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ИНОСТРАННЫЙ ЯЗЫК В ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ

Учебное пособие
для аудиторной и самостоятельной работы студентов
СПО по специальности 36.02.04 Охотоведение и звероводство

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Иностранный язык в профессиональной деятельности: учебное пособие для аудиторной и самостоятельной работы студентов СПО по специальности 36.02.04 Охотоведение и звероводство / Сост. В.Л. Попова, А.Д. Горева – Вологда–Молочное: ФГБОУ ВО Вологодская ГМХА, 2024. – 104 с.

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Настоящее учебное пособие для аудиторной и самостоятельной работы предназначено для студентов СПО по специальности 36.02.04 Охотоведение и звероводство, изучающих использование английского языка в профессиональной деятельности. Цель данного пособия – ознакомить студентов с лексикой будущей специальности, с некоторыми грамматическими явлениями, необходимыми для чтения оригинальных текстов по специальности.

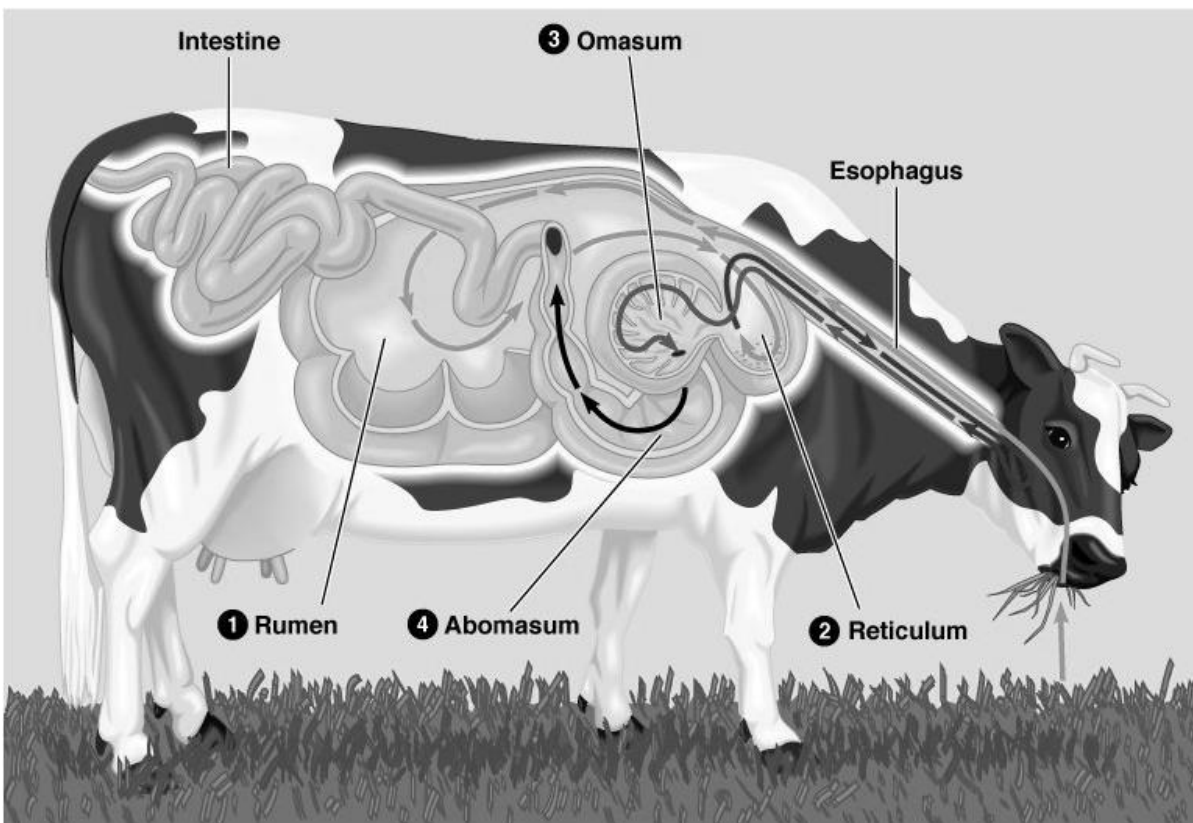
Тексты снабжены словарными списками, лексическими и грамматическими упражнениями.

Материалы взяты из учебников, специальных журналов. Тексты первоисточников значительно сокращены и адаптированы.

Рекомендовано методическим советом академии в качестве учебного пособия и печатается по решению редакционно-издательского совета ФГБОУ ВО Вологодская ГМХА.

PART I (Часть I)

FARM ANIMALS, CARE & TREATMENT (Сельскохозяйственные животные, уход и лечение)



1st Year
(1-й курс)

Раздел 1. ANIMAL BODY (Part I)
Тело животного (Часть 1)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

attachment, n	[ə'tætʃmənt]	<i>прикрепление</i>
be composed of, v	[bi kəm'pəuzd əv]	<i>состоять из</i>
bird, n	[bɜ:d]	<i>птица</i>
blood, n	[blʌd]	<i>кровь</i>
body, n	['bɒdi]	<i>организм, тело</i>
brain, n	[breɪn]	<i>мозг</i>
cell, n	[sel]	<i>клетка</i>
circulation, n	[,sɜ:kjə'leɪʃən]	<i>кровообращение</i>
comprise, v	[kəm'praɪz]	<i>составлять</i>
consist of, v	[kən'sɪst əv]	<i>состоять из</i>
contain, v	[kən'teɪn]	<i>содержать</i>
cover, v	['kʌvə]	<i>покрывать</i>
digestion, n	[daɪ'dʒestʃən]	<i>пищеварение</i>
hair, n	[heə]	<i>волосы, шерсть</i>
house, v	[haʊs]	<i>вмещать</i>
layer, n	['leɪə]	<i>слой</i>
meat, n	[mi:t]	<i>мясо</i>
perform, v	[prə'fɔ:m]	<i>выполнять</i>
provide, v	[prə'vaɪd]	<i>обеспечивать</i>
skin, n	[skɪn]	<i>шкура, кожа</i>
substance, n	['sʌbstəns]	<i>вещество</i>
support, v	[sə'pɔ:t]	<i>поддерживать</i>
tissue, n	['tɪʃu:, -sju]	<i>ткань</i>
vessel, n	['vesəl]	<i>сосуд</i>

Antonyms: warm – cold, outer – underlying.

The body of any animal consists of several organ systems; each performs some important physiological process such as digestion, circulation, etc. These systems work harmoniously with each other. Each system is composed of several organs. Each organ, in turn, is formed of several layers or parts known as tissues. Each tissue is composed of many microscopic cells, usually of like kind. The many substances comprising the cells are known as protoplasm.

In higher animals the body covering is a skin consisting of an outer epidermis over an underlying derma that contains blood vessels, nerves and pigment. The skin of mammals is covered by hair, and birds are covered by feathers. The birds and mammals are "warm-blooded", with regulated body temperature. All other animals are "cold-blooded".

The animal body of vertebrates consists of the soft parts (meat or muscles) and the skeleton. The skeleton supports the body, provides surface for the attachment of muscles, and houses the brain and nerve tubes.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Does the body of any animal consist of several organ systems?
2. What is protoplasm?
3. Where are blood vessels, nerves and pigment situated?
4. How do we call animals with regulated body temperature?
5. What "warm-blooded" animals do you know?
6. What is the function of the skeleton?
7. Where are the brain and nerve tubes housed?

II. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|--------------------------|---|
| 1. body, n | a. an amount or piece of material or substance that covers a surface or that is between two other things |
| 2. digestion, n | b. the smallest part of a living thing that can exist independently |
| 3. circulation, n | c. the process of digesting food |
| 4. layer, n | d. the natural outer layer of a person's or animal's body |
| 5. tissue, n | e. the physical structure of a person or animal |
| 6. cell, n | f. the organ inside your head that controls how you think, feel, and move |
| 7. substance, n | g. the movement of blood around your body |
| 8. skin, n | h. the material forming animal or plant cell |
| 9. blood, n | i. a vein in the body |
| 10. vessel, n | j. a particular type of solids or liquid or gas |
| 11. support, v | k. the red liquid that your heart pumps around your body |
| 12. brain, n | l. to hold the weight of something, keep it in place, or prevent it from falling |

III. Translate the following words having the same stem in Russian language

(Переведите следующие слова, имеющие тот же корень в русском языке).

1. hectare, hospital, hormone, horizon, harmony.
2. system, typical, ptyaline, dynasty, hydrostation, polymetal, hymn, cycle.
3. physics, photo, sphere, graphite, triumph, lymph, diaphragm, phenolphthalein, dystrophia.
4. theory, atheist, hypothesis, therapy, thermometer, thermos, lethal, thermal, phthisiology.
5. rheostat, rhesus, rhetoric, rheumatism, rhythm, rhythmic.
6. architect, character, chlorine, epoch, chaos, chaotic, rachitic, tachometer, tachycardia.

IV. Define the part of speech of the words.

(Определите часть речи слов).

1. the body, his body, in the body, each body, anybody.
2. digestion, no digestion, its digestion, during the digestion.
3. to cover, covered, can cover, must cover, is covered.
4. many houses, any house, to house, housed, can house, my house.
5. any system, several systems, organ systems, the system, each system.
6. the temperature, high temperature, body temperature, its temperature.
7. The skeleton houses the brain and nerve tubes.
8. Have you got a cold?
9. I have two cans of condensed milk.

V. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилам чтения окончания глагола в прошедшем времени –ed).

[t]	[d]	[id]

consisted, performed, processed, worked, composed, formed, liked, comprised, contained, covered, blooded, regulated, supported, provided, attached, housed, amounted, lived, existed, digested, structured, controlled, moved, pumped, weighted, prevented, condensed.

VI. Translate the following word combinations into Russian

(Переведите следующие словосочетания на русский язык).

a) an animal body, organ systems, blood vessels, the body temperature, nerve tubes, animal viruses, the vitamin D injection, the animal body temperature, animal protein.

b) an optimistic person, a spherical form, a diagnostic machine, bacterial infection, a paradoxical situation, nervous tissue, a specific infection, an infectious disease, a hepatic artery, the nasal cavity, adaptive mechanism, abnormal lactation, an immunologic test, an identical virus, constant circulation.

VII. Translate the following word combinations into English

(Переведите следующие словосочетания на английский язык).

системы органов, физиологический процесс, несколько слоев, микроскопические клетки, многие вещества, высшие животные, кровеносные сосуды, нервы и пигменты, теплокровные/хладнокровные животные, позвоночные, мышцы, прикрепление мышц, вмещает мозг и нервные окончания.

VIII. Translate the following sentences into English

(Переведите следующие предложения на английский язык).

- 1. Клетки организма содержат протоплазму.*
- 2. Каждый орган состоит из тканей.*
- 3. Системы пищеварения, кровообращения работают гармонично.*
- 4. Млекопитающие и птицы – это высшие животные.*
- 5. Кожа млекопитающих покрыта шерстью, а птицы – пером.*
- 6. Теплокровные животные имеют постоянную температуру тела.*
- 7. Птицы и млекопитающие – теплокровные животные.*
- 8. Все позвоночные имеют скелет.*

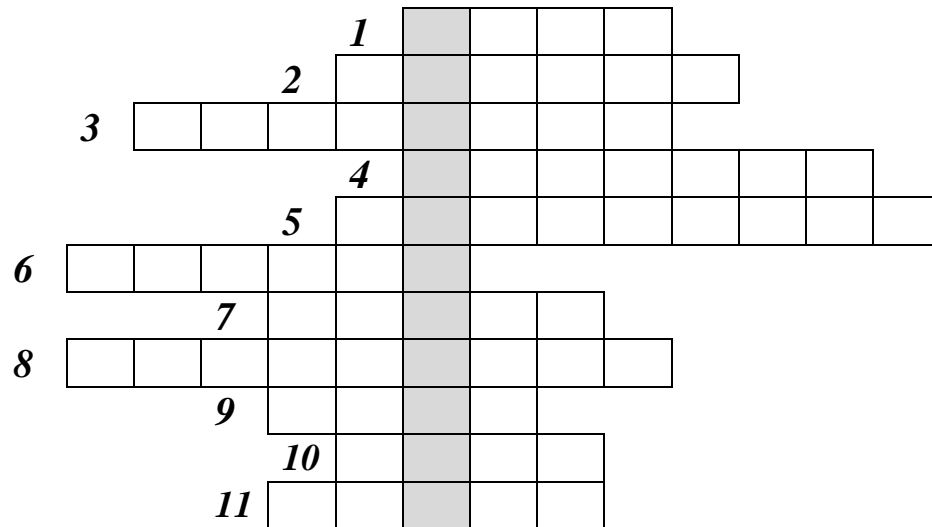
Задания для самостоятельной работы

IX. Complete the crossword puzzle and find out the hidden word

(Заполните кроссворд и определите спрятанное слово).

- 1. a tiny/microscopic/ part of the body of which every organ, and the whole body consists*
- 2. several layers forming organs are known as this matter*
- 3. to make up different parts or organs*
- 4. to held something inside*
- 5. a thing or a matter of the body comprising the cell*

6. a tiny tube inside which blood is circulating
7. the part of the body in which mental activity operates
8. a process of absorption of food and mineral matter
9. an outer layer of the body
10. a carcass in which all organ systems and different processes operate
11. something that helps any animal to breathe



X. Study the new vocabulary and match the words on the picture

(Выучите новую лексику и сопоставьте слова на картинке).

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <i>epidermis, n</i> 2. <i>dermis, n</i> 3. <i>sense receptor</i> 4. <i>hair, n</i> 5. <i>sweat pour</i> 6. <i>sweat duct</i> 7. <i>sweat gland</i> 8. <i>adipose (fat) tissue</i> 9. <i>venule, n</i> | <ol style="list-style-type: none"> a. small (absolutely tiny) tubes, take the blood away from the heart. b. a small outlet in the skin that takes fat off. c. the outer layer of the skin. d. a specialized form of connective tissue that stores fat, cushions, and insulates. e. secretion of sweat which evaporate from the skin (latent heat of vaporization) thus cooling the body. f. tiny muscles, play a key role in goose bumps, a temporary local change in the skin usually starts with a stimulus such as cold or fear. g. it puts the sweat onto the surface of the skin and blood vessels in the skin dilate (get larger in diameter) at the same time. h. a vestigial structure, used for protection, warmth. i. a layer of skin between the epidermis and subcutaneous tissues, and is composed of two layers, the papillary and reticular dermis. |
|--|---|

10. arteriole, n

11. capillary network

12. hair erector muscle

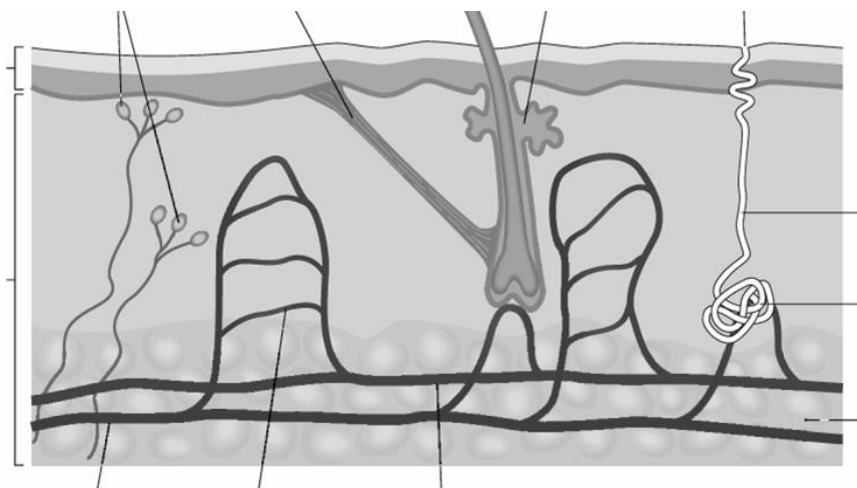
13. sebaceous gland

j. it secretes an oily substance called sebum (Latin, meaning fat or tallow) that is made of fat (lipids) and the debris of dead fat-producing cells.

k. they are involved in taste, smell, touch.

l. a small vein, has relatively thin walls and large lumen.

m. a series of points or nodes interconnected with each other, of small diameter, due to this they slow the blood flowing through them.



Раздел 2. ANIMAL BODY (Part II)

Тело животного (Часть 2)

Цель раздела – познакомиться с основными значениями лексических единиц, научиться сообщать информацию в форме подготовленного монологического высказывания.

Vocabulary

abdomen / belly, n	['æbdəmən / 'beli]	<i>брюшная полость</i>
be situated, v	[bi 'sitʃuətɪd]	<i>быть расположенным</i>
cavity, n	['kævəti]	<i>полость</i>
chamber, n	['tʃeɪmbə]	<i>(здесь) сумка</i>
chest/ thorax, n	[tʃest / 'θɔ:ræks]	<i>грудная клетка</i>
drug, n	[drʌg]	<i>лекарство</i>
excrete, v	[ɪk'skri:t]	<i>выделять</i>
fresh, adj	[freʃ]	<i>свежий</i>
heart, n	[hɑ:t]	<i>сердце</i>

intestine, n	[ɪn'testɪn]	<i>кишечник</i>
kidneys, n pl	['kɪdnɪz]	<i>почки</i>
liver, n	['lɪvə]	<i>печень</i>
lungs, n pl	[lʌŋz]	<i>легкие</i>
protect, v	[prə'tekt]	<i>защищать</i>
receive, v	[rɪ'si:v]	<i>получать</i>
sheet, n	[ʃi:t]	<i>слой</i>
stomach, n	['stʌmək]	<i>желудок</i>
supply, n	[sə'plaɪ]	<i>запас</i>
tense, adj	[tens]	<i>плотный, крепкий</i>
urea, n	['jʊəriə]	<i>мочевина</i>
urine, n	['jʊərɪn]	<i>моча</i>

Inside the animal body there are two large cavities - the thorax or chest and the abdomen or belly. These two cavities are separated by a tense sheet of muscle called the diaphragm. The chest contains the heart and the lungs. The heart is situated between the lungs in a chamber called the pericardium. The blood is kept in constant circulation through the vessels by the rhythmic contractions of the heart.

The lungs receive air through the trachea. In the lungs the blood receives fresh supplies of oxygen from the air.

The abdominal cavity contains the stomach and intestines, the liver, the kidneys and other organs.

The liver regulates the glucose content of the blood, forms the urea which is excreted by kidneys with urine. The liver protects the body against various poisonous substances, formed in the digestive tract, against certain drugs and metallic poisons.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What two large cavities are there inside the animal body?
2. What is the diaphragm?
3. Where is the heart situated?
4. What keeps the blood in constant circulation?
5. Where does the blood receive the fresh supplies of oxygen from the air?
6. What does the abdominal cavity contain?
7. What is the function of the liver?

II. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|------------------------------|--|
| 1. cavity, <i>n</i> | a. two organs in your body that you breathe with |
| 2. heart, <i>n</i> | b. the organ inside your body where food begins to be digested |
| 3. lungs, <i>n (pl)</i> | c. an amount of something that is available to be used |
| 4. chamber, <i>n</i> | d. a hole or space inside something |
| 5. supply, <i>v</i> | e. the yellow liquid waste that comes out of the body from the bladder |
| 6. stomach, <i>n</i> | f. an enclosed space, especially in your body or inside a machine |
| 7. intestines, <i>n (pl)</i> | g. the organ in your chest which pumps blood through your body |
| 8. liver, <i>n</i> | h. the long tube in your body through which food passes after it leaves your stomach |
| 9. kidneys, <i>n (pl)</i> | i. a substance found in urine that contains nitrogen and is used for making fertilizers, animal food, some medicines |
| 10. urea, <i>n</i> | j. a large organ in your body that produces bile (yellow fluid) and cleans your blood |
| 11. urine, <i>n</i> | k. to keep something or someone safe from harm, damage or illness |
| 12. protect, <i>v</i> | l. two organs in your lower back that separate waste products from your blood and makes urine |

III. Translate the following prepositions

(Переведите следующие предлоги).

inside the animal body, between the lungs, through the vessels, from the air, against poisons.

IV. Translate the international words. Mind the pronunciation

(Переведите интернациональные слова. Обратите внимание на произношение).

- | | |
|-----------|-------------|
| trachea | pericardium |
| thorax | excrete |
| muscle | glucose |
| diaphragm | rhythmic |
| ligature | |

V. Define the part of speech of the underlined words

(Определите часть речи подчеркнутых слов).

1. The blood receives fresh supply of oxygen from the air.
2. The lungs supply the blood with the oxygen.
3. The liver regulates the glucose content of the blood.
4. The liver forms the urea.
5. There are many forms of life on the Earth.

VI. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилам чтения окончания глагола в прошедшем времени –ed).

[t]	[d]	[id]

separated, called, situated, circulated, received, supplied, regulated, formed, excreted, protected, poisoned, digested, used, wasted, enclosed, passed, founded, produced, cleaned, damaged.

VII. Fill in the blanks using active vocabulary

(Заполните пропуски, используя активную лексику).

1. The thorax and the abdomen are two large ____.
2. ____ separates these two cavities.
3. The chest contains the heart and ____.
4. The blood runs through ____.
5. The air goes through ____ to the lungs.
6. The abdominal cavity contains ____.
7. The urine is formed in ____.
8. The liver protects the body against various poisonous ____.

VIII. Translate the following word combinations into Russian

(Переведите следующие словосочетания на русский язык).

the liver capsula, a calf blood test, the heart rhythm, the glucose content, the digestive tract, constant circulation, rhythmic contractions, fresh supplies, various poisonous substances, a mastitis therapy program, kidney diseases, per hen egg production.

IX. Translate the following words and word combinations into English

(Переведите следующие слова и словосочетания на английский язык).

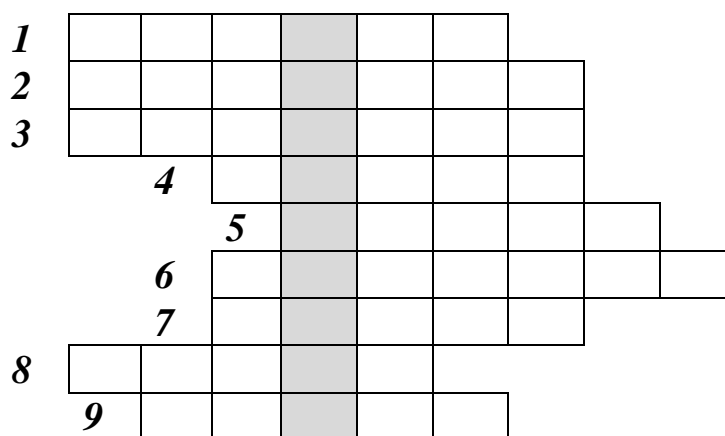
тело животного, полость, грудная клетка, брюшная полость, плотный слой, мышцы, сердце и легкие, непрерывное кровообращение,

ритмичные сокращения, свежий запас кислорода, желудок и кишечник, печень и почки, содержание глюкозы, образует мочевины, различные ядовитые вещества, пищеварительный тракт, определенные лекарства, тяжелые металлы.

