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УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ
«БАРАНОВИЧСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ»

ENGLISH:
TEXTS FOR READING AND TRANSLATION

АНГЛИЙСКИЙ ЯЗЫК:
ТЕКСТЫ ДЛЯ ЧТЕНИЯ И ПЕРЕВОДА

Практическое пособие
для студентов специальности «Агрономия»
учреждений высшего образования

Барановичи
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Издание включает в себя девять циклов-тем, содержащих активный словарный минимум, составленный на базе лексики из профессионально-направленных текстов, комплекс тренировочных упражнений для его закрепления и самостоятельной работы с содержанием текстов.

Предназначено для студентов БарГУ специальности «Агрономия».

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ПРЕДИСЛОВИЕ

Содержание практического пособия, предназначенного для организации аудиторной и самостоятельной работы студентов специальности «Агрономия» дневной и заочной форм, направлено оказать помощь в преодолении основных лексических трудностей, возникающих при переводе профессионально-ориентированных текстов.

Книга включает в себя:

– активный лексический словарь, предназначенный для ознакомления и изучения;

– профессионально-ориентированные тексты и задания, способствующие совершенствованию таких необходимых умений, как извлечение и понимание выраженной в тексте информации;

– комплекс упражнений, направленный на развитие умений пользоваться необходимыми грамматическими конструкциями и совершенствование и активизацию лексических навыков;

– материалы, обеспечивающие изучение таких тем, как: «Agriculture in General», «Basic Principles of Crop Production», «Basic Stages of Crop Production», «Basic types of feeds», «The Importance of Plant Protection and Pest Control Measures», «Control of Plant Diseases», «Fruits and Vegetables», «Mechanization of Agriculture», «My Future Profession»;

– приложение А, включающее в себя тексты для самостоятельного чтения и перевода.

Разнообразная тематика текстов, коммуникативная направленность заданий способствуют активизации учебной деятельности студентов и достижению целей обучения иностранному языку в неязыковом вузе.

Работа с данным пособием позволит студентам не только сформировать и проверить свои знания, но и расширить словарный запас, привлечь интерес к избранной специальности.

Издание составлено с учётом требований программы по английскому языку для неязыковых специальностей учреждений высшего образования.

U N I T I

AGRICULTURE IN GENERAL

Ex. 1. Add to your active vocabulary.

to be employed — быть занятым (на какой-л. работе)
fibre — волокно
ornamental — декоративный
nourishment — питание, питательные вещества (syn. nutrition)
diet — рацион, питание
variety — разнообразие, множество; вид, сорт
to remain — оставаться
fabric — ткань
yarn — пряжа
device — устройство
to reduce — уменьшать
demand (for) — спрос
raw materials — сырьё
to replace — заменять
to aid — помогать, способствовать
to inherit — передаваться по наследству, получать в наследство
advance — продвижение, успех, прогресс
excessive — избыточный, чрезмерный, излишний
to prohibit — запрещать

Ex. 2. Translate into Russian.

(1) To be highly productive, milk cows need good nourishment. **(2)** The ration of the livestock must include vitamins. **(3)** This new variety of potatoes is disease-resistant. **(4)** Wheat, barley, oats and some other crops make up the group called cereal grains. **(5)** The lambs had to be fed by hand when their mother died. **(6)** The wool of this sheep breed is processed into the high quality yarn. **(7)** Cattle breeding are widespread in many countries of the world. **(8)** Chemicals are used to aid plant cultivation.

Ex. 3. Fill in the words.

Employed, fabric, varieties, fibres, nourishment, aid, demand, excessive ornamental, yarn.

(1) How many people are … in your company? **(2)** The … in cheaper woolen fabrics are shorter. **(3)** The house was surrounded with a beautiful … garden. **(4)** A baby gets all the … it needs from its mother's milk. **(5)** This dress is made of cotton… . **(6)** The sweater is made of brown woolen … . **(7)** Good specialists are always in great … . **(8)** This project is designed to … developing countries. **(9)** … exercise can sometimes cause health problems. **(10)** Scientists develop new … of crops.

Ex. 4. Study the agricultural terms before reading the text "Agriculture In General".

alfalfa — люцерна
clover — клевер
game — дичь
hog — свинья
cereal grains — зерновые культуры
millet — просо
sorghum — сорго
root crops — корнеплоды
beets — свёкла
pulses — бобовые культуры
beans — бобы
peas — горох
oil-bearing crops — масличные культуры
soybeans — соя
sugarcane — сахарный тростник
coconuts — кокосовые орехи
cocoa beans — какао-бобы
turkey — индейка
trout — форель
shellfish — устричные
mussel — мидия
oyster — устрица
flax — лён
silkworms — шелковичные черви
natural rubber — каучук

hide — шкура
castor oil — касторовое масло
linseed oil — льняное масло
shrub — кустарник
mink — норка

Ex. 5. Read and translate the text.

Agriculture is the world's most important industry. It provides us with almost all our food. It also supplies materials for two other basic human needs — clothing and shelter. In addition, agriculture provides materials used in making many industrial products, such as paints and medicines. About half the world's workers are employed in agriculture — far more than in any other industry.

Food is the most important farm product. But farms also provide many other products, from natural fibres to ornamental flowers and trees. Some crops are used only to feed livestock. These forage crops include alfalfa, clover and many grasses. Forage crops are important because they make commercial livestock production possible.

Farms provide almost all the world's food, including some fish and game. Most food products come from crops. The rest come from animals, especially cattle, hogs, poultry, sheep and other livestock.

The world's farmers grow about 85 major food crops. They can be divided into eight groups. The main group is cereal grains. Grain is grown on half the world's cropland and supplies much of the nourishment in the human diet. The chief grains are barley, corn, millet, oats, rice, rye, sorghum and wheat.

Various root crops make up the second most important group of food crops. Cereal grains, root crops are grown throughout the world and are a basic food for many people. The leading root crops are potatoes, beets and sweet potatoes.

The six remaining groups of major food crops are: (1) pulses, which consist mainly of beans and peas; (2) fruits and vegetables; (3) oil-bearing crops, such as soybeans and coconuts; (4) sugar-bearing crops, especially sugar cane and sugar beets; (5) nuts; and (6) cocoa beans, coffee, and tea.

Cattle, chickens, goats, hogs, sheep, turkeys and other livestock are the main animals raised for food. Livestock are raised in every country and supply nearly all the world's meat, eggs and milk. Farmers also raise other animals for food. For example, many farmers keep bees for honey. Farmers on fish farms raise freshwater food fish, such as carp and trout, and saltwater shellfish, such as mussels and oysters.

Natural fibres come from a variety of plants and animals raised on farms. Factories use the fibres to make fabrics, yarn and other textile products. Cotton and flax together with some tropical plants are the chief plant fibres. Wool, the principal animal fibres, comes mainly from sheep but also from such animals as goats and members of the camel family. Silk fibres are obtained from the cocoons of silkworms. However the development of synthetic fibres has reduced the demand for natural fibres in some countries.

Many farms provide other raw materials for industry besides fibres. These materials include natural rubber, animal hides which are used to make leather and such vegetable oils as castor oil and linseed oil. These oils are used in a variety of products, from paints to medicines. Many farmers grow tobacco. Others grow ornamental flowers, trees and shrubs. A few farmers raise such animals as foxes and minks for their fur.

Ex. 6. Translate into English.

Наиболее важные сельскохозяйственные продукты; натуральные волокна; декоративные растения; на корм скоту; кормовые культуры; коммерческое животноводство; пищевые культуры; могут быть подразделены на группы; основные зерновые культуры; выращиваются во всём мире; множество различных растений и животных; использовать волокна для изготовления тканей и пряжи.

Ex. 7. Define whether the following statements are true or false. Correct the false ones.

(1) Basic human needs include clothing, shelter and entertainment. **(2)** Forage crops are ornamental plants grown to decorate houses and gardens. **(3)** Most food products are of animal origin. **(4)** Millet and sorghum don't belong to pulses. **(5)** Chickens, turkeys and hogs make up the group of livestock called poultry. **(6)** Mussels and oysters are not fish, but they are raised on fish farms. **(7)** The production of natural fibres is growing in the world. **(8)** Foxes and minks are raised for their fur.

Ex. 8. Find the synonyms to the following words and expressions.

A pig, a breed, to raise, to have a job, to get, principal, to form, almost, artificial, a ration.

Ex. 9. Insert prepositions.

