UNIT 14

AGRICULTURE IN UKRAINE

Active Vocabulary

agriculture – сільське господарство

fertile soil – родючий грунт

raw materials – сировина

plant cultivation – рослинництво

crop – с.-г. культура; врожай

grain crop – зернова культура

industrial crop – технічна культура

cereals – зернові (злакові) культури

legumes – бобові культури

winter wheat – озима пшениця

rye – жито

flax – льон

maize (corn) – кукурудза

meadow culture – лугова культура, луківництво

millet – просо

buckwheat – гречка

vegetable crop – овочева культура

sugar-beet – цукровий буряк

to raise – ростити, розводити

animal husbandry – тваринництво

livestock – худоба

cattle breeding – скотарство

sheep farming – вівчарство

poultry industry – птахівництво

fish farming – рибництво

private plot – присадибна ділянка

Task 1. Read and translate the text.

Ukraine has favorable conditions for the development of agricultural production such as fertile soils, temperately warm climate, a well-developed industry processing agricultural raw materials.

All the principal areas of plant cultivation are grain and industrial crops, meadow culture, fruit and vegetable raising. Almost half of the cropping area is occupied by cereals such as winter wheat, maize, rye, oats, barley and legumes. The principal grain crop, winter wheat, is sown mainly in the Steppe and Forest-Steppe zones. Maize is grown mostly in the Transcarpathia and Steppe zones. Such crops as buckwheat, millet, rice are also very important.

Among the industrial crops such as sugar-beet, sunflower, flax, rape the leading position is occupied by sugar-beet. It is mostly concentrated in the Forest-Steppe zone.

Close to 40 types of vegetable crops are grown in Ukraine: cabbage, tomato, cucumber, red beet, carrot, onion, garlic and others. Potatoes occupy 6% of the total area under cultivation.

Animal husbandry is the second largest component of agriculture. Like plant cultivation, livestock production is divided into such branches as cattle breeding, pig raising and sheep farming. They are raised in all regions of Ukraine.

The poultry industry is also developed in all the provinces. Birds farmed include chickens, ducks, geese, turkeys. There are large mechanized poultry factories to produce eggs and meat.

Fish farming is also very important in Ukraine. The most common fish are carp, crucian, pike and others. Trout, which is to be found in the mountain rivers, is of commercial interest.

Bee-keeping is developed in all zones. It is mostly practiced on private plots for honey and wax.

Task 2. Find the English equivalents to the following words and word combinations in the text above:

сприятливі умови, родючі ґрунти, добре розвинена промисловість з переробки сільськогосподарської сировини, посівні площі, просо, технічні культури, соняшник, льон, капуста, огірки, виноград, картопля, свинарство, механізовані птахофабрики, виробництво яєць і м'яса, рибництво, бджільництво.

Task 3. Are these sentences true or false? Correct the false sentences.

1. Almost half of the cropping area is occupied by legumes.
2. Maize is grown mostly in the Transcarpathia and Steppe zones.
3. The main cereals are buckwheat, millet, rice.
4. Tomatoes occupy 6% of the total area under cultivation.
5. Animal husbandry is the third largest component of agriculture.
6. Livestock production is divided into two branches pig raising and sheep farming.
7. Fish farming is growing in importance with trout being the most common fish.

Task 4. Complete the following sentences using the information from the text.

1. Ukraine has … … for the development of … production.
2. All the principal areas of plant cultivation are … and … crops.
3. Almost half of the cropping area is occupied by … .
4. The main grain crop, … …, is sown mainly in the Steppe and Forest-Steppe zones.
5. Among the … … such as sugar-beet, sunflower, flax the leading position is occupied by sugar-beet.
6. … … is the second largest component of agriculture.
7. Like … cultivation, … production is divided into branches … …, pig raising and sheep farming.
8. There are large mechanized poultry factories to produce … and ….

Task 5. Answer the following questions.

1. What are the favorable conditions for the development of Ukrainian agricultural production?
2. What are the principal areas of plant cultivation?
3. What cereals occupy half of the cropping area?
4. What is the principal grain crop?
5. What is the most important industrial crop?
6. What vegetable crops are grown in Ukraine?
7. What branches is livestock production divided into?
8. What kinds of birds do poultry farms produce?
9. Where is bee-keeping extensively practiced?