Задания для самостоятельной работы

X. Complete the crossword puzzle and find out the hidden word
(Заполните кроссворд и определите спрятанное слово).

1. one of two places inside the body separated by the diaphragm
2. through them liquid waste of the body is excreted
3. to make something safe
4. this part of the body contains stomach, intestines and others
5. the layer which separates two cavities
6. the part of the body in which the digestion process is going on
7. the part of the body that forms the urea
8. fluid waste of the body excreted by kidneys
9. the upper part of the body inside it



XI. Retell the text using the plan

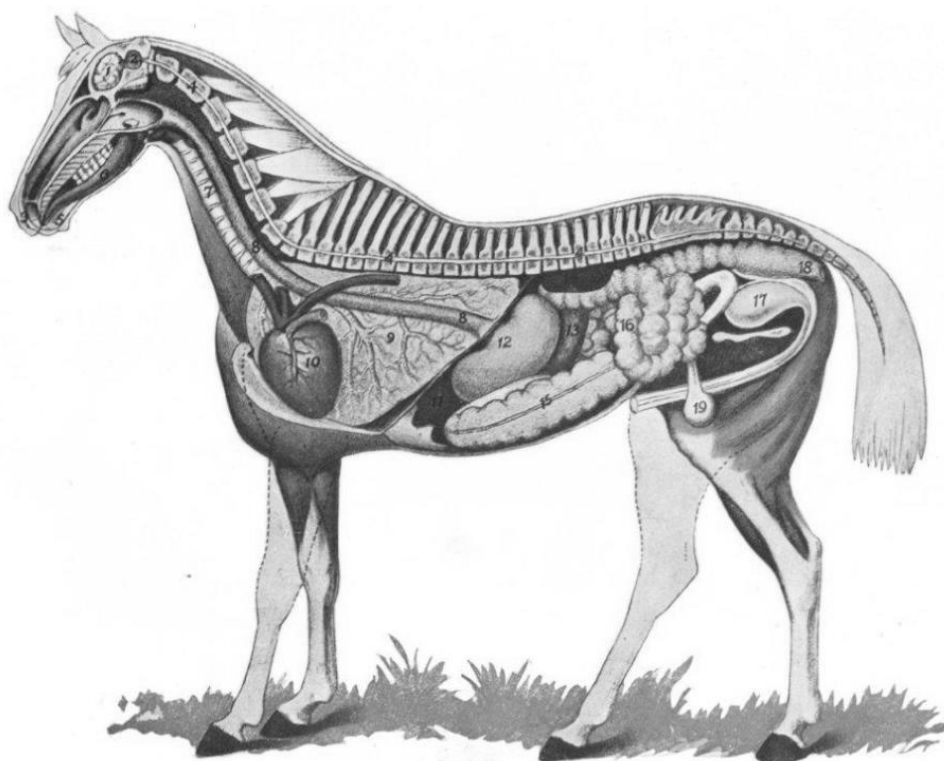
(Перескажите текст, используя план).

1. the thorax
2. the localization of the heart and its function
3. the function of the lungs
4. the abdominal cavity and the organs in it
5. the function of the liver and the kidneys.

XII. Study the new vocabulary and match the words on the picture

(Выучите новую лексику и сопоставьте слова на картинке).

- | | |
|--|--|
| <p>1. <i>esophagus, n</i></p> <p>2. <i>stomach, n</i></p> <p>3. <i>liver, n</i></p>
<p>4. <i>rectum, n</i></p>
<p>5. <i>lungs, n pl</i></p>
<p>6. <i>trachea, n</i></p>
<p>7. <i>spleen, n</i></p>
<p>8. <i>kidney, n</i></p> <p>9. <i>heart, n</i></p> | <p>a. it conducts air from the larynx to the bronchi (lungs).</p> <p>b. it acts as a temporary storage facility for feces.</p> <p>c. its chief function is to regulate the concentration of water and soluble substances like sodium salts by filtering the blood, reabsorbing what is needed and excreting the rest as urine.</p> <p>d. the tube that connects the pharynx (throat) with the stomach.</p> <p>e. it scavenges the precious chemicals present in spent blood cells, and also retains a supply of blood that the body could use in an emergency.</p> <p>f. the first part of the digestive system, breaks down food into smaller pieces with the help of a strong solution of hydrochloric acid</p> <p>g. it contracts rhythmically pumping blood from the body into the lungs, so that carbon dioxide can be dropped off and oxygen picked up</p> <p>h. protects the body against poisonous substances.</p> <p>i. inhaled oxygen enters them and reaches the alveoli.</p> |
|--|--|



Раздел 3. CLASSES OF ANIMALS (Классы животных)

Цель раздела – проанализировать типологию животных, научиться сообщать информацию в форме подготовленного монологического высказывания.

The farm animals belong to the large group known as Vertebrata, or animals with a backbone. The animals that produce milk to feed their young are named Mammalia.

All domestic animals are divided into three main classes: herbivorous, carnivorous and omnivorous.

Herbivorous animals are cattle, horses, sheep, rabbits. They live on plants and need salt in their ration. The cow, the ox (bull), the sheep (ram), the goat are ruminants (they chew the cud).

Carnivorous (cats, dogs, sharps) live on animal food.

Omnivorous (pigs, rats, bears) utilize both plant and animal food.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What group do farm animals belong to?
2. What is the name of animals that produce milk?
3. What classes are domestic animals divided into?
4. How do we call animals that live on plants?
5. What class of animals utilizes both plant and animal food?
6. What class of animals lives on animal food only?
7. What animals are ruminants?

Задания для самостоятельной работы

II. Complete the crossword

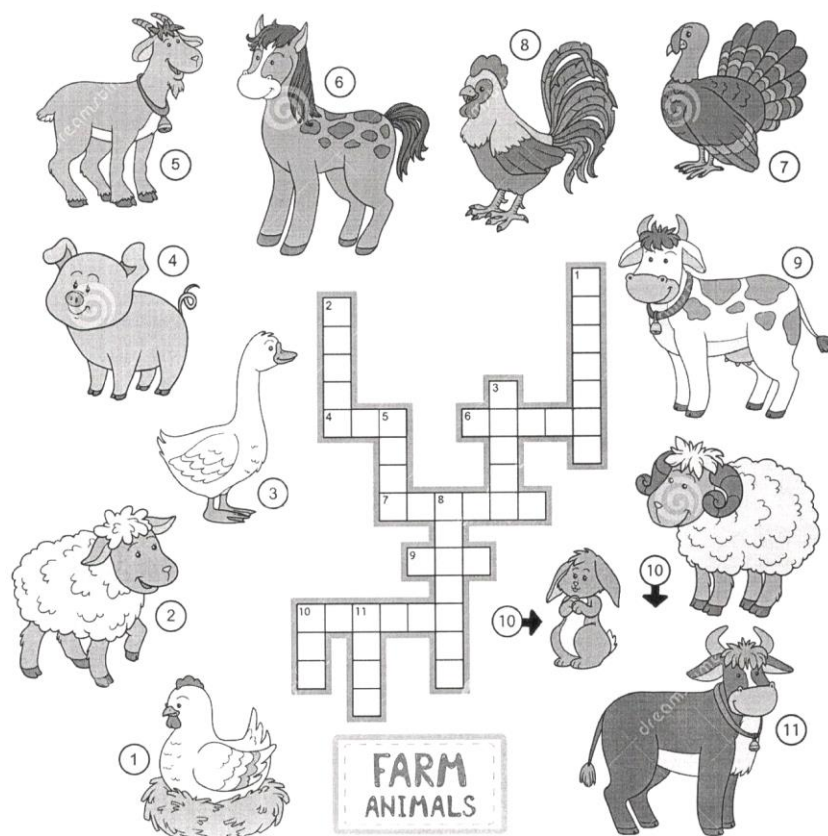
(Заполните кроссворд).

Words for reference

(Слова для справки)

1. A female of the common domestic fowl kept for its eggs on farm.
2. A grass-eating animal that is kept for its wool and its meat.
3. A water-bird larger than a duck.
4. A domestic and wild animal without fur that does not chew grass.
5. A four-legged animal related to sheep. It has horns and gives milk and rough sort of wool.

6. A large four-legged animal with hard feet which people ride on and use for pulling heavy things.
7. A large bird bred for its meat, which is used as food.
8. A male form of a hen (chicken).
9. A fully-grown form of cattle kept on farm especially to provide milk.
10. (across) A small long-eared animal of the hare family, which is kept for meat and fur.
10. (down) A male form of a goat which is most valued for wool and mutton.
11. A male form of cattle kept on farms to be the parent of young cattle.



III. Put these animals into the correct section in the table

(Поместите названия животных в правильный раздел в таблице).

Bear, spider, pig, lion, cat, deer, sheep, eagle, shark, frog, owl, bee, horse, cow, ape, rabbit seagull, human.

Omnivores	Herbivores	Carnivores

Раздел 4. THE DAIRY COW (Молочная корова)

Цель раздела – научиться распознавать основные грамматические явления и структуры, используемые в иноязычных текстах.

Vocabulary

beef, n	[bi:f]	<i>говядина</i>
blood, n	[blʌd]	<i>кровь</i>
calf (calves, pl), n	[kɑ:f (kɑ:vz)]	<i>теленоч</i>
clean, v, adj	[kli:n]	<i>чистить, чистый</i>
condition, n	[kən'diʃən]	<i>состояние</i>
cow, n	[kaʊ]	<i>корова</i>
dairy, adj	['deəri]	<i>молочный</i>
decrease, v	[di'kri:s]	<i>уменьшаться</i>
digest, v	[daɪ'dʒest]	<i>усваивать</i>
dirty, adj	['dɜ:ti]	<i>грязный</i>
divide, v	[də'vaɪd]	<i>делить</i>
half (halves, pl), n	[hɑ:f (hɑ:vz)]	<i>половина</i>
healthy, adj	['helθi]	<i>здоровый</i>
in case of	[ɪn keɪs əv]	<i>в случае</i>
manure, n	[mə'njʊə]	<i>навоз</i>
milk-yield, n	[mɪlk - ji:ld]	<i>продуктивность</i>
udder, n	['ʌdə]	<i>вымя</i>

The chief work of a dairy cow is to change field crops into dairy products and a calf. That is why the cow may be said to be a factory in which human food is manufactured from field crops. Milk is the main product of a dairy cow. The calves and manure are the by-products. The milk-yield of a cow decreases with age. A dairy cow is at her best when it is about seven years old. After about 10 years the cow possesses only a beef value.

A cow's udder is divided into two halves. The left and right halves are separated by a membrane. Each of these halves is again divided into two quarters. The mammary gland is a secretory organ. The raw material digested from the food is carried by the blood to the mammary gland. The gland changes these raw products into milk.

The mammary gland is located in the upper part of the cow's udder. If this secretory organ becomes abnormal in any way, the milk will not be normal too. The milker should watch carefully that normal milk is always

produced. In case of any unhealthy condition of the cow the milk should not be used.

The milker should be careful that the cow is clean at the time of milking. Clean milk cannot be produced from cows that are dirty. If a cow's udder is soiled and the cow is covered with manure it should be cleaned before milking. If the cow is healthy and clean, the milk will be of a high quality.

I. Answer the questions to the text.

(Ответьте на вопросы к тексту)

1. What kind of work does the dairy cow do?
2. What is the chief product of a dairy cow?
3. What are the by-products of a dairy cow?
4. What time of cow's life is the best one for milk production?
5. What can you say about the mammary gland?
6. Where is the mammary gland located?
7. Should the milk of an unhealthy cow be used?
8. Why should the cow be clean at the time of milking?
9. What cows give milk of a high quality?
10. Can you milk a cow?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Cows are kept mainly for meat.
2. A cow gives the maximum amount of milk when she is 5 years old.
3. A membrane separates the two parts of a cow's udder.
4. It is necessary to check the health of a cow's udder regularly.
5. A cow's udder should be cleaned before milking.
6. The mammary gland is located in the middle of a cow's udder.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|-----------------------|---|
| 1. cow, n | a. to become less or go down to a lower level |
| 2. calf, n | b. the part of a cow, female goat, etc. that hangs down between its back legs and that produces milk |
| 3. manure, n | c. a large female animal that is kept on farm and used to produce milk or beef |
| 4. decrease, v | d. to remove dirt from something by rubbing or washing |
| 5. udder, n | e. to change food that you have just eaten into substances that your body can use |

- | | |
|-------------------------|---|
| 6. <i>clean, v</i> | f. the baby of a cow, or of some other large animals |
| 7. <i>healthy, a</i> | g. the amount of profits, crops, etc. that something produces |
| 8. <i>condition, n</i> | h. waste matter from animals that is mixed with soil to improve it and help plants grow |
| 9. <i>milk-yield, n</i> | i. the state that something is in, especially how good or bad its physical state is |
| 10. <i>digest, v</i> | j. in a good physical condition and not likely to become ill or weak |

IV. Translate the pairs of words

(Переведите пары слов).

normal - abnormal, careful - carefully, healthy - unhealthy, clean - dirty, ill - healthy, to produce - to manufacture, main product - by-product, always - never, left - right, chief- main, to increase - to decrease, high - low, to divide - to separate, half - whole, regularly - irregularly, fluid - solid, weak - strong, to grow - to decay, upper - lower, to produce - to consume, likely - unlikely, animal - man, mixed - pure.

V. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилами чтения окончания глагола в прошедшем времени –ed).

[t]	[d]	[id]

worked, changed, manufactured, manured, yielded, decreased, possessed, valued, divided, separated, digested, carried, located, watched, produced, used, cleaned, soiled, milked, removed, rubbed, washed, wasted, mixed, improved.

VI. Translate the following words and word combinations into English

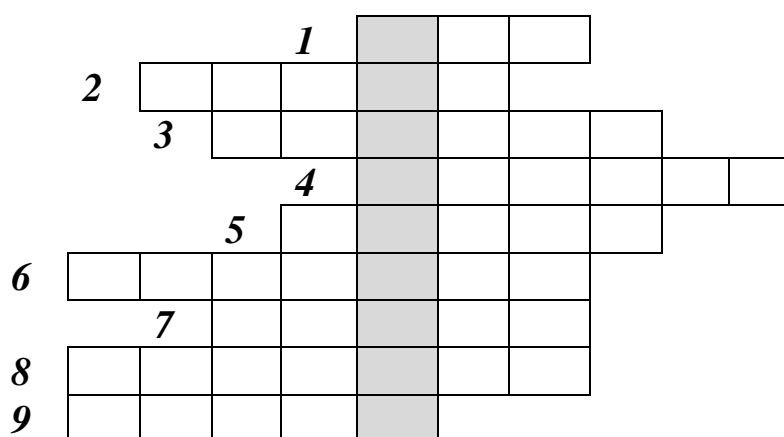
(Переведите следующие слова и словосочетания на английский язык).

молочная корова, главная цель, молочные/основные/ побочные продукты, питание для людей, полевые культуры, навоз, молочная продуктивность, мясная ценность, левая/правая доля, молочная железа, разделять (на части), вымя коровы, секреторный орган, верхняя часть вымени, внимательно следить, болезненное состояние коровы, чистый, во время дойки, запачканное землей, перед дойкой, здоровая и чистая, высокое качество.

Задания для самостоятельной работы

VII. Complete the crossword puzzle and find out the hidden word
(Заполните кроссворд и определите спрятанное слово).

1. the animal that gives milk
2. red fluid of the body
3. one of the by-products of the cow used to improve the soil
4. to absorb mineral matter completely
5. uncleaned
6. out of any diseases
7. a cow that is kept for milk
8. to keep the body stand firm
9. undirty



VIII. Match word combinations with their definitions and show them on the picture

(Соотнесите словосочетания с их определениями и покажите их на картинке).

1. cistern of the udder

2. teat cistern

3. teat channel

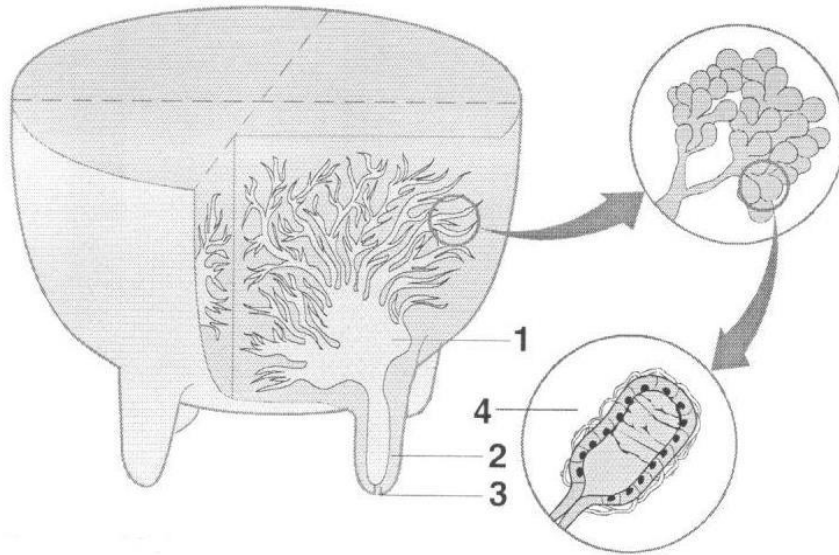
4. alveolus

a. one of excretory canals of the teat through which milk flows out

b. a hollow chamber in the udder where milk is accumulated before it goes to the teat cistern

c. a cellule producing milk which is a constituent of a secretory tissue

d. a cavity in the teat through which milk goes to the teat channel



Раздел 5. THE ROLE OF ANIMALS (Роль животных)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

aphrodisiac, n	[,æfrə'di:ziæk]	<i>вещество, увеличивающее половое влечение</i>
blood clot	[blʌd klɒt]	<i>тромб</i>
convert, v	[kən'veɜ:t]	<i>превращать</i>
dye, n	[daɪ]	<i>краситель</i>
glue, n	[glu:]	<i>клей</i>
grind, ground, v	[graɪnd, graʊnd]	<i>размалывать</i>
inedible waste	[ɪn'edəbəl weɪst]	<i>непищевые отходы</i>
neat, n	[ni:t]	<i>крупный рогатый скот</i>
slaughter, v	['slɔ:tə]	<i>забивать животное</i>
tallow, n	['tæləʊ]	<i>сало</i>
treat, v	[tri:t]	<i>лечить</i>
yield, v	[ji:ld]	<i>давать</i>

Farm animals provide a large percentage of man's food in the form of meat and dairy products. Leather and wool still make up a good part of men's clothing and without it, cotton and synthetic fibres could not supply the need. Some animals, such as guinea pigs, rabbits, mice, dogs, monkeys are extensively used in research in human diseases.

When cattle are slaughtered, nothing is wasted. Valuable by-products are obtained from the 'fifth quarter', or remainder of the animal after the meat has been removed. It is said that the profit from the sale of these by-products, including leather, helps the meat industry to survive.

One of the by-products that has been used for centuries is tallow, which is produced by rendering down all the inedible waste. The early use of tallow was in the manufacture of candles but now it is used to produce laundry and kitchen soap. The U.S.A. is the largest producer of tallow, with an annual production of 1 million tons. Some 40% of this American output is incorporated into animal feeds.

Bones yield bone meal fertilizers, and glycerine, some of which is converted to glyceryl trinitrate for explosive manufacture. Hooves are made into buttons, and neat foot oil. Horns are ground into horn meal and at one time were shaped into knife handles. Proteins, glues and fire suppressing foams are made from blood. Dyes come from the gall bladder and gallstones are ground up and sold as an aphrodisiac to far eastern countries. The intestines are made into surgical ligatures and heparin, which is used to treat blood clots, is extracted from the mucus of the small intestine. Pharmaceutical firms make good use of certain organs and glands.

The pancreas is particularly important as it yields insulin which is in great demand for the treatment of diabetics.

It is important to breed healthy animals which give more animal products. Besides some diseases of animals are transmissible to man, some human diseases are spread by animals or animal products. For example, human brucellosis is due to drinking cow's milk infected with Bang's organisms, to direct contact with infected animals or their excreta. Of all the diseases that may be transmitted from animals to men rabies is without doubt the most dangerous. That is why animal health is of tremendous importance to public health. It is a veterinary surgeon who is to control and prevent animal diseases

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Are leather and wool used in man's clothing?
2. What animals are used in research in human diseases?
3. What valuable by-products are obtained from the fifth quarter?
4. Why is it important to breed healthy animals?
5. Who is to control and prevent animal diseases?

II. Say if the following statements are true or false.

(*Определите верно или неверно утверждение*).

1. Farm animals have nothing to do with valuable products for man's life.
2. Guinea pigs were found to be the most suitable and readily available experimental laboratory animals.
3. When cattle are slaughtered, everything is used.
4. It is profitable to use the by-products of the meat industry.
5. Tallow is mainly used in animal feeding.
6. Many diseases can be transmitted to man through animal products.
7. Farm animals are considered to be an important source of food for people.
8. Rabies is not considered to be the most dangerous disease transmissible to man.
9. Veterinary surgeon controls not only animal diseases.

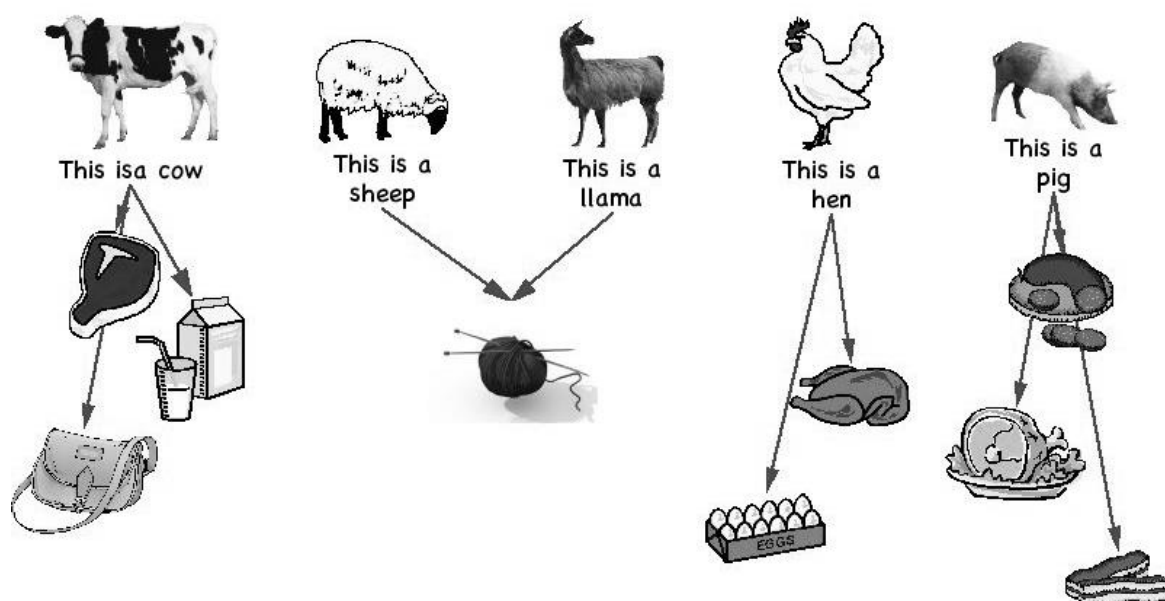
III. Match the word with proper definition

(*Подберите к слову соответствующее определение*).