(1) Various food products come ... crops and animals. **(2)** All major food crops are divided ... several groups. **(3)** Grain crops are the basic food ... most people. **(4)** The group of pulses consists mainly ... beans and peas. **(5)** Nowadays the demand ... natural fibres is reduced. **(6)** Vegetable oils are used ... various products. **(7)** Animals are raised mainly ... food. **(8)** Yarn is obtained ... wool.

Ex. 10. Answer the questions to the text.

(1) What does agriculture provide people with? **(2)** What are the farm products besides food? **(3)** What are the main groups of food crops? **(4)** What kinds of animals are raised for food? **(5)** How are natural fibres obtained? **(6)** Why has the demand for natural fibres reduced? **(7)** What are the raw materials besides fibres? **(8)** Where are they used?

U N I T II

BASIC PRINCIPLES OF CORP PRODUCTION

Ex. 1. Add to your active vocabulary.

nutrient — питательно вещество
particle — частица
mineral — минерал
to decay — разлагаться, разрушаться
to involve — включать в себя
accurate — точный
to rely (on) — полагаться (на)
entirely — всецело, полностью
extremely — чрезвычайно, крайне
to threaten — угрожать
to endanger — подвергать опасности
thoroughly — основательно, тщательно
resistant (to) — устойчивый (к)
separate — отдельный
(to) harvest — урожай; собирать урожай

proper — правильный, надлежащий
insufficient — недостаточный
(to) lack — нехватка, недостаток, отсутствие; испытывать недостаток в чём-либо
to process — перерабатывать
storage — хранение
to perform — выполнять
preceding — предшествующий
to enrich — обогащать
to attach — прикреплять
to stir — перемешивать
to spoil — портиться
to ship — доставлять, транспортировать
facilities — условия; оборудование

Ex. 2. Translate into Russian.

Essential nutrients, decaying plants, to involve scientific experiments, proper soil preparation, insufficient amount of food, to lack money, the lack of food, to rely on the equipment, an accurate forecast, to research the subject entirely, extremely difficult, to threaten the results of the project, to endanger one's life, to check thoroughly, resistant to infection, separate buildings, a rich harvest, to harvest fruit, to process vegetables. storage facilities, to perform an operating, preceding chapter, to enrich the soil, to attach a cultivator to the tractor, to spoil quickly, to ship within a week, to provide facilities for.

Ex. 3. Fill in the words.

Threatened, particles, extremely, facilities, proper, resistant, lacks, stir

(1) Mineral … are involved in chemical reactions taking place in soil. **(2)** Crops require the … amounts of air and water for their healthy growth. **(3)** The soil in this area … water. **(4)** Irrigation is necessary in … dry areas. **(5)** Crops are … by weeds, plant diseases and insect. **(6)** The newest crop varieties developed by the scientists are more … to pests. **(7)** Cultivators … the soil between rows. **(8)** A good farm must have all the necessary … for crop storage.

Ex. 4. Read the text and do the exercises that follow it.

All crops require nutrients (nourishing substances) and water to grow. Soil supplies most of the nutrients. It also stores the water that the crops need.

Crops differ, however, in the amount of nutrients and water they require for healthy growth.

A farmer must therefore make sure that the soil and water resources meet the needs of each crop. A farmer must also plant measures to control.

Pests, which could damage or ruin a crop. Most farmers plan their methods of soil and water management and of pest control well in advance of the growing season.

Soil management. Soil consist chiefly of mineral particles mixed with decaying organic (plant and animal) matter. Chemical reactions involving these substances produce most of the nutrients that crops need. To be fertile, therefore, soil must consist of the right mixture of minerals, organic matter and helpful microbes. It must also have the proper amounts of air and water.

After deciding which crops to grow, farmers analyze their soil to learn if any nutrients are insufficient or lacking. To get an accurate analysis, most farmers send samples of the soil to a soil-testing laboratory. The test results help farmers plan a scientific fertilizer program for their crops.

The richest soil lies at and just below the surface. If this topsoil is not protected, it may be blown away by strong winds or washed away by heavy rains — a process called erosion. Effective soil management, therefore, also includes methods of soil conservation.

Water management. Crops cannot grow without water. In most cases, Farmers rely entirely on rainfall for the necessary moisture. In extremely dry areas, however, farmers must irrigate their crops. Many farms often have too much water rather than too title. Then problems are great on low-lying land and on land crossed by streams or rivers. Fields that tends to collect water must have a drainage system.

Pest control. Agronomists use the “pests” in referring to weeds, plant diseases and insects that threaten crops. Most farmers control pests with chemicals called pesticides. For uses on farms all pesticides must be used with extreme care. If they are used improperly, they may pollute the environment or the food supply and so endanger people’s health.

Farmers also use other methods of pest control in addition to pesticides. For example, turning the soil with a plough or mechanical cultivator kills most weeds. However, special pesticides called herbicides control weeds

more thoroughly than soil turning does. Some herbicides remain activity in the soil for some time and so kill weed seedlings as they develop. Plant scientists have developed varieties of corn, wheat and other crops that are more resistant to diseases and insects than earlier varieties were.

Ex. 5. Translate into English.

Предоставлять питательные вещества; соответствовать нуждам; повредить или разрушить; смесь минералов и органических веществ; полезные микробы; образцы почвы; верхний слой почвы; необходимое увлажнение; низина: имеют тенденцию скапливания воды; разработаны для борьбы с определёнными видами; с предельной осторожностью; при неправильном использовании; в дополнении к пестицидам; семена сорняков.

Ex. 6. Define whether the following statements are true or false. Correct the false ones.

(1) Plants can't grow without nutrients and water. **(2)** The amount of nutrients and water for healthy growth is different for every crop. **(3)** Chemical reactions involving mineral particles produce the nutrients that crops need. **(4)** The most fertile soil lies deep below the surface. **(5)** Farmers cannot always rely entirely on rainfall for the necessary moisture. **(6)** Even small amounts of pesticides pollute the environment and endanger people's health. **(7)** Some herbicides have a long lasting effect. **(8)** Pesticides using is not the most effective method of pest control.

Ex. 7. Insert prepositions where necessary.

(1) Crops differ ... the amount ... nutrients they require ... healthy growth. **(2)** Farmers plan their methods ... soil management well ... advance ... the growing season. **(3)** Soil consists chiefly ... mineral particles mixed ... organic matter. **(4)** The richest soil lies ... and just... the surface. **(5)** Farmers often rely ... rainfall... the necessary moisture. **(6)** The word "pests" is used ... referring ... weeds, plant diseases, and harmful insects. **(7)** Farmers also use other methods of pest control ... addition ... pesticides. **(8)** Scientists have developed varieties ... crops that are more resistant... diseases and insects.

Ex. 8. Find the synonyms to the following words in the text.

To need, to destroy, beforehand, substance, to contain, right, to include, concerning, ploughing.

Ex. 9. Answer the questions to the text.

(1) How and when should farmers plan their methods of soil and water management and of pest control? **(2)** How are the nutrients produced by the soil? **(3)** What does soil fertility mean? **(4)** What do farmers need to do before sowing their crops? **(5)** Why must the topsoil be protected? **(6)** When are irrigation and drainage systems used? **(7)** What does the word "pests" mean? **(8)** Why must pesticides he used with extreme care?

U N I T III

BASIC STAGES OF CROP PRODUCTION

Ex. 1. Add to your active vocabulary.

seedbed — грядка
to sprout — прорастать
to take roots — пустить корни
tillage — обработка почвы, вспашка
to loosen — разрыхлять
stalk — стебель
cover crop — покровная, запашная культура
harrow — борона
(seed) drillar — сеялка
furrow — борозда
to uproot — вырывать с корнем
to thresh — молотить
residues — остатки
ear — колос, початок
to mow — косить
bale — кипа
hay baler — сенной пресс
silage — силос
airtight — воздухонепроницаемый
silo — силосная яма или башня
alfalfa — люцерна
chunk — кусок
to groove — делать выемку
fodder — корм, фураж
sorghum — сорго (хлебный злак)

Ex. 2. Read and translate the text.

Crop farming involves at least five separate operations: preparing the soil, planting, cultivating, harvesting and processing and storage. Modern farm equipment can perform each of these operations easily and quickly.

Preparing the soil. The main purpose of soil preparation is to make a seedbed — that is, an area of soil in which seeds can be planted and in which they will sprout, take roots and grow. Tillage involves digging the soil and mixing it. Tillage loosens the soil, kills weeds and improves the circulation of the water and air in the soil. The chief tillage devices are ploughs.

