - stems and leaves; 3 - the reproductive part made up of flowers, fruits and seeds. The roots grow downward into the soil and have two main functions - to absorb plant nutrients and water from the soil and to anchor the plant. As to stems and leaves, they are usually above the ground. The food used in growth by green plants is manufactured in the leaves from the raw materials taken from the soil and air. This process is known as photosynthesis. The main functions of the stem are to support the leaves and to connect them with the roots. A flower is the part of the plant where seeds are produced. A seed consists of an embryo, a supply of food and one or more seed coats surrounding the young plant and its food supply. All parts of a plant must be developed well and proportionally enough to function properly.

#### 50. Перевод без словаря Text № 15

##### 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 modern conditions include wheat, oats, barley, rye, potatoes, sugar beets, red clover, and many grasses.

Corn, cotton, sorghum, rice, soybeans do best and 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.

#### 51. Перевод со словарём Text № 1

Oats grows best in cool moist climate. Cool weather is very important for high yield and good quality, especially during the period when the grain is filling and ripening. Oats is grown under a wide range of soil and climatic conditions. The highest yields are produced and the best quality of grain is obtained when oats is grown in a well-prepared seedbed on good soil. Lodging takes place when oats is grown in soil that is high in nitrogen. Oats require more moisture than the other cereals. Soils that hold moisture well are best adapted for growing oats. Although oats will do better on the less fertile soils than most of the other small grains, the use of commercial fertilizers under such conditions is generally profitable. A good rule is to sow both winter and spring oats early. This is more important with the spring-sown than with the autumn-sown varieties. It results in higher yields but in a better quality of the grain as well. Oats can be sown somewhat more deeply than wheat, barley, or rye but 1 to 1,5 inches is usually sufficient when moisture is enough and 2 to 3 inches when the surface of the soil is dry. As with the other small grains, oats should remain standing in the field for a longer period if it is to be harvested and threshed with a combine. This period varies from 4 to 5 days in drier sections to a week or more in humid areas. Application of fertilizers is generally recommended because they not only increase the yield of grain but they also facilitate to the establishment of the new seeding as well.

#### 52. Перевод со словарём Text № 2

A weed can be defined as a plant that grows where it is not wanted. Weeds are found on every field. It is impossible to find land completely free from weeds. There are many ways in which weeds may be spread. They are mostly transported by seed, by water, by wind and the animals. Many weed seeds can live in the soil for some years, making the control much more difficult. Weeds reduce growth and yields of cultivated crops as they take away their food and water. The best time to kill most weeds is before they can be seen and the best way to kill is by means of cultivation. Good plowing is the basis of weed control, rotation of crops is another method. Each type of crop is associated with certain weeds, so if the same crop is grown for many years, this will increase the number of weeds. By crop rotation many weeds are controlled. Chemical weed control is a rather efficient method too. Spraying machines are used to apply different weed killers. There exist weedkillers which kill only certain plants or groups of plants. They are called selective weedkillers and can be used to kill weeds growing in many crops. There exist three types of weeds according to their length of life: annuals, biennials and perennials. A weed may be defined as a plant that grows where it is not wanted. Nowadays hormone weedkillers are produced which kill the weeds by stopping their growth. Hormones can kill underground parts of weeds, and sometimes they remain in the soil for some time after spraying. At present hormones which can kill many kinds of weeds are being developed. Weeds do much damage to crops.

#### 53. Перевод со словарём Text № 3

##### Soil

During his existence on the Earth man has depended upon the soil, either directly or indirectly. The soil is the only source for the production of raw materials used by us for food and clothing. The growth and development of all cultivated plants is greatly dependent on the fertility of the soil. Grains, fruits and vegetables are food products obtained by man directly from the soil. Domestic



animals consume grain and forage produced by the soil and in their turn supply us with meat, milk, eggs, and other products used for human food. They supply us with wool and leather for the manufacture of clothing as well. Soils vary in a number of characteristics. Some soils are rich in all kinds of food required by plants; some are rich in certain elements but deficient in others. All agricultural soils contain some organic matter mixed in different proportions with the mineral one. Fragments of all kinds of minerals and rocks as well as the remains of all the plants and animals may be found in the soil and make a home for plant development. Plants require favorable soil and climate conditions. These are a continuous supply of water, plant feed, heat, light and air. In respect of texture and also age, soils can be subdivided into fine sandy soil, sandy soil, loam soil, sandy-loam soil, silt-loam soil, podzol soil, limy soil, solonets soil, chernozem (black earth soil), brown soil, red soil. In his management of the soil the farmer may do much to regulate the supply of water and organic matter. One of the most important tasks is the proper management and preservation of the soil.

54. Перевод со словарём Text № 4

## FIELD CROPS

By the word crop we understand every useful plant cultivated for the benefit of mankind. Depending upon their field of application, crops can be subdivided into the following four groups:

1. Food crops, including mainly cereals, or grain crops. The most important of them is wheat which is grown practically at all altitudes. Wheat is followed by rye grown essentially in Northern countries. Next to rye in significance comes barley used for the preparation of gruels and for malting. Buckwheat and millet serve principally for making gruels. Oats belong both to the group of food and feed crops. Porridge made of it is a highly nutritive food of man, but oats are practically widely used for feeding domestic animals. To the group of food crops also belong rice, tea, coffee, cocoa, grapes, etc.
2. Feed crops are those, the main purpose of which is to supply feed to cattle. Many varieties of grasses belong to this group: clover, timothy, alfalfa, vetch, etc. Many of these grasses serve at the same time the purpose of returning to the soil those particular nutritive elements which the preceding crop has extracted from the earth.
3. Industrial crops are those that provide raw materials for further processing. Sugar beet is the main primary for the sugar industry. The flax plant yields the fine fibers of which linen is made. Flax oil received from the seeds is known to be a food product and in industrial as well. The hemp plant also yields raw materials for producing rough cloth, sacking and. Perhaps the most important industrial crop for the textile industry is cotton.

55. Перевод со словарём Text № 5

## Amaranth, a Promising Food Crop.

Agriculturists believe amaranth is the most promising cereal crop to come along in recent years. Amaranth is a plant whose name comes from a Greek word meaning "unfading". Some agriculturists believe the plant can be grown commercially in many environments to help to feed a hungry world.

It is not a new idea to grow amaranth as a foodstuff. In Mexico during the 16-th century, the Aztecs cultivated it. The plant was an important part of their diet. It has been shown that the Aztecs harvested close to 6000 metric tons of the grain-each year. However, when Cortes and his Spanish army invaded Mexico they destroyed the crop completely. Today only a few wild and uncultivated species of amaranth exist and it is rarely used as a food in Mexico. It has been discovered that amaranth is a highly nutritious food. The plant's seed is high in protein, and it contains an important amino acid called lysine. Amino acids are organic compounds that are the building blocks of protein. Lysine is an essential amino acid that is missing in wheat, rice, and corn. The leaves of some varieties compare in taste and nutritional value with spinach and other vegetable greens. Amaranth can be ground into flour and made into baked goods. Bread made from amaranth is heavy and very compact when compared with the light and airy bread common in North America. The flour can also be used for cakes cookies and crackers as well as high-protein breakfast cereals and snack foods.