- | | |
|-----------------------------|---|
| 1. slaughter, v | a. to change something into a different form of thing |
| 2. tallow, n | b. to break something such as corn or coffee beans into small pieces or powder |
| 3. convert, v | c. to try to cure an illness or injury by using drugs, hospital care |
| 4. inedible waste | d. to kill an animals especially for its meat; people in a violent way |
| 5. grind, v | e. the hard foot of an animal such as a horse, cow |
| 6. treat, v | f. hard animal fat used to make candles |
| 7. provide/supply, v | g. to melt the fat of an animal (as you cook it) |
| 8. render, v | h. if something is inedible you can't eat it because it tastes bad or is poisonous |
| 9. hoof, n | i. the hard pointed thing that grows, usually in pairs, on the heads of animals such as cows, goats |
| 10. horn, n | j. to give someone the things they need to live |
| 11. extract, v | k. to stop something from happening, or stop someone from doing something |
| 12. prevent, v | l. to carefully remove a substance from something which contains it, using a machine or chemical process |

IV. Speak about the farm animal products

(Расскажите о продуктах сельскохозяйственных животных).



V. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилам чтения окончания глагола в прошедшем времени *-ed*).

[t]	[d]	[id]

provided, supplied, needed, used, researched, slaughtered, wasted, obtained, removed, included, survived, produced, manufactured, incorporated, converted, hooved, shaped, suppressed, blooded, treated, extracted, demanded, transmitted, infected, valued, controlled, considered, helped.

Задания для самостоятельной работы

VI. Translate the following words and word combinations into Russian (Переведите следующие слова и словосочетания на русский язык).

large percentage, dairy products, used in research, valuable animal/by-products, meat industry, inedible waste, manufacture of candles, laundry/kitchen soap, annual production, animal feeds, bone meal fertilizers, explosive manufacture, a hoof-hooves, horn meal, knife handles, gall bladder, gallstones, surgical ligatures, blood clots, mucus, small intestine,

certain organs/glands, treatment of diabetics, transmissible to man, human brucellosis, direct contact, the most dangerous, tremendous importance, public health, veterinary surgeon, animal diseases.

VII. Translate the following word combinations into English

(Переведите следующие словосочетания на английский язык).

сельскохозяйственное животное, молочные продукты, одежда для человека, синтетические волокна, продукты питания для человека, заболевания человека, крупный рогатый скот, ценные побочные продукты, доход от продаж, мясное производство, для производства моющих средств, производства взрывчатых веществ, огнеупорная пена, тонкий кишечник, фармацевтические компании, лечение диабета, коровье молоко, прямой контакт, зараженные животные, первостепенное значение.

Раздел 6. AVITAMINOSIS (Авитаминоз)

Цель раздела – освоить основные лексические единицы, обслуживающие ситуации иноязычного общения в профессиональной сфере деятельности.

Vocabulary

antiscorbutic, adj	[, antiskɔ: 'bjʊ: tɪk]	<i>противоцинготный</i>
birth, n	[bɜ: θ]	<i>рождение (a birthday)</i>
both... and	[bəʊ θ ... ənd]	<i>как ... так и</i>
confuse, v	[kən 'fju: z]	<i>путать</i>
emaciation, n	[ɪ , meɪ fɪ 'eɪ fən]	<i>истощение</i>
failure to grow	['feɪ ljə tə grəʊ]	<i>замедление роста</i>
impairment of vision	[ɪm 'preəmənt əv 'vɪ zən]	<i>ослабление зрения</i>
lack, v	[læk]	<i>не хватать</i>
level, n	['levəl]	<i>уровень</i>
manifestation, n	[, mænəfe 'steɪ fən]	<i>проявление</i>
marked restlessness	[mɑ: kt 'restləsnəs]	<i>выраженное беспокойство</i>
nervous disturbances	['nɜ: vəs dɪ 'stɜ: bənsɪz]	<i>нервные расстройства</i>
night blindness	[naɪt 'blaɪndnəs]	<i>куриная слепота</i>
occur, v	[ə 'kɜ:]	<i>встречаться</i>

prevent, v	[pri'vent]	<i>предотвращать</i>
restlessness, n	['restləsnəs]	<i>беспокойство</i>
severe case	[sə'veiə keis]	<i>тяжелый случай</i>
stiffness, n	['stɪfnəs]	<i>тугоподвижность</i>
weak, weakness, n	[wi:k, 'wi:knəs]	<i>слабый, слабость</i>

Vitamins are known to be essential for life of both men and animals. The deficiency of some vitamins is called avitaminosis. The effect of avitaminosis has been thoroughly studied.

Night blindness is one of the first clinical manifestations of vitamin-A deficiency. Convulsions, total blindness and degenerative changes in the kidneys are later manifestations. Abortions, the birth of weak calves have been noted under natural conditions of vitamin-A deficiency. Studies of the levels of vitamin A and carotene in the blood plasma of cows and calves have been made by a number of investigators.

Vitamin-A deficiency in swine may be confused with rickets, for both produce difficulty in walking, including stiffness. In severe cases of both diseases pigs may become paralyzed so that they cannot rise to their feet. One of the first symptoms of vitamin - A deficiency is often marked by restlessness. Later, the pigs may have severe spasms and also show characteristic impairment of vision.

Vitamin B prevents the polyneuritis (nervous symptoms). It's lack also causes loss of appetite, emaciation and general weakness. Vitamin B is widely distributed in natural human foods and stock feeds.

A lack of riboflavin in chicks results in failure to grow, paralysis and death. Riboflavin deficiency in pigs is characterized by slow growth, a crippled conditions, changes in hair, skin and hooves, collapse and death. Severe anemia and cardiac dysfunction occur in dogs on a B₆ - deficient diet. Chickens lacking the vitamin eat little, grow slowly and develop nervous disturbances that may lead to convulsions and death. Cobalt aids in formation of new red blood corpuscles in the red bone marrow, and along with iron and copper prevents anemia.

Animals must have an adequate supply of vitamin D to enable them to assimilate and utilize the calcium and phosphorus in their food. Since vitamin D is necessary for the prevention of rickets, it is often called the anti-rachitic vitamin. The requirements for vitamin D are especially great during growth, when the skeleton is being developed. This vitamin is also essential for mature animals especially during pregnancy and lactation. Sun-cured-hay is a good source of this vitamin. Vitamin C, the anti-scorbutic vitamin, is not important in the feeding of farm animals.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Are vitamins vital for animal and human life?
2. What is one of the first clinical manifestations of vitamin-A deficiency?
3. What are the later manifestations of vitamin-A deficiency?
4. Why may vitamin - A deficiency be confused with rickets?
5. What is one of the first symptoms of vitamin A deficiency in pigs?
6. What does the lack of vitamin B cause?
7. What are the results of a riboflavin lack in chicks?
8. What are the results of a riboflavin deficiency in pigs?
9. What is the role of cobalt?
10. Is vitamin C important in the feeding of farm animals?
11. Why is vitamin D often called the anti-rachitic vitamin?
12. When are the requirements for vitamin D especially great?
13. What is the source of vitamin D?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Convulsions is one of the first clinical manifestations of vitamin-A deficiency.
2. The birth of weak calves has been noted under natural conditions of vitamin-A deficiency.
3. Rickets produce both difficulty in walking and stiffness.
4. Vitamin - B deficiency is often marked by restlessness.
5. Vitamin B prevents emaciation and general weakness.
6. Chickens lacking the vitamin eat little, grow slowly and develop nervous disturbances.
7. The requirements for vitamin D are little when the skeleton is being developed.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|-------------------------|--|
| 1. abortions, n | a. a particular position in a system that has different ranks of importance |
| 2. blindness, n | b. lack of success in achieving or doing something |
| 3. confuse, v | c. to cause something to happen or cause someone to do something |
| 4. emaciation, n | d. the end of a pregnancy so that the baby is not born alive |
| 5. failure, n | e. difficult to do, go or deal with |

<p>6. <i>lead (to)</i>, <i>v</i></p> <p>7. <i>level</i>, <i>n</i></p> <p>8. <i>prevent</i>, <i>v</i></p> <p>9. <i>restlessness</i>, <i>n</i></p> <p>10. <i>stiffness</i>, <i>n</i></p> <p>11. <i>weakness</i>, <i>n</i></p>	<p>f. a state of being unable to see</p> <p>g. unwilling to keep still or stay where you are, especially because you are nervous or bored</p> <p>h. to think wrongly, not clearly or do not understand</p> <p>i. the state of being physically weak, lack of strength</p> <p>j. extremely thin from lack of food or illness</p> <p>k. to stop something from happening, or stop someone from doing something</p>
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IV. Complete the sentences using the following words

(Дополните предложения, используя следующие слова):

acid, substance, abundance, deficiency, experiments, regulating, functions.

- The conclusion that these diseases occur because of a ___ of nutritional material came from studies with bery-bery.
- Vitamin A is stable to heat and, since it is a fat soluble ___, does not dissolve in water.
- Ascorbic ___, known as vitamin C, is the least stable of all the vitamins, for it oxidizes readily.
- When fed in ___, vitamin A is stored in the livers of swine.
- To obtain this vitamin the scientist had to conduct a lot of ___.
- One of the chief ___ of vitamin A is to keep the epithelium, or surface tissues, of the mucous membranes of the body in a healthy condition so that they will resist bacterial infection.
- Organic acids are very important for good health, for they take part in stimulating and ___ body processes.

V. Put the words and word combinations into the proper column

(Поставьте слова и словосочетания в соответствующую колонку).

Symptoms of the disease	Names of animals
-------------------------	------------------

to result in, cardiac disfunction, cattle, a number of, a swine, convulsions, a pig, human food, a leg, loss of appetite, skin, emaciation, a cow, a chick, hair, a hoof, weakness, a calf.

VI. Form the plural of the following nouns

(Образуйте форму множественного числа следующих существительных).

life, man, vitamin, blindness, kidney, calf, study, swine, stiffness, case, foot, spasm, feed, hair, skin, diet, blood, marrow, iron, growth, lactation, food, change, hoof, goose, calf, fly, mosquito, knife.

VII. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилами чтения окончания глагола в прошедшем времени –ed).

[t]	[d]	[id]

called, affected, studied, changed, calved, noted, leveled, investigated, confused, produced, included, paralyzed, marked, caused, distributed, stocked, resulted, characterized, crippled, collapsed, developed, prevented, assimilated, utilized, sun-cured.

VIII. Translate the following word combinations into Russian

(Переведите следующие словосочетания на русский язык).

important - essential, a lack - deficiency, effect - to affect, total - whole, weak - weakness, difficulty - hardness, serious - severe: to form - formation, to utilize - utilization; to aid - aid, to die - death, to result in - to lead to, to grow - growth, to manifest - manifestation, to lead - a leader.

IX. Translate the following sentences into Russian

(Переведите следующие предложения на русский язык).

1. Young animals are more active than older ones.
2. The more one learns, the more one knows.
3. Most livestock diseases are prevented by good management.
4. Veterinary rules are to regulate the activity of the state veterinary service.
5. The body temperature of the pigs is not so stable as that of cattle or sheep.
6. Oxygen is transported in the blood by the hemoglobin.
7. Both the faeces and urine are paths of sulphur excretion.
8. It should be noted that "vita", the first portion of the word "vitamin" means "life".

Задания для самостоятельной работы

X. Translate the following word combinations into English *(Переведите следующие словосочетания на английский язык).*

жизнь человека и животных, дефицит некоторых витаминов, клинические проявления, недостаток витамина А, полная слепота, необратимые изменения, плазма крови, коровы и телята, затруднения при ходьбе, тяжелые спазмы, потеря аппетита, общая слабость, корм для скота, медленный рост, параличи, дисфункция

сердечной мышцы, нервные расстройства, красные кровяные тельца, необходимый запас, профилактика рахита, взрослые животные, источник витамина.

XI. Translate the following sentences into English

(Переведите следующие предложения на английский язык).

1. Недостаток некоторых витаминов называется авитаминозом.
2. Многие ученые исследовали проявление авитаминоза у домашних животных.
3. Недостаток витамина А вызывает куриную слепоту, абортирование, рождение слепых телят.
4. Недостаток витамина А можно спутать с рахитом, так как обе болезни вызывают затруднения в ходьбе.
5. Недостаток рибофлавина (В₂) характеризуется медленным ростом, изменениями в шерсти, коже, копытах.
6. Витамин С не важен для с.-х. животных.
7. Витамин Д помогает усваивать и использовать кальций и фосфор в пище.
8. Потребности в витамине Д особенно велики в период роста, во время беременности и лактации.
9. Сено, высушенное на солнце – хороший источник витамина Д.

Раздел 7. VITAL FUNCTIONS OF MINERALS

(Жизненно важные функции минералов)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

chew, v	[tʃu:]	жевать
cripple, v	['krɪp(ə)l]	калечить, парализовать
evident, adj	['evidənt]	очевидный
fatigue, n	[fə'ti:g]	усталость
gastric juice	['gæstri:k dʒu:s]	желудочный сок
hemoglobin, n	[,hi:mə'gləʊbɪn]	синтез гемоглобина
formation, n	fɔ:'meɪʃən]	
liberal, adj	['lɪbərəl]	(здесь) в достаточном количестве
manganese, n	['mæŋɡəni:z]	марганец

poison, n	['pɔɪzən]	яд
poor, adj	[pɔ:]	(здесь) плохой
provide, v	[prə'vaɪd]	обеспечивать
responsible, adj	[rɪ'spɒnsəbəl]	ответственный
to cause economic losses	[tə kɔ:z ,ekə'nɒmɪk lɒsɪz]	наносить экономический ущерб
traces of copper	[treɪsɪz əv 'kɒpə]	микроэлементы меди
waste materials	[weɪst mə'tɪəriəlz]	шлаки

It has long been known that minerals are necessary for the health of animals and even for life itself. A lack of minerals may be much more serious to a young animal than a lack of protein or a lack of total digestible nutrients.

Calcium and phosphorus are required to build the skeleton of the animals. If the ration is very deficient in calcium or phosphorus, rickets may result, and the animal may be permanently crippled or deformed if the deficiency continues too long.

Phosphorus deficiency in the soils occurs in many parts of the world. This leads to a deficiency of the elements in the plant products of the soils and may cause serious disorders and economic losses of herbivorous. In phosphorus deficiency in cattle there is a decrease in the inorganic phosphorus of the blood, poor appetite, and a gradual decrease of milk production. Poor appetite may be evident later. Animals may chew bones or eat parts of carcasses.

Recent investigations have shown that for hemoglobin formation in the body small traces of copper must be provided in the food as well as an ample supply of iron. Traces of copper are therefore essential for animal life, although this mineral is a violent poison when any considerable amount is taken into the body.

Both sodium and chlorine perform important functions in maintaining the osmotic pressure in the body cells, upon which the transfer of nutrients to the cells and the removal of waste materials depends. Chlorine is also required for the formation of the hydrochloric acid in the gastric juice. Blood is much richer in sodium and in chlorine than in other minerals. Normally, considerable amount of sodium and chlorine are excreted daily, chiefly in the urine.

It is of interest to note that when men are doing hard labour at unusually high air temperature they suffer less from fatigue if they drink water containing a small amount of salt. This shows that the salt supply

should be liberal for horses performing hard work and therefore losing unusually large amounts of salt from their bodies.

Perosis is a malformation of the bones of chicks and poults. It is a complicated deficiency disease, a lack of manganese being one of the factors responsible for its production.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What are minerals necessary for?
2. Is a lack of minerals serious to young animals?
3. What is required to build the skeleton?
4. When may rickets result?
5. What are the manifestations of rickets?
6. Why do animals chew bones?
7. What is necessary for hemoglobin formation?
8. What plays an important role in the maintaining of the osmotic pressure?
9. How are sodium and chlorine excreted?
10. What is perosis?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Calcium and phosphorus are required to build the skeleton of the animals.
2. Phosphorus deficiency in the plants occurs in many parts of the world.
3. Deficiency of some elements in the soil may cause serious losses of herbivorous.
4. In phosphorus deficiency in cattle there is poor appetite and a gradual decrease of milk production.
5. For hemoglobin formation in the body small traces of phosphorus must be provided in the food.
6. Traces of copper forms a violent poison.
7. Both copper and iron perform important functions in maintaining the osmotic pressure in the body cells.
8. Normally, considerable amount of sodium and chlorine are excreted daily, chiefly in the urine.
9. Doing hard labour at unusually high air temperature men suffer less from fatigue if they drink water containing a small amount of salt.
10. The salt supply should not be necessarily liberal for horses performing hard work.
11. Perosis is a lack of magnesium.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|------------------------------------|--|
| 1. <i>chew</i> , <i>v</i> | a. material that has been used and thrown away |
| 2. <i>excrete</i> , <i>v</i> | b. it is composed of two alpha chains and two gamma chains |
| 3. <i>fatigue</i> , <i>n</i> | c. to not have something that you need, or not have enough of it |
| 4. <i>gastric juice</i> | d. to bite food several times before swallowing it |
| 5. <i>hemoglobin</i> , <i>n</i> | e. a substance that can cause death or serious illness if you eat it, drink it, etc. |
| 6. <i>lack</i> , <i>n</i> | f. having a duty to be in charge of or to look after someone or something |
| 7. <i>nutrient</i> , <i>n</i> | g. to get rid of waste material from your body through your bowels, your skin, etc. |
| 8. <i>poison</i> , <i>n</i> | h. to need something |
| 9. <i>responsible</i> , <i>adj</i> | i. very great tiredness, syn. exhaustion |
| 10. <i>require</i> , <i>v</i> | j. a chemical or food that provides what is needed for plants or animals to live and grow |
| 11. <i>waste materials</i> | k. the liquid inside your stomach that helps you to digest food |

IV. Complete the sentences using the following words

(Дополните предложения, используя следующие слова):

anemic, iron, essential, deficiency, anemia, nutrition.

1. Since calcium is one of the chief constituents of bones it is of the utmost importance in human and animal ____.
2. Even if anemia is brought about by too little ____ in the diet, it is not a simple matter to correct it.
3. Rhinitis is more common among pigs that are ____.
4. ____ is responsible for the death of many suckling pigs that are kept out of contact with soil.
5. Any ____ or overabundance of any mineral can set up an imbalance causing a number of symptoms.
6. These minerals are ____ because they are critical for the processing of vitamins, and the production of crucial enzymes which are catalists to every function in the body.

V. Define the part of speech of the following words

(Определите часть речи следующих слов).

rich - richer - much richer - the richest, much more serious, less, to increase - to decrease, a gradual decrease of milk production, considerable amount.

VI. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилам чтения окончания глагола в прошедшем времени –ed).

[t]	[d]	[id]

digested, required, resulted, crippled, deformed, occurred, caused, decreased, chewed, traced, provided, performed, pressed, depended, enriched, excreted, interested, suffered, worked, complicated.

VII. Translate the following words and word combinations into Russian

(Переведите следующие слова и словосочетания на русский язык).

life, health, nutrients, too long, rickets, to reduce, bones, to suckle, pasture, to cause, to lead, losses, pigs, cattle, decrease, as well as, cell, waste, juice, urine, calcium, phosphorus, iron, copper, sodium, chlorine, hydrochloric acid, manganese.

Задания для самостоятельной работы

VIII. Translate the following word combinations into English

(Переведите следующие словосочетания на английский язык).

здоровье животного, нехватка минералов, молодое животное, питательные вещества, недостаток фосфора/марганца, растительные остатки почвы, серьезные расстройства, экономические потери, неорганический/минеральный фосфор крови, постепенное снижение молочной продуктивности, недавние исследования, малое количество меди, запас железа, опасный яд, значительное количество, важные функции, клетки организма, удаление шлаков, желудочный сок, тяжелая работа, малое количество соли.

IX. Translate the following sentences into Russian

(Переведите следующие предложения на русский язык).

1. No animal can live without water.

2. Without plants neither animals nor men will be able to live.
3. A lack of nicotinic acid is said to be the main cause of this disease.
4. Strong tincture of iodine is to be applied daily.
5. Another method soon to be introduced is the milk progesterone test.
6. Carbohydrates as well as water contain both hydrogen and oxygen.
7. The work of this scientist is of great value for the development of livestock breeding.
8. The more severe the clinical signs, the more chance there is of getting a negative result.
9. You should follow a dry cow therapy program.
10. It is a good calf scour preventive medicine.
11. This cow is treated for mastitis.

Раздел 8. TREATMENT OF ANIMALS (Лечение животных)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться сообщать информацию в форме подготовленного монологического высказывания.

Vocabulary

a complete cure/ recovery, n	[ə kəm'pli:t kjʊə / rɪ'kʌvəri]	<i>полное выздоровление</i>
an acute case	[ən ə'kju:t keɪs]	<i>острое заболевание</i>
quarters, n pl	['kwɔ:təz]	<i>зд. помещение</i>
salivation, n	[,sælə'veɪʃən]	<i>слюноотечение</i>
vomiting, n	['vɒmɪtɪŋ]	<i>рвота</i>

The symptoms of sickness in animals are similar to those in men, i.e. the loss of appetite, high temperature, rapid pulse, salivation, vomiting, general weakness. In acute cases the animal is to be given the aid. Sick animals should be given proper care, nourishing food and fresh water. There are many cases which require considerable time for a complete cure, sometimes 2 or 3 weeks.

In complicated cases the owner must keep the animal quiet until its recovery. The veterinarian's instructions on the care and feeding should be strictly followed. If an infectious disease occurs on a farm, the latter is to be quarantined. Infected animals must be isolated at once. Non-infected animals should be removed to uninfected quarters.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What symptoms are common in animals and men?
2. What should a sick animal receive?
3. What time is required for a complete cure?
4. What measures are taken on farms in the case of the disease?
5. What should the owner do with the infected animals?
6. Are non-infected animals removed to uninfected quarters?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. The symptoms of sickness are similar both in men and animals.
2. Loss of appetite, high temperature, rapid pulse, salivation, vomiting are general weakness in men.
3. Proper care, nourishing food and fresh water is the first aid in animal sickness.
4. In complicated cases the animal should stay in a quiet condition.
5. There is no need to quarantine animals if an infectious disease occurs on a farm.

III. Retell the text using the following plan

(Перескажите текст, используя план).

1. the symptoms of sickness
2. the veterinarian's instructions on treatment and care
3. instructions in case of an infection disease.