At ploughing time, most farm fields are scattered with dead stalks, leaves, and other plant wastes from the preceding crop. Other fields may have a cover crop, such as alfalfa or grass. Plant wastes and enrich the soil with nutrients if they are ploughed under.

Soil that has been completely turned over in ploughing often remains stuck together in large chunks. Most farmers, therefore, also use a device called a harrow. A harrow has sharp teeth or disks that break the chunks of soil into smaller pieces. Many farmers attach a harrow to the back of a plough. Farmers may add fertilizer to the soil during ploughing and harrowing.

Planting. Nearly all the field crops grow on the farms are planted by machines called planter or drills. These machines cut furrows (narrow grooves) in the soil, drop seeds into each furrow and cover the seeds with soil — all in one operation. Some fertilizers and pesticides are applied to the soil during planting. Equipment to distribute the chemicals may be attached to the seed drill.

Cultivating. Herbicides applied before or during planting kill many kinds of weeds, but not all. Some weeds may develop with the crops. Farmers control such weeds with cultivators. These devices stir the soil between rows and so uproot and bury any weeds.

Harvesting. Farmers harvest their field crops with machines. They use combines to harvest most grains and seed crops, including barley, corn, rice, soybeans and wheat. A combine performs several tasks. First, it cuts the plant stalks. Then, it threshes the cutting — that is, separates the grain or seeds from the straw and other residues. The combine returns the residues to the ground and collects the grain or seeds in a tank or bin.

Some farmers harvest corn with special machines. The machines pick the ears from the stalks but do not remove the grain from the ears. Special machines are also used to harvest other field crops, including peanuts, potatoes and sugar beets. Some machines mow such crops, as alfalfa and

clover. The mowed crops are left on the ground, where they dry and become hay. Machines called hay balers gather the hay and bind in into bales.

Processing and Storage. Crops raised to supply food for human beings are called food crops. Many food crops tend to spoil quickly, and so farmers ship these crops to market as soon as possible after harvesting. Food grains, however, can be stored for months on farms that have the proper facilities. Before grain is stored, it must be dried. Most farms that store large amounts of grain have grain-drying equipment and large storage bins.

Crops raised to supply feed for livestock are called fodder crops. Hay, silage, soybeans, and such grains as corn and sorghum are the principal feed crops. Corn, wheat and soybeans are used for both food and livestock feed. Hay must be kept dry until it is used, and so it is usually stored in barns. Unlike hay, silage must be kept moist. Most farmers store it in airtight constructions called silos.

Ex. 3. Translate into English.

Выполнять отдельные операции; основная цель подготовки почвы; улучшать циркуляцию воды и воздуха; защищать почву от эрозии; склеена большими кусками; во время вспашки и боронования; бросать семена в борозды; оборудование для распределения химикатов; применять до и во время посадки; обмолачивать обрезки; собирать сено и связывать в кипы; иметь тенденцию к быстрой порче; должны храниться во влажном состоянии; оборудование для сушки зерна.

Ex. 4. Match the words with their definition.

silage	machine for cutting furrows in the soil and turning it up
hay	preparation of land for growing crops
plough	seed-bearing head of a cereal plant
barn	green moist fodder
mow	large farm building for storing grain
tillage	cut down the grass
ear	grass mown and dried for fodder

Ex. 5. Answer the questions to the text.

(1) How many operations does crop farming involve? **(2)** What is the effect of tillage? **(3)** Are plant wastes helpful or harmful for soil? **(4)** How does a harrow work? **(5)** What kinds of machines plant the crops? **(6)** What tasks does a combine perform? **(7)** What other machines are used for harvesting? **(8)** What facilities must a farm have to store large amounts of grain? **(9)** How must hay and silage be stored?

U N I T IV

BASIC TYPES OF FEEDS

Ex. 1. Add to your active vocabulary.

nutritional — питательный
to maintain — поддерживать, сохранять
roughages — грубые корма
wheat bran — пшеничные отруби
corn gluten meal — кукурузная глютеновая мука
hull — плёнка (зерна), лузга
flaxseed — льняное семя
sunflower seed — семя подсолнечника
supplements — добавки
beet pulp — мякоть свеклы
residue — остаток
ensiled — засилованный
beet molasses — свеклосахарная меласса
palatable — вкусный, приемлемый
legume — плод бобовых, боб
mature — зрелый, созревший
alfalfa — люцерна
clover — клевер
digestible — удобоваримый
digestibility — усвояемость
immature — незрелый
sorghum — сорго (хлебный злак)
mangles/rutabagas/cassava — кормовая свёкла/брюква/маниока
molasses — патока

Ex. 2. Read and translate the text.

Animal feeds include any feedstuff which is grown or developed for livestock and poultry. The main aim of a farmer is to provide animals with as highly nutritional diets as possible in order to maintain them healthy and ensure the quality of such final animal products as meat, milk, or eggs.

Animal feeds are classified into two main groups: concentrates and roughages.

Concentrate feeds:

(a) **Cereal grains and their by-products.**

Barley, corn, oats, rye, and sorghum are grown mainly as animal feed. These grains are fed, whole or ground, either singly or mixed with high-protein meals or other by-products, minerals, and vitamins, to form a complete feed for pigs, horses and poultry. By-products from commercial processing of cereal grains, for instance wheat bran, corn gluten meal, rice bran or hulls, are used as animal feeds in large quantities.

(b) **High-protein meals.** Vegetable seeds such as soybeans, flax-seeds, cotton seeds, sunflower seeds are valuable supplements to roughages or cereal grains and other low-protein feeds because they provide the protein needed for efficient growth of production.

(c) **By-products of sugar beets.** From the sugar-beet industry come beet tops, which are used on the farm either fresh or ensiled, and dried beet pulp and beet molasses. These are all palatable, high quality sources of carbohydrates.

Roughages:

(a) **Pasture.** Various pasture grasses (timothy, Sudan grass) and legumes (clovers, soybeans, sorghum), both native and cultivated, are the most important single source of feed for cattle, horses, sheep, and goats. During the growing season they supply most of the feed for these animals at a cost lower than other feeds that must be harvested, processed, and transported.

(b) **Hay.** It is produced by drying different mature grasses (such as timothy and Sudan grass) or legumes (alfalfa, clover) when they contain the maximum quantity of digestible protein and carbohydrates but before the seeds develop. Hay is usually fed to animals when sufficient fresh pasture grass is unavailable.

(c) **Silage.** Silage is usually made from immature plants of corn, sorghums, grasses, legumes in a storage container. Storage may be in upright tower silos or in trenches in the ground. Ensiled forage can be stored for a longer period of time with lower loss of nutrients than dry hay.

(d) **Root crops.** Nowadays such root crops as mangles, rutabagas, cassava and sometimes potatoes are used less extensively as animal feed than

in the past, for economic reasons. Roots are lower in dry-matter content than in most of the other feeds listed. They are relatively low in protein also and provide mostly energy.

(e) **Straw and hulls.** Quantities of straws that remain after wheat, oats, barley, are harvested and used as feed for cattle. Straw is useful in maintaining mature animals during periods of shortage of other feeds, but it is too low in quality in order to be satisfactory for long periods without adding supplements.

Ex. 3. Complete the sentences according to the text.

(1) The main aim of a farmer is… **(2)** Animal feeds are classified into… **(3)** By-products from commercial processing of cereal grains… **(4)** From the sugar-beet industry come beet tops… **(5)** During the growing season they supply… **(6)** Hay is usually fed to animals… **(7)** Ensiled forage can be stored for… **(8)** Quantities of straws that remain after wheat, oats, barley…

Ex. 4. Say if the sentences are true or false. Correct the false ones.

(1) Animal feeds include any feedstuff which is grown or developed for livestock and poultry. **(2)** Barley, corn, oats, rye, and sorghum are grown mainly as poultry feed. **(3)** Vegetable seeds such as soybeans, flax-seeds, cotton seeds, sunflower seeds are valuable supplements to roughages or cereal grains. **(4)** Various fruits and vegetables are the most important single source of feed for cattle, horses, sheep, and goats. **(5)** Hay is produced by drying different mature grasses or legumes. **(6)** Silage is usually made from mature plants of corn, sorghums, grasses, legumes in a storage container. **(7)** Nowadays such root crops as mangles, rutabagas, cassava and sometimes potatoes are used less extensively as animal feed than in the past. **(8)** Straw is useful in maintaining mature animals during summer time.