56. Перевод со словарём Text № 6

Triticale is a most unusual hybrid. It is a hybrid between wheat and rye. Its name comes from a combination of the scientific names for wheat, triticum, and rye, secale. The first hybrids between wheat and rye were obtained as far back as in 1875. But those hybrids were highly sterile and did not reproduce. It was first developed, in Hungary in 1968. In North America triticale was developed in 1970. A few thousand hectares of triticale were grown in Russia in 1973. Triticale is classified now as a feed grain. As such it is equivalent to other cereals. The grain quality is not good enough to use it for bread making. There are winter and spring types of triticale.

However, winter types are generally not enough hardy to withstand the low temperatures during the winter months. More attention is therefore paid by the scientists to the development of spring triticale. Hilly areas and cool climate provide the best conditions for triticale growing. Good growth is obtained even when night temperatures approach freezing. It makes triticale a valuable forage and pasture crop. Triticale grows well on sandy soils. Compared to wheat, triticale is generally more susceptible to lodging. It is one of the problems to be solved by scientists. They are now working to develop triticale varieties with shorter and thicken stems. Such varieties will not lodge. Shallow seeding is important, since germination is usually poor if triticale is seeded deeper than 9 centimeters. Triticale cannot yet compete with wheat and other cereals in quality and yield. Scientists believe triticale to be a promising crop.

57. Перевод со словарём Text № 7

#### Plant nutrients

Plants form their complex organic matter from water and nutrients from the soil, carbon dioxide from the air and energy from sunlight.

Plants use six of the nutrients in relatively large amounts: nitrogen, phosphorus, potassium, sulphur, calcium and magnesium. These are called “major nutrients”. They are constituents of many plant components such as proteins, nucleic acids and chlorophyll, and are essential for processes, such as energy transfer, maintenance of internal pressure and enzyme function.

The other nutrients are required in small or trace quantities and are referred to as “micronutrients” or “trace elements”. They have a variety of essential functions in plant metabolism.

The metals are constituents of enzymes.

Micronutrients are Chlorine (Cl), Iron (Fe), Manganese (Mn), Zinc (Zn), Copper (Cu), Boron (B), Molybdenum (Mo).

When deficiencies or gross imbalances of nutrients occur, plant growth and development suffer.

Nutrients removed from the soil must be replenished, otherwise the soil becomes exhausted and crops will suffer and eventually fail.

Soil contains reserves of nutrients, e.g., the topsoil content of nitrogen ranges from some 3 to 20 t/ha. However, these reserves are mostly in forms unavailable to plants; only a minor portion is released each year through biological activity or chemical processes. Plants can only take up nutrients as water soluble compounds

When the nutrient supply is insufficient for crop needs, additional nutrients can be supplied in fertilizers to make up the difference. Mineral fertilizers are not substances foreign to nature: they contain normal plant constituents.

58. Перевод со словарём Text № 8

#### Text № 8

Wheat is considered to be the most important world cereal crop. The countries that lead in wheat production are Russia, the USA, China, Canada, France and Italy. Wheat ranks second as a cereal crop in the USA. Everybody knows wheat to play an important role in the development of civilization from the earliest time. It is one of the principal sources of food for man and animals. Wheat is believed to originate in south-western Asia. There exist different classifications of wheat varieties. The most common classifications of wheat are those based on the time of sowing as spring and winter wheat; on the colour of the grain, as hard and soft wheat. As to winter wheat it is usually preferred to spring wheat in regions where it will overwinter successfully. Winter wheat sown in the fall does best in regions where the climate is cool and moist during the fall, winter and early spring months, and then develops into a warm and somewhat dry harvest period. Low yields may often

result from too low temperatures and abnormally dry weather. Different cultivated varieties of wheat vary greatly in their habit, form and structure, but all are annual grasses, that is, they require one season from sowing to producing seeds. The best quality bread wheat is produced in areas where winters are cold, summer comparatively hot and precipitation moderate. Depth of plowing seems to be less important than time of plowing. The depth necessary to obtain best results will vary with soil and climate conditions, but will usually be not more than 6 or 7 inches. The best rate of seeding for the Eastern part of the Great Plains is 60 to 90 pounds per acre for both spring and winter varieties.

#### 59. Перевод со словарём Text № 9

The yield of wheat is greatly affected by the amount of moisture in the soil at the time crop is seeded. In the wheat area of the USA the amount of rain that falls during the growing season is often not sufficient to produce a good yield of grain. It is essential, therefore, under such conditions that the soil be well supplied with moisture at the time the crop is seeded.

Fall plowing as soon after harvest as possible is generally recommended for both winter and spring wheat varieties. The fall-plowed land for spring wheat is usually left rough during the winter season to accumulate snow. Depth of plowing seems to be less important than time of plowing. The depth necessary to obtain best results will vary with soil and climatic conditions but will usually be not more 6 or 7 inches.

Since young spring wheat plants can withstand cold or freezing weather there is no danger from low temperatures when seeding is done early. Both wheats do best, having been sown early. The best rate of seeding for the Eastern part of the Great Plains is 60 to 90 pounds per acre for either spring or winter wheat. However, farther to the West, as moisture becomes a limiting factor, only about 30 to 40 pounds should be used. Where the land is irrigated, in the western states for example, 50 to 80 pounds are considered to be the best rate. These rates should be increased a little when wheat is seeded late.

#### 60. Перевод со словарём Text № 10

Hybrid wheat is already a commercial for farmers throughout the wheat lands of America. Australia is going to conduct the first production trials of hybrid wheats on the fields of its best farmers. Hybrid wheats are more resistant to rust and other cereal diseases than the present ordinary varieties and their milling and baking qualities are among the best of the present-day wheats. As with other grain the yield potential of the hybrid varieties is as much as 20 to 25 per cent above what can be expected from non-hybrid varieties.

However, there are some drawbacks in growing hybrid wheats. They are: 1) hybrid wheats are used for costs considerable more than ordinary wheat seed. 2) the hybrids will produce high expected yield only if they have adequate moisture during the growing season. In other words under irrigation the hybrid wheats can be expected to give a great increase in yield but in normal dry farming they will be at greater risk than ordinary wheats. 3) farmers that grow hybrid wheats will have to buy new seed from the hybrid breeders each year as crops from their own grown seed will quickly produce lower yields. Hybridization as applied to plants refers to the crossing two or more races or varieties that differ in one or more inherited characters. The offspring of such a cross is referred to as a hybrid. This method presents the greatest possibilities for improvement of plants by breeding. By crossing or hybridizing two or more varieties there is an opportunity for the breeder to combine the good characters of each plant in the hybrid.