IV. Put the words into the proper column according to the reading rules of the word end.

(Распределите слова в те колонки, которые соответствуют правилами чтения окончания глагола в прошедшем времени –ed).

[t]	[d]	[id]

aided, watered, required, timed, completed, cured, complicated, recovered, instructed, cared, followed, occurred, quarantined, infected, isolated, removed, helped, sucked, pushed, fixed, damaged.

V. Translate the following word combinations into English *(Переведите следующие словосочетания на английский язык).*

симптомы заболевания, у животных, потеря аппетита, повышенная температура, учащенный пульс, общая слабость,

тяжелый случай, оказать помощь, больное животное, необходимый уход, питательные корма, свежая вода, значительная часть времени, полное выздоровление, указания ветеринара, уход и кормление, инфекционное заболевание, зараженное животное.

Задания для самостоятельной работы

VI. Give the meaning of the underlined words

(Определите значение подчеркнутых слов).

1. A syringe is a pipe used in medicine into which liquid can be sucked and from which it can be pushed out through a needle, to put medicine into the body.
2. A needle is a very thin hollow pointed tube, at the end of a syringe, which is pushed into someone's skin to put a liquid (esp. medicine) into the body.
3. A dropper is a short glass tube with a rubber part (bulb) at one end used for measuring out liquids, esp. liquid medicine in drops.
4. A drip is an apparatus for liquid put into a blood vessel at a slow rate.
5. Forceps are a medical instrument used for fastening or holding things firmly together (e.g. a bone clamp).
6. A splint is a flat piece of wood, metal, etc. used for keeping a broken bone in a fixed position.
7. Plaster is a paste-like mixture of lime, water, etc., which hardens when dry. The plaster bandage must be neither too tight nor too loose.
8. A scalpel is a small sharp knife used by doctors in operations.
9. To cut is to make a narrow opening in something with a sharp edge or instrument, accidentally or on purpose.
10. A wound is a damaged place in the body, usually a hole or tear through the skin done in purpose by a weapon.
11. Tumor is a mass of diseased cells in the body.

капельница, рана, медицинская игла, пипетка, скальпель, шприц, пинцет, разрезать, гипс, гипсовая повязка, зажим, шина, опухоль

VII. Match the proper word with the picture. Use words from Exercise 6

(Подберите подходящее слово к картинке. Используйте слова из упражнения б).

1



6



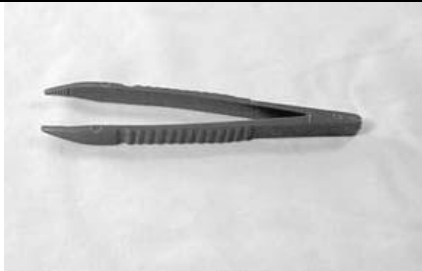
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3



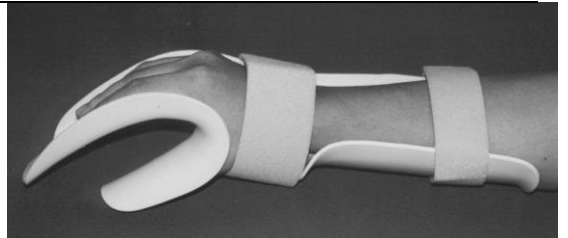
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4



9



5



10



PART II

FARM ANIMAL DISEASES (Болезни сельскохозяйственных животных)



Раздел 9. TUBERCULOSIS (Туберкулез)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи, научиться сообщать информацию в форме подготовленного монологического высказывания.

Vocabulary

affect, v	[ə'fekt]	<i>поражать</i>
consumption, n	[kən'sʌmpʃən]	<i>потребление</i>
contaminate, infect, v	[kən'tæməneɪt], [ɪn'fekt]	<i>заражать</i>
contract, v	[kən'trækt]	<i>заражаться</i>
destruction, n	[di'strʌkʃən]	<i>разрушение, уничтожение</i>
elimination, n	[ɪ,lɪmə'neɪʃən]	<i>уничтожение</i>
enlargement, n	[ɪn'la:dʒmənt]	<i>утолщение</i>
germ-laden air	[dʒɜ:m 'leɪdnə]	<i>воздух, зараженный микробами</i>
increased respiration, n	[ɪn'kri:st ,respə'reɪʃən]	<i>учащенное дыхание</i>
involve, v	[ɪn'vɒlv]	<i>затрагивать, поражать</i>
man, n	[mæn]	<i>(зд.) человечество</i>
primary cause	['praɪmərikə:z]	<i>основная причина</i>
shoulder, n	['ʃəʊldə]	<i>плечо</i>
slaughter, n	['slɔ:tə]	<i>убой</i>
throat, n	[θrəʊt]	<i>горло</i>
unthriftness, n	[ʌn'θrɪftnəs]	<i>отсутствии аппетита</i>
vary, v	['veəri]	<i>колебаться, изменяться</i>

Probably no disease affecting both the human race and livestock is better known as tuberculosis. Tuberculosis is a chronic contagious disease of man and animals. The direct and primary cause of tuberculosis is a rod-shapen germ which can be seen only with the aid of a microscope of high magnifying power.

Infection takes place by the consumption of tuberculosis-germ-contaminated liquid and solid food, and by breathing germ laden air. Calves may get the disease by drinking milk from tuberculosis cows, swine contract by following infected cattle. Children develop tuberculosis of the digestive tract or tuberculosis of bones because of the drinking of tuberculosis contaminated milk if it has not been pasteurized.

It must be understood that tuberculosis is a disease which often gives no indication of its presence by external symptoms. Yet skilled and experienced veterinarians are able to detect certain abnormal conditions and diagnose tuberculosis. As the disease often involves the lymphatic glands in various parts of the body, the examination of such glands as can be felt in the lying animals is sometimes helpful in diagnosing the disease. The glands of the throat, udder and points of the shoulder often present an enlargement or hardening. Animals affected with tuberculosis sometimes show unthriftiness, increased respiration, try to hold the head in an abnormal position.

But as it has been already pointed out infected animals may show no outward symptoms of the disease, many of them seem to be perfectly healthy. It is one of the greatest dangers of this disease. A diagnose of tuberculosis in infected animals may be established by the inoculation method and by a reaction to a tuberculin test. This test was devised in 1890 by the famous scientist Robert Koch. The control of the tuberculosis rests on the destruction of the tuberculosis animals. The tuberculin testing of herds, with the elimination and slaughter of all those reacting to the test is the best method which has resulted in the reduction of the disease among cattle.

General sanitation is very important, for as Robert Koch has shown, sunlight will destroy the tubercle bacillus within two hours or less. Good pastures, right feeding, cleanliness increase the animal's resistance to infections.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What is the cause of tuberculosis?
2. How does the infection take place?
3. What do animals affected with tuberculosis show?
4. How is the diagnosis of tuberculosis in animals established?

II. Say if the following statements are true or false

(Определите верно или неверно утверждение).

1. Animals affected with tuberculosis may seem to be perfectly healthy.
2. A diagnose of tuberculosis in infected animals may be easily established.
3. Tuberculin testing of animals is an effective method used to diagnose tuberculosis.
4. The tuberculosis animals should be slaughtered.
5. Tuberculosis affects only the lungs of animals.
6. Good feeding and management conditions cannot make animals more resistant to tuberculosis.
7. Tuberculosis is a very dangerous and widely spread disease of animals and man.
8. The tuberculin test was devised by the German microbiologist Robert Koch in 1882.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|--------------------------|--|
| 1. <i>affect, v</i> | a. to include or affect someone or something |
| 2. <i>contaminate, v</i> | b. the removal or destruction of something |
| 3. <i>contract, v</i> | c. to do something that produces an effect or change in something or in someone's situation |
| 4. <i>elimination, n</i> | d. to kill an animal, especially for its meat |
| 5. <i>involve, v</i> | e. the passage from the back of your mouth to the top of the tubes that go down to your lungs and stomach |
| 6. <i>slaughter, v</i> | f. to make a place or substance dirty or harmful by putting something such as chemicals or poison in it |
| 7. <i>throat, n</i> | g. being different from each other |
| 8. <i>vary, v</i> | h. to get an illness |

IV. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a contagious disease, tuberculosis- germ contaminated liquid, solid food, to drink milk, digestive tract, a rod-shapen germ, tuberculosis of bones, to establish the diagnose (to diagnose), resistance to infections, external symptoms, because of, to take place, contaminated milk, to vary, to depend upon, lungs, brain, udder, to result in, successful, reliable, sunlight, herd.

V. Translate the following sentences into Russian.

(Переведите следующие предложения на русский язык).

1. This medicine is to be given two times a day.
2. In this connection three diseases have to be considered.
3. Mastitis results in decreased milk production.
4. One should always provide animals with water.
5. Poison is a substance that harms or kills if a living animal or plant takes it.
6. Toxin is a poison produced by bacteria in a plant or animal body.
7. Venom is a liquid poison which certain snakes, insects and other creatures use in biting or stinging.
8. Microscopic examination of sputum, milk, and bowel discharges of an animal are sometimes made to determine the presence of tubercle bacilli and to diagnose tuberculosis.
9. The economic losses due to the avian tuberculosis in poultry run into millions of dollars annually.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

заразное заболевание, заболевание человека и животных, первичная причина, при помощи микроскопа, потребление зараженной жидкости, вдыхать зараженный воздух, зараженный крупный рогатый скот, пищеварительный тракт, туберкулез костей, зараженное туберкулезом молоко, внешние симптомы, опытный ветеринар, лимфатические узлы, видимые симптомы заболевания, туберкулезная палочка, правильное кормление, сопротивляемость к заболеванию.

VII. Translate the following sentences into English.

(Переведите следующие предложения на английский язык).

1. Туберкулез - хорошо известная болезнь. Это хроническая заразная болезнь, поражающая как человека, так и животных.
2. Человек может заразиться от животных.
3. Симптомы туберкулеза различны.
4. Он может поражать легкие, кишечный тракт, мозг, вымя, кости, лимфатические узлы.
5. Одна из опасностей этой болезни в том, что у животных нет внешних признаков болезни.

6. Больных животных уничтожают.

7. Необходимо повышать сопротивляемость животных к инфекциям.

VIII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Causative organism;
2. Ways of infection;
2. Organs involved;
3. Symptoms of the disease;
4. Animals infected;
5. Methods of diagnose;
6. Sanitation conditions.

Раздел 10. LEUCOSIS
(Лейкоз)

Цель раздела - научиться распознавать основные грамматические явления и структуры, используемые в иноязычных текстах.

Vocabulary

abomasal ulcer	[ˌabəʊˈmeɪsəl ˈʌlsə]	язва сычуга
closer confinement	[kləʊzə kənˈfaɪnmənt]	большая скученность
flank, n	[flæŋk]	пах
high morbidity	[haɪ mɔːˈbɪdətɪ]	высокая заболеваемость
iliac, adj	[ˈɪliæk]	подвздошный
incidence, n	[ˈɪnsɪdəns]	частота
inguinal, adj	[ˈɪŋɡwɪn(ə)l]	паховой
involvement, n	[ɪnˈvɒlvmənt]	поражение
lesion, n	[ˈliːʒən]	поражение
loss of condition	[lɒs əv kənˈdɪʃən]	потеря веса
pelvic, adj	[ˈpelvɪk]	тазовый
perineum, n	[ˌpəriˈniːəm]	промежность
spleen, n	[spliːn]	селезенка
superficial, adj	[ˌsuːpəˈfiʃəl]	поверхностный
viscera, n	[ˈvɪsərə]	внутренности

In cattle the disease occurs in two forms, one sporadic and relatively rare, the other enzootic and with a high morbidity.

It is generally accepted that enzootic bovine leucosis is infectious. All breeds of cattle are susceptible to it. It occurs very rarely in animals less than 2 years of age and increases in incidence with increasing age. Large herds appear to have a much greater incidence than smaller herds and the incidence in dairy cattle is higher than in beef cattle, due probably to the higher average age in the dairy group and to their closer confinement.

Enzootic bovine leucosis.

The usual incubation period appears to be 4 to 5 years. Lymphocytosis without clinical signs occurs earlier. Many cows remain in this preclinical stage for years, often for their complete productive lifetime. The clinical signs and the duration of the illness vary with the number and importance of the sites involved and the speed with which the tumour masses grow.

A proportion (5 to 10 per cent) run a peracute course and the affected animals often die without showing prior signs of illness. Involvement of the adrenal glands, rupture of an abomasal ulcer and rupture of an affected spleen followed by acute internal haemorrhage are known causes of such terminations.

Most cases run a subacute period (up to 7 days to several months) to chronic course (several months) and are initiated by loss of condition and appetite, anemia and muscular weakness. The heart rate is not increased unless the myocardium is involved and the temperature is 39,5 to 40°C. Once signs of clinical illness and tumour development are detectable the course is rapid and death is usually only 2 to 3 weeks away.

Enlargement of the superficial lymph nodes, serious visceral involvement, peripheral lesions may be completely absent. Special attention should be given to the deep inguinal and iliac nodes. In advanced cases extensive spread to the peritoneum and pelvic viscera makes diagnosis easy.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Does leucosis occur in animals less than 2 years of age?
2. Is the incidence in dairy cattle higher than in beef cattle?
3. What is the usual incubation period of enzootic bovine leucosis?
4. What does the duration of the illness vary with?
5. Speak about a peracute course of leucosis.
6. What are the signs of subacute course?
7. What is often an early sign?

II. Say if the following statements are true or false

(Определите верно или неверно утверждение).

1. Newborn calves are very susceptible to leucosis.
2. Close confinement leads to a much greater incidence of leucosis among cattle.
3. Cows affected with leucosis don't show any clinical signs of the disease.
4. Leucosis occurs in beef cattle more often than in dairy cattle.
5. The incubation period of bovine leucosis is quite short.
6. Animals affected with leucosis often die soon after tumour development is detected.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|-----------------------------|---|
| 1. <i>bovine</i> , adj | a. to break or burst, or to make something break or burst |
| 2. <i>confinement</i> , n | b. the act of taking part in an activity or event |
| 3. <i>incidence</i> , n | c. to become larger, to cover or exist across a large area |
| 4. <i>involvement</i> , n | d. relative to cows |
| 5. <i>loss of condition</i> | e. happening fairly often, but not regularly |
| 6. <i>peracute</i> , adj | f. the large organs inside your body, such as your heart, lungs, and stomach |
| 7. <i>rupture</i> , v | g. the act of putting someone in a room, prison etc. that they are not allowed to leave |
| 8. <i>sing</i> , n | h. a mass of diseased cells in your body that have divided and increased too quickly |
| 9. <i>sporadic</i> , adj | i. to lose weight |
| 10. <i>spread</i> , v | j. the number of times something happens |
| 11. <i>tumour</i> , n | k. a severe illness or disease quickly becomes very serious |
| 12. <i>viscera</i> , n | l. feature, characteristic, symptom |

IV. Translate the noun chains.

(Переведите цепочки существительных).

virus vaccines, side effects, the protein hormones laboratory, the Hormone Chemistry, cell cultures, the immunization barrier, a health food shop, a 90 percent success, the blood loss, the 5 p.m. injection.

V. Make up word combinations.

(Составьте словосочетания).

a)

- | | |
|----------------|-----------|
| 1. religious | urination |
| 2. tremendous | tissue |
| 3. nervous | animals |
| 4. infectious | trauma |
| 5. serious | progress |
| 6. herbivorous | disease |
| 7. spontaneous | person |

b)

- | | |
|----------------|-----------|
| 1. dramatic | artery |
| 2. hepatic | person |
| 3. immunologic | policy |
| 4. pragmatic | infection |
| 5. strategic | form |
| 6. spherial | test |
| 7. bacterial | situation |

VI. Translate the following sentences into Russian.

(Переведите следующие предложения на русский язык).

1. Tramisol Gel tube is smaller, easier to handle than TBZ paste tube but has more doses per tube and is more effective.
2. This disease is caused by disturbing the organism's homeostasis.
3. The disturbance results in slowing down the metabolic processes.
4. As an organism ages, the beneficial bacteria in it become less able to overcome pathogens.
5. Scientists have been looking for ways to protect the organism from this disease since 1972.
6. Arrhythmia can be regulated with drugs such as
7. This solution is to be drunk three times a day.
8. It's genetic engineering that has produced insulin.
9. This medicine is an effective pain killer.

Задания для самостоятельной работы

VII. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

относительно редкая, высокая смертность, породы КРС, с увеличением возраста, крупные стада, молочный скот, тесное

содержание, инкубационный период, клинические признаки, длительность заболевания, опухолевая масса, не проявляя первичных признаков, разрыв пораженной селезенки, потеря веса, мышечная слабость, сердцебиение, рост опухоли, поверхностные лимфатические узлы, поражение внутренних органов, особое внимание.

VIII. Translate the following sentences into English.

(Переведите следующие предложения на английский язык).

1. У крупного рогатого скота болезнь возникает в двух формах.
2. Эпизоотический лейкоз КРС является инфекционным заболеванием.
3. Все породы КРС подвержены лейкозу.
4. Обычно инкубационный период заболевания составляет от 4 до 5 лет.
5. Зараженное животное умирает, не проявляя первичных признаков болезни.
6. Пробождение язвы сычуга, разрыв селезенки являются известными причинами такого заболевания.
7. Большинство случаев обуславливается потерей веса и аппетита, анемией и мышечной слабостью.
8. Биение сердца при лейкозе не учащается.
9. Если признаки клинической болезни определяются, то течение болезни быстрое, и смерть наступает через 2-3 недели.
10. Уплотнение лимфатических узлов, тяжелые поражения внутренностей могут совершенно отсутствовать.
11. Особое внимание следует уделить глубоким паховым и подвздошным узлам.
12. Случаи заболевания учащаются с увеличением возраста животного.
13. Частота заболевания у молочного скота выше, чем у мясного.

IX. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Forms of the disease;
2. Organs involved;
3. Symptoms of the disease;
4. Animals infected;
5. Methods of diagnose.

Раздел 11. ANTHRAX (Сибирская язва)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

abrasion, n	[ə'breɪʒən]	<i>царапина</i>
anthrax, n	['ænræks]	<i>сибирская язва</i>
attenuated living vaccine	[ə'tenju'eɪtɪd 'lɪvɪŋ 'væksɪ:n]	<i>живая вакцина из аттенуированных (ослабленных) микробов</i>
biting insects	['baɪtɪŋ 'ɪnsɛkts]	<i>кровососущие насекомые</i>
consume, v	[kən'sju:m]	<i>употреблять в пищу</i>
cutaneous, adj	[kju:'teɪniəs]	<i>кожный</i>
delirium, n	[dɪ'liəriəm]	<i>бред, бредовое состояние</i>
fulminating, adj	['flʌmɛnɪtɪŋ]	<i>скоротечный, молниеносный</i>
incidence, n	['ɪnsɪdəns]	<i>зд. вероятность</i>
infected fields	[ɪn'fektɪd fi:ldz]	<i>инфицированные пастбища</i>
intestinal, adj	[ɪn'testɪnəl]	<i>кишечные</i>
disturbances	dɪ'stɜ:bənsɪz]	<i>расстройства</i>
lie dormant, v	[laɪ 'dɔ:mənt]	<i>бездействовать</i>
lymph node	[lɪmf nɔ:d]	<i>лимфатический узел</i>
malignant, adj	[mə'liɡnənt]	<i>болезнетворный, злокачественный</i>
prevention, n	[prɪ'venʃən]	<i>профилактика</i>
prostration, n	[prɒ'streɪʃən]	<i>угнетение, упадок сил</i>
pustule, n	['pʌstju:l]	<i>язва, карбункул</i>
quicklime, n	['kwɪklaɪm]	<i>негашёная известь</i>
septicaemia, n	[,septə'si:miə]	<i>заражение крови, септицемия</i>
trivial, adj	['trɪviəl]	<i>незначительный</i>

Anthrax is a disease of animals which occasionally spreads to man. Herbivorous are very susceptible, the disease being found frequently in

sheep, cattle, horses and goats. Nearly every country is affected but the incidence is greatest in warm, swampy, low-lying land. Pastures become contaminated by urine, faeces and saliva of dying animals and by highly infectious discharges from carcasses.

The causative organism is a bacillus which forms highly resistant spores that may remain dormant in soil for twenty years or more. Animals grazing in infected fields ingest spores and develop anthrax. In cutaneous anthrax bacilli gain access through trivial abrasions, then multiply locally producing the characteristic malignant pustules. Infection generally spreads to regional lymph nodes.

Anthrax in animals, particularly goats and sheep, may take the form of a fulminating septicaemia with death occurring in a matter of hours. Less acute attacks with fever, delirium and intestinal disturbances may lead to prostration and death within one to five days. Horses and sheep infected by biting insects may develop carbuncles of the skin. Anthrax is a very dangerous disease in animals with a death rate of 70-100 per cent. By the anthrax order of 1938 the medical officer of health must be notified of any case of animal anthrax in his district. The carcass of the animal infected with anthrax should be cremated or, if this is impracticable, buried at least six feet deep and surrounded by layer of quicklime one foot thick. On no account should the body be opened but samples of blood or an ear for diagnosis may be taken by a qualified veterinary surgeon. The surroundings should be thoroughly disinfected. Milk from infected herds should not be consumed.

Prevention is largely a matter of controlling animal outbreaks and carefully supervising the industrial use of animal products (wool, hides, bone meal). Attenuated living vaccines have been used for many years to immunize livestock. Yearly injections of vaccine are desirable to maintain immunity at a high level.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What animals are susceptible to anthrax?
2. Is anthrax more spread in warm or cold countries?
3. What is the causative organism of anthrax?
4. Why are these bacilli resistant?
5. What can you say about anthrax in goats and sheep?
6. Is anthrax a very dangerous disease?
7. What should be done with the carcasses?
8. What does the prevention consist in?

9. How is livestock immunized?

II. Say if the following statements are true or false

(*Определите верно или неверно утверждение*).

1. The spores of anthrax are highly resistant.
2. People are not susceptible to anthrax.
3. Anthrax is a very dangerous disease, the death rate is very high.
4. The symptoms of anthrax are fever, delirium and intestinal disturbances.
5. Anthrax can spread to man only through infected milk of animals.
6. The carcasses of infected animals should be buried five or six feet deep.
7. Immunization is an effective measure preventing the outbreaks of anthrax.

III. Match the word with proper definition

(*Подберите к слову соответствующее определение*).