Task 6. Put the following crops in the correct column. Compare your results with other students.

Potatoes, wheat, sugar-beet, cabbage, maize, tomato, garlic, rye, sunflower, oats, flax, rape, barley, red beet, carrot, millet, melon, grapes.

Industrial crops	*Cereal crops*	*Vegetable crops*

Task 7. Read and translate the text.

Ukraine's Agriculture

Agriculture in Ukraine secures approximately 10-11% of national GDP and employs a quarter of working population. Ukraine has 42.8 m ha of agricultural land comprising 71% of the country's total area, of which 32.5 m ha is arable (excl. pastures, grasslands, permanent plantings etc.). Ukraine has favorable climate for large-scale agriculture, rich agricultural soils and access to abundant land and water resources.

Ukraine is richly endowed with chernozem (also known as “black soil”), one of the most fertile soils worldwide. Chernozem, a black-colored soil that contains a very high percentage of humus (3% to 15%) along with phosphoric acids, phosphorus and ammonia, occupies 41% of Ukraine’s total area and even more of its agricultural land (54%), and plow land (58%).

Thirty percent of the world's black soil is in Ukraine, and 42 million of the country's 60 million hectares (231,660 square miles) is agricultural land where wheat, barley, rapeseed and sunflowers grow in abundance. The crops constitute about 55% of the total agricultural output. Among the leading crops are wheat, maize, sunflowers, sugar beets, tobacco, legumes, fruits and vegetables. Livestock farming includes cattle, pigs, sheep, horses etc.

Annual production of wheat in Ukraine is 15 to 22 million t. The entire cereal production reaches 90-100 mn t. Local needs, even if dramatically increased, take 35 to 40 mn t., making around 50-60 mn t. available for exports in the sphere of agriculture. Ukraine thus occupies sixth place on the world grain export market.

Most of the exported grain is destined for the countries of Middle East and North Africa. The local Ministry of Economic Development and Trade subjects export contracts for certain groups of agricultural products to registration. The key items exported from Ukraine are subjected to licensing and/or quotas where applicable and must be registered prior the export.

In 2016, Ukraine established itself as an export leader in several categories:

- 1st place in world export of sunflower oil, $4.8 billion (32% of total world export);
- 4th place in world export of barley, $653.4 million (8.5%);
- 4rd place in world export of maize, $2.4 billion (8.4%);
- 6th place in world export of wheat, $2.6 billion (7.2%);
- 7th place in world export of soybean, $645.3 million (1.3%).

The production of cereal and industrial crops tends to be the focal point for agricultural enterprises. Major cereal crops of grain markets in Ukraine incorporate

winter wheat, spring barley and fodder maize. Winter wheat is the core crop for both private farms and agricultural enterprises.

Task 8. a) Match the words to make phrases;
b) use the word combinations in your own sentences.

1. Ukraine	a. production
2. common	b. conditions
3. plant	c. potential
4. meat-egg	d. machinery
5. natural	e. cultivation
6. agro-industrial	f. produces
7. producing	g. complex
8. favorable	h. fish

ADDITIONAL TASKS
SOILS AND TYPES OF SOIL

Active Vocabulary

alkaline – лужний

chalky soil – вапняний ґрунт

clay soil – глинистий ґрунт

composition – склад

drainage – дренаж

gardening – садівництво

grazing – випас худоби

layer – шар

living organism – живий організм

loamy soil – суглинок

natural resources – природні ресурси

organic matter – органічна речовина

particle – частка

peaty soil – торф'яний ґрунт

root system – коренева система

sandy soil – піщаний ґрунт

silty soil – мулистий ґрунт

to determine the type of soil – визначати тип ґрунту

to grow well (badly) – рости добре (погано)

to prevent – запобігати

vegetation – рослинність

Task 1. Read and translate the text.

Soil is one of the three major natural resources, alongside air and water. Soil is a mixture of broken rocks and minerals, living organisms, and decaying organic matter called humus. Soil also includes air and water.