#### 61. Перевод со словарём Text № 11

All living things are made of cells. A plant cell is a living bit of material surrounded by a membrane and a cell wall. Cells come in almost every shape possible. Some stem cells are long, resembling blunt needles; other look like joints of bamboo, with thick side walls and thin end walls. Certain of the sap-conducting cells in stems have walls that seem to be made up of rings or spirals the full length of the tube like cells. The end walls of these cells often have very thin places that make it easier for sap to go from one cell to another. Some cells even form very long tubes by dissolving the thin end walls between the cells. When the long tubes are grouped in clusters, they are called veins. The veins in celery stocks can be seen easily. Tubes also occur in roots stems, and leaves. They act as pipes, carrying dissolved food downward and dissolved minerals upward. In general, the size and shape of cells depend on their location in the plant and the work they have to do. With the use of good microscope, cells can be seen directly in the thin sections of plants. Even the largest are very

tiny and must be magnified many times to be visible. The cell is a very complex unit made up of living and nonliving materials. It is surrounded by a membrane of living material and a wall of nonliving material. The wall is a prominent feature of the cell. In some parts of certain plants, such as in the trunks of trees, walls are thick and quite tough. Walls of the cells of leaves, on the other hand, are usually very thin and flexible.

62. Перевод со словарём Text № 12

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. Now 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 and 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 best growth if planted in a fertile, well-drained, loam soil. Besides, soils high in inorganic 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.

63. Перевод со словарём Text № 13

OATS

Oats are said to be the best cereal to follow the ploughing up of grassland but this is only true if the grass is turned in timely and well, the furrow slice being properly inverted and no large air pockets left which tend to accentuate drying out. Ploughing depths should be 6 inches except where grass or surface trash need to be buried deeper and then 8-9 inches plough depths may be required. Where early ploughing has been carried out it is often only necessary to give the land a light-medium harrowing to obtain the desired tilth in the top 3 inches of the soil. Optimum drilling depth with oats lies in the region of 1.5-2 inches. When seed-beds have an irregular surface tilth, drilling depth becomes uneven and in order to ensure that all the seed is covered, it will often go in well below the optimum in many areas and this will be responsible for patchy stands. Drilling in autumn tends to be at slightly lower depths than in spring on account of the rougher soil surface which is purposely left to reduce the dangers of surface capping. Early spring drilling may also go in deeper than normal in an attempt to reduce losses through bird activity. The two main advantages of combine drilling are firstly, the seed and fertilizer go on in one operation and secondly, it is possible to obtain maximum benefit from the minimum amount of fertilizer, notably the phosphate and potash content. The main disadvantage lies in the fact that the rate of sowing is much reduced and since delays in drilling usually mean lower yields.

64. Перевод со словарём Text № 14

WEATHER AND CLIMATE: THE GREENHOUSE EFFECT AND AGRICULTURE

Agricultural yields are very dependent on weather. Recent examples are frost and drought damage to grain crops in our country, the recent drought in the USA and frost damage to Brazilian coffee. There are indications that extreme weather conditions now occur more frequently than in the past. If true, this instability will influence agriculture and increase the need for food reserves. Unfortunately, accurate long-term weather forecasts are probably impossible. Some compensation for weather vagaries is possible by irrigation, but apart from this little else can be done with weather.

One aspect of the climate now attracting political attention is the problem increase in the earth's

average surface temperature due to the “greenhouse effect”. The heat balance of the atmosphere is influenced by some of the components of the air that are present in only small amounts: carbon dioxide, methane, nitrous oxide and the chlorofluorocarbons. These gases absorb infra-red (heat) radiation from the earth. The concentration of these gases in the air is increasing and thus the capacity of the atmosphere to retain heat. It is feared that this will give a global temperature rise and thus influence climate.

The increasing atmospheric concentration of these gases is due to human, domestic and industrial activities. The increase appears to have started with industrialization and became especially noticeable after the Second World War.

#### 65. Перевод со словарём Text № 15

The main contribution of agriculture to abating the carbon dioxide problem must be to maintain soil humus and to increase the productivity of arable land and thus reduce the need for using forested areas for crop production.

Higher fertile cultivated land in temperate and tropical regions together with tropical forests and grasslands are regarded as the major sources of nitrous oxide, but the relative importance of the individual sources and processes is largely unknown. Combustion was believed to be a major source, but this contribution seems to have been overestimated.

Nitrous oxide is formed in the soil during the natural biological processes of nitrification and denitrification. The end-product of denitrification is usually nitrogen gas but under some conditions nitrous oxide is also formed.

The emission of nitrous oxide from the fields is uneven, it depends on competing reactions and varies with the conditions.

Agricultural practices such as tillage, fertilization, manuring, crop residue management and drainage all influence nitrogen transformation processes in the soil and may therefore influence nitrous oxide emissions. Knowledge required to give guidelines on how to minimize such emissions is largely lacking. Nitrate application on excessively wet or waterlogged fields can increase nitrous oxide emissions from the soil, but it is not usual to fertilize under such conditions. Research on the influence of agriculture on nitrous oxide formation is now being undertaken in many institutions, but improved measurement methods for field emissions are needed.

*Заочная форма обучения, Первый семестр, Экзамен*

*Контролируемые ИДК:*

Вопросы/Задания:

1. What do plants vary in?

вопросы к экзамену

2. How are field crops classified agronomically?

3. What plants are called farm crops?

4. What is environment?

5. Which environmental factors are important for plant growth?

6. What do plants play a very important part in?

7. What are the main functions of roots?

8. What is the function of leaves?

9. What is the function of flowers?

10. What is a flower?

11. By what means do most plants reproduce?
12. What is a complete flower made up of?
13. What does a seed consist of?
14. What factors are necessary for germination?
15. Why is good seedbed necessary?
16. How are field crops classified according to their growth habit?
17. How are field crops classified according to their use?
18. What is botanical classification?
19. What plant family does corn belong to?
20. How many days does the growing season of corn last?
21. What are climatic requirements of corn?
22. What kind of plant is wheat?
23. What areas are good for wheat?
24. What factors define the quality of wheat?
25. What is plant breeding?
26. What three general methods of crop improvement are most commonly used?
27. What is selection?
28. What classes of soil do you know?
29. What is soil structure?
30. What is soil water needed for?
31. What is crop rotation?
32. What is crop rotation used for?
33. Why are legumes included in the rotation?
34. What is the aim of application of commercial fertilizer?
35. What elements are most extensively used in the production of grains?

### 36. Перевод без словаря Text № 1

Corn is a cereal. It belongs to the tropical plants. But it is well adapted to the temperate zone. Corn is a native of America. Columbus introduced it into Europe from America. The leading countries in the production of this crop are the United States, Russia, Argentina and Egypt. Corn belongs to the same family of plants as timothy and wheat. Its roots are fibrous and the stem is made up of nodes and internodes. The corn stem has a hard fibrous coat and a soft spongy pith unlike the hollow stem of most grasses. The usual height of corn plant is from 5 to 10 feet. Corn requires long and warm growing period and enough rainfall during the period of rapid growth. The most critical months are July and August. A growing season is usually from 80 to 160 days. This time is necessary for corn to mature. Corn does best in warm, rich, moist, well-drained loam soils. Soil fertility is more important for corn than for many other cultivated plants. Corn requires well drained, fine and mellow soil. We must plant the maize when the soil is warm enough. Corn will not do well when it is planted in cold wet ground. The best time for planting corn in the North of the USA is that of planting potatoes.