- | | |
|-------------------|---|
| 1. abrasion, n | a. a large painful lump under someone's skin |
| 2. biting insects | b. land that is always very wet or covered with a layer of water |
| 3. carbuncle, n | c. eating grass on the pasture |
| 4. discharge, n | d. to formally or officially tell someone about something |
| 5. grazing | e. small creatures such as a fly or ant, that has six legs, and sometimes wings |
| 6. lead to, v | f. the disease in an area suddenly starts to happen |
| 7. notify, v | g. a small raised spot on your skin containing pus |
| 8. outbreak, n | h. an area on the surface of your skin that has been injured by being rubbed against something hard |
| 9. pustule, n | i. to be the result of something |
| 10. swampy, adj | j. infected liquid slowly coming out of the wound or body |

IV. Translate the following words and word combinations into Russian.

(*Переведите следующие слова и словосочетания на русский язык*).

susceptible, to affect, warm, to contaminate, urine, saliva, discharges, resistant, soil, to graze, abrasion, to multiply, to spread, acute, fever, skin, at least, wool, bone meal, a causative organism, highly infectious discharges, to remain dormant, highly resistant spores, to gain access, in a matter of hours, a death rate, intestinal disturbances, bone meal, attenuated living vaccines, to maintain immunity, at a high level, to be susceptible to, on no account.

V. Translate the following sentences into English.

(Переведите следующие предложения на английский язык).

1. Some diseases may lower resistance to infection.
2. The lower the resistance, the quicker an animal will become infected.
3. Unfortunately visceral anthrax is unaffected by antibiotic treatment.
4. In man the mortality rate from cutaneous anthrax has been falling steadily and with the introduction of antibiotic therapy has reached a very low level.
5. Active immunity is known to develop as a result of infection but its duration is not known.
6. The anthrax bacillus has been found to be sensitive to benzyl penicillin, tetracycline, streptomycin.
7. Owing to the risk of contaminating land with the spores post-mortem examination of animals suspected of dying from anthrax is forbidden by law.
8. The anthrax bacillus has been found to be sensitive to benzyl penicillin, tetracycline, streptomycin.
9. It should be remembered that man is by no means immune from the disease, and the great amount of vitality shown by the spores of anthrax must be always born in mind.
10. Antibiotics have been widely used in clinical practice for more than 70 years now.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

заболевание животного, случайно передается человеку, умирающие животные, заразные выделения, возбудитель, устойчивые споры, зараженные поля, кожная сибирская язва, получить доступ, болезнетворные язвы, лимфатические узлы, в считанные часы, расстройства кишечника, кровососущие насекомые, опасное заболевание, медицинский работник, глубиной 6 футов, слой негашеной извести, образцы крови, квалифицированный ветврач, вспышки заболевания животных, промышленное использование.

VII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Causative organism;

2. Ways of infection;
3. Symptoms of the disease;
4. Animals infected;
5. Methods of disposal;
6. Prevention methods;
7. Methods of immunization applied.

Раздел 12. RABIES (Бешенство)

Цель раздела – освоить основные лексические единицы, обслуживающие ситуации иноязычного общения в профессиональной сфере деятельности.

Vocabulary

behavior, n	[bi'heivjə]	<i>поведение</i>
bite (bit, bitten), v	[bait (bit, 'bitn)]	<i>кусаться</i>
bite, n	[bait]	<i>укус</i>
disturb, v	[di'stɜ:b]	<i>тревожить</i>
dumb form	[dʌm fɔ:m]	<i>тихая форма</i>
enzootic area	[,enzəʊ'ɒtɪk 'eəriə]	<i>местность, которой свойственна данная заразная болезнь</i>
fresh wound	[fref wu:nd]	<i>свежая рана</i>
furious form	['fjʊəriəs fɔ:m]	<i>буйная форма</i>
last, v	[la:st]	<i>длиться</i>
mark, v	[mɑ:k]	<i>отмечать</i>
onset, n	['ɒnset]	<i>начало</i>
post-exposure	[pəʊst ɪk'spəʊʒə]	<i>зд. после укуса</i>
pre-exposure	[pri: ɪk'spəʊʒə]	<i>зд. до укуса</i>
rabid, adj	['ræbəd]	<i>бешеный</i>
rabies, n	['reɪbi:z]	<i>бешенство</i>
saliva, n	[sə'laɪvə]	<i>слюна</i>
shed (virus), v	[ʃed 'vaɪərəs]	<i>распространять (вирус)</i>
wild, adj	[waɪld]	<i>дикий</i>

Rabies is an acute, specific infectious disease that has been known since ancient times. Of all the diseases that may be transmitted from animals to man rabies is without doubt the most dangerous. While human infections are usually the result of a bite by an infected dog, numerous

forms of wild life are much more susceptible and domestic dogs or cats merely transmit the infection from wild life to man.

In both animals and man the disease attacks the central nervous system and in human beings it always is fatal. Rabies is caused by a filterable virus often present in the saliva and nervous tissue of rabid animals but much less often in the urine, milk and lymph. The virus cannot penetrate the normal skin but enter the body if the infected saliva gets into a fresh wound. The virus travels by sensory nerve to the central nervous system where it multiplies rapidly and moves to the other parts of the body.

Since the dog is the most important source of rabies for man it is important to be familiar with the early signs of the disease in this animal. The incubation period is usually 2 to 8 weeks but may extend to 8 months. The onset of the disease is marked by a change in the animal's behaviour. This initial stage lasts for 2 or 3 days and is followed by either "furious" or "dumb" rabies. At the onset of the "furious" form of the disease the dog becomes restless and excited, and may run around biting at any creature. After a variable period of 1 to 4 days the dog's movement becomes incoordinated and paralysis sets in. The illness lasts for 3 to 7 days and is fatal. In the "dumb" form of rabies the affected dog lies quietly and bites only when disturbed. With the onset of paralysis the animal may have difficulty in chewing and swallowing, and the owner may contaminate his hands with infected saliva. As the illness progresses the animal lapses into coma and dies. About 50 per cent of rabid dogs shed virus in saliva and such animals may be infectious for about 3 days before the onset of illness.

Whenever man is attacked and bitten by an animal it is essential to commence preventative measures as soon as possible. Post-exposure immunization should be started immediately after a bite by a rabid animal and injection of vaccine is given daily for 12 to 14 days. If a quarantined animal remain healthy immunization may be discontinued after 10 days. Pre-exposure immunization should be considered obligatory for those at special risk, such as laboratory workers handling alive virus, veterinarians and others in contact with animals in enzootic areas and those attending human cases.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Has rabies been known since ancient times?
2. What does the disease attack?
3. What is rabies caused by?
4. How does the virus penetrate the organism?

5. What animals are the most important source of rabies?
6. What is the onset of the disease marked by?
7. How long does the disease last?
8. What is necessary to do when man is attacked and bitten by an animal?

II. Say if the following statements are true or false.

(*Определите верно или неверно утверждение*).

1. Rabies is not dangerous for people and animals.
2. There are 'furious' and 'dumb' forms of rabies.
3. All rabid dogs shed virus in saliva.
4. People can become infected with rabies only as a result of a bite by an infected dog.
5. Rabies attacks the central nervous system.
6. Rabies is a viral disease.
7. The time period between contracting the disease and the start of symptoms is usually 1 to 3 weeks.
8. Vaccination programs significantly decrease the risk of rabies infection.

III. Match the word with proper definition

(*Подберите к слову соответствующее определение*).

- | | |
|------------------------|--|
| 1. <i>attack, v</i> | a. without delay, at once |
| 2. <i>chew, v</i> | b. to increase by a large amount or number |
| 3. <i>creature, n</i> | c. not injured |
| 4. <i>extend, v</i> | d. animals and plants growing in natural conditions |
| 5. <i>immediately</i> | e. to bite something continuously in order to taste it or because you are nervous |
| 6. <i>initial, adj</i> | f. that must be done because of a law, rule etc. |
| 7. <i>multiply, v</i> | g. to hurt, effect, influence, have an impact |
| 8. <i>normal, adj</i> | h. to make food or drink go down your throat and towards your stomach |
| 9. <i>obligatory</i> | i. anything that is living, such as an animal, fish, or insect, but not a plant |
| 10. <i>nerve, n</i> | j. to send something from one place or thing to another |
| 11. <i>swallow, v</i> | k. to continue for a longer period of time |
| 12. <i>transmit, v</i> | l. parts inside your body which look like threads and carry messages between the brain and other parts of the body |
| 13. <i>wild life</i> | m. happening first or at the beginning of an event or process |

IV. Complete the sentences using the given words

(Дополните предложения, используя данные слова):

symptom, vectors, virus, vaccinated, saliva, immunization, risk, zoonosis.

1. In order to be allowed to travel abroad it is required to make the animal get ___ against rabies at least one month before departure.
2. Both male and female dogs can act as ___ for rabies, so if only females are being selected for sterilisation in a rabies-endemic area, males should at least be vaccinated.
3. Rabies is sometimes referred to as a ___, or disease of animals that can be communicated to humans.
4. Rabies is almost exclusively transmitted through ___ from the bite of an infected animal.
5. Another name for the disease is hydrophobia, which literally means ‘fear of water’, a ___ shared by half of all people infected with rabies.
6. People whose work frequently brings them in contact with animals are considered to be at higher ___ than the general population.
7. The rabies ___ is usually transmitted via an animal bite, however, cases have also been reported in which the virus penetrated the body through infected saliva, moist tissues such as the eyes or lips, a scratch on the skin, or the transplantation of infected tissues.
8. ___ is almost always effective if started within two days of the bite.

V. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a) specific, an infection, to transmit, to result from, to attack, central, the nervous system, fatal, a virus, lymph, normal, the nerve, to multiply, a part, familiar, an animal, to mark, initial, furious, incoordinated, the paralysis, to affect, to progress, coma, an injection, to quarantine, immunization, special, a contact, an area, human, obligatory.

b) since ancient times; without doubt; much more susceptible; much less often; to enter, to penetrate; fresh - old; rapidly - slowly; restless, excited; disease - illness; to lapse into coma; preventative measures; as soon as possible; to continue - to discontinue; a quarantined animal.

VI. Compose English sentences using the following words.

(Составьте предложения на английском языке, используя следующие слова).

alive, tissue, urine, to penetrate, skin, wound, to travel, to multiply, to chew, to swallow, to contaminate, difficulty, the owner.

VII. Translate the following sentences into Russian.

(Переведите следующие предложения на русский язык).

1. In both animals and men the disease attacks the central nervous system.
2. Since the dog is the most important source of rabies for man it is important to be familiar with the early signs of the disease.
3. The onset of the disease is marked by a change in the animal's behaviour.
4. In the "dumb" form of rabies the affected dog lies quietly and bites only when disturbed.
5. As the illness progresses the animal lapses into coma and dies.
6. Whenever man is attacked and bitten by an animal it is essential to commence preventative measures as soon as possible.
7. If a quarantined animal remain healthy immunization may be discontinued after 10 days.
8. Viruses are incapable of reproduction outside living cells, in dead matter.
9. All this relates to viral infection since it is based on the interaction between the virus and susceptible cells.

Задания для самостоятельной работы

VIII. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

инфекционное заболевание, зараженная собака, многочисленные формы, дикая природа, домашние собаки/кошки, от диких животных человеку, нервные ткани, бешеные животные, неповрежденная кожа, проникнуть в организм, свежая рана, части организма, источник бешенства, первичная стадия, пораженное животное, испытывать затруднения, зараженная слюна, профилактические мероприятия, сразу после укуса, инъекция вакцины, особый риск.

IX. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Causative organism;
2. Ways of infection;
3. Organs involved;
4. Forms of the disease;
5. Symptoms of the disease;
6. Animals infected;
7. Methods of immunization applied.

X. What new information about rabies will you get from this text?

Living attenuated-virus vaccine has been developed and used extensively to immunize animals. The vaccine may be given intramuscularly in a dose of 1 ml. or intradermally in a dose of 0.1 ml. The bulk of the serum should be injected intramuscularly. The brain of fatal human cases is found to be edematous. Rabies in animals should be reported to some central authority immediately. Quarantine measures for dogs can control and even eradicate the disease, provided wild animals are not involved in its propagation. Seizure and destruction of all ownerless and wandering dogs is necessary to control rabies.

Any dog that has bitten a person should be quarantined for at least 14 days. For a person known or suspected to have been bitten or, to have been scratched by the claws, vaccine treatment should be started immediately.

Раздел 13. BRUCELLOSIS (Бруцеллез)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

burn, v	[bɜ:n]	<i>сжигать</i>
bury, v	['beri]	<i>хоронить/ зарывать в землю</i>
causative organism	['kɔ:zətɪv 'ɔ:g(ə)nɪz(ə)m]	<i>возбудитель</i>
delirium	[dɪ'liəriəm]	<i>бредовое состояние, бред</i>
discharges from the vagina	[dɪs'tʃɑ:dʒɪz frəm ðə və'dʒaɪnə]	<i>выделения из вагина</i>
expulsion of the fetus	[ɪk'spʌlʃən əv ðə 'fi:təs]	<i>выкидыш, изгнание плода</i>
onset of the disease	['ɒnsɛt əv ðə dɪ'zi:z]	<i>вспышка болезни</i>
precede, v	[pri'si:d]	<i>предшествовать</i>
pregnant uterus/ womb	['pregnənt 'ju:tərəs/ wu:m]	<i>беременная матка</i>
similar, adj	['sɪmələ]	<i>похожий</i>
survive, v	[sə'vaɪv]	<i>выживать</i>
susceptible, adj	[sə'septəbəl]	<i>восприимчивый</i>
systemic disturbances	[sɪ'stemɪk dɪ'stɜ:bənsɪz]	<i>соматические нарушения</i>
vague ill health	[veɪg ɪl helθ]	<i>незначительное недомогание</i>

The disease known variously as Brucellosis of cattle, Bang's disease, contagious abortion is an infectious one. This disease is caused by a very small, short, oval-shaped germ which cannot be seen with the unaided eye. The germs causing Bang's disease may be found in the udder, the pregnant uterus and in the discharges from the vagina of cows a short time after aborting or giving birth to a full-term calf, in the bodies of aborted fetuses, in the milk of infected cows.

Brucellosis occurs in cattle very often but swine, horses and sheep are also susceptible. The symptoms of Brucellosis among farm animals, with the exception of the horse, are quite similar. The localization of the causative organism in the animal body largely determines the symptoms of the disease.

"Brucella abortus" or the Bang germ selects the pregnant womb as the place best adapted for its growth and multiplication. The most striking symptom consists in the expulsion of the fetus at various stages of their development but mainly between the fifth and seventh months of the gestation period. Systemic disturbances in the cow previous to abortion seldom occur.

The abortion bacteria do not live long in pastures when exposed to direct sunlight but in manure they will survive for many days. Cold and freezing do not destroy Brucella. They become inactive but retain vitality and under favourable conditions can resume their activity even in a year. Boiling kills them immediately. The aborted fetuses should be buried in special places or burned. Infected animals are to be isolated and kept in separate herds. The milk from such cows should be pasteurized.

There is an effective vaccine for the protection of cattle against brucellosis. Vaccination reduces abortions. It should be done to calves between the ages of six to eight months.

People are known to be susceptible to brucellosis. Human disease is due to drinking cow's milk infected with Bang's organisms, to direct contacts with infected animals or their excreta. The period of vague ill health often precedes the onset of the clinical disease. Human brucellosis may be a very severe or even fatal illness with sudden onset, high fever, delirium, haemorrhages, etc.

I. Answers the questions to the text

(Ответьте на вопросы к тексту).

1. What are the other names of brucellosis?
2. What is this disease caused by?
3. Where may the germs be found?

4. What animals are susceptible to brucellosis?
5. What is the most striking symptom of brucellosis in cattle?
6. Can the germs be found in manure?
7. What should be done with infected animals?
8. Is vaccination against brucellosis effective?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Brucellosis is caused by the germ known as 'Brucella abortus'.
2. Brucellosis is a highly contagious disease affecting only cattle.
3. Brucellosis can be caused by drinking unpasteurized milk or undercooked meat from infected animals, or close contact with their secretions.
4. The most striking symptom of brucellosis is vomiting.
5. Vaccination against brucellosis is an effective preventative measure.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|----------------------------|---|
| 1. <i>excreta, n</i> | a. the part of a cow, female goat etc. that hangs down between its back legs and that produces milk |
| 2. <i>expulsion, n</i> | b. the process by which young animal develops inside its mother's body before birth |
| 3. <i>favourable, adj</i> | c. having an unborn baby growing inside her body |
| 4. <i>gestation, n</i> | d. the act of forcing someone to leave a womb, to go out of the womb |
| 5. <i>herd, n</i> | e. easily influenced or attracted by a disease |
| 6. <i>pregnant, adj</i> | f. the solid or liquid waste material that animals produce and get rid of from their bodies |
| 7. <i>similar, adj</i> | g. the part of a female animal's body where her baby grows before it is born |
| 8. <i>susceptible, adj</i> | h. good, suitable |
| 9. <i>udder, n</i> | i. a group of animals of one kind that live and feed together |
| 10. <i>womb, n</i> | j. almost the same |

IV. Complete the sentences using the given words

(Дополните предложения, используя данные слова):

pasteurization, vaccination, transmission, killed, abort, tattoo, infected, against.

1. Many countries are now essentially free of animal brucellosis, owing to control and eradication programmes based on test-and-slaughter programmes and/or ___ of cattle, sheep and goats.
2. Montana livestock officials restrict when and where Yellowstone bison can migrate to prevent them from spreading brucellosis, the disease which causes pregnant animals to ___ their young, to cattle.
3. According to a study published in 2002, an estimated 10–13% of farm animals in Argentina are ___ with *Brucella* species.
4. Since 2005, due to a strict regimen of certification of milk animals and widespread use of ___, brucellosis has been eradicated from Malta.
5. Cows confirmed to be infected with brucellosis are often ___ .
6. In the United States, veterinarians are required to vaccinate all young stock, thereby further reducing the chance of zoonotic ___ .
7. Vaccination ___ brucellosis is usually referred to as a "calhood" vaccination.
8. Most cattle receive a ___ in one of their ears, serving as proof of their vaccination status.

V. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a) to know - knew - known, to cause, to find - found, a body, to select, to adapt, to grow - grew - grown, to attack, chlorine lime, pasture, sunlight, manure, to destroy, solution, to burn, a herd, multiplication, protection.

b) various, different, similar; small, little; large, enormous; to grow, the growth; local, localization; infectious, contagious, uterus, womb.

c) to see with the unaided eye, to give birth, to expose to direct sunlight, the protection of cattle against, an oval-shaped germ, a common pathogenic organism, a sudden onset, the gestation period, a full term calf.

VI. Translate the following sentences into Russian.

(Переведите следующие предложения на русский язык).

1. It should be pointed out that *Brucella* is more easily killed by hydrochloric acid than any of the other common pathogenic organisms.
2. No effective remedy to treat this disease was known until lately.
3. Recent work has suggested that infection from udder to udder may be more common than it has previously been suspected.
4. Since 1956 an effective vaccine for the protection of cattle has been available and has been widely used in England. It has resulted in the reduction of the abortion rate to 2 per cent.
5. Cases of the human disease due to infected cow's milk were reported from Denmark.

6. In 1895 Bang and Stribolt in Denmark showed that a very small Gram-negative bacillus, isolated from the thick yellow exudate between the wall of a cow's uterus and foetal membranes, was the cause of contagious abortion of cattle.

Задания для самостоятельной работы

VII. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

болезнь Банга, невооруженным глазом, беременная матка, выделения из влагалища, после абортирования, инфицированные коровы, за исключением лошадей, локализация возбудителя, организм животного, симптомы заболевания, для роста, на разных стадиях развития, период стельности, систематические расстройства, прямой солнечный свет, в течение многих дней, сохраняют жизнеспособность, при благоприятных условиях, абортированные плоды, в отдельных стадах, защита КРС, период незначительного недомогания, внезапная вспышка.

VIII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Causative organism;
2. Organs involved;
3. Symptoms of the disease;
4. Animals infected;
5. Ways of infection;
6. Methods of disposal;
7. Prevention methods;
8. Methods of immunization applied.

Раздел 14. TETANUS

(Столбняк)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться сообщать информацию в форме подготовленного монологического высказывания.

Vocabulary

abrasion, n	[ə'breɪʒən]	<i>ссадина</i>
blood stream	[blʌd stri:m]	<i>кровяное русло</i>
cleanse the wound	[klenz də wu:nd]	<i>продезинфицировать рану</i>

docking, n	[ˈdɒkɪŋ]	<i>срезание хвоста</i>
elaboration, n	[ɪˌlæbəˈreɪʃ(ə)n]	<i>выработка</i>
give off, v	[ɡɪv ɒf]	<i>выделять</i>
an implanted germ	[ən ɪmˈplɑːntɪd dʒɜːm]	<i>внедрившийся микроб</i>
lockjaw, n	[ˈlɒkdʒɔː]	<i>спазм мышц челюсти, столбняк</i>
manure, n	[məˈnjuə]	<i>навоз</i>
onset, n	[ˈɒnset]	<i>начало, появление болезни</i>
routine measure	[ruːˈtiːn ˈmeʒə]	<i>обычная мера</i>
stiffness, n	[ˈstɪfnəs]	<i>окоченелость</i>
tetanus antitoxin, n	[ˈtetənəs ˌæntiˈtɒksɪn]	<i>противостолбнячная антитоксическая сыворотка</i>
tetanus toxoid	[ˈtetənəs ˈtɒksɔɪd]	<i>анатоксин</i>
tetanus, n	[ˈtetənəs]	<i>столбняк</i>

The disease is due to the bacillus of tetanus which lives in soil, manure, the intestines, and similar places. Its distribution is world-wide though most prevalent in the warmer climates. This germ must gain entrance to the animal's body through a wound or an abrasion. The wound may be so small that it heals outwardly, imprisoning the implanted germ. The latter does not leave the region of the wound to get into the blood stream as other germs, but remains localized though giving off a very powerful poison or toxin which is said to be one hundred times as powerful as strychnine.

The recognizable symptoms are shown as soon as the toxin establishes a contact with the spinal cord. The passage of the toxin from its place of elaboration in the wound to the spinal cord sometimes requires quite a long period, and it is an explanation for the delayed development of clinical symptoms; the wound heals frequently before the symptoms appear. In sheep castration and docking invite the infection.

Tetanus may affect horses, cattle, swine, sheep, goats and others. Its usual onset is in from a few days to several weeks after the infection takes place. The first noticeable symptom is stiffness which in twenty-four hours becomes pronounced. In the so-called "lockjaw" the muscles of the jaw become set, the ears are stiffly upright, the tail is in a rigidly extended position.

If the symptoms develop rapidly the termination of the disease is almost always a fatal one. If the symptoms develop more slowly or if the

stiffness still permits the animal to eat and drink recovery is more frequent, somewhat more than fifty per cent.