Ex. 5. Answer the questions to the text.

(1) What are two main groups of animal feeds? **(2)** What is mainly grown as animal feed? **(3)** What are valuable supplements to roughages? **(4)** Are beet tops used on the farm either fresh or ensiled? **(5)** Various pasture grasses and legumes are the most important single source of feed for animals, aren't they? **(6)** How is hey produced? **(7)** Where is silage usually stored? **(8)** Are root crops lower in dry-matter content than in most of the other feeds?

U N I T V

THE IMPORTANCE OF PLANT PROTECTION AND PEST CONTROL MEASURES

Ex. 1. Add to your active vocabulary.

appendix (appendices) — отросток, придаток
cell — клетка
cilia — реснички
to derive — происходить, получать, извлекать
duct — канал, проток
fission — расщепление, деление
locomotion — передвижение
pathogen — патоген, патогенный (болезнетворный) микроорганизм
to penetrate — проникать внутрь, пронизывать
pulp — жом, мякоть плода
to retard — задерживать, замедлять, отставать
tissue — ткань, структура, строение
vascular — сосудистый
vessel — сосуд
wilting — увядание
yield — сбор урожая

Ex. 2. Translate the following phrases.

To derive from certain organisms, water duct, cell fission, disease pathogen, penetration, pulp mass, retardation, the vascular system of plants, plant vessels, wilting of plants.

Some bacteria have cilia for the purpose of locomotion. Some bacteria destroy plants tissue. A cell is a basic unit of all living things. Some bacteria have so-called cilia.

Ex. 3. Read and translate the text.

A decisive factor for securing yields is the protection of agricultural crops.

Day by day cultivated plants and supplies in store rooms are threatened by thousands of pests and disease pathogens. Every year millions of tons of

produce are lost and plants and animals retarded in growth and development or the products derived from these organisms are affected both quantitatively and qualitatively. Control of these pests and disease pathogens must become the greatest task for all scientists, technical engineers and farmers responsible for the production of agricultural products.

What is meant by a pest or disease pathogen? They are animal or plant organisms which damage either cultivated plants or the products derived there from. They directly or indirectly influence the health of man and domestic and useful animals.

Bacteria as Disease Pathogen. Bacteria, unlike higher organism, consist of a single cell only. Some of the bacteria possess thread-like appendices, so-called cilia, for the purpose of locomotion. These cilia are fixed either at one end of the cell or are arranged over the whole surface of the cell. The size of the cells is microscopic, the pathogen thus being visible with the aid of a microscope only. Bacteria multiply by simple fission.

Bacteria diseases, so-called bacterioses, are usually caused by the penetration of bacteria into injured plant parts.

By excreting certain chemical agents bacteria break up cell units, loosen them or kill part of the cells.

This is followed by decay of plant parts, the infected plant tissue turning into a soft pulpy mass. Such disease symptoms are termed “wet rot”.

Some bacteria penetrate deeper into the tissue reaching the water ducts within the plant and plant vessels and destroy the tissue. This leads to the blocking of the vascular system.

The exhibited disease symptoms, known as “vessel bacteriosis”, lead to an interruption of the sap flow within the plant, followed by wilting and death. The infection of the plants with bacteria primarily takes place at plant wounds. Insects also act as carriers of bacteria.

Ex. 4. Complete the sentences according to the text.

(1) Cultivated plants and supplies in store rooms… **(2)** Control of pests and disease pathogens must become… **(3)** Pests and disease pathogens directly or indirectly influence… **(4)** Some of the bacteria possess… **(5)** The size of the cells is… **(6)** Bacteria diseases are usually caused by… **(7)** By excreting certain chemical agents bacteria… **(8)** This is followed by decay of… **(9)** “Vessel bacteriosis” leads to…

Ex. 5. Say if the sentences are true or false. Correct the false ones.

(1) The protection of agricultural crops is a decisive factor for securing yields. **(2)** Every year thousands of tons of produce are lost. **(3)** Disease pathogens are animal or plant organisms which damage either cultivated plants or the products derived there from. **(4)** Higher organisms consist of a single cell only. **(5)** Cilia are thread-like appendices. **(6)** The pathogen could be seen without a microscope. **(7)** Bacteria multiply by simple fission. **(8)** Bacteria don't penetrate into the tissue. **(9)** Insects also act as carriers of bacteria.

Ex. 6. Fill in prepositions where necessary.

(1) A decisive factor … securing yields is the protection … agricultural crops. **(2)** Cultivated plants are threatened … thousands … pests and disease pathogens. **(3)** Every year millions … tons … produce are lost and plants and animals are retarded … growth and development. **(4)** They influence … the health of man. **(5)** Bacteria consist … a single cell only. **(6)** Some … the bacteria possess thread-like appendices … the purpose … locomotion. **(7)** These cilia are fixed either … one end … the cell or are arranged … the whole surface … the cell. **(8)** The pathogen is visible … the aid … a microscope only. **(9)** Bacteria multiply … simple fission.

Ex. 7. Answer the questions to the text.

(1) Why are millions of tons of produce lost every year? **(2)** What measures must be taken to protect agricultural plants and supplies? **(3)** What is meant by a pest or disease pathogen? **(4)** Bacteria consist of a simple cell only, don't they? **(5)** What are cilia? How are they fixed? **(6)** How do bacteria multiply? **(7)** What are bacterial diseases usually caused by? **(8)** What is "wet rot"? **(9)** What leads to the blocking of the vascular system? **(10)** What does "vessel bacteriosis" lead to? **(11)** Where does the infection of the plants take place?

U N I T VI

CONTROL OF PLANT DISEASES

Ex. 1. Add to your active vocabulary.

concentrate their efforts on the prevention of disease rather than its cure — делают всё возможное, чтобы предотвратить болезнь вместо того, чтобы лечить её

the elimination of host plants plays — уничтожение растений-хозяев

rust fungi — грибки ржавчины

copper sulphate — сульфат меди

lime — известь

sulphur — сера

bordeaux mixture — бордосская жидкость

blight — скручивание

mildew — плесень

rot — гниль

carbon disulphide — дисульфат углерода

chloropicrin — хлорпикрин

mature — спелый, зрелый

germs — зародыш (микроб)

Ex. 2. Read and translate the text.

Plant diseases establish in such a manner that they are often well developed before they can be detected. By the time the disease is evident it is rarely possible to cure it.

The plant pathologists, therefore, concentrate their efforts on the prevention of disease rather than its cure.

The use of disease-resistant varieties is one of the most effective means of reducing disease in cultivated plants. It is also very important to destroy the sources of infection. Fire is the most effective way in this case.

The elimination of host plants plays an important part in the control of some disease caused by rust fungi.

Efficient drainage of the soil helps in checking diseases which attack the tissues at the ground level.

Fungicides now play a very important part in the control of plant diseases.

They are often applied in liquid or powder form. Spray mixtures are used for the control of some diseases especially those that attack orchards. Copper sulphate, lime, sulphur and Bordeaux mixture are used to control some of the rots, blights and mildew diseases. Carbon disulphide and chloropicrin are used for treating soil against nematodes. By planting at a particular time some crops can be grown and mature before the disease germs become active.

Ex. 3. Complete the sentences according to the text.

(1) By the time the disease is evident… **(2)** The plant pathologists concentrate their efforts on… **(3)** Fire is the most effective way… **(4)** Efficient drainage of the soil helps in… **(5)** Fungicides now play a very important part in… **(6)** Spray mixtures are used for… **(7)** Copper sulphate, lime, sulphur and Bordeaux mixture are used to…

Ex. 4. Say if the sentences are true or false. Correct the false ones.

(1) Plant diseases establish in such a manner that they are often well developed before they can be detected. **(2)** It is always possible to cure a disease. **(3)** The use of disease-resistant varieties isn't an effective means of reducing disease in cultivated plants. **(4)** It is also very important to destroy the sources of infection. **(5)** Fungicides are applied only in liquid form. **(6)** Copper sulphate is used for treating soil against nematodes. **(7)** Some crops can be grown and mature before the disease germs become active provided (при условии) they are planted at a particular time.

Ex. 5. Answer the questions to the text.

(1) What do the plant pathologists concentrate their efforts on? **(2)** What is the most effective means of reducing disease in cultivated plants? **(3)** What is the best way of destroying the sources of infection? **(4)** What plays an important part in the control of some diseases caused by rust fungi? **(5)** What is spray mixtures used for? **(6)** What is used to control some of the rot, blights and mildew diseases?