### 37. Перевод без словаря Text № 2

Seed

A seed must be looked upon as an embryonic plant of the new generation with enough stored food to start it off in life and seed coats for protection. Thus a seed consists of: a) the embryo plant in a dormant state known also as the embryo or germ; b) the food supply stored either inside the embryo or, as with the cereals, around it on the outside, in which case it is called the endosperm; c) one or more seed coats surrounding and protecting the other parts. Some seeds as those of the legumes do not contain an endosperm, the entire supply of food in them being stored inside the embryo in its seed leaves or cotyledons. Thus, in the seed the plant stores up food to be used at some future time. It is on this stored food that the young plant feeds until it is sufficiently developed to provide food for itself.

Germination. The dry seeds being placed under favorable conditions, the young dormant plant begins to grow. This change from a dormant state to one of activity is known as germination. For seeds to germinate well they should be well developed and have high viability. For seeds to retain their vitality well they should be thoroughly air-dried as soon as mature and kept in dry place.

### 38. Перевод без словаря Text № 3

Crops vary in their climatic requirements. Corn can be grown in various climatic conditions. It does best where the average summer temperature is between 70 and 80°F. Low wheat yields may often result from too low temperatures and abnormally dry weather. Wheat and corn may sometimes be grown in rotation with each other, because wheat is a winter and spring crop and corn is a summer crop. Potatoes, oats and barley do best in cool, moist climate. Both quality and yield of potatoes are better in cool regions. It is necessary to select a proper variety best adapted to the conditions of the region it is to be grown in.

Man cannot influence climatic conditions. The farmer cannot regulate the amount of rainfall, but he can prevent loss of moisture by proper cultivation. He can conserve moisture in the soil by applying large amounts of organic matter. In some dry areas lack of moisture can be compensated by irrigation. Temperature factor: is also very important for successful plant growth. Some plants grow best in cool climates not only because of direct effect of temperature but because of higher supply of water under such conditions. Sunlight is also very important for many processes which take place in the growing plant.

### 39. Перевод без словаря Text № 4

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. They are grain-bearing grasses such a 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 internodes 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 plants residues.

#### 40. Перевод без словаря Text № 5

##### Environment and its Changing

The life of every living organism, from the simplest bacterium to the largest animal, is known to depend on the structure and physiology of the living organism and also on the kind of the environment it lives in. Physical and biological factors act to make a wide variety of environments in different parts of the world. Conditions are rather constant in some tropical lands and seas, but over much of the Earth the temperature and moisture relations and sunlight change markedly with the season. The life of each plant or animal species is closely connected with the life of plants or animals of other species. No animal lives entirely to itself. On the contrary, each is part of an integrated living community that includes representatives of its kind, many different types of animals and plants of few or many kinds. Animals and plants are affected by various physical and chemical factors, the most important being sunlight, temperature, water, physical substrate, gases and some others. All the factors mentioned are interrelated and none acts independently. Sunlight provides energy used by plants in photosynthesis, but it also warms animal environment and animals themselves.

#### 41. Перевод без словаря Text № 6

##### Maize

Some scientists consider that the cultivation of maize began in the New World and was introduced into Europe only at the end of the 15th century after the discovering of America by Christopher Columbus. The word "maize" is generally used throughout Europe, Asia, Latina America and Caribbean Islands. In North America and in some countries associated with the USA the term "corn" is used. According to another theory, however, maize was brought to Europe from Asia. They say it was introduced into Spain by the Arabs in the 13th century. The production of maize played a big part in the development of the North America. In the whole world maize is one of the most important cereals now. In Russia cultivation of maize is also of great importance for the development of agriculture as well as for the food and light industries. Various factors are responsible for the rapid successful expansion of the usage of maize. First, it is a plant which possesses remarkable adaptability and versatility because of its great diversity of forms. Unlike wheat and rice, the cultivation of which is limited by climate, maize flourishes under the most varied conditions.

#### 42. Перевод без словаря Text № 7

Winter wheat sown in the fall does best in regions where the climate is cool and moist during the fall, winter and early spring months, and then develops into a warm and somewhat dry harvest period. Low yields may often result from too low temperatures and abnormally dry weather. Though a good winter wheat climate is not the same as that for corn these crops may sometimes be grown in rotation with each other, because wheat is a winter and spring crop, whereas corn is a summer crop, not being planted until after the soil has been well warmed up. Oats and barley do best in cool, moist climate, as well as potatoes. Both quality and yield of potato tubers are better in cool regions. Cotton is a highly important crop throughout the warmer parts of the world. It can withstand periods of drought and still produce satisfactory yields if the season later becomes favorable. Vegetables, because of their high adaptability, are grown over a wide range of soil and climatic conditions, soils of good physical properties are especially important. The more succulent types of vegetables, such as tomatoes and cucumbers, are often grown on a large scale under glass.

#### 43. Перевод без словаря Text № 8

Each flowering plant has leaves. A typical leaf consists of a green, broad, thin portion, which contains a system of vascular tubes called veins. The latter serve as channels for the distribution of water and dissolved substances and for removing a part of the food which is manufactured in the leaves for the use by the plant. The shape and the position of the leaves vary to a considerable extent with the species. Leaves may be born on a leaf stem, or attached directly to the plant. They may be compound as with clovers and potatoes, or simple as in the case of the poplar tree. The roots grow downward into the soil and have two main functions - to absorb plant nutrients and water from the soil and to anchor the plant. As to stem and leaves, they are usually above the ground. The food used



in growth by green plants is manufactured in the leaves from the raw materials taken from the soil and air. This process is known as photosynthesis. To support the leaves and to connect them with the roots are the main functions of the stem. Plants are highly important sources of food for man. They supply us with clothing and many other things as well.

#### 44. Перевод без словаря Text № 9

Animals and plants are affected by various physical and chemical factors, the most important being sunlight, temperature, water, physical substrate, gases and some others. All the factors mentioned are interrelated and none acts independently. Sunlight provides energy used by plants in photosynthesis, but it also warms animal environment and animals themselves. Sunlight raises the temperature of water leading to evaporation which in turn results in precipitation of rain and snow. Water is the solvent for soil nutrients used by plants as food. It is a necessity for maintaining animal life and is the medium<sup>2</sup> in which many animals live.

It is interesting to note that attempts to change the weather processes over wide areas have not had much success. However, it is possible to make some changes in the microclimate, that is, in the environment near the organisms. Most of the methods used are aimed at changing either the water balance or the heat balance of an area. As these two things are interrelated, a change in one results in a change in the other. For example, the use of greenhouses or different materials to cover the soil changes the heat balance of an area and leads to different requirements for water.

#### 45. Перевод без словаря Text № 10

### IMPROVEMENT OF PLANTS

Crop plants have not always been as productive and useful as they are today. Long ago they were growing wild. Gradually, man discovered that certain plants were more useful to him, and that if he gathered only the best seeds for planting and used certain cultural practices, he could get better yields. This method of developing better plants is said to continue for many centuries. As civilization progressed, man began studying plants more carefully. He discovered many of the new functions of plants, their structure and requirements for growth. Soon plant science appeared and great progress in the improvement and growing of plants followed.