Prevention of the disease consists in thorough cleansing of wounds as soon as they occur. After all parts of a wound have been freely exposed strong tincture of iodine is to be applied daily until the wound is healing. An injection of tetanus antitoxin will protect an animal for at least ten days. Tetanus toxoid will protect an animal for at least a year, and this method of immunization is resorted to as a routine measure in those regions where tetanus is of frequent occurrence.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Is lockjaw an infectious disease?
2. Where do bacilli of tetanus live?
3. Where is tetanus most prevalent - in the colder or warmer climates?
4. How does the germ gain entrance to the animal's body?
5. Does the poison get into the blood stream?
6. How does it act?
7. When are the recognizable symptoms of the disease shown?
8. What is an explanation for the delayed development of clinical symptoms?
9. What animals may tetanus affect?
10. What are the symptoms of tetanus?
11. What is the termination of the disease?
12. What does the prevention of tetanus consist in?
13. What will protect an animal against tetanus?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Tetanus is a disease characterized by muscle spasms.
2. The spasms are sometimes so strong that an affected animal cannot eat and drink.
3. The tetanus germ easily gets into the body through a wound or an abrasion.
4. Tetanus is also known as lockjaw.
5. Tetanus is more common in colder climates.
6. The tetanus germ is commonly found in soil, saliva, dust and manure.
7. Tetanus affects only animals, it is not dangerous for people.
8. The toxin produced by the tetanus bacterium is extremely powerful.
9. Unfortunately, a vaccine preventing tetanus hasn't been invented yet.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|---------------------------|---|
| 1. <i>cleansing, n</i> | a. a very small living thing that can make you ill → bacteria |
| 2. <i>frequently</i> | b. the thick string of nerves enclosed in your spine, by which messages are sent to and from your brain |
| 3. <i>germ, n</i> | c. to keep something somewhere, in a room or space and prevent them from leaving |
| 4. <i>heal, v</i> | d. the process of returning to a normal condition after a period of illness, injury etc. |
| 5. <i>imprison, v</i> | e. the top layer of the earth in which plants grow |
| 6. <i>intestines, n</i> | f. to make something completely clean |
| 7. <i>recovery, n</i> | g. the act of ending something, or the end of something |
| 8. <i>soil, n</i> | h. the wound, broken bone, flesh, skin grows back together and becomes healthy again |
| 9. <i>spinal cord</i> | i. happen very often or many times |
| 10. <i>termination, n</i> | j. a medical substance mixed with alcohol |
| 11. <i>tincture, n</i> | k. the long tube in your body through which food passes after it leaves your stomach |

IV. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

to be due to, to gain entrance, to imprison the implanted germ, blood stream, a very powerful poison, the recognizable symptoms, the development of clinical symptoms, to recover, recovery, at least, a jaw, an ear, a tail, to eat, to drink, as soon as.

V. Translate the following sentences into Russian.

(Переведите следующие предложения на русский язык).

1. This toxin is said to be one hundred times as powerful as strychnine.
2. Stiffness has become pronounced in twenty-four hours.
3. Strong tincture of iodine is to be applied daily until the wound is healing.
4. In some countries tetanus is of frequent occurrence.
5. Tetanus toxoid will protect an animal for at least a year.
6. If the illness develops rapidly the termination of it is almost always a fatal one.
7. Cleanse the wounds as soon as they occur.
8. After all parts of a wound have been freely exposed, it should be

cleansed.

9. It is very advisable, where wounds are long in healing, to give a second injection of anti-tetanic serum about a fortnight later, since the effects of a single dose usually wear off in from 10 days to 3 weeks.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

быть обусловленным, страны с теплым климатом, получить доступ, через рану, заживает снаружи, внедрившийся микроб, кровяное русло, мощный яд, спинной мозг, довольно длительный период, развитие клинических симптомов, до появления симптомов, явный/видимый симптом, вытянутое положение (хвоста), последствия заболевания, профилактика заболевания, тщательное промывание раны, крепкий раствор, по крайней мере, метод иммунизации, обычная мера.

VII. Translate the following sentences into English.

(Переведите следующие предложения на английский язык).

- 1. Столбняк - типичная инфекционная болезнь.*
- 2. Бациллы столбняка живут в почве, навозе и кишечном тракте.*
- 3. Они проникают в организм животного через раны и ссадины.*
- 4. Бациллы остаются в ране, выделяя очень сильный яд.*
- 5. Когда яд достигает спинного мозга, мы можем видеть первые симптомы болезни.*
- 6. Окоченелость поражает некоторые группы мышц: челюсть, уши, хвост, глаза.*
- 7. Если симптомы развиваются быстро, то смерть неизбежна.*
- 8. Предупреждение болезни состоит в тщательной обработке раны крепким раствором йода.*
- 9. Инъекция противостолбнячной сыворотки необходима.*
- 10. Для иммунизации вводят анатоксин.*

VIII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

- 1. Causative organism;**
- 2. Ways of infection;**
- 3. Organs infected;**
- 4. Symptoms of the disease;**

5. Animals infected;
6. Prevention methods;
7. Methods of immunization applied.

Раздел 155. FOOT-AND-MOUTH DISEASE (Ящур)

Цель раздела – научиться использовать разнообразные языковые средства с целью выделения релевантной информации.

Vocabulary

be prone to, v	[bi prəʊn tə]	<i>быть склонным</i>
blister, n	['blɪstə]	<i>пузырь</i>
claw, n	[klɔ:]	<i>копынце</i>
cloven-hoofed animal	['kləʊvən hu:ft 'æɪnəmə]	<i>парнокопытное животное</i>
confer (an immunity), v	[kən 'fɜ: ən ɪ 'mjʊ:nəti]	<i>создавать (иммунитет)</i>
contaminate, v	[kən 'tæməneɪt]	<i>заражаться</i>
contaminated litter	[kən 'tæməneɪtɪd 'lɪtə]	<i>зараженная подстилка</i>
contract, v	[kən 'trækt]	<i>заболевать</i>
fever, n	['fi:və]	<i>повышенная температура</i>
foot-and-mouth disease	[,fʊt (ə)n(d) 'maʊθ dɪ'zi:z]	<i>ящур</i>
garbage, n	['gɑ:bɪdʒ]	<i>мусор, отбросы</i>
lameness, n	['leɪmnəs]	<i>хромота</i>
mandatory slaughter	['mændətəri 'slɔ:tə]	<i>вынужденный убой</i>
mild, adj	[maɪld]	<i>легкий</i>
muzzle, n	['mʌzəl]	<i>носовое зеркальце</i>
recumbency, n	[rɪ'kʌmbən(t)sɪ]	<i>лежащее положение</i>
rupture, v	['rʌptʃə]	<i>прорываться, лопаться</i>
saliva, n	[sə'laɪvə]	<i>слюна</i>
sanitary disposal	['sænətəri dɪ'spəʊzəl]	<i>обезвреживание</i>
slobbering, n	['slɒbərɪŋ]	<i>слюноотечение</i>
snout, n	[snaʊt]	<i>морда, рыло</i>
spread (spread, spread), v	[spred]	<i>распространяться</i>

vomiting, n	['vɒmɪtɪŋ]	<i>рвота</i>
wheels of vehicles	[wi:lz əv 'vi:kəlz]	<i>колеса машин</i>

Foot-and-mouth disease is a highly contagious disease of cloven-hoofed animals such as cattle, swine, sheep, goats, deer and others. Horses do not contract the disease.

The disease is caused by a filterable virus. This virus is in the blood, milk and saliva during the fever stage of the disease, and in the blisters that occur during the disease. The virus may be spread by contaminated litter, by wheels of vehicles, by the feet of animals and man, by garbage and in other direct and indirect ways.

The disease is much more severe in some outbreaks than in others; in sheep and swine it is usually mild. An attack of the disease confers an immunity which rapidly disappears after three months.

The symptoms of the disease consist largely of blisters, containing a straw-coloured fluid, appearing in the mouth, on the muzzle, udder and teats, and between the claws of the feet. Most of the blisters are small, though on the upper surface of the tongue they may be from one to two inches in diameter. The blisters soon rupture leaving a raw, reddened, painful area. Because of these, eating becomes difficult, and there is also much slobbering. Because of the blisters on the feet lameness is a prominent symptom and affected animals are prone to assume recumbency. A slight fever is usually present at the beginning. The milk flow is reduced and the loss of condition is quite marked.

In swine the blisters are frequently found only between the claws and on the under surface of the foot; rarely are they on the snout. In man the disease may occur as the result of direct contact with animals having foot-and-mouth disease, or by the consumption of meat or milk derived from them. In man there is a sensation of dryness in the mouth followed by the formation of small blisters. Occasionally the blisters also occur on the tips of the fingers especially at the base of the nails. Mild fever and vomiting are the general symptoms in man.

The losses from foot-and-mouth disease are heavy in those countries where the disease is permanently established. The loss is due to decreased milk and meat production as repeated attacks leave the animals in thin condition. The death rate in an acute outbreak is not large, being not more than three per cent. Control consists in the mandatory slaughter of all affected animals, and the sanitary disposal of the carcasses.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What animals are susceptible to foot-and-mouth disease?
2. What cloven-hoofed animals do you know?
3. What is this disease caused by?
4. Where can this virus be found?
5. Does this disease confer an immunity?
6. What are the symptoms of the disease?
7. What is the result of blisters?
8. May this disease occur in man?
9. Are the losses from foot-and-mouth disease heavy?
10. What does the control of this disease consist in?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Foot-and-mouth disease is also called hoof-and-mouth disease.
2. Foot-and-mouth disease is more severe in sheep and swine than in other cloven-hoofed animals.
3. The main symptom of foot-and-mouth disease is blisters inside the mouth and on the feet.
4. The blisters contain white fluid.
5. Foot-and-mouth disease spreads comparatively easily through contact with contaminated farming equipment, vehicles, clothing and feed.
6. The disease can be prevented only by culling the infected animals.
7. Animals susceptible to foot-and-mouth disease are cattle, sheep, deer, bison and horses.
8. Cows affected with foot-and-mouth disease give much less milk than healthy ones.
9. The causative organism of foot-and-mouth disease is a germ.
10. An attack of FMD doesn't confer an immunity.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|-----------------------|--|
| 1. claw, n | a. when saliva (=the liquid produced by your mouth) comes out of your mouth and runs down |
| 2. confer, v | b. when you get rid of something |
| 3. contract, v | c. a substance such as straw that a farm animal sleeps on |
| 4. disposal, v | d. the end of something, especially something pointed (fingers, pencils) |

5. <i>fever, n</i>	e. a sharp curved nail on an animal, bird, or some insects
6. <i>litter, n</i>	f. the long nose of some kinds of animals, such as pigs
7. <i>mild, adj</i>	g. to get an illness
8. <i>slobbering, n</i>	h. susceptible, be influenced, be given smth
9. <i>snout, n</i>	i. an illness or a medical condition in which you have a very high temperature
10. <i>tip, n</i>	j. illness or health problem not serious

IV. Complete the sentences using the given words

(Дополните предложения, используя данные слова):

mutates, recover, slaughter, disease, outbreaks, blisters, carriers, immunity, infections.

1. After World War II, foot-and-mouth ____ was widely distributed throughout the world.
2. Though most animals eventually ____ from foot-and-mouth disease, the disease can lead to myocarditis (inflammation of the heart muscle) and death, especially in newborn animals.
3. Some infected ruminants remain asymptomatic ____, but they nonetheless carry foot-and-mouth disease virus and may be able to transmit it to others.
4. Like other viruses, the foot-and-mouth disease virus continually evolves and ____ .
5. Vaccination against foot-and-mouth disease only provides temporary ____ that lasts from months to years.
6. Many early vaccines used dead samples of foot-and-mouth disease virus to inoculate animals, but those early vaccines sometimes caused real ____ .
7. Epidemics of foot-and-mouth disease have resulted in the ____ of millions of animals.
8. The ____ are painful in themselves, and restrict both eating and movement.
9. Through ruptured blisters, the animal is at risk from secondary bacterial ____ and, in some cases, permanent disability.

V. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a) to contract, blood, saliva, to eliminate, urine, an outbreak, to disappear, rapidly, to consist in, to contain, a mouth, an udder, a muzzle, a teat, a tongue, because of, difficult, to reduce, due to, death, slaughter, to

cause, acute, severe.

b) a highly contagious disease, cloven-hoofed animals, a filterable virus, the fever stage of the disease, contaminated litter, an attack of the disease, straw-coloured fluid, the upper surface of the tongue, a painful area, affected animals, slight fever, consumption of meat, dryness in the mouth, an acute outbreak, the milk flow, the loss of condition, thin condition.

VI. Translate into Russian paying attention to the functions of the Participle.

(Переведите следующие предложения на русский язык, обращая внимание на функции причастия).

1. While eating poisonous plants cows may easily get ill.
2. Age is the most important factor when prescribing doses of medicine for animals.
3. When fed in abundance, vitamin A is stored in the liver of swine.
4. These disinfectants when properly selected and applied possess the power of destroying bacterial life.
5. Vitamin D being needed for growth, the young animals should be given it.
6. Food poisoning develops very quickly after eating the toxin, the time depending upon the amount of toxin and the sensitivity of the person.
7. The ascorbic acid secretion in cow's milk varies with the season, the highest being found in the late summer or early fall.

Задания для самостоятельной работы

VII. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

парнокопытное животное, фильтрующий вирус, стадия лихорадки, во время болезни, зараженная подстилка, непрямой способ, придавать иммунитет, незначительное повышение температуры, потеря веса, нижняя поверхность стопы, потребление молока, образование маленьких пузырей, в основании когтей, основные симптомы, острая вспышка, вынужденный убой, утилизация туш.

VIII. Translate the following sentences into English.

(Переведите следующие предложения на английский язык).

1. Лошади не подвержены заболеванию.

2. У человека болезнь возникает вследствие прямого контакта с зараженными животными.
3. Невысокая температура обычно отмечается в начале болезни.
4. Этот вирус находится в крови, слюне и молоке.
5. Большинство пузырей маленькие, хотя на верхней поверхности языка могут достигать от 1 до 2 дюймов.
6. Животному становится трудно есть, и наблюдается обильное слюноотделение.
7. Контроль за заболеванием заключается в вынужденном убое зараженных животных.
8. У свиней пузыри часто обнаруживают между копытами и реже на морде.

IX. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Animals infected;
2. Causative organism;
3. Ways of infection;
4. Symptoms of the disease;
5. Body parts or organs involved;
6. Methods of disposal.

Раздел 166. INFECTIOUS ENTERITIS IN PIGS

(Инфекционное воспаление кишок у свиней)

Цель раздела - научиться распознавать основные грамматические явления и структуры, используемые в иноязычных текстах.

Vocabulary

ailing pig	['eɪlɪŋ pɪɡ]	<i>больная свинья</i>
be unthrifty, v	[bi ʌn'θrɪftɪ]	<i>зд. отсутствие аппетита</i>
bloody diarrhoea	['blʌdi ˌdaɪə'riə]	<i>кровавый понос</i>
buttermilk, n	['bʌtə ,mɪlk]	<i>пахта</i>
dysentery, n	['dɪsəntəri]	<i>дизентерия</i>
enteritis, n	[,entə 'raɪtɪs]	<i>воспаление кишок</i>
feeder swine	['fi:də swaɪn]	<i>откормочная свинья</i>
fraction, n	['frækʃən]	<i>частица, доля</i>
necrosis, n	[nek'rəʊsɪs]	<i>омертвление</i>
outbreak, n	['aʊtbreɪk]	<i>вспышка</i>

purchase, v	['pɜ:tʃɪs]	<i>покупать</i>
quarantined group	['kwɔrənti:nd [-taɪnd] gru:p]	<i>группа в карантине</i>
set in, v	[set ɪn]	<i>начинаться</i>
specific, adj	[spə 'sɪfɪk]	<i>специфическое средство, лекарство</i>
subside, v	[səb 'saɪd]	<i>падать, снижаться</i>

Infectious enteritis in pigs or swine dysentery is one of the very serious swine diseases occurring very often. Primarily the disease is due to a germ known as the *Salmonella suipestifer*, though its principal symptoms are the effect of the necrosis germ. The two always go hand-in-hand in the production of swine dysentery.

Very frequently an outbreak may be traced to the recent introduction of new members into the herd. It is usually independently present on quite a large number of hog-raising farms. Young pigs up to four or five months of age are the chief sufferers. A lack of nicotinic acid (a vitamin B fraction) is said to be a predisposing cause.

The outstanding symptom of the disease is a bloody diarrhea. When this appears within a week or two after new additions to a herd a diagnosis of swine dysentery may be considered to have been established. The animal's temperature at first high usually subsides as the diarrhea sets in. Sometimes the disease becomes chronic in its character so that ailing pigs do not die though remaining permanently unthrifty. The death rate is highest in young pigs - forty or fifty per cent, less so in feeder swine - ten to twenty per cent, and even less in the mature animals that occasionally become infected - two to five per cent.

The best method of prevention is not to introduce newly purchased swine into a herd until they have first been held in quarantine for three weeks. During this time care must be taken to avoid the transfer of any existing infection from the quarantined group to others.

When the disease has established itself in a herd it is advisable to at once separate the apparently well animals from those visibly ill. The former should be placed in clean quarters that have not been occupied by swine for some time previously, and that receive no drainage or seepage from the lots occupied by the ailing swine. The ration of ailing pigs should be easily digestible. Buttermilk tinged a very light blue color by passing through it a small bag filled with sulphate of copper crystals has been recommended. Nicotinic acid has also been advised as a specific in the early stages of the disease.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Is enteritis a widespread disease?
2. Does it affect only one animal?
3. What is the cause of swine dysentery?
4. What animals are the chief sufferers?
5. What is the main symptom of this disease?
6. Do ailing animals lack nicotinic acid in their feeding?
7. Does the temperature subside as the diarrhea sets in?
8. Is the death rate highest in young pigs?
9. What is the best method preventing infectious enteritis in pigs?
10. Should caretakers separate affected animals in the herd?
11. Should the ration of pigs be easily digestible? What does it consist of?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. Infectious enteritis in pigs is also called pig dysentery.
2. Infectious enteritis in pigs is a widely spread disease.
3. The beginning of the disease is usually characterized by high temperature.
4. About a quarter of affected young pigs die.
5. The outbreaks of swine dysentery are as a rule connected with the introduction of new pigs into the herd.
6. Ascorbic acid is advised as a specific in the early stages of the disease.
7. Infectious enteritis is prevented by holding newly purchased swine in quarantine for three weeks.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|-----------------------|--|
| 1. <i>ailing, adj</i> | a. an area of land, space, room used for keeping, handling animals |
| 2. <i>apparently</i> | b. fully grown and developed |
| 3. <i>feeder, n</i> | c. to make something start happening |
| 4. <i>lot, n</i> | d. ill and not likely to get better |
| 5. <i>mature, adj</i> | e. a room, space for animals to live, sleep |
| 6. <i>purchase, v</i> | f. someone who suffers, especially from a particular illness |
| 7. <i>quarter, n</i> | g. it is supposed that something is true, although you are not completely sure about it |
| 8. <i>set, v</i> | h. to begin, to start or come from |

- | | |
|---|---|
| <p>9. <i>subside</i>, <i>v</i></p> <p>10. <i>sufferer</i>, <i>n</i></p> <p>11. <i>trace</i>, <i>v</i></p> | <p>i. to buy something</p> <p>j. animal that eats in a particular way</p> <p>k. to become less and then stops</p> |
|---|---|

IV. Find the synonyms to the following words and word combinations.

(Подберите синонимы к следующим словам и словосочетаниям).

to increase, infectious, to protect, ailing, many, to rise, illness, to decrease, due to, contagious, because of, ill, a lot of, to subside, to guard, a disease, case.

V. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a widespread disease, a very serious infectious swine disease, a necrosis germ, chief sufferers, the death rate, mature animals, a newly purchased swine, to die, death, the death rate, frequently, permanently, bloody diarrhea.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

заболевание свиней, вызвана микробом, недавнее введение нового животного, свиноводческие фермы, диагностика дизентерии свиней, температура животного, больная свинья, уровень смертности/надежда, свинья на откорме, взрослое животное, лучший метод профилактики, вновь приобретенная/купленная свинья, на карантине, избежать передачу/перенос инфекции, чистые клетки, рацион больной свиньи, специфическое средство, начальная стадия заболевания.

VII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Causative organism;
2. Ways of infection;
3. Animals infected;
4. Symptoms of the disease;
5. Organs involved;
5. Prevention methods.

Раздел 17. KETOSIS (Кетоз)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

amount n	[ə'maunt]	<i>количество</i>
be of value in, v	[bi əv 'væljʊ in]	<i>помогать в чем-либо</i>
calving, n	[kɑ:vɪŋ]	<i>отёл</i>
corn sugar	[kɔ:n 'ʃʊgə]	<i>декстроза из кукурузы</i>
cut (cut, cut), v	[kʌt]	<i>уменьшать</i>
hair-coat, n	[heə kəʊt]	<i>волосяной покров</i>
loss, n	[lɒs]	<i>потеря</i>
management, n	['mænɪdʒmənt]	<i>уход</i>
milk fever	[mɪlk 'fi:və]	<i>послеродовой парез</i>
molasses, n	[mə'læsɪz]	<i>меласса, черная патока</i>
occur, v	[ə'kɜ:]	<i>встречаться</i>
off-flavour, n	[ɒf 'fleɪvə]	<i>привкус</i>
relative to	['relatɪvətə]	<i>относительно</i>
roughages, n	['rʌfɪdʒɪz]	<i>грубые корма</i>
roughness, n	['rʌfnəs]	<i>шершавость</i>
severe case	[sə'veɪə keɪs]	<i>серьезный случай</i>
stiffness, n	['stɪfnəs]	<i>зд. тугоподвижность, одеревенелость</i>
weight, n	[weɪt]	<i>вес</i>
well-being, n	['wel ,bi:ɪŋ]	<i>самочувствие</i>

One of the important problems facing our dairymen is that of ketosis. The disease occurs most frequently in the late winter or early spring months. However, it may also be found in cows on pasture during the summer and early fall months. A large percentage of the cases occur shortly after calving and for this reason it is often confused with milk fever. It has been found that the milk produced by cows with various stages of ketosis may have a typical “cowy”, “barny” or “feed” flavour depending upon the amount of ketone bodies which have passed from the blood into the milk.

It is important that a dairyman keep every cow in his herd under close

observation relative to appetite and general well-being. The more commonly observed symptoms of ketosis are a loss of appetite, roughness of hair coat, decrease in milk production, production of off-flavoured milk, general stiffness and in-coordination, loss in weight and in the later stages, coma.

The most successful treatment used today appears to be the injection of dextrose into the venous blood (jugular vein) combined with the feeding of sugar in the form of molasses or com sugar. In the more severe cases intravenous injections of glucose may be required. Recent works indicate that “cortisone” may be of value in the treatment of ketosis and the problem involves some of the more fundamental aspects of nutritional requirements of the cow in relation to milk production.

