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Учебно-методическое пособие предназначено для аудиторных и внеаудиторных занятий со студентами, магистрантами и аспирантами факультета ветеринарной медицины и биотехнологии в животноводстве (профили подготовки «Частная зоотехния», «Технология переработки продуктов животноводства», направление подготовки «Ветеринарно-санитарная экспертиза»)**,** а также для самостоятельной работы. Автор ставит задачу подготовить обучающихся к осознанному чтению и пониманию профессионально-ориентированных текстов на английском языке. Данный сборник состоит из 2 разделов **(UNITS**), которые разделены на тематические части (**CHAPTERS**), состоящие из текстов, объединенных общей темой. Все тексты снабжены послетекстовыми упражнениями и интерактивными заданиями, направленными на отработку навыков разговорной речи и развитие коммуникативной компетенции обучающихся. Кроме того, сборник содержит задания в рамках проектной деятельности.

В структуру сборника входят тексты для дополнительного чтения и самостоятельной работы, приложение (**APPENDIX**), а также ряд методических рекомендаций для работы с профессиональными текстами и лексикой.

В конце сборника прилагается краткий англо-русский терминологический словарь.

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CONTENT

UNIT I
FARM ANIMALS

Introductory text
The importance of farm animals

Animal husbandry is a branch of agricultural production. It includes the breeding of farm animals and their use. Dairy and beef cattle, hogs, sheep and poultry are bred throughout the world. Farm animals are highly important sources of food for man. They produce meat, milk and eggs. These are highly nutritious products.

Animal husbandry is closely connected with plant growing. Different plants such as grasses, grain crops and some vegetables are used in feeding livestock. At the same time manure produced by livestock is an important source for the maintenance of soil fertility.

Animal husbandry supplies industry with such raw materials as wool, fat, leather, down and feather. These raw materials are used by man for many purposes.

Cattle have been the most important draft animals in agriculture. Now more than half of the world uses horses and cattle as draft animals.

Domestic animals have been important in the economy of most countries for thousands of years. They are very important as the sources of animal protein.

Mind:

- some- несколько, некоторый
- the same- тот же самый, один и тот же

Активные слова и выражения: animal, animal husbandry, the breeding of farm animals, draft animals, plant growing, dairy, beef, cattle, hog, sheep, poultry, to breed (bred), to produce, to supply (with), meat, milk, egg, grass, grain, to feed (fed), domestic, horse, livestock, to use, some, the same.

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части:

1. The breeding of farm animals	a) bred by man.
2. Farm animals produce nutritious products	b) are important sources of animal protein.
3. Products produced by livestock	c) such as meat, milk and eggs.
4. Industry is supplied	d) in feeding livestock.
5. Grasses and grains are used	e) is highly important for man.
6. Cattle, hogs, sheep and poultry are animals	f) with raw materials.

Ex. 2. Заполните пропуски подходящими по смыслу словами:

produce, grasses, eggs, farm animals, nutritious, animal husbandry.

1. Different plants are used in feeding.... 2. ... is a branch of agricultural production. 3. Poultry produce meat and... . 4. Farm animals supply us with highly ... products. 5. Dairy cattle ... milk. 6. Grain crops and ... are used in feeding farm animals.

Ex. 3. Переведите предложения, обращая внимание на слова *some* и *the same*:

1. Some farmers breed only cattle, some - cattle, hogs and poultry.2. This is the same farmer whom we saw yesterday. 3. Give me some milk. 4. Use this method and you will get the same results.

Ex. 4. Ответьте на вопросы к тексту:

1. What farm animals are bred by man?
2. Why are farm animals very important for us?
3. What do they produce?
4. Why is animal husbandry closely connected with plant growing?
5. Do animals supply industry with raw materials?
6. Are horses and cattle used as draft animals?

Ex. 5. Переведите следующие слова и выражения на английский язык:

а) домашние животные, несколько, мясной скот, использовать молочный скот, животноводство, сельскохозяйственные животные, тот же самый, овцы, свиньи, мясо, молоко, трава, птица, производить, кормить, зерно, разводить животных.
б) 1. Сельскохозяйственные животные очень важны для человека. 2. Они дают мясо, молоко и яйца. 3. Скот кормят различными травами и зерном.4. Сельскохозяйственные животные обеспечивают нас очень питательными продуктами. 5. Молочный скот разводят во всем мире.
в) 1. Сельскохозяйственных животных, снабжающих нас высокопитательными продуктами, разводят во всем мире. 2. Одни и те же культуры выращиваются в хозяйствах нашего района на корм скоту. 3. В настоящее время крупный рогатый скот еще широко используется как тягловый скот во многих странах мира. 4. Домашних животных кормят различными зерновыми и овощными культурами, выращиваемыми специально для этой цели. 5. Соседнее хозяйство не разводит крупный рогатый скот, оно выращивает только птицу.

Ex. 6. Прочитайте и переведите текст, определите верны ли следующие утверждения, исправьте неверные:

1. *The products which man obtains* from farm animals are rich in protein.*
2. *Only root crops and grasses are grown as fodder for the animals.*
3. *Pastures are very important only for cattle.*

*obtain - получать

Care and management of farm animals

Farm animals are bred by man for the production of highly nutritious products such as meat, milk, and eggs. These products are very important because they are rich in animal protein. We may obtain a lot of meat, milk and eggs if we take great care of the animals. We must keep the animals in light, clean and dry farm buildings. We should feed the animals properly. Proper grain crops, grasses and root crops are to be grown as fodder for the animals. The feed for the animals ought to be highly nutritious. Pastures are very important for all classes of farm animals. They are important for cattle and sheep, for pigs and horses. Pastures provide a lot of feed and exercise. Exercise is very important for the health of the animals.

CHAPTER I
Cattle

The Names of Cattle Breeds

Angus ['aeŋgəs] — ангусская порода
Ayrshire ['ɛəʃiə] — эрширская порода
Brahman ['bra:min] — браманская порода
Brown Swiss ['braun'swis] — бурая швицкая порода
Galloways ['gaeləweiz] –галловейская порода
Guernsey ['gənzi] — гернзейская порода
Hereford ['herifəd] — герефорд
Holstein (Friesian) [‘hɔlstein ('fri:ziən)] — голштинская (фризская) порода Jersey ['(ʤə:zi] — джерсейская порода
Red Polled [‚red ’pɔuld] — английская красная комолая
Shorthorn ['ʃɔ:thɔ:n] — шортгорнская порода
a [æ] – bad, that, fact, has, can, active, man, am, black, fat, lamp, flat, van, sand, lad, plan.
a [ei] – day, made, late, name, skate, take, date, place, state, space, base, flame.
ar [a:] – car, far, bar, part, farm, large, hard, department, article, arm, mark.
a + s + согл.[a:] –fast, ask, class, cast.
ai, ay [ei] – mail, pain, vain, nail, lain, aim, main, chain, day, may, pay, say, clay, stay, play
a + ll (lk) [o:] – all, fall, wall, hall, chalk, talk, balk, walk

TEXT 1

Word-building

1. Определите по суффиксам, к какой части речи относятся следующие слова; переведите:

Organic, principal, principally, distance, permanent, concentration, official, fermentation, historic, statistically.