Plant Diseases

Ex. 1. Read and translate the text.

By disease in plants is meant some disturbance in the normal life-processes which affects either a particular organ or the entire plant, and which sometimes leads to premature death. Cultivated plants are usually more **liable to disease** than wild plants.

The losses caused by plant diseases are sometimes enormous, and cultivation of certain crops in some countries had been abandoned in the past owing to the ravages of diseases.

Storage losses through disease may be severe. Diseases in plants may be **brought about** either through attack by some kind of parasite or **by** some autonomous, functional derangement.

Abnormal moisture conditions, peculiarities of soil, extremes of temperature, and many other factors cause **functional disturbances**.

Many different groups of organisms attack plants parasitically. Nematode worms of microscopic size often invade plants, and living parasitically therein, cause serious diseases in **roots, tubers, bulbs, stems**, and leaves.

Highly infectious diseases of the virus type are now recognized to be among the most serious that affect plants; they are often transmitted by insects.

The fungi include an immense number of forms parasitic on plants which are often extremely injurious.

The diseases **most to be feared** are those which are epidemic in character, i. e. those which develop almost simultaneously and universally throughout a crop.

by disease in plants is meant — под заболеванием растений подразумевается
liable to disease — подвержены болезни
storage loss — потери при хранении

Ex. 2. Add more information to the statements.

(1) Plant diseases affect either a particular organ or the entire plant. **(2)** The losses caused by plant diseases are sometimes enormous. **(3)** Diseases in plants

may be caused either by some kind of parasite or by some functional derangement. **(4)** Many different groups of organisms attack plants parasitically. **(5)** Infectious diseases of the virus type are the most serious diseases that affect plants.

U N I T VII

FRUITS AND VEGETABLES

Ex. 1. Add to your active vocabulary.

edible — съедобный
herbaceous — травяной, травянистый
herb — трава, растение
root — корень
stem — ствол, стебель
Brussels sprouts — брюссельская капуста
beet — свёкла
cauliflower — цветная капуста
radish — редиска
celery — сельдерей
kohlrabi — кольраби
rhubarb — ревень
tuber — клубень
spinach, spinage — шпинат
sprout — отросток, побег
egg-plant — баклажан
onion — лук
corn — зерно, хлеб; *амер.* кукуруза, маис
bulb — луковица
squash — кабачок, тыква
garlic — чеснок
pepper — перец
leek — лук-порей
(to) seed — семя, зерно; сеять, засевать
lettuce — латук, салат
seeding — посев
artichoke — артишок
broccoli — брокколи

bean — боб
pod — стручок (бобовых)
concern — забота, беспокойство
seedling — сеянец, рассада
nursery — питомник
occasionally — изредка, иногда, время от времени
tissue — ткань
pistil — пестик
apricot — абрикос
grape — виноград
bush — кустарник
corn grains — зёрна кукурузы
pear — груша
plum — слива
mature — зрелый, спелый
maturity — зрелость
blackberry — чёрная смородина
strawberry — клубника
cherry — вишня
pineapple — ананас
(to)harvest — жатва,уборка урожая; убирать урожай
to spoil(spoilt, spoiled) — портить
to transplant — пересаживать
ripe — спелый
pulpy — мягкий, мясистый
fleshy — мясистый
ovary — завязь
succulent — сочный
mulberry — шелковица, тутовая ягода
fertile — плодородный
fertilizer — удобрение
fertilization — удобрение почвы
propagation — размножение, разведение
dietary — диетический
spoilage — порча, испорченный товар

Ex. 2. Translate into Russian.

(1) We grow many varieties of vegetables in our garden. **(2)** Some vegetables have two stems. **(3)** If you store carrots and apples together in your fridge, carrots will become bitter. **(4)** Nematode worms cause serious diseases in roots, tubers, stems and leaves. **(5)** The bulb vegetables include garlic, leek and onions. **(6)** Strawberries are unique among fruits because they carry their seeds on the outside.

Ex. 3. Fill in the words.

Edible, fertilization, root, spoilage, seeding.

(1) Don't let sheep eat leaves of those trees, they are poisonous … . **(2)** Radishes and turnips are … vegetables. **(3)** Farmers prepare a field before … plants. **(4)** He studied the effect of … on grain yields. **(5)** Some vegetables are subject to quick … .

Ex. 4. Read the text and answer the questions after it.

A vegetable is any kind of plant life or plant product. The term "vegetable" usually refers to the fresh edible portion of herbaceous plant-roots, stems, leaves, flowers or fruit. These plant parts are either eaten fresh or prepared in a number of ways.

Vegetables are usually classified on the basis of the part of the plant that is used for food. The root vegetables include beets, carrots, radishes and turnips. The stem vegetables include asparagus and kohlrabi. Among the edible tubers are potatoes. The leaf vegetables include Brussels sprouts, cabbage, celery, lettuce, rhubarb and spinach. Among the bulb vegetables are garlic, leeks and onions. The flower vegetables include artichokes, broccoli and cauliflower. The fruits commonly considered vegetables **by virtue of their use** include beans, cucumbers, eggplants, sweet corn, squash, peppers and tomatoes.

Most fresh vegetables have water content **in excess of 70** percent, with only about 3.5 percent protein and less than 1 percent fat. Vegetables, however, are good sources of minerals, especially calcium and iron, and vitamins, principally A and C.

Most vegetables are planted by seeding in the fields where they are to be grown, but occasionally they are germinated in a nursery of a greenhouse and transplanted as seedlings to the field.

Vegetables may be washed, sorted, cut and packaged for sale as fresh products. Fresh vegetables **are subject to quick aging and spoilage**, but their storage life can be extended by such preservation processes as canning, freezing or pickling.

A fruit is the fleshy or dry ripened ovary of a plant, enclosing the seed or seeds. Thus apricots, bananas and grapes, as well as bean pods, corn grains, tomatoes and cucumbers are all technically fruits. Popularly, however, the term is restricted to the ripened ovaries that are sweet and either succulent or pulpy. A fruit is the usually sweet-tasting part of a tree or bush which holds seeds which can be eaten. Oranges, apples, pears, plums, bananas are all types of fruit. A fruit is a mature ovary. It usually contains seeds.

There are two broad categories of fruits: fleshy fruits such as oranges, cherries, blackberries, strawberries, pineapples and mulberries and dry fruits such as nuts.

In general, the chief concerns of fruit cultivation are the propagation and improvement of varieties; the improvement of the microclimatic conditions and soil conditions; fertilization and pest control; the development of harvesting and postharvest practices.

Fruits are important sources of dietary fibre and vitamins (especially vitamin C). Although fresh fruits are subject to spoilage, their shelf life can be extended by refrigeration. Fruits can be processed into juices, jams and jellies and preserved by **canning and pickling**.

by virtue of their use — благодаря их использованию
in excess of — сверх, больше чем
are subject to quick aging and spoilage — подвержены быстрому созреванию и порче
canning and pickling — консервирование и маринование

Ex. 5. Make a list of vegetables and fruits mentioned in the text and memorize them.

Ex. 6. Answer the following questions.

(1) What does the word “vegetable” mean? **(2)** What does the word “fruit” mean? **(3)** What does usual classification of vegetables depend on? **(4)** Are vegetables good sources of minerals? **(5)** How many categories of fruits are there? **(6)** Are fruits important sources of dietary fibre and vitamins? **(7)** What is usually done with fruit and vegetables used for sale as fresh products?

Ex. 7. Translate into Russian.

(1) A vegetable is a plant that is used as food, particulary in savoury dishes. **(2)** The potato is the most popular vegetable in Britain. **(3)** The current trend for healthy eating has led to a rise in demand for fresh green vegetables. **(4)** In winter we tend to eat more root vegetables, such as carrots and parsnips. **(5)** Raw vegetables contain more potassium than cooked ones. **(6)** Barbara and Got created a vegetable garden at the back of the house and sold their produce at the local market. **(7)** The cherry tree in our garden is in fruit. (It has fruits growing on it.) **(8)** For a healthy diet you should eat at least one piece of fresh fruit every day. **(9)** For this recipe you need summer fruits, such as raspberries, red currants and blackberries. **(10)** A fruit salad is a mixture of pieces of different types of fruit, which is usually served at the end of a meal. **(11)** Mary made a fruit salad for dessert using strawberries, kiwis and pineapples.