It should be pointed out it is not desirable to severely cut the amount of concentrates fed to cows following calving. There is a great demand for sugars in addition to that for fat, protein, minerals and vitamins placed upon the cow’s body for milk production following calving. If the demand for sugar is not met by increased feeding, the cow will have to use fat for energy and ketosis may result. The rate of feeding a good quality grass legume hay should be rapidly increased following calving. While there is still a great deal to be learnt about ketosis and present knowledge is limited, it appears that one of the best preventive measures to be taken at this time is more adequate feeding of our cows in order to meet their needs for maintenance and for milk production.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Does ketosis affect pigs? ,
2. Why is ketosis often confused with fever?
3. What can you say about the milk received from the cows with various stages of ketosis?
4. What are the more commonly observed symptoms of ketosis?
5. What is the most successful treatment used today?
6. Is there a great demand for sugars placed upon the cow’s body for milk production following calving?
7. What is the result if the demand for sugar is not met?
8. What is important in the prevention of ketosis?

II. Say if the following statements are true or false.

(Определите верно или неверно утверждение).

1. It is easy to confuse ketosis with milk fever.

2. Milk produced by cows with various stages of ketosis have an unpleasant flavour.
3. Ketosis is due to inappropriate feeding of cows after calving.
4. Ketosis is normally treated by intravenous injections of glucose.
5. Large amounts of carbohydrates in the diet can cause ketosis.
6. Proper sanitation is one of the most effective measures preventing ketosis in cows.
7. Cows having ketosis lose appetite and produce less milk.

III. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|--------------------------|---|
| 1. <i>calving, n</i> | a. when something is continued in the same way or at the same level as before |
| 2. <i>feed, v</i> | b. the particular taste of a food or drink |
| 3. <i>flavor, n</i> | c. a feeling of being comfortable, healthy, and happy |
| 4. <i>ketone, n</i> | d. to deal with a problem or something difficult that you have to do |
| 5. <i>maintenance, n</i> | e. to give birth to a calf |
| 6. <i>meet, v</i> | f. having an uneven surface |
| 7. <i>occur, v</i> | g. the importance or usefulness of something |
| 8. <i>roughness, n</i> | h. to supply, give, provide something, especially a liquid, gas, or electricity |
| 9. <i>value, n</i> | i. to happen |
| 10. <i>well-being, n</i> | j. an organic compound with the structure $RC(=O)R'$, where R and R' can be a variety of carbon-containing substituents. |

IV. Translate the following words and word combinations into Russian.

(Переведите следующие словосочетания на русский язык).

a) disease, winter, spring, fall, summer, pasture, reason, to confuse, to find - found - found, to produce, flavour, ketone bodies, blood, primarily, due to, to feed - fed - fed, a herd, weight, to affect, spontaneously, to examine, successful, to combine, intravenous, to limit, calving, to prevent, fundamental aspect, to indicate, roughage, sugar, in order to.

b) short, shortly; disease, illness; often, frequently; autumn, fall; various, different; important, importance; to feed, feeding; to observe, observation; to treat, treatment; to add, addition; late, early; often, seldom; to increase, to decrease; coordination, in-coordination; off-flavoured milk, general well-being, decreased, loss in weight, to prevent, prevention; preventative measures.

V. Translate the following sentences. Point out the sentences containing the additional information to the theme.

(Переведите следующие предложения. Выделите предложения, содержащие дополнительную информацию по теме).

1. It is not desirable to severely cut the amount of concentrates and roughages fed to cows following calving.
2. If the demand for sugar is not met by increased feeding, the cow will have to use fat for energy and ketosis may result.
3. The rate of feeding of a good quality grass legume hay should be rapidly increased following calving.
4. If the cows are known to be suffering from ketosis, it is well to keep the milk from these cows out of the milk shipped from the farm. This milk should be fed to calves.
5. The most successful treatment used today appears to be the injection of dextrose.
6. The 10% solution of calcium chloride is used for treatment of ketosis as well.
7. Cortisone may be of value in the treatment of ketosis.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

важная проблема, в конце зимы, в начале весны, сразу после отела, послеродовой парез, типичный кормовой привкус, кетоновые тела, из крови в молоко, животновод, общее состояние здоровья, наблюдаемые/видимые симптомы кетоза, снижение молочной продуктивности, молоко с привкусом, поздние стадии, наиболее успешное лечение, внутривенные инъекции, инъекции глюкозы, иметь значение, потребности в питательных веществах, количество концентратов, значительно снизить, большие потребности в сахарах, увеличенный объем пищи, трава хорошего качества, отвечать потребностям.

VII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

1. Animals infected;
2. Ways of infection;
3. Symptoms of the disease;
4. Treatment applied;
5. Prevention methods.

Раздел 18. TRAUMATIC PERICARDITIS (Травматический перикардит)

Цель раздела – освоить основные лексические единицы, обслуживающие ситуации иноязычного общения в профессиональной сфере деятельности.

Vocabulary

abdominal wall	[æb'dɒmɪnəl wɔ:l]	<i>стенка живота</i>
avoid, v	[ə'vɔɪd]	<i>избегать, предотвращать</i>
chest wall	[tʃest wɔ:l]	<i>стенка грудной клетки</i>
compartment, n	[kəm'pɑ:tmənt]	<i>перегородка</i>
digestive disturbances	[daɪ'dʒestɪv, [də] dɪ'stɜ:bənsɪz]	<i>кишечные расстройства</i>
digestive tract	[daɪ'dʒestɪv, trækt]	<i>пищеварительный тракт</i>
foreign bodies	['fɔrɪn 'bɒdi]	<i>инородные тела</i>
hazardous, adj	['hæzədəs]	<i>опасный</i>
involvement, n	[ɪn'vɒlvmənt]	<i>поражение</i>
lodge, v	[lɒdʒ]	<i>находиться</i>
menace, n	['menɪs],[-əs]	<i>угроза, опасность</i>
penetrate, v	['penətreɪt]	<i>проникать, проходить сквозь</i>
reticulum, n	[rɪ'tɪkjʊləm]	<i>сетка, преджелудок</i>
ruminant, n	['ru:mɪnənt]	<i>жвачное животное</i>
screen the fine food	[skri:n ðə faɪn fu:d]	<i>просеивать мелкий корм</i>
true stomach	[tru:'stʌmək]	<i>собственно желудок</i>

This disease is observed most frequently in cattle and other ruminants, quite often in swine and less so in other animals. It is essentially an accumulation in the digestive tract of foreign bodies such as nails, bolts, pieces of wire and other hard substances.

In ruminants these foreign bodies are almost always present to some extent in the reticulum, and in swine, if present, in the true stomach. Many of these foreign bodies, as a result of partial solution or corrosion, become needle-sharp so that they penetrate the wall of the digestive tract in which they are lodged, to travel in various directions leaving a train of infections in their wake. Abscess formations (pus pockets) are not uncommon in different parts of the body including the abdominal and chest walls. In

cattle there is a very close anatomical relationship between the reticulum, which is the stomach compartment in which the foreign body is most frequently lodged, and the heart and its surrounding sac. As a sequence of the normal stomach contractions, it is very common for the sharp-pointed foreign body to be forced in a forward direction so that its tip ultimately penetrates the heart sac (pericardium), or it may actually enter it entirely. The latter case is almost invariably followed by the death of the patient. This heart involvement is known as traumatic pericarditis. It is of very common occurrence in cattle - especially those that are closely confined and fed, in contradiction to those that are pastured at some distance from habitations.

The reactions in swine are seldom of the same nature as in cattle, being more in the nature of digestive disturbances.

Prevention to a considerable extent is possible and practical. On those farms where the disease had previously resulted in several deaths yearly from traumatic pericarditis, it has almost been obviated as a menace by precautions on the part of caretakers in avoiding the scattering of nails, pieces of wire, etc. in the vicinity of cattle foods. In some instances the careful screening of the finer foods has been an additional precautionary preventive step.

Veterinarians can successfully remove these foreign bodies from the digestive tract by surgical means, and operations on the heart sac have been performed. Unfortunately, however, in the early stages of the disease when surgical treatment will do the most good, the clinical symptoms are not so pronounced that a diagnosis is clear-cut, and finally when the heart and its sac are affected, it is usually too late to expect beneficial results because of the hazardous nature of the operation.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. What is traumatic pericarditis caused by?
2. What animals usually suffer from this disease?
- 3 Why do foreign bodies penetrate the walls of the digestive tract and the heart sac?
4. What is the main cause of the animal death?
5. What should caretakers do to prevent traumatic pericarditis?
6. What is the main task of the veterinarian in the early stages of the disease?
7. Is it difficult to diagnose this disease?
8. Are the clinical symptoms of traumatic pericarditis clear?

II. Say if the following statements are true or false.

(*Определите верно или неверно утверждение*).

1. Traumatic pericarditis is also known as wire-hardware disease because it is connected with hard foreign bodies accumulating in the digestive tract.
2. Traumatic pericarditis is quite common in dairy cattle and very rare in other animals.
3. In most cases the animals suffering from traumatic pericarditis are culled.
4. Traumatic pericarditis cannot be treated by surgical means.
5. Prevention through good husbandry practices, such as magnet in the feeding wagon, is the best control measure.
6. The stomach involvement is known as traumatic pericarditis.
7. In cattle the reticulum is situated quite far from the heart and its surrounding sac.

III. Match the word with proper definition

(*Подберите к слову соответствующее определение*).

- | | |
|---------------------------|---|
| 1. <i>accumulation, n</i> | a. to prevent or avoid a problem or the need to do something |
| 2. <i>beneficial, adj</i> | b. not native, coming from outer environment |
| 3. <i>contraction, n</i> | c. in the area around a particular place |
| 4. <i>foreign bodies</i> | d. to stay for a short time, to stuck somewhere |
| 5. <i>hazardous, adj</i> | e. something you do in order to prevent something dangerous or unpleasant from happening |
| 6. <i>lodge, v</i> | f. having a good effect |
| 7. <i>needle, n</i> | g. to go from one place to another, or to several places |
| 8. <i>obviate, v</i> | h. dangerous, especially to people's health or safety |
| 9. <i>precaution, n</i> | i. a process in which things change their form and size under the liquid influence |
| 10. <i>ruminant, n</i> | j. gradually increasing the numbers or amount until there is a large quantity in one place |
| 11. <i>solution, n</i> | k. an animal such as a cow that has several stomachs and eats grass |
| 12. <i>travel, v</i> | l. the process of becoming smaller or narrower |
| 13. <i>vicinity, n</i> | m. something happened afterwards a bad event and usually as a result of it |
| 14. <i>wake, n</i> | n. a small thin piece of steel, with a point at one end and a hole in the other, used for sewing |

IV. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a) a stomach compartment, a sharp-pointed foreign body, a heart-sac, an additional precautionary preventive step, the digestive tract, stomach contractions, surgical treatment, a tip of a foreign body, clinical symptoms, to be of common occurrence, beneficial results, the partial solution.

b) to observe, observation; to accumulate, accumulation; to form, formation; to direct, direction, directly; to digest, digestive, digestion; to prevent, prevention, preventative; to add, additional, addition; to remove, removal; to treat, treatment; to contract, contraction; to vary, various, variety, variation; to involve, involvement.

V. Translate the sentences paying attention to different functions of the Infinitive.

(Переведите следующие предложения на русский язык, обращая внимание на функции инфинитива).

1. All symptoms of this disease are also to be examined.
2. Clinical symptoms of tuberculosis are known to be of great importance for any veterinarian.
3. This disease caused by an unknown virus affects both young heifers and mature cows.
4. Factors to be considered here include the detailed examination of infected animals.
5. It should be remembered that under the influence of digestive juices foreign bodies in the digestive tract of ruminants become sharp.
6. The average cow is expected to give around 4,000 kilograms of four percent milk per year.
7. Calves, if infected with brucellosis are believed to be able to get rid themselves of infection over a period of time.
8. The number of cows to be tested depends on the intensity of selection required.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

часто наблюдается у коров, другие жвачные, пищеварительный тракт, инородные предметы, собственно желудок, острые как игла, проникать в стенку, перемещаться в разных направлениях, образование гнойника, различные части организма, камера желудка, часто находятся/располагаются, сокращения желудка, острый

инородный предмет, проникать в предсердие, поражение сердца, тесное содержание скота, пищеварительные расстройства, избежать попадания, тщательная проверка мелкозернистых кормов, дополнительная профилактическая мера, при помощи хирургических средств, благоприятный исход (операции).

VII. Translate the following sentences into English.

(Переведите следующие предложения на английский язык).

- 1. Травматический перикардит часто наблюдают у жвачных животных.*
- 2. Это заболевание вызвано твердыми инородными телами в пищеварительном тракте.*
- 3. У жвачных животных инородные тела, как правило, находятся в преджелудке.*
- 4. В результате растворения и коррозии они становятся острыми, проходят через стенки пищеварительного тракта и могут проникнуть в околосердечную сумку.*
- 5. Ветеринары могут удалять инородные тела хирургическими способами.*

VIII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

- 1. Animals infected;**
- 2. Organs involved;**
- 3. Reasons of disturbances;**
- 4. Prevention methods;**
- 5. Treatment applied.**

Раздел 19. MASTITIS (Мастит)

Цель раздела – познакомиться с терминологической лексикой, используемой в данной теме, научиться применять различные языковые структуры в речи.

Vocabulary

clots, clumps, n pl	[klɒts], [klʌmps]	<i>комков, ком</i>
cull, v	[kʌl]	<i>выбраковывать</i>
dry off (a cow), v	[draɪ ɔf (ə kau)]	<i>прекратить доить корову</i>

environment, n	[ɪn'vaɪə(ə)nment], [en-]	<i>окружающая среда</i>
flakes, n pl	[fleɪks]	<i>хлопья</i>
good sound management	[gʊd saʊnd 'mænɪdʒmənt]	<i>хороший уход</i>
hard, adj	[hɑ:d]	<i>твердый</i>
heat, n	[hi:t]	<i>повышение температуры, жар</i>
inflammation, n	[,ɪnflə'meɪʃ(ə)n]	<i>воспаление</i>
injury, n	['ɪndʒ(ə)rɪ]	<i>повреждение, травма</i>
sensitiveness, n	['sensɪtvnəs]	<i>чувствительность</i>
swelling, n	['swelɪŋ]	<i>опухоль, увеличение</i>

The mastitis is a more serious widely spread disease than anyone could think. The word mastitis comes from two words: mastos (Greek for breast) and itis (for inflammation). It's a disease or condition resulting in inflammation caused by an injury to the milk secreting tissue in the udder. As an injury can be caused in many ways, mastitis remains a complex disease. Though 95% of all mastitis infections are caused by staph or strep infections and a number of other bacteria which are all present in the daily environment of the animal, we should consider mastitis as a three factor disease: the cow, microorganism and environment. In recent years environmental factors, primarily milking machines and milking techniques are considered sometimes as the main causes of mastitis.

Three stages of mastitis are known to exist: subclinical, clinical and acute mastitis. Subclinical mastitis results in no swelling of the udder or gross abnormality of milk detectable by special tests. Clinical mastitis causes abnormal conditions in the udder and the milk. Flakes, clots and a watery or unusual appearance of the milk are common, with signs of swelling, heat and sensitiveness of the udder slight or absent.

Severe or acute mastitis usually produces a swelling of the infected quarter which becomes hard, hot and extremely sensitive. The milk becomes watery, with flakes and clumps apparent. When the cow's entire system is affected she may develop a fever, rapid pulse, weakness and loss of appetite.

Physical inspection of the udder should take place after milking when the udder is empty. Abnormal tissues and atrophied quarters can be detected by palpating the area. The extend of tissue damage detected will have a lot to say about whether the cow should remain with the herd. When mastitis is present, milk secretory tissue becomes scar tissue and it can no

longer produce milk. The animal affected may never return to full production, depending on the seriousness of the infection. The greatest losses in milk production on infected quarters occur during the first three months of lactation, a time when production is at its peak.

Sometimes the farmers have to dry off such cows. When mastitis goes too far and a profitable cow must be culled, you lose the milk, the cow and the calves that might have been. The best medicine for mastitis is the prevention of infections and injuries of the udder.

A lot of drugs and vaccines have been developed which kill various bacteria. There are many products on the market for mastitis prevention and treatment, but nothing takes the place of good sound management and care.

I. Answer the questions to the text

(Ответьте на вопросы к тексту).

1. Is mastitis a serious widely spread disease?
2. What is mastitis caused by?
3. What is considered the main cause of mastitis in recent years?
4. Into what stages is mastitis divided?
5. Can we see gross abnormality in milk in subclinical mastitis?
6. What does clinical mastitis cause?
7. When does the udder become hard, hot and extremely sensitive?
8. When should physical inspection of the udder take place?
9. What happens to the milk secretory tissue?
10. What do farmers have to do with such cows?
11. What is the therapy aimed at?

II. Match the word with proper definition

(Подберите к слову соответствующее определение).

- | | |
|--------------------------|---|
| 1. <i>clot, n</i> | a. the people and things that are around you in your life |
| 2. <i>clump, n</i> | b. to stop milking a cow before calving |
| 3. <i>cull, v</i> | c. to touch part of someone's body in order to examine it |
| 4. <i>drug, n</i> | d. to kill so that a disease does not spread |
| 5. <i>dry off, v</i> | e. a wound or damage to part of your body caused by an accident or attack |
| 6. <i>environment, n</i> | f. a thick almost solid mass formed when blood or milk dries |
| 7. <i>flake, n</i> | g. an area of your body that has become larger than |

8. <i>injury, n</i>	normal, because of illness or injury
9. <i>palpate, v</i>	h. if separate objects clump together, they form a group or solid mass
10. <i>swelling, n</i>	i. a small soft flat piece of milk j. a medicine, or a substance for making medicines

III. Complete the sentences using the following words

(Дополните предложения, используя данные слова):

bacteria, environment, inflammation, production, teat, contracted, treatment, infection, mastitis, udder.

1. The cows that had ___ coliform mastitis were those that had been lying in a muddy area of the barnyard or in a wet corner of the barn.
2. The ___ depends on how much mastitis the farmer has to start with.
3. Udder cream is used for quick treatment of cuts and chaps and to kill ___ on teats and udders.
4. When the ___ is affected, hard fibrous nodules may be felt below the skin.
5. The udder of a dairy cow seems to be an ideal ___ for bacterial growth.
6. Parasites, chemical poisons, physical or thermic agents and traumatism are known to produce ___ or bacterial infection, i.e. they form a means of entrance for bacteria.
7. Mastitis results in decreased milk ___.
8. Post milking ___ dipping is an absolute must in any mastitis control program.
9. It should be mentioned that while this milk was quite normal in appearance it gave positive reactions to all indirect tests for ___.
10. Some veterinarians conclude that 95 to 100% of mastitis ___ are actually due to improper management.

IV. Translate the following words and word combinations into Russian.

(Переведите следующие слова и словосочетания на русский язык).

a) a serious widely spread disease, the milk secreting tissue, the staph or strep infections, a three factor disease, a cause of infection, to cause the disease, loss of appetite, the greatest danger, scar tissue, the greatest losses.

b) to result in, a number of, to be present, a swelling, proper, a hard udder, the best medicine, a lot of, environment factors.

c) tissue damage, detected, atrophied quarters, the animal affected, infected quarters.

V. Translate the following sentences into Russian.

(Переведите следующие предложения на русский язык).

1. Severely infected animals have not responded to treatment.
2. They have to cull chronic and infected animals.
3. A lot of drugs have been developed.
4. Such cows should not remain in the herd.
5. Farmers have to dry off such cows.
6. This therapy is aimed at increasing the ability to withstand the infection.
7. Physical inspection of the udder should take place after milking.
8. There are many drugs to prevent mastitis.
9. The inspection will have a lot to say about the cow's condition.

Задания для самостоятельной работы

VI. Translate the following word combinations into English.

(Переведите следующие словосочетания на английский язык).

широко распространенное заболевание, приводящее к воспалению, секреторная ткань вымени, сложное заболевание, среда окружающая животное, средовые факторы, доильная техника, главные причины мастита, патологическое состояние вымени, признаки набухания, чувствительность вымени, набухание пораженных четвертей, с хлопьями и комками, учащенный пульс, физический осмотр вымени, после дойки, определяется пальпацией, ткань секреторирующая молоко, запускать корову, повреждение вымени, профилактика и лечение мастита.

VII. Retell the text using the following plan.

(Перескажите текст, используя следующий план).

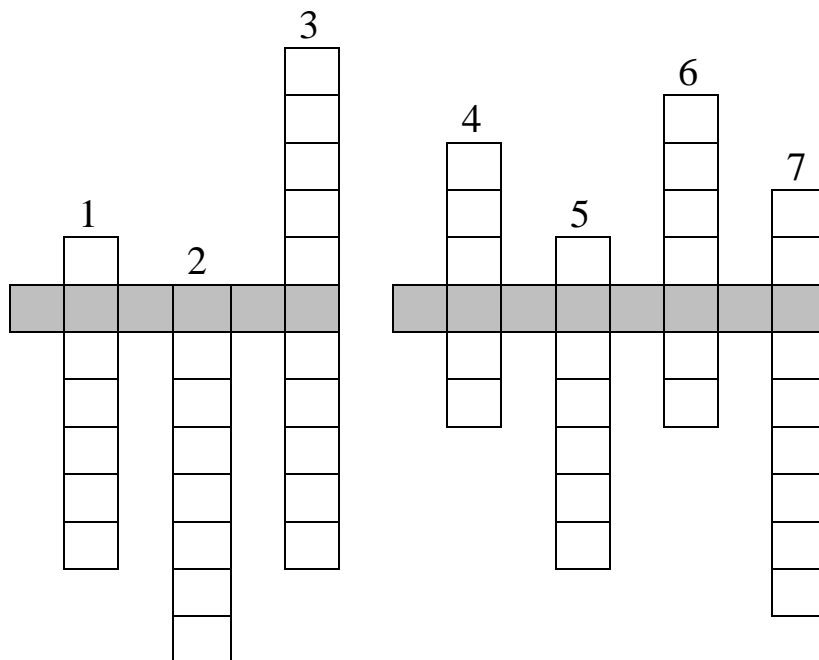
1. Causative organism;
2. Ways of infection;
3. Stages of the disease;
4. Symptoms of the disease;
5. Organs involved;
6. Diagnostics applied;
7. Prevention methods.

VIII. Complete the crossword puzzle and find out the hidden word.

(Заполните кроссворд и определите спрятанное слово).

1. A systemic bacterial disease caused by a bacillus forming extremely resistant spores that may remain dormant in soil for years.

2. Inflammation of udder usually due to infection.
3. A bacterial disease that causes abortions.
4. A 100% fatal viral disease caused by bites of animals.
5. A disease that attacks the central nervous system causing lockjaw and other symptoms.
6. A natural metabolic state on a very low carbohydrate diet and during starvation.
7. Infection of the intestines resulting in severe diarrhoea with the presence of blood and mucus in the faeces.