2. Дайте русские эквиваленты следующих интернациональных слов:

industry, material, protein, agronomy, program, academy, specialist, agronomist, zootechnician, economist, veterinarian, mechanization.

3. Сгруппируйте слова по частям речи (существительные, прилагательные, наречия, глаголы):

Elimination, consequently, confinement, dependence, homeless, successful, gradually, comparable, wide, consumption, dehorn, internal, normally, harmful, excellent, democratic, producer, influence, deforest, dusty, receiver, incomparable, infectious, higher, shorten, largely, unfavourable, lowest.

Cattle

Cattle (often called cows) are domesticated ungulates. Cattle were originally identified by Carolus Linnaeus as three separate species. These were Bos taurums, the European cattle, including similar types from Africa and Asia; Bos indicus, the zebu; and the extinct Bos primigenius, the au rochs. Cattle occupy a unique role in human history. They are raised for meat (beef cattle), milk (dairy cattle), and hides. In some countries, such as India, they are subject to religious ceremonies and respect. The world cattle population is estimated to be about 1.4 billion head. India is the nation with the largest number of cattle, about 400 million, followed by Brazil and China, with about 150 million each, and the United States, with about 100 million. Europe has about 130 million head of cattle.

Cattle today are the basis of a multibillion dollar industry worldwide. The production of milk, which is also made into cheese, butter, yogurt, and other dairy products, is comparable in size to beef production. It supplies many people in the world with food. Cattle hides, used for leather to make shoes and clothing, are another important product.

Cattle, like most other food animals, are normally herbivorous. In nature, cattle eat grass or grains. Cattle are often raised by allowing herds to graze on the grasses. In this manner raising cattle allows the use of land that may be unsuitable for growing crops. The most common interactions with cattle involve daily feeding, cleaning and milking. Many routine husbandry practices involve dehorning, loading, medical operations, vaccinations and hoof care, as well as training for agricultural shows.

The gestation period for cow is nine months. A newborn calf weighs 25 to 45 kg. Cattle usually live to about 15 years (occasionally as much as 25 years). Cattle are often used in the wildest places for livestock. Depending on the breed, cattle can survive on hill grazing, heaths, marshes, moors and semi desert. A breed may be defined as a group of animals developed for special function.

Thus, dairy cattle breeds are breeds developed primary for milk production. In the United States, cattle kept primarily for milk production belong to the Ayrshire, Guernsey, Holstein and Jersey breeds. Red Steppe breed originated in the Ukraine through the mixture of German Angler with the indigenous Grey Steppe cattle. The Red Steppe is a large animal, rather dark red in color.

Активные слова и выражения: comparable, to contribute, to dehorn, gestation, aurochs, hide, to estimate, to involve, to occupy, to originate, ungulate.

Exercises

Ex. 1. Определите, верны ли следующие утверждения. Если нет, объясните почему.

e. g. In my opinion it is true that .../I'm afraid it is false that ... because ... I fully agree that .../It seems to me to be wrong ... because ... As far as I understand .../Quite the opposite ...

1. Cattle were originally identified as four separate species.
2. They are raised for meat (beef cattle), milk (dairy cattle), and hides.
3. China is the nation with the largest number of cattle.
4. The production of milk, which is made into cheese, butter, yogurt, and other dairy products, is not comparable in size to beef production.
5. The most common interactions with cattle involve daily feeding, cleaning and milking.
6. A breed may be defined as a group of animals developed for special function.
7. The gestation period for cow is eight months.

Ex. 2. Переведите на английский язык следующие слова и выражения:

ежедневное кормление; порода; включая; делать обувь и одежду; копытное животное; молочные продукты; три особых вида; удаление рогов; шкура скота; сравнимы; их разводят для; скот; по всему миру; производство молока и сыра; крупный рогатый скот мясного направления; период беременности; непригодная для выращивания зерновых земля.

Ex. 3. Соедините термины и дефиниции:

1. livestock	a) cattle raised for human consumption
2. breed	b) are kept for the milk
3. cow	c) a classification of a type of animal
4. beef cattle	d) adult, castrated males
5. dairy cows	e) animals raised on a farm
6. calves	f) an adult female who has had more than two calves
7. oxen	g) young cattle

Ex. 4. Подготовьте сообщение о различных породах крупного рогатого скота в странах изучаемого языка. Используйте материалы следующих сайтов:

Породы скота в США: https://www.agdaily.com/livestock/top-10-cattle-breeds-united-states/;
КРС в Великобритании: https://www.countryfile.com/wildlife/mammals/native-british-cattle-breeds-and-how-to-recognise-them/;
КРС в Австралии: https://www.agrifutures.com.au/farm-diversity/beef-cattle/; https://www.vetvoice.com.au/ec/farming/cattle-breeds/;
Породы скота в Канаде: http://www.canadianbeefbreeds.com/breeds/