Ex. 8. Do you know when to harvest.

Apple — there is no sure method for home gardeners to determine maturity for all varieties. If picked prematurely, the fruit is likely to be sour, small and poorly coloured; if picked overripe, it may develop internal breakdown and store poorly.

To harvest apples correctly, you must be familiar with the term “ground colour”. Ground colour is the colour of an apple’s skin. When the ground colour of red varieties changes from leaf green to creamy, the apples are ready to harvest. Apples will improve in storage if they are picked when hard but mature. Most apples have brown seeds when ready for harvest.

Cherry — the size of the fruit increases until mature. Sample the fruit to determine the proper time to harvest. It should be fully coloured and flavourful as quality will not improve after harvesting.

Currant — harvest currants for jelly when they are slightly under ripe for high pectin content. Pick them fully ripe to use for jams or if they are to be stewed. Fully ripe currants are coloured, juicy and beginning to soften.

Gooseberry — pick when the berries are firm and greenish-yellow with darkened seeds. The fruit of some varieties often turns very light to dark red when mature. An overmature fruit is purplish. Quality does not improve after harvest.

Pear — harvest when the ground colour changes from dark green to yellowish green and before the fruit is tree- ripe. Additional guides to proper harvesting time are when the fruit separates from the twig.

Plum — harvest when the flesh is soft. The skin changes its colour before the fruit is mature.

Raspberry — harvest when the fruit is full colour and separates easily from the centre.

Strawberry — harvest when uniformly red and beginning to soften. Harvest with the cap (плодоножка).

U N I T VIII

MECHANIZATION OF AGRICULTURE

Ex. 1. Before you start.

(1) Where are cars used? What cars are used on farms? **(2)** Have you ever been to the Minsk Tractor Works? What production is it famous for? **(3)** What famous car companies do you know? **(4)** Are there any famous corporations in your country? Do they produce only cars?

Ex. 2. Add to your active vocabulary.

to attach — прикреплять, присоединять
to bind — вязать, связывать
crawler — гусеничный трактор
device — устройство, приспособление
to dig — копать, рыть
drill — сеялка (рядовая)
to grind — измельчать, молоть, дробить
harrow — борона, боронить
hay — сено
intricate — сложный
manure — навоз, удобрение
to mow — косить, жать
(to) plough — пахать, плуг, пашня
to reap — жать
to roll — катить, укатывать
seed-bed — грядка, пашня
to shear — стричь
(to) silage — силос, силосовать

to sow — сеять, засевать
stationary — неподвижный, закреплённый
to thresh — молотить

Ex. 3. Translate into Russian.

(1) The cultivator is attached to the tractor. **(2)** Various cultivating devices supplement manual labour. **(3)** When farmers sow seeds, they use a seed drill. **(4)** They do less harrowing than they did some years ago. **(5)** Most agricultural processes require more intricate machinery. **(6)** A plough breaks up and turns the soil. **(7)** The tractor pulls many implements: cultivator, harrows and rollers. **(8)** Mowing machines cut grass for hay or silage.

Ex. 4. Fill in the words.

Dig, sowed, seed-bed, reap, binders, threshes.

(1) Some agricultural machines … potatoes or sugar beets. **(2)** Some machines … wheat or other cereals. **(3)** Long ago man prepared a … using a hoe only. **(4)** Farmers … the field with wheat. **(5)** A combine harvester cuts the crop and … the grain. **(6)** Self-… replace manual labour in agriculture.

Ex. 5. Read and translate the text.

At the beginning of the 20th century mechanization of such basic processes as ploughing, sowing, and grain-harvesting was still by no means complete. Now we can say that it is. The thing now is the full-scale mechanization of jobs requiring more intricate machinery, such as harvesting of sugar-beets, cotton, potatoes, mowing of hay crops, silaging and livestock care.

Agricultural implements and machines are now very numerous and diversified and may be divided into five main groups:

(1) prime movers, i.e. engines of all kinds, tractors, etc.;

(2) cultivating machinery, including ploughs of all kinds, harrows, rollers, manure-distributors, drills, etc.;

(3) harvesting machinery, including mowers, self-binders, threshing-machines, elevators, potato-diggers, etc.;

(4) stationary or barn machinery, including such food-preparing machines as chaff-cutters, grinding-mills, root-cutters, etc.;

(5) dairy machinery, including milking-machines, separators, sterilizing-machines, etc.

In addition there are some other machines, including sprayers and sheep-shearing machines.

Ex. 6. Answer the following questions.

(1) What agricultural processes are mechanized today? **(2)** Agricultural implements and machines are now very numerous and diversified, aren't they? **(3)** What groups may they be divided into? **(4)** What cultivating machinery do you know? **(5)** What harvesting machinery can you name? **(6)** Is there any dairy machinery?

Ex. 7. Complete the text using the words given below.

Crops, threshes, combine harvester, reap, cut, dig, seed drill, plough, implements, sow, attached, harvesting.

FARM MACHINERY

The tractor is the most important machine on the modern farm. It pulls many kinds of farm … that cultivate the soil, and that cultivates the soil, and that plant and harvest …. One of the most useful implements the tractor pulls is the …, which breaks up and turns the soil. The tractor also pulls other implements: cultivators, harrows, and rollers. When farmers … seeds, they use a … to the tractors. Many kinds of machines have been developed for … different crops. Some … potatoes or sugar beet. Some … grass for hay or silage. Others … wheat or other cereals. A … is used to gather wheat, oats and other cereals. It cuts the crop and … the grain from it as well. Farm machines have made farming easier and helped to produce more food.

Ex. 8. Add more information to the statements.

(1) Today all agricultural processes are mechanized. **(2)** The tractor is the most important machine on the modern farm. **(3)** Farm tractors may be divided into two groups: wheeled and tracklaying.

The Ford Company

Ex. 1. All these words are from the text below. Learn how to pronounce them properly. Do you know their Russian equivalents?

Enable, halogen, efficiently, unique, acoustical, reliability, absorber, truck, manufacture, acoustic system, cab, mount, enhance, work lights, climate control filters, refinement, due to.

Ex. 2. The Ford Company is one of the most famous manufacturers of cars. Read the text to learn what other vehicles it produces.

The Ford Company is known as a technologically advanced manufacturer of vehicles. For many years the Ford Company has been deeply involved in the manufacture of tractors, cars and trucks. Ford tractors enable farmers to work quickly and efficiently. The cab is a comfortable land efficient workplace. Modern acoustic systems have greatly reduced noise levels inside the cab. The driver's seat turns easily and gives the driver a more comfortable view. Air filtration, efficient heating and ventilation with air-conditioning further enhance comfort and the driver's efficiency. There's more. Individually adjustable halogen work lights have been installed into the cab.

These tractors have also been equipped with climate control filters. Ford tractors are famous for their unique combination of outstanding performance, high reliability and cost efficiency.

They have been continually improved since their introduction. Dozens of features and refinements have been added during recent years. Ford tractors have been trusted by generations of farmers due to their high quality.

Ex. 3. Match the English words with their Russian definitions.

environment	работать
to supply	цель
performance	качество
efficient	успех
to operate	снабжать
purpose	эксплуатационные качества
quality	окружающая среда
to demand	усовершенствование
refinement	требовать
success	эффективный

Ex. 4. Answer the following questions.

(1) What is the Ford Company famous for? **(2)** Has the Ford Company been deeply involved in the manufacture of tractors, cars and trucks? **(3)** Ford tractors have everything to work quickly and efficiently, don't they? **(4)** What have these tractors been equipped with? **(5)** Why have Ford tractors been trusted by generations of farmers?

Ex. 5. Would you like to operate such a tractor? If so, give your reasons.

Ex. 6. Work in pairs. You are a sales manager at the Ford Company. Several farmers are looking for high-quality tractors and they have chosen your company. Try to persuade them to buy a Ford tractor.

FARM MACHINERY

Needless to say, one of the most important industrial achievements for farmers today is the introduction of agricultural tractors in their work. Horses and men have been almost entirely replaced by tractors in many heavy and time-consuming tasks that are carried out on the land. A tractor performs the work of numerous horses and, what is of greater importance, it doesn't need

any rest. If necessary attention is paid to its lubrication and it's constantly supplied with fuel, it will work on indefinitely.

During the years since its introduction a huge progress has been made in developing a more efficient machine. Modern tractors have been constructed to meet all requirements of space, comfort, vision and safety. Many devices have been incorporated in the mechanisms of the tractor for this purpose. The 6-cylinder engines have been installed in them for improved productivity and reliability. Some tractors have been equipped with a hydraulic system, which gives the driver the choice of the right power for every operation.