The proportion of each of these determines the type of soil. But other factors such as climate, vegetation, time, the surrounding terrain, and even human activities (e.g. farming, grazing, gardening etc.), also influence how the soil is formed and what type of soil occurs in a particular landscape.

There are six main types of soil distinguished by the size of the particle matter that makes up the soil. One of the types of soil, and the type with the largest particles, is sandy soil. Sandy soil is usually made up of granules of mineral and rock, and large spaces between particles, allowing for easy flow of water and minerals.

Clay soil has very small particles. Clay has little space between individual particles preventing drainage. For this reason, clay soil is bad for growing plants, because water is not able to escape, and it is difficult for root systems to grow in the clay layer.

Silty soil is one of the most fertile types of soil, with rich nutrients and good drainage. It is smaller in size than sandy soil, but it is very similar in composition, but with more nutrients and minerals. Silty soil is quite dark and pungent, and is excellent for planting almost anything.

Loamy soil is made up of a few different types of soil, with varying amounts of clay soil, silty soil, and sandy soil mixed together. Loamy soil holds water well because of the heavy grittiness given from the sand, has exceptional drainage so that the water doesn’t build up too much and rot plant roots, and is nutrient rich. Loamy soil is the ideal soil for gardening.

Two other types of soil, chalky and peaty soils, aren’t particularly good for easy growing, but are found all over the world. Chalky soils are extremely alkaline, and usually have stones of different size mixed in with them. Chalky soil stops plants from uptaking important minerals, and dries out very easily, making it less than ideal for planting.

Peaty soils are high in organic matter, usually with large amounts of dead plants in them, but the organic matter is unable to decompose fully because of a

high acid content in the soil. Peaty soil isn't rich in nutrients, but if it is well-handled it can actually be an excellent soil for planting.

Task 2. Find English equivalents to the following words and word combinations in the text above:

повітря, вода, суміш, органічні речовини, оточуюча територія, людська діяльність, утворювати ґрунт, простір між частками, вільний потік води, коренева система, глинистий шар, родючий тип ґрунту, подібний за складом, бездоганний для вирощування рослин, поживні речовини, багатий на органічні речовини, повністю розкладатися.

Task 3. Are these sentences true or false? Correct the false sentences.

1. It is not possible to adjust the pH level of soil to meet the needs of specific plants.
2. Plants which thrive in acidic conditions need loamy soil to live.
3. Gardeners who suspect that under-performing plants are a result of the soil can test the soil for alkalinity and then work to amend the problem.
4. Improving soil quality is often an ongoing task for gardeners.
5. Soil may not be tested regularly to see whether soil amendments are retained.
6. Clay soil can be identified by the fact that it is sticky when wet. Then it can be easily rolled between the fingers to form balls.

Task 4. Complete the following sentences using the information from the text.

1. Soil is made up of … .
2. Peaty soils are high in … .
3. Sandy soil is usually made up of … .
4. Loamy soil holds water well because … .
5. Chalky soil stops plants from … .
6. Peaty soil isn't rich in … .

Task 5. Answer the following questions to discuss the topic "Types of Soil". Look for the additional information if necessary.

1. What are the three basic natural resources?
2. What does soil consist of?
3. What influences the type of soil?
4. How do we distinguish types of soils?
5. What are the differences between clay and silty soil?
6. What are the features of loamy soils?
7. Is peaty soil good for gardening?

Task 6. Match the notions with their meanings. Translate the sentences into Ukrainian.

1. conservation	**a)** preparation of land for crop production;
2. erosion	**b)** removal of excess water from land;
3. tillage	**c)** applying water into the soil for good growth and development of crops;
4. soil improvement	**d)** protection of natural resources according to principles that will assure their highest economic or social efficiency;
5. drainage	**e)** carrying away of the land surface by water or wind.
6. irrigation	**f)** making the soil more productive for growing plants.

Task 7. Translate the text and a) make a plan covering the main ideas of the text; b) put questions and let your group-mates answer them.

What is Soil Drainage?

Soil drainage refers to the soil's natural ability to allow water to pass through it. Dense soil will hold water, while loose soil will allow water to pass through quickly. Soil drainage may determine which types of plants grow well in it.