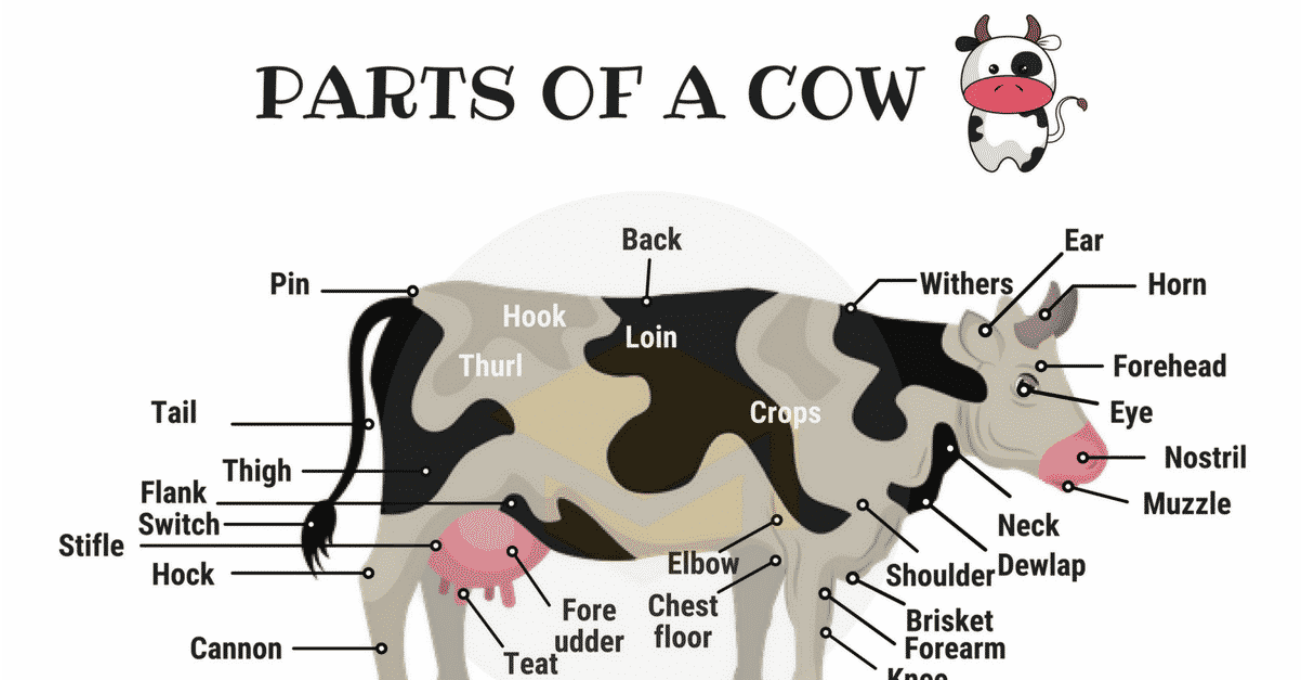
TEXT 2

The Anatomy of a Cow

As you can see, there are many parts of a cow. Cows vary in all different colours, some are brown, tanned, white, black, brown white patched or black-white patched. In a female cow, milk is produced in the udders and extracted from the teats. A cow's udder has four compartments with one teat hanging from each. Tiny cells remove water and nutrients from the blood and convert it into milk. The milk forms into droplets. If the cow's teat is squeezed, it produces a squirt of milk and is either saved in tanks or feeds a suckling calf. A cow's mouth is adapted for grazing; the top part of the mouth is a hard pad and the bottom part is a row of flat- topped teeth. Cows have 32 teeth in all, 8 incisors on the bottom part and 6 molars on the top and bottom parts on each side. The cow tears grass from the field and grinds it between the two mouth parts. A cow's ears are very flexible and can turn in any direction. They are especially used to hear any signs of danger from many directions. Cows have long tails which they use to waft insects.

Bulls have horns, although some female cows have small horns too. Bulls' horns are made out of similar material to our fingernails called 'Keratin'. Bulls' horns can be removed without causing the cow any discomfort. Diet: Cows are herbivores which it means they do not eat meat, only plants, grass and cereal. Cows are ruminant animals, which mean they have more than one compartment stomach. Cows have a four part stomach; each part is used for a different process. Cows swallow their food without chewing it too much at first. Later cows regurgitate a 'cud' which is then chewed well and swallowed.

Активные слова и выражения: to chew, compartment, to convert, cud, to extract, flexible, to grind, herbivores, nutrient, to regurgitate, ruminant, to squeeze, to squirt, suckling, to swallow, to tear.



Exercises

Ex. 1. Закончите предложения:

1. In a female cow, milk is produced in the (вымени) and (выжимается) from the teats.
2. A cow's mouth (приспособлен) for grazing.
3. A cow's ears are very (гибкие) and can (поворачиваться) in any direction.
4. Cows have long tails which they use to waft (насекомых).
5. Cows are (травоядные), which means they do not eat meat, only (растения), (траву) and (злаки).
6. Cows are (жвачные) animals, (это означает) they have more than one compartment (желудок).
7. Cows (глотают) their food (не жуя) it too much at first.

Ex. 2. Переведите предложения на английский язык:

1. Коровы — травоядные животные, питающиеся растениями, травой и хлебными злаками. 2. У взрослых коров (примерно к 34 месяцу) — 32 постоянных зуба, которыми они рвут и разжевывают траву. 3. Гибкие уши коровы могут вращаться в любом направлении. 4. С помощью длинного хвоста коровы отмахиваются от мух и других насекомых. 5. Коровы — жвачные животные с выменем и четырехкамерным желудком. Из всосавшихся в кровь питательных веществ и воды в вымени образуется молоко. Вымя состоит из четырех отделений, соединенных с сосками. Коровье молоко выдаивается путем последовательного сжатия сосков пальцами. 6. Рога быков образованы из аналогичного нашим ногтям материала — кератина. Они могут быть безболезненно удалены.

Ex. 3. Составьте предложения, используя активные слова и выражения

Ex. 4. How can you describe the anatomy of a cow?

Составьте небольшое сообщение для обсуждения в группе.

TEXT 3

The Cow's Digestive Tract

The cow's digestive tract consists of the mouth, esophagus, a complex four-compartment stomach, small intestine and large intestine. The stomach includes the rumen, reticulum, omasum, and abomasum.

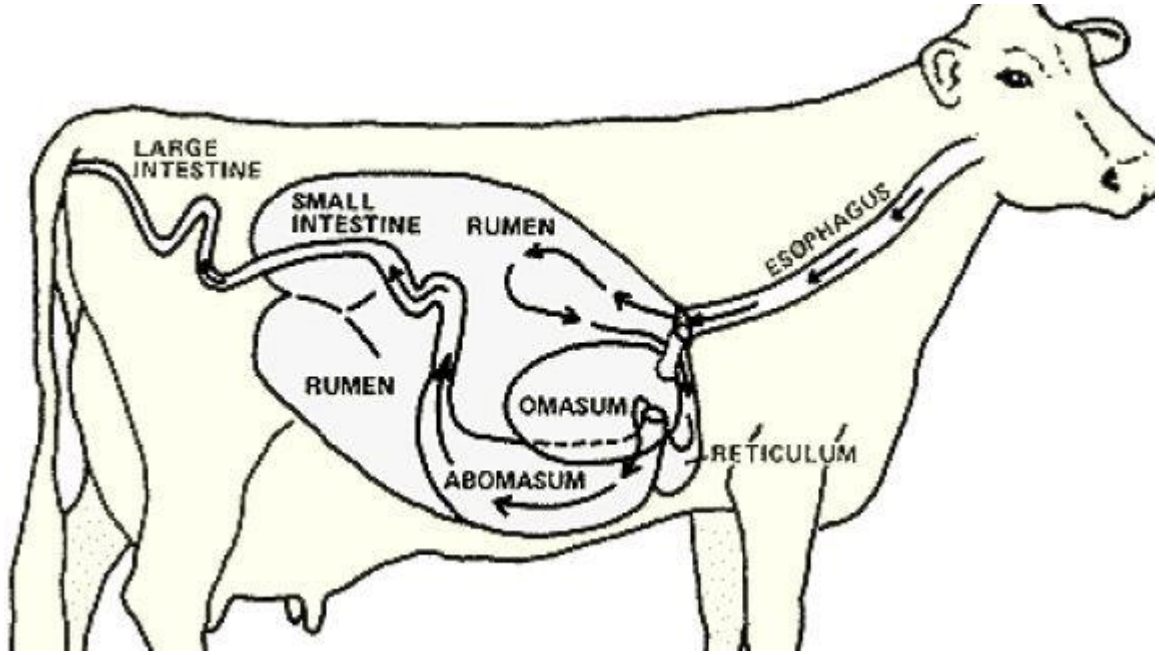
The rumen. The rumen (on the left side of the animal) is the largest of four compartments and is divided into several sacs. It depends on the size of the cow. Because of its size, the rumen acts as storage. A microbial population in the rumen digests or ferments feed eaten by the animal. Cattle sometimes consume heavy feed and metal objects which are deposited in the reticulum, the smallest compartment, and this is where hardware disease occurs. If not corrected by surgery, infection may occur and the animal may die.