Nowadays there exists a wide range of different types of tractors. Let's say, the most common type today is the general-purpose wheeled tractor that is used on most farms and has an engine of up to 100 h. p. (horsepower).

The Minsk Tractor Works is the world's leading manufacturer of agricultural equipment. Since 1953 thousands of universal wheeled tractors under the manufacturer's brand "Belarus" have been produced.

The well-known advantages of these tractors are their low fuel consumption, long service life and simplicity. The modern tractors have been fitted with six-cylinder diesel engines. Thus they can develop the sufficient horsepower under most unfavourable conditions and show a high efficiency. The nine-speed gearbox provides a wide range of speed for performance of all types of farm operations. The comfortable, safe and noise-proof cab provides excellent visibility and together with an adjustable soft seat, tinted glass, cab air filtering and a heating device ensures comfort for the driver throughout the whole working day. All the features of "Belarus" tractors meet the international standard specifications.

Ex. 7. Say if these statements are true or false. Correct the false ones.

(1) The tractors are used instead of horses in many heavy tasks. **(2)** A tractor performs the work of one horse. **(3)** A tractor needs some time of rest. **(4)** If the tractor's lubrication system is maintained in good condition, the tractor will work for a long time. **(5)** The hydraulic system in the tractor enhances the driver's safety.

UNIT IX

MY FUTURE PROFESSION

Ex. 1. Add to your active vocabulary.

to enter — поступить (в вуз)
to graduate from — заканчивать (вуз)
to hesitate (about) — колебаться, сомневаться
research — научные исследования
to be busy with — заниматься (чем-либо)
to take care of — заботиться, ухаживать за
to require — требовать
a calf — телёнок (мн. ч. **calves**)
practice — практика
to measure — измерять
to increase — увеличивать, расти
application — заявление, прошение
soil — почва

Ex. 2. Translate the following phrases and sentences.

To enter the University, research work, educational and training practice, plant protection measures, an application form, types of soil.

(1) In order to enter the University you must pass a number of examinations. **(2)** After graduating from the University I will work as an agronomist. **(3)** Did you hesitate about the choice of your future profession? **(4)** They carry out very important research to increase yields of wheat. **(5)** Any work requires special professional skills. **(6)** There are many calves in the fields in summer. **(7)** An effective fertilizer application system is used on this farm. **(8)** Soil science deals with types of soil and their cultivation.

Ex. 3. Read and translate the text.

It is not by chance that I decided to become an agronomist. My parents have a small garden and we work there from spring till autumn. We grow different kinds of fruit and vegetables there. My grandparents have a lot of

farm animals. I like to feed pigs, milk cows and take care of small piglets and calves. And after leaving school I didn't hesitate about the choice of my future profession.

I entered Baranovichi State University. It trains students to work on the farms as agronomists.

We study a lot of subjects necessary for our future work — botany, soil science, field-crop cultivation, seed-farming, selection, agrobiology, agricultural chemistry, financial planning, law, agricultural ecology, and accounting. Our future work will require special professional skills to operate modern equipment. So, such subjects as informatics, biochemistry and biophysics become very important. At the practical classes and seminars we learn how to use the acquired knowledge in our future practical work. Every year we write our course-papers.

Great attention is also given to the independent education and research work of the students. In the Students' Scientific Society many of the students work on interesting theoretical and practical problems.

In order to combine correctly theoretical and practical education of the future specialists, about one-third of the training period is devoted to educational and training practice.

After graduating from the University students go to work to different parts of our republic. Their work will include such activities as:

- organization of crop production;
- production, financing and marketing of food products;
- working out fertilizer application systems and plant protection measures;
- development of manufacturing processes;
- checking and improving the quality food products;
- modifying foods to create fat-free products and ready meals.

Ex. 4. Translate into English.

Поступить в университет; доить коров; работать в хозяйстве; полеводство; работать над практическими и теоретическими проблемами; правильно сочетать; учебно-производственная практика; система внесения удобрений; мероприятия по защите растений; улучшение качества; не содержащие жира продукты.

Ex. 5. Match the English words and word-combinations with their Russian equivalents.

by chance	управлять современным оборудованием
after leaving school	приобретённые знания
the choice of my future profession	семеноводство
to operate modern equipment	научно-исследовательская работа
to train	после окончания университета
a highly qualified specialist	выбор моей будущей профессии
seed-farming	курсовая работа
tutorials	после окончания школы
the acquired knowledge	обучать, готовить
a course paper	семинары
research work	случайно
after graduating from the University	высококвалифицированный специалист

Ex. 6. Complete the sentences joining their two parts.

Agronomists are busy with	one-month practice on the farm
The second-year students have	to work on the farm as agronomists
The University trains students	go to work to different parts of our republic
In the Students' Scientific Society	fulfillment of all technical measures in crop production
After graduating from the University students	work on interesting theoretical and practical problems

Ex. 7. Insert the prepositions.

(1) … leaving school I didn't hesitate … the choice … my future profession. **(2)** I'd like to take care … small piglets and calves. **(3)** In the Students' Scientific Society many … the students work … interesting

theoretical and practical problems. **(4)** … the tutorials and seminars we learn how to use the acquired knowledge … our future practical work. **(5)** All the knowledge I've got … the university will help me … my future work.

Ex. 8. Answer the following questions.

(1) Why did you decide to become an agronomist? **(2)** What will you do after graduating from the university? **(3)** What subjects are necessary for your future work? **(4)** Do you work hard to become a good specialist?

TEXTS FOR ADDITIONAL READING

Text 1

FROM THE HISTORY OF AGRICULTURE

For hundreds of thousands of years, prehistoric people lived by hunting, fishing and gathering wild plants. Then about 8000 B. C. (before Christ — до нашей эры), people took the first steps toward agriculture. Some tribes discovered that plants could be tamed and then raised in captivity. These two discoveries marked the beginning of the domestication of plants and animals. Scholars believe that domestication began in the Middle East and than spread to surrounding areas.

The Romans had developed some farming methods, *e. g.* systems of crop rotation. The selective breeding of plants and livestock began in Europe during Roman times, too.

Since the 1800s, science and technology have helped make agriculture more and more productive in three main ways. They have provided farmers with labor-saving technologies, produced improved plant varieties and breeds of livestock and developed new agricultural chemicals.

Labor-saving technologies. Steam-powered tractors were developed in the mid — 1800s, but they were expensive and difficult to operate. The first all — purpose gasoline-powered tractors appeared in the 1920s. They gradually replaced work animals and steam — powered machines on almost all farms. In Japan and several European countries most farms had electric power service by the mid — 1930s. Today farmers use electric motors to run milking machines, irrigation pumps, and many other farm machines. Farmers also use electric power to operate electronic and automated equipment. This equipment includes devise that fill feeding troughs or collect and grade eggs automatically.

Many farmers use computers to aid in farm operations. Using the Internet, farmers may make use of data provided by agricultural colleges or other information centers.

Plant and livestock breeding. During the mid — 1800s an Austrian botanist and monk named Gregor Mendel discovered the principles of heredity. Mendel thus laid the groundwork for genetics — the science that explains how characteristics are inherited. The development of genetics has made it possible to breed plants and animals scientifically.

Since the early 1900s, plant breeders have developed a great number of hybrid crops that produced unusually high yield. The new varieties were intended mainly to help various poor nations, such as India and Mexico, increase their food supply. This effort proved so successful that it has been called the Green Revolution.

Livestock breeders have introduced many improved lines since the early 1900s. Nutrition specialists have developed better livestock feeds, and veterinarians have improved methods of health care. All these advances continue to make livestock more and more productive.

Agricultural chemicals. Almost since the beginning of agriculture, farmers have used various substances to enrich the soil and to kill insect pests. For example, they have used wood ash and manure as fertilizers since prehistoric times. Since the beginning of modern chemistry in the late 1700s, scientists have produced many kinds of synthetic chemicals for use in agriculture. These chemicals include fertilizers, insecticides, herbicides or weed killers and

chemicals to control plant and animal diseases. All these chemicals have helped increase farm production greatly. However, improper or excessive use of these chemicals can be dangerous and cause damage to the environment. In many countries state laws limit such practices and prohibit the use of chemicals that have been proved harmful.