Compared to the long history of plants on the Earth the plant breeders have improved plants for only a short time, but in this short period they have contributed much to agriculture.

The aim of the plant breeder is to combine the most important characteristics in one variety. The characteristics are known to vary with the crop and the conditions under which it is to be grown.

Selection is a simple but important method of improving plants. This method consists of selecting the best types with most important characteristics for a given area.

#### 46. Перевод без словаря Text № 11

### PHOTOSYNTHESIS

Green plants manufacture their food by a process known as photosynthesis. A number of requirements must be met for photosynthesis to occur. They are:

- sufficient light, carbon dioxide, water and other essential nutrients;
- a favorable temperature;

- the presence of living cells which contain a green material known as chlorophyll.

Chlorophyll converts carbon dioxide and water into sugar. Light is necessary for this process. Plant nutrients carry out many functions. At present 15 elements are essential for proper plant growth.

Thus in the process of photosynthesis plant absorbs the energy of a solar rays that fall on the Earth. This energy is then transmitted together with vegetable food to the bodies of animals and men. He called the plant the intermediary between the sun and life on our planet. "The green leaf" or, to be more precise, the microscopic green grain of chlorophyll, is the focus, the point in the world to which solar energy flows on one side while all the manifestations of life on earth take their source on the other side.

#### 47. Перевод без словаря Text № 12

Many things people use in everyday life are made from plants. The paper they write on, the clothes they wear, the tables they sit at, all from plants. Plants are used as timber in the making of furniture and as fuel. Many drugs are made from plants.

Plant culture began a great many years ago. The most important plants in the world are said to have been grown 4000 years ago.

There exist very many species of plants. But the best known to most people are those that are useful to men. They are grown and cultivated by farmers and are called farm crops. These crops are used for many different purposes.

Some are used directly by men, some are consumed by animals, others are used in industry and medicine. We can certainly expect new uses to be found and the value of other plants to be discovered.

As plants are so important to men, they must be well cared for and grown under suitable conditions. Then they will give greater yields.

For the plants to grow well they must also be well protected against pests and diseases. With this in view scientists have worked out a system of measures for plant protection which is being in socialist society.

#### 48. Перевод без словаря Text № 13

##### 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.

#### 49. Перевод без словаря Text № 14

##### PLANT, ITS PARTS AND THEIR FUNCTIONS

Plants are highly important sources of food for man. They supply us with food, clothing and many other things as well.

Many plants are being grown and used for many purposes. To have knowledge of plant growth it is necessary to study the principal parts of the plant and their functions. There are three principal parts of a plant: 1 - the root system; 2 - stems and leaves; 3 - the reproductive part made up of flowers, fruits and seeds. The roots grow downward into the soil and have two main functions - to absorb plant nutrients and water from the soil and to anchor the plant. As to stems and leaves, they are usually above the ground. The food used in growth by green plants is manufactured in the leaves from the raw materials taken from the soil and air. This process is known as photosynthesis. The main functions of the stem are to support the leaves and to connect them with the roots. A flower is the part of the plant where seeds are produced. A seed consists of an embryo, a supply of food and one or more seed coats surrounding the young plant and its food supply. All parts of a plant must be developed well and proportionally enough to function properly.

#### 50. Перевод без словаря Text № 15

##### 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 modern conditions include wheat, oats, barley, rye, potatoes, sugar beets, red clover, and many grasses.

Corn, cotton, sorghum, rice, soybeans do best and 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.

#### 51. Перевод со словарём Text № 1

Oats grows best in cool moist climate. Cool weather is very important for high yield and good quality, especially during the period when the grain is filling and ripening. Oats is grown under a wide range of soil and climatic conditions. The highest yields are produced and the best quality of grain is obtained when oats is grown in a well-prepared seedbed on good soil. Lodging takes place when oats is grown in soil that is high in nitrogen. Oats require more moisture than the other cereals. Soils that hold moisture well are best adapted for growing oats. Although oats will do better on the less fertile soils than most of the other small grains, the use of commercial fertilizers under such conditions is generally profitable. A good rule is to sow both winter and spring oats early. This is more important with the spring-sown than with the autumn-sown varieties. It results in higher yields but in a better quality of the grain as well. Oats can be sown somewhat more deeply than wheat, barley, or rye but 1 to 1,5 inches is usually sufficient when moisture is enough and 2 to 3 inches when the surface of the soil is dry. As with the other small grains, oats should remain standing in the field for a longer period if it is to be harvested and threshed with a combine. This period varies from 4 to 5 days in drier sections to a week or more in humid areas. Application of fertilizers is generally recommended because they not only increase the yield of grain but they also facilitate to the establishment of the new seeding as well.

#### 52. Перевод со словарём Text № 2

A weed can be defined as a plant that grows where it is not wanted. Weeds are found on every field. It is impossible to find land completely free from weeds. There are many ways in which weeds may be spread. They are mostly transported by seed, by water, by wind and the animals. Many weed seeds can live in the soil for some years, making the control much more difficult. Weeds reduce growth and yields of cultivated crops as they take away their food and water. The best time to kill most weeds is before they can be seen and the best way to kill is by means of cultivation. Good plowing is the basis of weed control, rotation of crops is another method. Each type of crop is associated with certain weeds, so if the same crop is grown for many years, this will increase the number of weeds. By crop rotation many weeds are controlled. Chemical weed control is a rather efficient method too. Spraying machines are used to apply different weed killers. There exist weedkillers which kill only certain plants or groups of plants. They are called selective weedkillers and can be used to kill weeds growing in many crops. There exist three types of weeds according to their length of life: annuals, biennials and perennials. A weed may be defined as a plant that grows where it is not wanted. Nowadays hormone weedkillers are produced which kill the weeds by stopping their growth. Hormones can kill underground parts of weeds, and sometimes they remain in the soil for some time after spraying. At present hormones which can kill many kinds of weeds are being developed. Weeds do much damage to crops.

#### 53. Перевод со словарём Text № 3

##### Soil

During his existence on the Earth man has depended upon the soil, either directly or indirectly. The soil is the only source for the production of raw materials used by us for food and clothing. The growth and development of all cultivated plants is greatly dependent on the fertility of the soil. Grains, fruits and vegetables are food products obtained by man directly from the soil. Domestic animals consume grain and forage produced by the soil and in their turn supply us with meat, milk, eggs, and other products used for human food. They supply us with wool and leather for the manufacture of clothing as well. Soils vary in a number of characteristics. Some soils are rich in all kinds of food required by plants; some are rich in certain elements but deficient in others. All agricultural soils contain some organic matter mixed in different proportions with the mineral one.

Fragments of all kinds of minerals and rocks as well as the remains of all the plants and animals may be found in the soil and make a home for plant development. Plants require favorable soil and climate conditions. These are a continuous supply of water, plant feed, heat, light and air. In respect of texture and also age, soils can be subdivided into fine sandy soil, sandy soil, loam soil, sandy-loam soil, silt-loam soil, podzol soil, limy soil, solonets soil, chernozem (black earth soil), brown soil, red soil. In his management of the soil the farmer may do much to regulate the supply of water and organic matter. One of the most important tasks is the proper management and preservation of the soil.