The omasum. This globe-shaped structure contains leaves of tissue (like pages in a book). The omasum's main function is to absorb water and other substances from the digestible feed.

The abomasum. The abomasum is most like the human stomach; this is why it is known as the "true stomach."

The small intestine. The small intestine measures about 20 times the length of the animal. The small intestine receives the secretions of the pancreas and the gallbladder. Most of the digestive process is completed here, and many nutrients are absorbed into the blood and lymphatic systems.

Large intestine. This is the last segment of the tract through which undigested feedstuffs pass.



Активные слова и выражения: digestive, surgery, tissue, esophagus, secretion, large intestine, pancreas, small intestine, the rumen, reticulum, omasum, gallbladder, abomasum, feedstuff, to absorb, to consume, to deposit, digestible, ferment, sac, secretion

Exercises

Ex. 1. Переведите следующие слова и выражения на английский язык: пищеварительный тракт; желчный пузырь; толстая кишка; книжка; ткань; питательное вещество; желудок; сычуг; тонкая кишка; сетка; всасывать воду и другие вещества; пищевод; рубец; поджелудочная железа; состоять из; самый большой из четырех компонентов; по размеру; может попасть инфекция; переваривать; непереваренный.

Ex. 2. Соедините части предложения, переведите на русский язык:

1. The cow's digestive tract consists of ...	a) the rumen, reticulum, omasum, and abomasum;
2. The stomach includes ...	b) the mouth, esophagus, a complex four-compartment stomach, small

	intestine and large intestine;
3. The rumen is ...	c) the small intestine;
4. The rumen is divided into ...	d) leaves of tissue;
5. The reticulum is ...	e) the largest compartment of cow's stomach;
6. The globe-shaped structure of the omasum contains ...	f) the smallest compartment of cow's stomach;
7. The small intestine receives ...	g) the secretions of the pancreas and the gallbladder;
8. Most of the digestive process is completed in ...	h) undigested feedstuffs;
9. Through large intestine pass ...	i) several sacs

Ex. 3. Ответьте на вопросы по тексту:

1. What parts does the cow's digestive tract consist of?
2. What does the stomach include?
3. Is the rumen the largest compartment of the stomach?
4. What is the main function of the omasum?
5. What compartment of the stomach is called the "true stomach"?
6. What can you say about the small intestine?
7. What is the last segment of the cow's digestive tract?

Ex. 4. Составьте предложения, используя активные слова и выражения к тексту.

Ex. 5. Прочитайте и переведите следующий текст, ответьте на вопросы:

1) Where is milk produced? 2) Does water make up most of the weight of milk? 3) What is the main function of gamma globulin?

Milk Components

Milk is produced in the alveolar cells of each quarter. Some of the milk components apparently pass directly into the cell from circulating fluids, through the wall of the capillary and the cell wall. Other milk constituents are manufactured in the alveolar, being synthesized from certain precursors supplied by the circulating fluids. Water, which makes up most of the weight of milk, apparently enters the mammary tissue by simple filtration. The influence of ration on vitamin content of milk varies to the vitamin. In general, those vitamins which are dietary essentials for the cow (A, D, E and K) are present in milk in somewhat the proportions they are present in the feed. In the case of vitamin A, of course, some of the potency may be presented as the precursor, carotene. Vitamin C produced in the tissues and the B vitamins manufactured in the rumen do not depend, of course, on the ration composition.

Colostrum, the product of the mammary gland during the first few days after calving, is especially high in protein, fat, minerals and vitamins A and C. These high levels of critical nutrients help the young get off to a good start. Some of the extra protein in colostrum is the form of gamma globulin, which seems to function as a nonspecific disease-fighter. It makes a newborn animal more resistant to diseases and

infections. Colostrum also contains certain specific antibodies, which further protect the nursing young.

TEXT 4

CALF

Cattle are kept for two main purposes: beef production and milk production. The management of a dairy herd differs markedly from that of beef producing animals, for milk production is a daily process.

The life of a dairy cow may be divided into three periods. The first period is the one which lasts from the birth of a dairy calf up to about the age of 6 months. The second period lasts from 6 months until the heifer calves for the first time, usually at about 2, 5 years of age. The last period is the period of the maturity of a dairy cow.

The calf being normal after birth, the cattleman should leave it with its mother. Being healthy, the calf will soon get to its feet and start nursing. The first milk, colostrum, is very important for the new-born calf. It is secreted by the cow for 4 or 5 days after calving. The calf usually sucks its dam for about a week. Then it should be put into an individual pen and taught to drink milk from a pail. Calves should be fed whole milk at the same temperature as milk from the udder of the cow, the rate being about 1 to 1, 5 gallons a day. Feeding cold milk or too much milk will cause scours. Feeding at irregular intervals may cause digestive troubles too.

Calves being 3 weeks old, other feeds containing fibre should be given. All calves at this age should have access to a small amount of good-quality hay and clean water.

Whole milk is to be given until calves reach 8 to 10 weeks of age. Calves reaching this age, whole milk must be gradually decreased and skim milk or a milk substitute is given. From this age on dry feeding is increased while milk is decreased.

Calves should be turned out to pasture in spring as early as possible. Being kept on good pasture in summer, calves do not require any other additional feed. Calves being on poor grass, large amounts of hay, roots and a small amount of concentrates are necessary in addition to pasture. In winter calves should receive legume or grass hay. The quantity of grain is different, depending on the quality of hay fed to the calves.

Young heifers reaching about 18 to 20 months of age, a careful watch is kept upon them and when they come into heat, they are bred.