Clay soil is a very dense type of soil. Its particles are closely packed together and clay generally does not allow water to drain through. This type of soil slowly releases air and allows water to seep down into it. Clay soil generally sits on top of a solid rock bed.

Once water draining slowly through clay reaches the rock bed, it no longer has an outlet and pools within the soil. Plants that grow in it are at risk for root rot. Roots that sit in standing water for long periods of time will become prone to disease and fungus and may wilt and die.

Sandy soil is very loose. Its particles allow for the passage of both water and air. This soil drains water very quickly, which allows air to circulate around the plants within it. This can also cause the plants to dry out and some varieties grown in sandy soil may need to be watered more frequently for this reason.

Dense clay soil is typically acidic and loose, while sandy soil is typically basic and holds a low amount of nutrition for plants. A well-balanced soil with good soil drainage will contain a mixture of both clay and sand, allowing for a gradual passage of both water and air to circulate around plant roots. It will also add a valuable amount of nutrition to the soil to feed new plants.

To determine the quality of the soil in a garden, gardeners may wish to perform a pH test. Soil testing kits may be purchased in many home improvement stores and plant nurseries. A variety of sites within the lawn or garden should be tested.

Organic compost is a common additive used to improve soil quality and drainage. It generally consists of lawn clippings, shredded leaves, and kitchen food scraps, not including dairy or meat. Organic compost neutralizes the pH balance of soil, bringing either acidic or basic soils to a medium pH. It also incorporates loose particles into dense clay, and adds solidity to sandy soils.

Extremely dense soils that continue to hold water after the addition of organic compost may need to be manually drained. Drainage pipes and ditches may be dug around the garden area or site of poor soil drainage. These pipes and

ditches will direct water flow away from the problem area and allow air to move through the soil.

Task 8. Match the three basic types of soil with their characteristics.

Silt soil	*Sandy soil*	*Clay soil*

1) Its particles are very small and compact. Gardens with these types of soil don't work well because the air has a hard time getting to the roots. The soil absorbs and holds water and creates a drainage problem. This adversely affects healthy root and plant growth.

2) In this soil particles are large. The water and nutrients (particularly nitrogen) quickly drain away from the plant root zone. It is the opposite of clay soil.

3) It is made up of fine particles. This soil holds water but doesn't have good aeration around the roots.

Task 9. Translate the following sentences into Ukrainian.

1. Грунт є одним з трьох основних природних ресурсів.

2. Такі фактори, як клімат, рослинність, час, ландшафт, і навіть діяльність людини впливають на те, який тип ґрунту формується в певному ландшафті.

3. Типи ґрунтів розрізняються за розміром часток, з яких вони складаються.

4. Торф'яні ґрунти мають високий вміст органічної речовини.

5. Торф'яний ґрунт не багатий на поживні речовини, але якщо він добре обробляється, то може бути відмінним ґрунтом для вирощування рослин.

Task 10. Complete the text using the words from the box.

damaged; filtered; life cycle; decomposed;
Planet Earth; living organisms; layer; dry weather

Most people do not recognize the important role that soil plays in our lives. Soil is a … between rock or unconsolidated material in the atmosphere. As it is thin, soil is can be easily … or even destroyed.

Soil provides many critical ecosystem functions that are necessary for life on ... . A productive agriculture depends on healthy soil. The soil guarantees that nutrients are made available in sufficient amounts during a plant's … . Soil holds water and makes it available to plants so they don't wilt during … . Water is … as it moves in the soil. The soil releases water slowly to the surface and subsurface water systems and thus acts as an important flow regulator.

Soil is nature's recycling system, where waste products and dead bodies of organisms are … and their components made available for re-use. Soil is the habitat of lots of … Because soil is so important, we need to insure that we are good stewards of this valuable resource.

Task 11. a) Match the words to make phrases;

b) use the word combinations in your own sentences;

c) make a dialogue using both phrases and sentences.

1. to prevent	a. content
2. human	b. organic matter
3. plant	c. drainage
4. surrounding	d. layer
5. decaying	e. roots
6. acid	f. terrain
7. soil	g. activity