54. Перевод со словарём Text № 4

## FIELD CROPS

By the word crop we understand every useful plant cultivated for the benefit of mankind. Depending upon their field of application, crops can be subdivided into the following four groups:

1. Food crops, including mainly cereals, or grain crops. The most important of them is wheat which is grown practically at all altitudes. Wheat is followed by rye grown essentially in Northern countries. Next to rye in significance comes barley used for the preparation of gruels and for malting. Buckwheat and millet serve principally for making gruels. Oats belong both to the group of food and feed crops. Porridge made of it is a highly nutritive food of man, but oats are practically widely used for feeding domestic animals. To the group of food crops also belong rice, tea, coffee, cocoa, grapes, etc.
2. Feed crops are those, the main purpose of which is to supply feed to cattle. Many varieties of grasses belong to this group: clover, timothy, alfalfa, vetch, etc. Many of these grasses serve at the same time the purpose of returning to the soil those particular nutritive elements which the preceding crop has extracted from the earth.
3. Industrial crops are those that provide raw materials for further processing. Sugar beet is the main primary for the sugar industry. The flax plant yields the fine fibers of which linen is made. Flax oil received from the seeds is known to be a food product and in industrial as well. The hemp plant also yields raw materials for producing rough cloth, sacking and. Perhaps the most important industrial crop for the textile industry is cotton.

55. Перевод со словарём Text № 5

## Amaranth, a Promising Food Crop.

Agriculturists believe amaranth is the most promising cereal crop to come along in recent years. Amaranth is a plant whose name comes from a Greek word meaning "unfading". Some agriculturists believe the plant can be grown commercially in many environments to help to feed a hungry world.

It is not a new idea to grow amaranth as a foodstuff. In Mexico during the 16-th century, the Aztecs cultivated it. The plant was an important part of their diet. It has been shown that the Aztecs harvested close to 6000 metric tons of the grain-each year. However, when Cortes and his Spanish army invaded Mexico they destroyed the crop completely. Today only a few wild and uncultivated species of amaranth exist and it is rarely used as a food in Mexico. It has been discovered that amaranth is a highly nutritious food. The plant's seed is high in protein, and it contains an important amino acid called lysine. Amino acids are organic compounds that are the building blocks of protein. Lysine is an essential amino acid that is missing in wheat, rice, and corn. The leaves of some varieties compare in taste and nutritional value with spinach and other vegetable greens. Amaranth can be ground into flour and made into baked goods. Bread made from amaranth is heavy and very compact when compared with the light and airy bread common in North America. The flour can also be used for cakes cookies and crackers as well as high-protein breakfast cereals and snack foods.

56. Перевод со словарём Text № 6

Triticale is a most unusual hybrid. It is a hybrid between wheat and rye. Its name comes from a combination of the scientific names for wheat, triticum, and rye, secale. The first hybrids between wheat and rye were obtained as far back as in 1875. But those hybrids were highly sterile and did not reproduce. It was first developed, in Hungary in 1968. In North America triticale was developed in 1970. A few thousand hectares of triticale were grown in Russia in 1973. Triticale is classified now

as a feed grain. As such it is equivalent to other cereals. The grain quality is not good enough to use it for bread making. There are winter and spring types of triticale.

However, winter types are generally not enough hardy to withstand the low temperatures during the winter months. More attention is therefore paid by the scientists to the development of spring triticale. Hilly areas and cool climate provide the best conditions for triticale growing. Good growth is obtained even when night temperatures approach freezing. It makes triticale a valuable forage and pasture crop. Triticale grows well on sandy soils. Compared to wheat, triticale is generally more susceptible to lodging. It is one of the problems to be solved by scientists. They are now working to develop triticale varieties with shorter and thicken stems. Such varieties will not lodge. Shallow seeding is important, since germination is usually poor if triticale is seeded deeper than 9 centimeters. Triticale cannot yet compete with wheat and other cereals in quality and yield. Scientists believe triticale to be a promising crop.

#### 57. Перевод со словарём Text № 7

##### Plant nutrients

Plants form their complex organic matter from water and nutrients from the soil, carbon dioxide from the air and energy from sunlight.

Plants use six of the nutrients in relatively large amounts: nitrogen, phosphorus, potassium, sulphur, calcium and magnesium. These are called “major nutrients”. They are constituents of many plant components such as proteins, nucleic acids and chlorophyll, and are essential for processes, such as energy transfer, maintenance of internal pressure and enzyme function.

The other nutrients are required in small or trace quantities and are referred to as “micronutrients” or “trace elements”. They have a variety of essential functions in plant metabolism.

The metals are constituents of enzymes.

Micronutrients are Chlorine (Cl), Iron (Fe), Manganese (Mn), Zinc (Zn), Copper (Cu), Boron (B), Molybdenum (Mo).

When deficiencies or gross imbalances of nutrients occur, plant growth and development suffer.

Nutrients removed from the soil must be replenished, otherwise the soil becomes exhausted and crops will suffer and eventually fail.

Soil contains reserves of nutrients, e.g., the topsoil content of nitrogen ranges from some 3 to 20 t/ha. However, these reserves are mostly in forms unavailable to plants; only a minor portion is released each year through biological activity or chemical processes. Plants can only take up nutrients as water soluble compounds

When the nutrient supply is insufficient for crop needs, additional nutrients can be supplied in fertilizers to make up the difference. Mineral fertilizers are not substances foreign to nature: they contain normal plant constituents.

#### 58. Перевод со словарём Text № 8

##### Text № 8

Wheat is considered to be the most important world cereal crop. The countries that lead in wheat production are Russia, the USA, China, Canada, France and Italy. Wheat ranks second as a cereal crop in the USA. Everybody knows wheat to play an important role in the development of civilization from the earliest time. It is one of the principal sources of food for man and animals. Wheat is believed to originate in south-western Asia. There exist different classifications of wheat varieties. The most common classifications of wheat are those based on the time of sowing as spring and winter wheat; on the colour of the grain, as hard and soft wheat. As to winter wheat it is usually preferred to spring wheat in regions where it will overwinter successfully. Winter wheat sown in the fall does best in regions where the climate is cool and moist during the fall, winter and early spring months, and then develops into a warm and somewhat dry harvest period. Low yields may often result from too low temperatures and abnormally dry weather. Different cultivated varieties of wheat vary greatly in their habit, form and structure, but all are annual grasses, that is, they require one season from sowing to producing seeds. The best quality bread wheat is produced in areas where winters are cold, summer comparatively hot and precipitation moderate. Depth of plowing seems to be less important than time of plowing. The depth necessary to obtain best results will vary with soil

and climate conditions, but will usually be not more than 6 or 7 inches. The best rate of seeding for the Eastern part of the Great Plains is 60 to 90 pounds per acre for both spring and winter varieties.

#### 59. Перевод со словарём Text № 9

The yield of wheat is greatly affected by the amount of moisture in the soil at the time crop is seeded. In the wheat area of the USA the amount of rain that falls during the growing season is often not sufficient to produce a good yield of grain. It is essential, therefore, under such conditions that the soil be well supplied with moisture at the time the crop is seeded.