Mind:

until - (союз)до тех пор, пока…, не (+ сказ.)
for – 1. (предлог) для; в течение (перед указанием периода времени).
2. (союз) так как (часто после запятой).
too –1. тоже, также (в конце предложений)
2.слишком (перед прилагательным или наречием)

Активные слова и выражения: to calve, colostrum, to suck, dam, pen, udder, rate, to decrease, skim milk, to turn out to pasture, come into heat, for, too, until, for the first time.

Exercises

Ex. 1. Заполните пропуски подходящими по смыслу словами:

dam, water, a pail, calves, skim milk, carbohydrates, young, colostrum, too, fats, hay.

1. The heifer usually … at about 2,5years of age.
2. The first milk… is very important for the calf.
3. The calf usually sucks its … for about a week.
4. Then the calf begins to drink milk from ….
5. One should not give the calf … cold milk.
6. At three weeks the calf is given some ….
7. The calf being 10 weeks old, … … is given
8. To produce milk cows need much … and nutritious feed.
9. Energy is supplied by … and ….
10. Minerals are especially required by … animals.

Ex. 2. Ответьте на вопросы к тексту:

1. Why does the management of a dairy herd differ from that of a beef herd?
2. How many periods may the life of a cow be divided into?
3. When does a heifer calve for the first time?
4. What is very important for the first 4 or 5 days?
5. How long does a calf suck its dam?
6. What may cause scours?
7. When is the feeding of whole milk decreased?
8. What feed is necessary for young calves in summer?
9. What should the calves receive in winter?
10. When are heifers bred?

Ex. 3. Переведите на английский язык:

а) молозиво, вымя, в течение, уменьшать(ся), снятое молоко, покрывать, телиться, матка, слишком, норма, клеть, до тех пор, пока … не.

b) 1. Так как климат там теплый, скот содержат на пастбище и летом и зимой.
2. Снятое молоко содержит большое количество перевариваемого белка. Оно очень важно для поросят и телят.
3. Животновод уменьшает норму цельного молока постепенно.
4. Теленок должен сосать свою матку в течение недели после рождения.

в) 1. При выращивании молодняка задача состоит не только в том, чтобы вырастить всех рожденных телят, но и получить высокопродуктивных животных.
2. Рост и развитие телят контролируют взвешиванием, причем первое взвешивание производят после рождения теленка, а последующее ежемесячно.
3. В зависимости от условий в хозяйствах применяются различные способы выращивания телят.
4. Так как молозиво богато белками, витаминами и минеральными веществами, оно является очень важным кормом в первые дни жизни новорожденных телят.
5. Содержат телят как в индивидуальных клетках, так и группами в секциях.

Ex. 4. Прочитайте и переведите текст. Ответьте на следующие вопросы:

1. Are all cattle breeds high – productive?
2. What are the leading dairy breeds in the USA?
3. How many most commonly bred beef breeds are there in the USA?
4. What is a dual purpose breed?

Cattle breeds

There are many breeds of both dairy and beef cattle. Some of them are high-productive. The productivity of others may be average or low.

The cattle of dairy breeds are raised by man for the production of milk which is very important for the diet of the people.

In the Northern areas of the USA the Holstein is the leading dairy breed. In the southern states the Jersey is more popular than other dairy breeds raised there.

Beef breeds are kept not for milk but for meat. There are five most commonly bred beef breeds in the USA. Most farmers breed the Shorthorn and Hereford beef breeds of cattle.

There are also breeds which are kept for the production of both milk and meat. Such breeds are known as dual-purpose breeds. Two of them, the Red Polled and Milking Shorthorn are known as the best dual-purpose breeds of cattle in this country.

TEXT 5

Word-building

1. Определите, к какой части речи относятся следующие слова и переведите их, не пользуясь словарём:

1) digestible, to digest, digestion, indigestible.
2) addition, to add, additional, adding, added.
3) starch, starchy.
4) water, to water, waterless, watering.

2. Дайте русские эквиваленты следующих интернациональных слов: normal, economic, herbicide, characteristic, import, procedure, local, regular, secret, national, type, instrument.

MATURE DAIRY COW

The period of maturity of a dairy cow lasts from about 2,5 years onward.

The gestation period in cows is known to last about nine months. The cow in calf should be dried off at least six weeks before calving. Dry period may vary in different cows. During this period the cow should be given plenty of roughages and some grain unless she is in good flesh or on good pasture. The more milk is drawn off from the cow's udder the more will be secreted. That is why to dry off a cow the number of milkings should be reduced to one daily at first and then she should be milked every other day.

About a week before the calving date wheat bran should be given to the pregnant cow. Bran is known to be a cooling and laxative feed. It is very desirable for the cow before calving. A warm, dry, well-bedded stall should be provided for the cow at the time of calving. Calving being normal, no assistance is required. To know when each

cow is to calve one must keep a breeding record, showing when cows were bred. Accurate dates of calving may be obtained only when hand mating is practiced.

The duration of lactation has been found to vary with the age of the cow, the breed and feeding. In the case of a first calve it usually lasts about 8 to 10 months. Some high-yielding cows may produce milk for a year. The better the cow is fed and cared for, the longer is the period of lactation.

In preparing rations for milking cows many factors should be considered. Rations are to provide carbohydrates in a readily available form, have the proper amount of good quality protein, provide sufficient fat and mineral matter and contain the necessary vitamins. To obtain high milk yields is the aim of every cattleman. That is why they try to supply their cows with nutritious feeds. The more nutritious is the ration the more milk the dairy cows will produce. Unless dairy cows are fed the proper amount and kinds of feeds, they will not be provided with sufficient nutrients to produce high milk yields.

A dairy cow is known to require a very liberal supply of water, 3 to 4 gallons of water being needed for each gallon of milk produced by the cow. No increase in milk yields will take place if feeding and management conditions are improper.

Mind:

unless- если… не (сказ.)
the+ ср.ст.прилагат. …, the + ср. степень пр. – чем…,тем
no- (никакой, ни один) … не (сказ.)

Активные слова и выражения: gestation period, cow in calf; pregnant cow, to dry off, to be in good flesh, available, to mate, hand mating, dry period, to keep a breeding record, number, calving, every other day, unless, at least, the… the…, no.

Exercises

Ex. 1. Составьтепредложения, соединяя подходящие по смыслу части:

1. During six weeks before calving	a. is needed for a dairy cow
2. The cow should be milked	b. depends on the age, breed and feeding.
3. Wheat bran	c. may produce as much as 2000 gallons of milk per year.
4. The period of lactation	d. plenty of roughage is fed to the cow.
5. Some cows	e. unless they are fed and cared for properly
6. Liberal amount of water	f. every other day before calving.
7. Cows will not produce much milk	g. is very good for the cow before calving.

Ex. 2. Выберите подходящие по смыслу слова. Переведите предложения, не пользуясь словарем.