Text 2

AGRICULTURE OF THE REPUBLIC OF BELARUS

Agriculture is one of the main branches of the Belarusian economy for it supplies the population with foodstuffs. Agriculture is also one of the most important activities in the republic for it employs more than 20% of the workforce.

The area of Belarus is 207,600 km^2. Nearly 60% of the total land area is cultivated. Arable lands account for about 30% of the cultivated land area, and meadows and pastures account for 15%.

Belarus belongs to the area of so-called unstable farming. A short growing season, the lack of fertile soils and other factors make farming difficult. The main plowed lands have low natural fertility. Much of the land can be productive only with fertilizer application. The 1986 explosion at the Chernobyl nuclear power station contaminated much of the soil in southern Belarus. It reduced the country's total area of arable land by more than 10%.

40% of the total territory is over moistened. Marshy lowlands cover the southern region of Polesye in the basin of the Pripyat River. Many of the lowlands have been drained. They are used for producing fodder crops.

The Belarusian agrarian business is represented by large agricultural enterprises and cooperatives. In 1993 private farms began to appear. But the transition to private farms is slow. Large agricultural enterprises were transformed into smaller individual farms or agricultural cooperatives.

Most of the farms have mixed crop and livestock farming. The main species of livestock are cattle, pigs, sheep, goats and poultry. Broiler chickens are other major livestock. They are raised in special mass-production plants.

The country's chief crops are cereal grains (mainly rye, barley and oats) and sugar beets. A large percentage of them is used to feed animals. Flax is also important. The republic is one of the main producers of flax in the world. The fact that potatoes are Belarusians "second bread" is known far beyond the republic. No wonder: Belarus is the second producer of potatoes in Europe. Additional crops grown on Belarusian farms are cabbages, tomatoes, carrots, cucumbers, onions. Fruit crops include apples, cherries, pears, plums.

Belarusian agriculture not only produces farm products to meet domestic needs. The republic is a traditional exporter of agricultural products. Among them are pork, beef, chicken, animal oil, cheese, eggs, flax, vegetables. Today Belarusian agricultural products are supplied to twenty-three countries. The Russian Federation is our main customer.

Text 3

BRITISH AGRICULTURE

Agriculture, one of Britain's most important industries, supplies nearly two-thirds of the country's food. British agriculture is efficient, for it is based on modern technology and research.

Nearly 80% of the land is used for agriculture. The total agricultural acreage of Great Britain is about 45,000,000 acres. Soils vary from the poor ones of highland Britain to the rich fertile soils in the eastern and south-eastern parts of England.

Britain is self-sufficient in milk, eggs, to a very great extent in meat, potatoes, wheat. However, it needs to import butter, cheese, sugar and some other agricultural products.

There are about 55,000 farms in Britain. They are not large. An average sized farm is about 30—40 acres. There are tree main types of farming in Great Britain: pastoral, arable, mixed. 60% of farms are devoted mainly to dairy or beef cattle and sheep. Sheep and cattle are reared in the hilly and moorland areas of Scotland, Wales, Northern Ireland and south-western England. Milk production is of the first importance in the structure of British agriculture.

Pig breeding is carried on in most areas but is particularly important in southern England, north-eastern Scotland and Northern Ireland.

Arable farms arc mainly in the eastern part of the country. The main cereal crops in Great Britain are wheat, barley and oats. Rye is grown in small quantities for use as cattle fodder.

Great Britain produces different kinds of fruit: apples, pears, cherries, gooseberries, strawberries, raspberries and others. Potatoes are grown for sale, for fodder and for seed.

Modern machines: tractors, combines and other equipment are used on British farms. But today the main tendency in British agriculture is that small traditional farms are gradually disappearing because they cannot compete with big industrial farms.

Private woods make up 56% of the total forest area in Great Britain. Woodlands cover an estimated 2.2 million hectares.

Britain's second major source of food is the surrounding seas. The fishing industry provides about 70% of British fish supplies.

acreage — площадь земли в акрах
horticulture — садоводство, огородничество
to rear — выращивать
moorland — местность, поросшая вереском

Text 4

TRACTORS

Tractors occupy an important place on the farm as a source of power. On many farms they, together with trucks or trailers, have entirely displaced horses for farm work. The advantage of tractors power over the horse is that tractors can be used continuously for heavy work. In addition to pulling implements like ploughs and cultivators, a tractor may be used with implements for bush-cleaning, ditch-filling (засыпка канав) and land-leveling (выравнивание). Small tractors from 1to 10 horsepower fitted with single- or twin cylinder petrol engines, may be used for garden and orchard work.

Farm tractors may be divided into two groups: wheeled and track-laying. Wheeled tractors may be further subdivided into standard and row-crop (пропашная культура) types. Standard wheeled tractors are used for general farm work and do not have the special features associated with row-crop tractors. Row-crop tractors can be used for all ordinary purposes, but in addition they are specially designed for working on root and other row crops

Track-laying tractors or crawlers have the great advantage that they can be used for heavy loads (грузы) on almost any class of land. They are considerably more economical in fuel than are wheel machines, but their greater initial cost and their maintenance particularly that of the tracks may outweigh (перевесить) this advantage. The crawler is, however, the more efficient type of tractor and, moreover, can go on the land ear rain and so can work a greater number of days per year.

Text 5

GROWING AND PROCESSING FIBRE FLAX

Fibre flax grows best in cool, moist climates with rainy simmers. It is planted in spring after the danger of frost has passed. Fibre flax is generally grown in rotation with other crops. Rotation helps reduce the effects of diseases.

Fibre flax is harvest three to four mouths after planting. If the plants are harvest too early, the fibres will be fine and silky, but weak. If the plants become too ripe, the fibres will be stiff and rough and difficult to spin into yarn. Farmers harvest fibre flax with a machine that pulls the stalks from ground. On some farms, workers harvest flax by hand.

After the plants have been harvest, the flax stems are soaked in water. This process, which is called retting, rots the stalk and exposes the fibres that lie under the woody part of the stem. There are two methods of retting — dew-retting and water-retting. In dew-retting, farmers spread the flax in the field and allow the dew to rot the plants for several weeks. During the dew-retting process, the stems are turned several times and the seeds are removed. In water-retting, the seeds are removed first and the stems are then soaked in large tanks of warm water for four eight days.

After retting, the flax stems are dried and sent through a machine that breaks them into small pieces called shives. Next, in a process called scutching, the machine separates the shives from the fibres by beating the stems with a whirling paddle or blade. In the next step, called hackling, the tow (short) and line (long) fibres are straightened are separated from each others by combing. After combing, the fibres are baled and sent to mills for processing. The seeds that were removed from the plants are processing for oil.

retting — вымачивание
shives — ко́стра
scotching — трепание (стеблеволокнистых растений)
hackling — чёска (льна)
are baled — упаковываются в тюки

Text 6

FLAX

Flax is one of the oldest cultivated crops. Flax seeds that have been found in Syria and Turkey indicate that the plant might have been grown as early as 7000 B. C. The Egyptians began cultivating flax about 5000 B. C. By about 1000 B. C., the areas that are now Belgium and France became leading producer of fine linen.

Flax is a plant raised for its fibre and seed. The fibre is made into linen fabric and a variety of other products, including rope, thread and high — quality paper. The seeds contain linseed oil, which is used primarily in the production of paints and varnishes.

There are about 230 species of flax. Only one species, Linum usitatissimum, is grown commercially. Different varieties of this species are grown for fibre and for seed.

Flax seeds consist of about 40 percent oil and 60 percent water and solid matter. One bushel of seeds produces about 2.5 gallons (9.5 liters) of linseed oil. The meal that remains after processing is used as a high — protein feed for livestock. People also use ground flax seed to make breads and other foods.

World production of fibre flax amounts to about 700,000 tons annually. China is, by far, the leading country in fibre flax production. Other leading growers include Belarus, France, the Netherlands and Russia. The United States and Canada do not raise fibre flax. World flax seed production totals about 100 million bushels yearly. Leading flax seed producing countries include Canada, China, India, the United Kingdom and the United States.

B. C (before Christ) — до нашей эры
A. D. (anno Domini) — нашей эры
Bushel — бушель (36,3 л)

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Производственно-практическое издание

ENGLISH:
TEXTS FOR READING AND TRANSLATION

АНГЛИЙСКИЙ ЯЗЫК:
ТЕКСТЫ ДЛЯ ЧТЕНИЯ И ПЕРЕВОДА

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для студентов специальности «Агрономия»

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