Fall plowing as soon after harvest as possible is generally recommended for both winter and spring wheat varieties. The fall-plowed land for spring wheat is usually left rough during the winter season to accumulate snow. Depth of plowing seems to be less important than time of plowing. The depth necessary to obtain best results will vary with soil and climatic conditions but will usually be not more 6 or 7 inches.

Since young spring wheat plants can withstand cold or freezing weather there is no danger from low temperatures when seeding is done early. Both wheats do best, having been sown early. The best rate of seeding for the Eastern part of the Great Plains is 60 to 90 pounds per acre for either spring or winter wheat. However, farther to the West, as moisture becomes a limiting factor, only about 30 to 40 pounds should be used. Where the land is irrigated, in the western states for example, 50 to 80 pounds are considered to be the best rate. These rates should be increased a little when wheat is seeded late.

#### 60. Перевод со словарём Text № 10

Hybrid wheat is already a commercial for farmers throughout the wheat lands of America. Australia is going to conduct the first production trials of hybrid wheats on the fields of its best farmers. Hybrid wheats are more resistant to rust and other cereal diseases than the present ordinary varieties and their milling and baking qualities are among the best of the present-day wheats. As with other grain the yield potential of the hybrid varieties is as much as 20 to 25 per cent above what can be expected from non-hybrid varieties.

However, there are some drawbacks in growing hybrid wheats. They are: 1) hybrid wheats are used for costs considerable more than ordinary wheat seed. 2) the hybrids will produce high expected yield only if they have adequate moisture during the growing season. In other words under irrigation the hybrid wheats can be expected to give a great increase in yield but in normal dry farming they will be at greater risk than ordinary wheats. 3) farmers that grow hybrid wheats will have to buy new seed from the hybrid breeders each year as crops from their own grown seed will quickly produce lower yields. Hybridization as applied to plants refers to the crossing two or more races or varieties that differ in one or more inherited characters. The offspring of such a cross is referred to as a hybrid. This method presents the greatest possibilities for improvement of plants by breeding. By crossing or hybridizing two or more varieties there is an opportunity for the breeder to combine the good characters of each plant in the hybrid.

#### 61. Перевод со словарём Text № 11

All living things are made of cells. A plant cell is a living bit of material surrounded by a membrane and a cell wall. Cells come in almost every shape possible. Some stem cells are long, resembling blunt needles; other look like joints of bamboo, with thick side walls and thin end walls. Certain of the sap-conducting cells in stems have walls that seem to be made up of rings or spirals the full length of the tube like cells. The end walls of these cells often have very thin places that make it easier for sap to go from one cell to another. Some cells even form very long tubes by dissolving the thin end walls between the cells. When the long tubes are grouped in clusters, they are called veins. The veins in celery stocks can be seen easily. Tubes also occur in roots stems, and leaves. They act as pipes, carrying dissolved food downward and dissolved minerals upward. In general, the size and shape of cells depend on their location in the plant and the work they have to do. With the use of good microscope, cells can be seen directly in the thin sections of plants. Even the largest are very tiny and must be magnified many times to be visible. The cell is a very complex unit made up of living and nonliving materials. It is surrounded by a membrane of living material and a wall of nonliving material. The wall is a prominent feature of the cell. In some parts of certain plants, such as in the trunks of trees, walls are thick and quite tough. Walls of the cells of leaves, on the other hand, are usually very thin and flexible.

## 62. Перевод со словарём Text № 12

### 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. Now 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 and 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 best growth if planted in a fertile, well-drained, loam soil. Besides, soils high in inorganic 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.

## 63. Перевод со словарём Text № 13

### OATS

Oats are said to be the best cereal to follow the ploughing up of grassland but this is only true if the grass is turned in timely and well, the furrow slice being properly inverted and no large air pockets left which tend to accentuate drying out. Ploughing depths should be 6 inches except where grass or surface trash need to be buried deeper and then 8-9 inches plough depths may be required. Where early ploughing has been carried out it is often only necessary to give the land a light-medium harrowing to obtain the desired tilth in the top 3 inches of the soil. Optimum drilling depth with oats lies in the region of 1.5-2 inches. When seed-beds have an irregular surface tilth, drilling depth becomes uneven and in order to ensure that all the seed is covered, it will often go in well below the optimum in many areas and this will be responsible for patchy stands. Drilling in autumn tends to be at slightly lower depths than in spring on account of the rougher soil surface which is purposely left to reduce the dangers of surface capping. Early spring drilling may also go in deeper than normal in an attempt to reduce losses through bird activity. The two main advantages of combine drilling are firstly, the seed and fertilizer go on in one operation and secondly, it is possible to obtain maximum benefit from the minimum amount of fertilizer, notably the phosphate and potash content. The main disadvantage lies in the fact that the rate of sowing is much reduced and since delays in drilling usually mean lower yields.

## 64. Перевод со словарём Text № 14

### WEATHER AND CLIMATE: THE GREENHOUSE EFFECT AND AGRICULTURE

Agricultural yields are very dependent on weather. Recent examples are frost and drought damage to grain crops in our country, the recent drought in the USA and frost damage to Brazilian coffee. There are indications that extreme weather conditions now occur more frequently than in the past. If true, this instability will influence agriculture and increase the need for food reserves. Unfortunately, accurate long-term weather forecasts are probably impossible. Some compensation for weather vagaries is possible by irrigation, but apart from this little else can be done with weather.

One aspect of the climate now attracting political attention is the problem increase in the earth's average surface temperature due to the "greenhouse effect". The heat balance of the atmosphere is influenced by some of the components of the air that are present in only small amounts: carbon dioxide, methane, nitrous oxide and the chlorofluorocarbons. These gases absorb infra-red (heat) radiation from the earth. The concentration of these gases in the air is increasing and thus the capacity of the atmosphere to retain heat. It is feared that this will give a global temperature rise and

thus influence climate.

The increasing atmospheric concentration of these gases is due to human, domestic and industrial activities. The increase appears to have started with industrialization and became especially noticeable after the Second World War.

65. Перевод со словарём Text № 15

The main contribution of agriculture to abating the carbon dioxide problem must be to maintain soil humus and to increase the productivity of arable land and thus reduce the need for using forested areas for crop production.

Higher fertile cultivated land in temperate and tropical regions together with tropical forests and grasslands are regarded as the major sources of nitrous oxide, but the relative importance of the individual sources and processes is largely unknown. Combustion was believed to be a major source, but this contribution seems to have been overestimated.

Nitrous oxide is formed in the soil during the natural biological processes of nitrification and denitrification. The end-product of denitrification is usually nitrogen gas but under some conditions nitrous oxide is also formed.

The emission of nitrous oxide from the fields is uneven, it depends on competing reactions and varies with the conditions.

Agricultural practices such as tillage, fertilization, manuring, crop residue management and drainage all influence nitrogen transformation processes in the soil and may therefore influence nitrous oxide emissions. Knowledge required to give guidelines on how to minimize such emissions is largely lacking. Nitrate application on excessively wet or waterlogged fields can increase nitrous oxide emissions from the soil, but it is not usual to fertilize under such conditions. Research on the influence of agriculture on nitrous oxide formation is now being undertaken in many institutions, but improved measurement methods for field emissions are needed.