1. The cow is dried off at least six weeks before (weaning, calving, milking). 2. The (digestion, duration, gestation) period in cows lasts about nine months. 3. Good feeding (increases, decreases) milk yields. 4. Carbohydrates should be in an (valuable, available) form. 5. Ration should provide (efficient, essential, sufficient)

fat and minerals. 6. Little milk is produced by the cow if feeding and management conditions are (proper, improper, properly).

Ex. 3.Ответьте на вопросы к тексту:

1. When should the cow be dried off?
2. Why should the number of milkings be reduced?
3. What is given to the cow a week before calving?
4. What does the duration of lactation vary with?
5. What should rations for dairy cows provide?
6. Under what conditions will the cow produce much milk?
7. How many gallons of water are required for each gallon of milk produced by the cow?

Ex. 4.Переведите на английский язык:

а) запускать корову, период беременности, отел, сухостойный период, чем выше… тем лучше, сухостойная корова, количество (число), если … не, доступный, ручное спаривание, вести зооучет.

б) 1. Молочные коровы, как известно, потребляют много воды.
2. Коровы дают мало молока, если они не обеспечены хорошим кормом.
3. Сухостойный период, как известно, длится 6 недель.
4. В течение периода беременности коровам дают много грубых кормов.

в) 1. У крупного рогатого скота молочная продуктивность, как известно, считается наиболее важным видом продуктивности.
2. Важно получить не только высокую молочную продуктивность у коров, но и высококачественное молоко с большим количеством в нем жира, белка и других фракций.
3. Чем больший удой планируют получить от сухостойных коров, тем более обильно их кормят.
4. Концентраты, обеспечивающие коров необходимыми питательными веществами, скармливаются молочным коровам во время доения.
5. Имеется много примеров, когда под влиянием улучшенного кормления и содержания удои целых стад намного увеличивались.

Ex. 5. Прочтите текст и изложите кратко его содержание по-русски (по-английски).

FEEDING A DAIRY COW

A cow producing a large amount of milk needs more food than a low-milking cow. One should feed a heavy-yielding cow properly or she may lower her weight and will produce less milk. The rations for a dairy cow depend on the amount of milk produced by the cow and her live weight. Milk cow rations should be properly balanced. They should include sufficient quantities of carbohydrates, protein, minerals and vitamins. Cows receiving improperly balanced rations, the milk yields will be decreased.

In spring and early summer when there is plenty of green grass no supplementary feed is necessary even for high-yielding cows. Later in summer when grass becomes

scarce and indigestible some supplementary feed is required.

In winter high-quality hay, silage and root crops are the main feeds for dairy cows. Concentrates are supplied, depending on the quality of milk produced by the cow.

TEXT 6

Word-building

I. Определите, к какой части речи относятся следующие слова, и переведите их, не пользуясь словарем.

1) valuable, to value, value, valueless, valued, valuer, unvalued
2) to eat, eaten, eatable, eater, uneatable
3) to keep, keeping, keeper, kept
4) to use, the use, using, used, useful, useless, user

BULL MANAGEMENT

Bulls of both dairy and beef breeds are seldom allowed to run with the cow herds during the entire year. After the breeding season is over, they ought to be separated from the herd.

The best way of keeping the bull is to build a small barn with an adjoining paddock or pasture of 1 to 2 acres where he can exercise. The barn should be equipped with a stanchion to fasten the bull when it is necessary. Manger and water-supply are to be provided as well. The bull may be also kept in a box-stall inside the barn used for the entire herd. Being kept in this way, the bull may be fed and cared for with the rest of the herd. The barn should be well lighted and ventilated. It should be thoroughly cleaned every day.

If the bull is fed enough but not too liberally he will always be in vigorous condition but not fat. He should be provided with high-quality roughages such as legumes or mixed hay and small amounts of silage. From five to ten pounds of grain mixture may be needed to keep the bull in thrifty condition. Salt and clean fresh water should be available at all times.

The aim of every breeder is to have a large, healthy and vigorous sire in the herd. If the bulls were not fed well balanced rations and if they were not provided with enough exercise, they would become too weak during the breeding season. Increased rates of feeding are to be provided for the bull for a month before the breeding season begins and during it to keep him in good breeding condition. It is advisable to use only purebred bulls, since they are known to transmit their characteristics to the calves.

In large herds some bulls are allowed to run with the cows. It is recommended, however, to separate the cows into groups of 25 to 30 and to provide one bull for each group. The smaller is the number of the cows in a group the better, since the percentage of mating will be higher in this case. If the number of cows were very great, the percentage of mating would be rather low and this is not profitable for the breeders.

MIND:

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

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

Активные слова и выражения: breeding season, barn, stanchion, box-stall, salt, fresh, vigorous, sire, purebred, to allow, the rest of the herd, profitable, breeding condition, to be over, after, before, since.

Exercises

Ex. 1. Определите, какой частью речи являются выделенные слова в следующих предложениях; переведите:

1. All the calves are on pasture now.
2. This heifer calves for the first time.
3. There is a lot of pasture land in our region.
4. The cattle pasture on the largest paddock.
5. The herd bull ought to be large, healthy and vigorous.
6. They have a big herd of dairy cows.
7. We are speaking about the reasons of the decrease in milk yields.
8. When calves reach 8 weeks of age the rates of feeding milk decrease.

Ex. 2. Переведите предложения, обращая внимание на значение выделенных слов:

a) 1. The barn should be cleaned and ventilated before putting the calves into it.
2. The barn had been cleaned and ventilated before the calves were put into it.
3. After the calves had pastured they were fed high quality hay.
4. The cows were turned out to pasture after the calves.

b) 1. Paddock is necessary for the bull, for he is to take exercise there.
2. The stanchion should be provided in the box-stall, since it is sometimes necessary to fasten the bull.
3. As this bull takes a lot of exercise, he is vigorous and healthy.
4. No supplementary feed is given to the cows, since they are kept on good, young grass.

Ex. 3. Ответьте на следующие вопросы по тексту:

1. Are bulls usually allowed to run with the cow herd during the entire year?
2. When are bulls separated from the herd?
3. What is the best way of keeping the bull?
4. Where can the bull take exercise?
5. What is it necessary to have in the barn?
6. How should the bull be fed?
7. When are increased rates of feeding provided?
8. What kind of bulls is it desirable to use in herds?
9. For how many cows is one bull usually provided?

Ex. 4. Переведите на английский язык:

а) чистокровный производитель, заводская кондиция, привязь, случной период, выгон, выгодный, разрешать, сильный, соль, сарай, так как.

б) 1. Быка нужно хорошо кормить перед случным периодом.
2. Наша цель состоит в том, чтобы иметь сильного чистокровного производителя.
3. Количество коров в группе не должно быть больше 30.
4. Летом коровам разрешают быть на пастбище всё время.