SELF CONTROL
ANIMAL DISEASES
(Самоконтроль. Болезни животных)

	1	2	3	4	5	6
DISEASES	Causative organism	Body parts affected	Symptoms of the disease	Animals infected	Treatment applied	Methods of immunization applied
<i>Tuberculosis</i>						
<i>Leucosis</i>						
<i>Anthrax</i>						
<i>Rabies</i>						
<i>Brucellosis</i>						
<i>Tetanus</i>						
<i>Foot-and-mouth disease</i>						
<i>Infectious Enteritis</i>						
<i>Ketosis</i>						
<i>Traumatic Pericarditis</i>						
<i>Mastitis</i>						

SUPPLEMENTARY READING

(Тексты для дополнительного чтения)

VITAMINS

The food constituents known as vitamins are exceedingly important in nutrition even though they are required only in small amounts. Vitamins are essential for good nutrition and health and for normal growth and development. Those vitamins that are generally recognized as essential, and some of those that may be essential, are considered here. Though many vitamins are available in the form of concentrates in pure synthetic preparations or both, foods still remain the best source of these important substances.

Vitamin A was first discovered in butter, egg yolk, fish liver oil, and green vegetables. It stimulates growth and aids in general well-being. Vitamin A occurs as such in animal foods. It occurs in certain vegetables as carotene or provitamin A, a bright yellow pigment which the body changes to vitamin A. This vitamin is stable to heat and, since it is a fat-soluble, does not dissolve to any appreciable extent in water. But it is not stable to light, especially ultraviolet light. Foods which are rich in vitamin A are butter, cheese, cream, eggs, fish oil, fruits, liver, milk.

Vitamin D. The antirachitic or "sunshine" vitamin, is really "stored sunshine" in food. This storage is due to the presence of ergosterol, a fat-like substance in food, which is called a provitamin D, and under direct exposure to the sun or to ultraviolet light for short daily periods, this substance is converted into vitamin D within the body. Unlike most of the other vitamins, this one is not easily destroyed and is stable to heat, alkalis, acids, and oxidation. Vitamin D is essential for the development and maintenance of bones and teeth. Yeast contains ergosterol which can be irradiated by ultraviolet light and thus transformed into vitamin D. Sources of vitamin D are: butter and egg yolk, fish liver oil, oily fish.

Vitamin E affects reproduction and fertility growth, muscle tone and the condition of the nervous system. It has also a function in preventing the destruction of other foods through oxidation. Heat does not easily destroy it, but ultraviolet light does. Since it is fat-soluble, water does not dissolve it, but it is easily oxidized. The best sources of vitamin E are the vegetable oils, butter, eggs, green leaves and liver.

Vitamin K is necessary for normal clotting of the blood. Heat has little effect upon vitamin K and, like the other fat-soluble vitamins, it is not soluble in water. Alkalies, strong acids and sunlight destroy this vitamin. Foods rich in vitamin K are cabbage, cauliflower, fish liver.

Ascorbic acid, known as *vitamin C* is the least stable of all the vitamins. It oxidizes readily, and in the presence of heat, alkali, and oxygen, oxidation goes on rapidly. Ascorbic acid is water-soluble. The best sources of this vitamin include: citrus fruits, strawberries, vegetables: tomatoes, peppers.

B-COMPLEX VITAMINS

Thiamine designated as B₁ is one of the B vitamins that are often called the B-complex vitamins. Thiamine is destroyed by prolonged heating. The shorter the cooking time and the less amount of water used, the less is the loss of thiamine. Important sources of thiamine are: whole grain bread and cereals, meat, milk, liver, nuts, vegetables.

Riboflavin is another B vitamin and was called vitamin B₂. It is essential to growth and due to its high level of positive health is maintained. Riboflavin is little affected by heat but easily destroyed by baking soda. It is also readily destroyed by light and is soluble in water. Foods that are good sources of riboflavin are: whole grain or enriched bread and cereals, cheese, eggs, green leafy vegetables, meat, liver, milk.

Still another of the B vitamins is niacin. Until it was recognized as vitamin, this substance was known to chemists as nicotinic acid.

ORGANISMS of HUMAN DISEASES

These organisms can find their way into milk through:

- (a) Contact with the cow after milking.
- (b) Human contact.
- (c) Contact with an infected farm water supply.
- (d) Airborne and flyborne contamination.

Of these (b) and (c) offer the most common risk, a contaminated farm water supply being a particularly potent source of danger.

Pathogenic organisms of the following diseases of human origin can contaminate market milk:

- Typhoid and paratyphoid fever
- Dysentery and summer diarrhoea
- Septic sore throat
- Scarlet fever
- Diphtheria

The Coliform Group of Bacteria: Coliform bacteria are natural inhabitants of soil, water, and the intestinal tract and faeces of man and animals. They are not naturally secreted in milk as it leaves the udder and their presence indicates that the milk has been subjected to subsequent

contamination by external sources. Coliform organisms are classified as follows:

Bacterium coli communis (B coli):

Found principally in the intestines and faeces so that milk containing this organism is always assumed to have been contaminated directly or indirectly by faecal matter.

Bacterium aerogenes (B. aerogenes):

Found principally in soil, dust and water but rarely in the intestinal tract.

Bacterium lactis viscosus (Alkaligenes viscosus):

Found in water and in faeces, is the causative organism of ropy milk.

B.coli and B.aerogenes both ferment lactose, producing acid and gas and this faculty is the basis of the Presumptive Coliform Test.

The major significance of coliform contamination lies in the fact that the typhoid group and dysentery group of bacteria are, like the presence of coliform bacteria, parasites in the intestines of man and animals. The presence of coliform bacteria in milk therefore implies the possible presence of the other and more deadly organisms of typhoid and dysentery as well.

In market milk plant practice a positive coliform result should always be suspected.

BACTERIA AND VIRUSES

Bacteria are microscopic unicellular organisms, mostly free living in the soil as saprophytes obtaining their food as do by digesting complex animal or vegetable remains. Many bacteria are able to live within the body of a plant or animal, some are even obliged to live thus.

Bacteria are classified into groups by their shape, reproductive habits, and their growth requirements. Further identification is carried out by observing their reaction to certain organic dyes.

They are more easily seen and studied under an electron microscope than under an optical one because of their small size.

Although bacteria are associated with disease, not all of them are harmful, indeed, without their activity agriculture would be drastically altered if it did not become impossible.

PARASITES

Not all microorganisms growing within animals or plants can be termed parasites. Those living in the rumen of a cow are beneficial, others always seem to be present but do no apparent harm or good.

Many are feeding at the expense of the host animal, however and if they provide nothing useful in return they must be termed parasites.

PATHOGENS

When these microbial parasites invade an animal they penetrate its body through the skin, the lining of the lungs, or lining of the gut. If they manage to overcome the natural resistance of the body to attack, they become lodged in the tissue. Some bacteria form local lesions of infection, others migrate about the body causing widespread infection.

TOXINS

Poisons called toxins are released from the pathogenic bacterial cell as it disintegrates. Some cells may begin to lose toxin before disintegration.

Toxins like other poisons interfere with the correct functioning of body processes, so preventing the animal from living normally. The reaction of the body to this interference causes visible changes in an animal's behaviour recognizable possibly as the symptoms of a disease.

DISEASES

Many diseases of livestock are caused by pathogenic bacteria. Some diseases are confirmed to particular species of livestock, while others affect many animals including man.

When outbreaks of a serious disease occur, the Ministry of Agriculture and veterinary surgeons take control in an attempt to avoid any unnecessary spread of the causative organisms. Restrictions on the movement of livestock are imposed when outbreaks of "notifiable diseases" occur.

Some diseases like tetanus, which can rapidly be fatal, linger in the soil by forming resistant spores. Farmers must therefore be careful with the cuts on livestock through which the bacterium could enter. Cleaning and disinfection of wounds is an important step in avoiding the bacterial infection.

The udder of a dairy cow seems to be an ideal environment for bacterial growth. An udder disease called mastitis, has been the scourge of dairy herds for many years. The various bacteria which cause udder inflammation can be spread fairly easily at milking time.

Until 1945, 90 per cent of mastitis was caused by a bacterium called *Streptococcus agalactiae*. Since then this organism has been controlled by the use of penicillin, a powerful antibiotic. Streptococcal mastitis is

largely disappearing but unfortunately other bacteria, resistant to penicillin, are taking its place.

Two important diseases of livestock can be transmitted to man through milk. One is bovine tuberculosis, the other is brucellosis. These diseases have now been controlled, or are being controlled, by a national programme to eliminate infected animals from dairy farms.

Apart from these two diseases of cattle, milk can carry many serious human diseases. Diphtheria, typhoid, and dysentery are three examples. Cleanliness throughout the milking and handling processes is very important. Pasteurization or sterilization is the only way of being fairly sure that no germs have entered the milk bottle.

IMMUNITY

Natural resistance to a disease is present to some extent in all animals. The vital stage in the battle against an infection is at the beginning, when the pathogenic organism is trying to lodge itself in the host tissues.

The white corpuscles in the blood are very important at this time. Some of them engulf bacteria and render them harmless, while others produce chemicals which inactivate the toxins of the bacteria or the bacteria themselves.

PASSIVE IMMUNITY

This implies that an animal receives help in the fight against a disease.

Firstly, this help may be given naturally by a cow to its calf as the latter drinks its dam's milk. The colostrum of a mammal, or the first one or two days milk supply, is very rich in disease fighting chemicals called antibodies or antitoxins. These antibodies inactivate the toxins of specific bacteria. There is a special antibody produced to deal with each different toxin. A calf should always be allowed to drink the colostrum produced by a cow when newly calved, even if after that it is weaned and put into a different diet. The valuable antibodies present in colostrum help to protect it in its first weeks of life.

Secondly, passive immunity can be conferred artificially. If the toxin can be removed from a colony of active bacteria and injected, in a harmless form, into a healthy animal, the healthy animal produces antibodies in its blood which combat the toxin. Some of the blood liquid, or serum, containing these antibodies can then be transfused into the blood of the animal suffering from the disease.

This immediate supply of antibodies has helped many animals to overcome a disease by helping them in the early stages until they can produce antibodies of their own.

ACTIVE IMMUNITY

This means that an animal has protected itself against a disease by its own efforts.

Recovery from a disease usually confers a temporary or lasting immunity on the sufferer. The actual antibody or the ability to produce antibodies lingers in the blood.

Artificial stimulation to produce antibodies without the animal actually having a disease can be achieved in some cases by injections of small amounts of inactivated toxin or weakened dormant bacteria. The animal's defence mechanism is stimulated to produce antibodies which protect the animal if it is invaded by the particular pathogen concerned.

ANTIBIOTICS

In recent years antibiotics or chemotherapeutic substances have saved thousands of people from death and suffering.

The discovery of these substances is largely attributable to Sir Alexander Fleming, a British scientist. In 1929 he discovered that penicillium mould killed a colony of staphylococcus bacteria. He went on to demonstrate the bactericidal properties of penicillin, the antibiotic substance extracted from the growing mould, and also that it did not harm animals.

In 1939 British scientists began to work on penicillin production. The war threatened to interrupt the programme, so the work was taken to America. In three years, commercial production was possible. Its life-saving properties before the end of the war alone, justified its production. Penicillin does not kill all bacteria and studies were therefore carried out for other antibiotics. Streptomycin was the next to be found, and is (like penicillin) produced by a fungus.

VACCINATION

There are two conditions caused by viruses, which can make your kitten extremely ill and can often prove fatal. These are feline infectious enteritis and cat flu.

In feline infectious enteritis, the onset is often sudden with a great deal of vomiting. The cat is very depressed and may cry out with pain. There may be diarrhoea. In the latter stages of the disease, the cat becomes

depressed. He can die within a few days of onset of symptoms despite every effort to save his life.

Cat flu or feline influenza is caused by two viruses. Symptoms are loss of appetite, depression, sneezing, discharge from the eyes and nose and coughing. Ulcers on the tongue often make the cat salivate. Though adult cats can recover from flu, kittens may go down with pneumonia. This can prove fatal.

Fortunately, you can have your kitten vaccinated against these conditions. Initially, your kitten will have some immunity from his mother providing she has been vaccinated. But this immunity gradually decreases leaving your kitten exposed to infection. So have your kitten vaccinated between eight and twelve weeks of age. There will be a follow-up injection about three weeks later. Your veterinary surgeon will advise you about this. He will also tell you about the booster injections required each year and will provide you with a vaccination certificate.

WORMING

There are two groups of worm seen in the cat: tapeworms and roundworms.

Infection with roundworms can be dangerous to young kittens. Worm eggs are picked up by contact with infected faeces though kittens can be born already infected from their mother. The larvae, which hatch out, are carried to the lungs. From here they eventually find their way back into the intestines where they mature into the adult worms. An infected kitten will be slow growing with a distended abdomen, poor coat and possibly diarrhoea. He will be thin despite a ravenous appetite. Occasionally, adult worms, brown-cream coloured and 7 to 10 cm (3 to 4 inches) long will be vomited. Pneumonia may result from the passage of larvae through the lungs. Large numbers of worms can cause blockage of the intestinal tract.

There is a slight risk to humans. A child, when playing with a kitten, may get worm eggs on his hands. These eggs could be swallowed and the larvae hatch out to wander round the child's body, eventually to lodge somewhere like the back of the eye where damage could be done.

So it is important to worm your kitten. If bought from a breeder he will have been wormed at four weeks of age. Ensure this is repeated at eight, twelve, sixteen and sixteen weeks of age. Continue monthly until your kitten is six months old and then dose him every three months. Your veterinary surgeon will advise you on the best preparation to use.

The tapeworm does not cause so many problems. In the adult cat, you may not see any obvious symptoms but sometimes the worm causes

digestive upsets, anaemia and nervous signs. Worm segments containing eggs are passed out with the cat's faeces. The segments may be seen as tiny rice-like grains round the fur under the tail or on the cat's bedding. Effective drugs to deal with these can be obtained from your veterinary surgeon.

WORMS IN HORSES

A wide variety of worms are able to parasite horses, ponies, donkeys and mules. Some do very little harm to their host but, unfortunately, the most common types can often lead to the death of the animal if not carefully controlled. It is for this reason that much veterinary research has gone into understanding worms and finding ways of protecting horses from their effects.

As with all things in nature there is no simple step that permanently eliminates the problem. Conscientious owners can use their knowledge to effectively keep the worm burden in their animals safely under control.

The story of one of our rescued ponies, Woodruff, serves to illustrate just how serious an infestation can be. Thankfully Woodruff is now fully recovered and runs in a herd together with his companion Pecan. However, this was no certainty when he first arrived here as a young foal. He was so heavily infested with roundworms and redworms that they had consumed nearly all his blood and left him extremely weak and thin.

An immediate blood transfusion was necessary. Fortunately we found a suitable donor and within hours Woodruff was receiving a blood drip. Even de-worming him was a dangerous treatment as this could have led to fatal blockages of the intestines if too many worms had died at once. We began by using weak dose of dewormer, progressively increasing the dose to the normal level, thereby gradually eliminating the parasites from his body. In those first few days he also received glucose and vitamin drips as well as plenty of fresh grass. All this was necessary to provide the much needed energy and nutrients to build up his own blood and strength. Several months passed before he had fully recovered.

The tragic part is that all his suffering could be avoided by taking a few simple steps. We do not wish any of our horses at Redwings to suffer in this way and believe that prevention is the only route to follow. Our first step is to always de-worm all our new arrivals at the quarantine station with a comprehensive course of drugs. In this way we prevent the introduction of great numbers and possibly new strains of worms onto the farm. All the other residents at the

Sanctuary are also treated with frequent and regular doses of various

deworming drugs. We must not rely only on these drugs as there are several strains of worms, which are resistant to the drugs, and more can develop. By removing droppings, which contain the worm eggs from the paddocks, we can help to break their life-cycle. This means that we can more safely graze our fields at Redwings all year round. The fields we use for the summer grazing are too large to be able to remove the droppings often enough to be effective. Therefore we rest the fields by not grazing them for six months of the year. In this way many of the worm larvae on the field do not survive long enough to infect horses the next season. All this is combined with laboratory tests to monitor the number of worm eggs passed in the droppings, which indicates to us the effectiveness of our worm control programme.

Once one knows how serious worm infestations in horses can be, one has to accept that a de-worming programme must be part of the most basic care of a horse, alongside food, water, shelter, hoof, and dental care.

ARTHRITIS IN EQUITIES

Although arthritis simply means inflammation of a joint, it is a term commonly used to describe many different conditions affecting the joints. Vets use more specific terms, which relate to the cause or type of disease affecting a joint in order to better communicate the significance and prognosis of disease in a joint. However, in the following paragraphs I shall use the word arthritis in its widest sense, which the majority of our supporters will be more familiar with.

The causes of arthritis are quite varied and include problems in the growing horse, injury the joint, infection and wear and tear. Unfortunately, once joints have formed in the young animal they lose a lot of their ability to produce the special tissues, which make up the joint. Therefore, a damaged joint is repaired with a less effective type of tissue, a little like a puncture repair kit. These joints are often not returned to normal so that some level of discomfort will remain for the duration of the animal's life. In many cases, once the initial damage has occurred, the disease in the joint will be progressive.

Arthritis is usually diagnosed after a horse has been presented to the vet for lameness or general stiffness in its gait. The diagnosis is often confirmed using nerve blocks and X-rays. There are certain specific areas of the body that are commonly affected by arthritis, possibly because at these points wear and tear is most severe. Examples include 'ringbone' of the pastern and coffin joints of the lower legs and 'bone spavin' of the hocks in the hindlegs. The degree of lameness can vary greatly depending

on the amount of joint tissue damaged, the amount of ‘work’ that a joint normally has to undertake and whether the arthritis permanently fuses a joint or not. If a joint is no longer able to flex, the pain will reduce or disappear.

In some cases we treat arthritis by deliberately fusing the affected joint. If the joint normally does very little flexing, such as the lower joint in the hock, the horse can lead a nearly normal working life. However, if a joint such as the pastern is fused because of ringbone the pain will be removed, but arthritis could be accelerated in other joints of the leg because they now carry the considerable load of the fused joint.

If arthritis is caught early enough, we may be able to use less drastic forms of treatment than fusion. One such case is arthritis of joints caused by the presence of small chips of fractured bone, which can come loose and float in the joint. If the fragment stays loose in the joint, the condition will deteriorate to a painful arthritis. In some cases the fragment may be fixed in place by the body’s own healing process, but if not, early surgical removal can prevent permanent changes from occurring in the joint. In the case of infections entering a joint the consequences can be far more serious. If treatment is not started very early on, it may not be possible to rid the joint of the infection. Even if this is achieved, the after effects of the pus in the joint can lead to an irreparable arthritis.

Once certain changes have occurred in an arthritic joint, such as erosion of a full layer of the cartilage or the deposition of new bone in and around the joint, the objective of the vet in treating the joint changes from achieving a cure to controlling the deterioration, inflammation and pain. *Certain expensive products are available to reduce or reverse the deterioration of joint constituents, but they have limited benefit in the advanced cases. Pain is usually controlled with anti-inflammatory and pain relieving drugs. They work in a similar way to Ibuprofen in people and just as with Ibuprofen, are safe when used sensibly. They can have potentially serious side effects and must be used under the direction of a vet who will regularly re-evaluate the effectiveness of the treatment. This is important when treating arthritis as medication will usually be administered over a prolonged period of time and sometimes on a permanent basis. This is well tolerated if the dosage and timing are correct and one keeps a watchful eye for side effects. Should these develop, the treatment should be stopped immediately and only restarted after veterinary attention. With chronic arthritis the patient will not be able to cope with full work, but quite often quiet hacks at leisurely place can actually benefit the animal by keeping the muscles and ligaments supple.*

Being permanently stabled does not necessarily help the joints in chronic cases and is certainly not a desirable way for a horse or a pony to live. Products such as cider vinegar and certain herbs are reported to have a beneficial effect, although we are still striving to understand the role they play.

An enormous amount of medical research is directed at arthritis in all species in an attempt to better understand how joints respond to injury and try to repair themselves. It may be possible in the future for doctors and veterinarians to return a diseased joint to full health. At present, although the treatment we use for chronic arthritis can be very effective at keeping the animal comfortable, such arthritis is still incurable and the deterioration in the affected joints will continue. Eventually our treatments will no longer keep the pain at bay and it is then our duty to consider having the horse, pony or donkey put to sleep.

This is a very difficult decision to make as the deterioration is usually gradual and there is rarely a sudden change for the worse, which makes the decision for us. The best advice I can give to anyone in such a situation is to put your own feelings aside and think only of the animal's interests and what is best for it

Perhaps arthritis in some form is almost inevitable for any long-lived creature, but if we look after our horses, ponies and donkeys throughout their lives, not asking them to perform too early or beyond their limits, we can reduce the likelihood and severity of arthritis developing.

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CONTENT

СОДЕРЖАНИЕ

ПРЕДИСЛОВИЕ.....	Ошибка! Закладка не определена.
VETERINARY (ВЕТЕРИНАРИЯ) PART I (Часть I)	
FARM ANIMALS, CARE & TREATMENT (Сельскохозяйственные животные, уход и лечение)	
3	
1st Year (1-й курс)	
Раздел 1. Animal Body (Part I). <i>Тело животного (Часть 1)</i>	3
Раздел 2. Animal Body (Part II). <i>Тело животного (Часть 2)</i>	9
Раздел 3. Classes of Animals. <i>(Классы животных)</i>	15
Раздел 4. The Dairy Cow. <i>(Молочная корова)</i>	17
Раздел 5. The Role of Animals. <i>(Роль животных)</i>	21
Раздел 6. Avitaminosis. <i>(Авитаминоз)</i>	25
Раздел 7. Vital Functions of Minerals. <i>(Жизненно важные функции минералов)</i>	30
Раздел 8. Treatment of Animals. <i>(Лечение животных)</i>	35
Раздел 9. Surgical Operations. <i>(Хирургические операции)</i>	Ошибка! Закладка не определена.
VETERINARY PART II	
FARM ANIMAL DISEASES (Болезни сельскохозяйственных животных)	
39	
2nd Year (2-й курс)	
Раздел 10. My Future Speciality. <i>(Моя будущая специальность)</i>	Ошибка! Закладка не определена.
Раздел 11. Tuberculosis. <i>(Туберкулез)</i>	40
Раздел 12. Leucosis. <i>(Лейкоз)</i>	44
Раздел 13. Anthrax. <i>(Сибирская язва)</i>	49
Раздел 14. Rabies. <i>(Бешенство)</i>	53
Раздел 15. Brucellosis. <i>(Бруцеллез)</i>	58
Раздел 16. Tetanus. <i>(Столбняк)</i>	62
Раздел 17. Foot-and-Mouth Disease. <i>(Ящур)</i>	67
Раздел 18. Infectious Enteritis in Pigs. <i>(Инфекционное воспаление кишок у свиней)</i>	72
Раздел 19. Ketosis. <i>(Кетоз)</i>	76
Раздел 20. Traumatic Pericarditis. <i>(Травматический перикардит)</i>	80
Раздел 21. Mastitis. <i>(Мастит)</i>	84
SELF CONTROL. ANIMAL DISEASES. (Самоконтроль. Болезни животных)	
90	
SUPPLEMENTARY READING. (Тексты для дополнительного чтения)	
91	

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