*Заочная форма обучения, Первый семестр, Контрольная работа*

*Контролируемые ИДК:*

Вопросы/Задания:

1. Match the expressions to make sentences:

1. My friends encouraged me=to apply for this job.
2. I didn't mean=to hurt your feelings.
3. I must apologize=for being late.
4. The job involves preparing=reports for the management.
5. He refused=to betray his friends.
6. Don't you dare=talk to me like that!
7. Do you happen=to have any money with you?
8. Do you enjoy=studying?
9. If you have any questions,=don't hesitate to call me.
10. I am looking forward=to seeing you again soon

2. Choose the appropriate options to complete the sentences:

Simone and Michael discussed ... to Tahiti on their honeymoon, but they had very different opinions about ... such an expensive destination

- a) to go / to visit
- b) going / visiting
- c) having gone / having visited
- d) being gone / being visited

3. Complete the sentence:

Sheila is very upset. She isn't used ... being treated like that.

- a) on
- b) to
- c) in
- d) at



4. Complete the sentence:  
... his job, he is now unemployed  
a) Having lost  
b) To lose  
c) To be lost  
d) Losing

5. Proverbs.  
It's no use ... over spilt milk.  
to cry  
crying  
cry  
being cried

## **8. Материально-техническое и учебно-методическое обеспечение дисциплины**

### **8.1. Перечень основной и дополнительной учебной литературы**

#### *Основная литература*

1. ХИТАРОВА Т.А. Агробизнес: основные термины в текстах на английском языке: учеб. пособие / ХИТАРОВА Т.А.. - Краснодар: КубГАУ, 2017. - 88 с. - 978-5-00097-354-7. - Текст: непосредственный.
2. Баженова,, И. В. Актуальные проблемы лингвистической безопасности: монография / И. В. Баженова,, В. А. Пищальникова,, - Актуальные проблемы лингвистической безопасности - Москва: ЮНИТИ-ДАНА, 2017. - 151 с. - 978-5-238-02745-6. - Текст: электронный. // IPR SMART: [сайт]. - URL: <https://www.iprbookshop.ru/83066.html> (дата обращения: 20.02.2024). - Режим доступа: по подписке

#### *Дополнительная литература*

1. ГЛОССАРИЙ терминов агрономических научных школ Кубанского государственного аграрного университета / Краснодар: , 2014. - 47 с. - Текст: непосредственный.
2. Багана, Ж. Английские заимствования в русском и немецком языках в условиях глобализации: Монография / Ж. Багана, М.В. Тарасова.; Сибирский федеральный университет. - 1 - Москва: ООО "Научно-издательский центр ИНФРА-М", 2024. - 120 с. - 978-5-16-100681-8. - Текст: электронный. // Общество с ограниченной ответственностью «ЗНАНИУМ»: [сайт]. - URL: <https://znanium.com/cover/2079/2079614.jpg> (дата обращения: 20.02.2024). - Режим доступа: по подписке

### **8.2. Профессиональные базы данных и ресурсы «Интернет», к которым обеспечивается доступ обучающихся**

#### *Профессиональные базы данных*

Не используются.

#### *Ресурсы «Интернет»*

1. <http://www.multitrans.ru/> - □ Словари «Мультитран»
2. [www.urait.ru](http://www.urait.ru) - Юрайт
3. <http://www.lingvo-online.ru/ru> - АBBYY Lingvo Live
4. <http://elibrary.rsl.ru/> - Электронная библиотека Российской государственной библиотеки
5. <https://znanium.com/>  
- Znanium.com
6. <https://edu.kubsau.ru/> - Образовательный портал КубГАУ
7. <http://elibrary.ru/defaultx.asp> - Научная электронная библиотека
8. <http://e.lanbook.com/> - Электронный библиотечный ресурс

### **8.3. Программное обеспечение и информационно-справочные системы, используемые при осуществлении образовательного процесса по дисциплине**

Информационные технологии, используемые при осуществлении образовательного процесса по дисциплине позволяют:

- обеспечить взаимодействие между участниками образовательного процесса, в том числе синхронное и (или) асинхронное взаимодействие посредством сети «Интернет»;
- фиксировать ход образовательного процесса, результатов промежуточной аттестации по дисциплине и результатов освоения образовательной программы;
- организовать процесс образования путем визуализации изучаемой информации посредством использования презентаций, учебных фильмов;
- контролировать результаты обучения на основе компьютерного тестирования.

Перечень лицензионного программного обеспечения:

- 1 Microsoft Windows - операционная система.
- 2 Microsoft Office (включает Word, Excel, Power Point) - пакет офисных приложений.

Перечень профессиональных баз данных и информационных справочных систем:

- 1 Гарант - правовая, <https://www.garant.ru/>
  - 2 Консультант - правовая, <https://www.consultant.ru/>
  - 3 Научная электронная библиотека eLibrary - универсальная, <https://elibrary.ru/>
- Доступ к сети Интернет, доступ в электронную информационно-образовательную среду университета.

*Перечень программного обеспечения*

*(обновление производится по мере появления новых версий программы)*

Не используется.

*Перечень информационно-справочных систем*

*(обновление выполняется еженедельно)*

Не используется.

### **8.4. Специальные помещения, лаборатории и лабораторное оборудование**

Университет располагает на праве собственности или ином законном основании материально-техническим обеспечением образовательной деятельности (помещениями и оборудованием) для реализации программы бакалавриата, специалитета, магистратуры по Блоку 1 "Дисциплины (модули)" и Блоку 3 "Государственная итоговая аттестация" в соответствии с учебным планом.

Каждый обучающийся в течение всего периода обучения обеспечен индивидуальным неограниченным доступом к электронной информационно-образовательной среде университета из любой точки, в которой имеется доступ к информационно-телекоммуникационной сети "Интернет", как на территории университета, так и вне его. Условия для функционирования электронной информационно-образовательной среды могут быть созданы с использованием ресурсов иных организаций.

Учебная аудитория

610гл

доска марк. PREMIUM LEGAMASTER 100×150 - 1 шт.

парты - 13 шт.

стул полумягкий - 1 шт.

стул твердый - 1 шт.

шкаф книжный - 1 шт.

423зоо

вешалка настенная - 1 шт.  
Доска классная - 1 шт.  
жалюзи вертикальные - 2 шт.  
парты - 15 шт.  
стол двухтумбовый - 1 шт.  
Шкаф книжный - 2 шт.  
шкаф плотяной - 1 шт.

424зоо

Вешалка для одежды - 1 шт.  
доска марк. PREMIUM LEGAMASTER 100×150 - 1 шт.  
Магнитола CD/MP3,дека, FM тюнер - 1 шт.  
парты - 9 шт.  
стол одностумбовый - 1 шт.  
Стул мягкий черный - 1 шт.  
стул твердый - 1 шт.  
шкаф книжный - 1 шт.  
шкаф комбинированный - 1 шт.

#### **9. Методические указания по освоению дисциплины (модуля)**

#### **10. Методические рекомендации по освоению дисциплины (модуля)**