в) 1. Производители будут находиться в заводской упитанности, если будет увеличено содержание белка в их рационе и улучшена минеральная и витаминная питательность корма.
2. В скотоводческих хозяйствах нашей страны существуют два способа содержания крупного рогатого скота: беспривязное содержание и содержание на привязи.
3. При беспривязном содержании подстилку, как известно, меняют 1-2 раза в год.
4. Задача скотоводов в летний период состоит в том, чтобы содержать скот на хорошем пастбище большую часть дня.
5. При любой системе содержания быки должны иметь достаточный моцион и соответствующее кормление и уход.

Ex. 5. Прочитайте и переведите текст. Ответьте на вопросы:

1. What are the two systems of using bulls?
2. How should bulls be fed?

SYSTEMS OF BULL USE AND MANAGEMENT

There are different systems of the management of a herd bull. Sometimes bulls are allowed to run with the cows during the breeding season, the number of them depending on the number of the cows in the herd.

Some farmers keep their herd bulls in a small barn, turning them out to the paddock adjoining the barn to take exercise. During the breeding season the cows that are to be mated are brought to the bull. This system of breeding is found to be a better one because it allows having accurate dates of calving. In this case the breeders know when each cow is to calve.

Under both systems of management the bull ought to be fed and cared for properly. To give the bull legume hay and some grain is necessary in order to keep him in breeding condition. Silage should not be given to the bull in large amounts.

Повторение темы: “Cattle”

1. Прочтите текст. Ответьте на следующие вопросы:

а) В каких случаях следует отнимать мясного телёнка рано?
б) Чем кормят телят в возрасте одного месяца?

Beef calves generally need little attention when they are with their mothers on good pasture. A few days after birth, however, it is often best to take calves away from their mothers if the cows are to be milked. The calf should have its own mother's milk for 4 or 5 days. Then it may drink from a pail.

A calf needs 3 to 4 pounds of whole milk daily for the first day or two after it is weaned. Sometimes a calf does not drink from a pail. When this takes place one should not feed the calf until it gets hungry. When the calf gets hungry it will drink milk readily.

Skim milk may be given to the calf when it is two weeks old. As skim milk is low in vitamin A it is necessary to provide the calf with the feed rich in this vitamin until it begins to eat hay, silage or grass.

Calves should be turned out to pasture as soon as possible. If pasture is not available when calves are a month old, a growing crop may be cut and fed to them. A small quantity of silage may be fed until pasture is available.

2. Прочитайте текст. Озаглавьте абзацы по-английски.

DAIRY FARMING

Dairying is one of the most important branches of agriculture. One reason for the importance of dairying is the high nutritive value of dairy products. Milk is one of the best sources of calcium, the mineral which is so essential for the growth of the skeleton of the animals. High-quality milk also contains considerable quantity of phosphorus and iron. Milk is a good source of vitamins A, D and B 1. Different dairy products are obtained by man from milk.

On dairy farms farmers grow grain crops, grasses and legumes in rotations. Dairy cows use large quantities of forage and at the same time help to maintain soil fertility.

3. Прочитайте текст. Ответьте по-английски на вопрос:

"What feeds are rich in almost all necessary nutrients?"

FEEDING DAIRY CATTLE

Nutritious pasture grasses, hay and silage are the most economical sources of nutrients for dairy cattle.

Thirteen mineral elements are necessary for the health, growth and reproduction of all animals. These minerals are calcium, chlorine, cobalt, copper, iodine, iron, magnesium, manganese, phosphorus, potassium, sodium, sulfur and zinc.

Even the best forages do not contain enough sodium and chlorine. Salt is fed to correct this deficiency.

Some forages are deficient in calcium and phosphorus. Mineral mixture should be fed in this case to provide the cattle with the necessary amount of calcium and phosphorus.

Dairy cows must have forages high in carotene to produce milk rich in vitamin A. Green grasses and legumes from fertile pasture provide all the carotene that dairy cows need.

For the most economical production about 80 percent of the nutrients required by dairy cows should come from green forage, hay and silage. High-producing herds need grain and protein concentrates in addition to forages.

In planning ration for dairy cattle one must select feeds that provide sufficient amounts of the necessary nutrients. One should provide enough carbohydrates, proteins, minerals, vitamins and water.

4. Прочтите текст. Озаглавьте абзацы по-английски.

For the winter ration, legume hay should be the main roughage feed. Good-quality hay is leafy and green in colour. Silage is good roughage for winter feeding. Corn silage is low in protein but it provides carbohydrates for energy.

Grass crops and legumes are also used to make silage. Legume silage is higher in protein than grass or corn silage. If low-protein hay such as timothy hay is fed, a grain mixture must be fed to provide increased protein.

High-producing cows require more protein than low-producing ones. Feed the grain mixture to each cow in the herd in proportion to the milk produced by her.

Good pasture is the best feed for dairy cows. Pasture grasses provide cows with vitamin A. Pasture is also desirable because it is an economical form of feed. Even when pastures become scarce additional nutrients can be provided by feeding silage and hay.

5. Прочтите текст. Укажите № абзаца, в котором говорится: а) почему выгодна загонная система выпаса; б) о стойловом содержании скота.

MANAGEMENT OF CATTLE ON PASTURE

1. Grazing normally begins in spring when pastures have dried up to some extent and when the growth of the grass is sufficient to begin grazing.
2. It is generally best to give the cattle a good feed of hay or oat straw in the morning before turning them out to pasture for the first time. Sometimes cattle are turned out for 3 or 4 hours during the day time for the first week.
3. Large fields are better divided into smaller areas and grazed either by smaller groups of cattle in each or by the rotational grazing system, when the whole herd is put into one enclosure for a week or 10 days and then moved to the next one. By such grazing each area is heavily grazed and manure is concentrated upon it.
4. In late summer and autumn the grass becomes scarce and the cattle should be provided with hay or various green succulents such as maize, cabbage, roots and others. It is important to begin giving supplementary feeding in time, for cattle may lose their weight before supplementary feeding starts.
5. For cattle of each class there are certain common principles of barn management. Cattle, especially young stock, should be provided with a dry, light and well – bedded barn. Good bedding provides a comfortable bed for the cattle keeps them clean and absorbs the liquid manure. A clean and adequate water supply is of the greatest importance. The more concentrated ration is the more water is required. Regularity in the time of feeding is very important.
6. Systems of feeding vary, but generally about half the root ration and hay are given in the morning and the other half in the evening. Cake is given in the

daytime and at the same time the mangers are filled with hay, oat or barley straw. Where no roots are fed, some green succulent food should be provided.

6. Прочтите текст. Выполните задание, данное после текста.

FATTENING CATTLE

The fattening of cattle is a common practice on farm where beef cattle are bred and corn is raised.

The length of the feeding period may vary from 2 to 12 months, depending on the age and condition of the cattle. The cattle that are more than two years old may be fattened quickly if they are in good condition. Calves that are less than two years old may be fattened in four to nine months. Sometimes it is profitable to feed calves nine months or longer.

Cattle should not be given too much grain at the beginning of the fattening period. Some farmers use less grain and more high-quality forage during a longer feeding period.

Sometimes it is profitable to give the cattle some legume hay or protein concentrate late in the summer when grass is maturing. Corn silage or carrots may be used in the ration of breeding cows when they are not on pasture or when pasture forage is scarce. A mineral supplement should be provided if cattle are fed with crops produced on the soil that is known to be deficient in calcium, phosphorus or other essential minerals.

Animals should have plenty of water and salt when they are being fattened.

Выразите своё согласие или несогласие со следующими утверждениями, основываясь на информации, полученной из текста. Своё согласие выразите, начиная предложение словами “That is right…”, а не согласие – словами ” “That is wrong… ”.

1. Fattening calves may be successful and done in a short period of time, provided the animals are in thrifty condition.
2. Grain is known to be the most important feed in fattening cattle.
3. When pasture grass is of poor quality, one should provide the animals with additional nutritious feeds.
4. If the soil is deficient in certain essential minerals, they should be added to obtain crops rich in these minerals.

CHAPTER II

Care and management of pigs

The Names of pig breeds

Berkshire ['ba:kʃə] — беркшир (английская порода свиней мясного направления)
Chester White ['ʧestə ‘wait] — белый честер (американская порода свиней мясо-сального направления)
Duroc [dju:'rək] — дюрок (американская порода свиней сального направления)

Hampshire ['haempʃə] — гемпшир (американская порода свиней беконного направления)
Landrace ['laendreis] — ландрас (датская порода свиней мясного направления)
Yorkshire ['jɔ:kʃə] (also called Large White) — йоркшир (английская порода свиней белой масти беконного направления)

Правила чтения:

e [i:] - he, be, she. we, evening, meter.
e [e] - bed, process, level, ten, test.
er [ɜ:] - adverse, fertilize, term, her, serve.
ee [i:] - seed, sweeper, been, feet, meet, reaper.
ea — [i:] – clean, please, means, meat, reaper.
ea — [e] - перед " d " - spreader, head, ready, bread.
Буквосочетание "ci" перед ,безударным гласным передает звук [ʃ]: social, electrician, provincial, special, ancient [‘einʃiənt].

Слова и выражения для повторения.

hog, hog breeding, hog breeder, pig, animal husbandry, fibre, wheat, rye, pigsty, exercise, water supply, gestation, to wean, livestock, sire, breeding season, breeding condition, fat, to mate, in order to, unlike, pregnant, properly, one.

Определите, к какой части речи относятся следующие слова, и переведите их, не пользуясь словарем.

1. Favourable, unfavourable, to favour.
2. aim, to aim, aimless, aiming, aimed.
3. to follow, follower, following, followed.

TEXT 1

Description and Behavior of Pigs

A typical pig has a large head with a long snout. The snout is used to dig into the soil to find food and is a very sensitive sense organ. A pig has a snout with a nose, small eyes, and a small tail, which may be curly, kinked, or straight. It has a thick body, short legs, and coarse hair. There are four toes on each foot, with the two large middle toes used for walking. Pigs have a full set of 44 teeth. The canine teeth, called tusks, grow continually and are sharpened by the lowers and uppers rubbing against each other.

Pigs are omnivores, which mean that they consume both plants and animals. Pigs scavenge and are known to eat any kind of food, including dead insects, worms, tree bark, rotting carcasses, garbage, and even other pigs. In the wild, they are foraging animals, primarily eating leaves, grasses, roots, fruits and flowers. Occasionally while in captivity, pigs may eat their own young if they become severely stressed. Pigs that are allowed to forage may be watched by swine herds.

Because of their foraging abilities and excellent sense of smell, they are used to find truffles in many European countries.

Domesticated pigs are commonly raised as livestock by farmers for meat (called pork), as well as for leather. Their bristly hairs are also used for brushes. Some breeds of pigs are kept as pets. Births peak occurs during rainy seasons. A female pig can become pregnant at around 8–18 months of age. Male pigs become sexually active at 8–10 months of age. A litter of piglings typically contains between 6 and 12 piglings.

After the youngers are weaned, two or more families may come together until the next mating season. Pigs do not have functional sweat glands, so pigs cool themselves using water or mud during hot weather. They also use mud as a form of sunscreen to protect their skin from sunburn. Mud also provides protection against flies and parasites.

Активные слова и выражения: bark, bristly, canine, cartilage, coarse, continual, to dig, to forage, litter, to mate, omnivorous, pigling, to rub, to scavenge, snout, tip

Exercises

Ex. 1. Определите, верны ли следующие утверждения. Если нет, объясните почему:

e. g. In my opinion that's right./I'm afraid I disagree.
I think so too./I can't agree because ...
I am certain that .../I doubt that ...

1. A pig has a snout with a nose, small eyes, and a small tail, a thick body, short legs, and coarse hair.
2. Pigs are omnivores. It means that they consume only plants.
3. The snout is not a very sensitive sense organ.
4. Because of their foraging abilities and excellent sense of smell, they are used to find truffles in many countries.
5. Domesticated pigs are commonly raised for meat (called pork), as well as for leather.
6. A litter of piglings typically contains between 6 and 12 piglings.
7. Pigs have functional sweat glands.
8. Pigs use mud to protect their skin from sunburn and as a protection against flies and parasites.

Ex. 2. Переведите на русский язык:

to consume both plants and animals; to forage; to provide protection against; may be curly, kinked, or straight; four toes on each foot; foraging animals; to dig into the soil; occasionally; pregnant; sense of smell; to find truffles; canine; sweat gland; pigling; to protect their skin from sunburn; litter.

Ex. 3. Составьте предложения, используя следующие слова и фразы:

a snout, to use, to eat any kind of food, a thick body, domesticated pigs, omnivores, to find truffles, the snout, to raise, to become pregnant, to cool.

Ex. 4. Переведите следующие предложения на английский язык:

1. Свиньи (лат.Suidae) — представители семейства нежвачных парнокопытных (Artiodactyla) животных, включающего около 20 видов.
2. Для свиней характерно компактное строение тела, вытянутая голова с острым рылом и короткие конечности. Как у всех парнокопытных, пальцы свиней срослись в копытообразные окончания.
3. Будучи всеядными, свиньи питаются как растительной, так и животной пищей. Свиней выращивают в основном для получения мяса.
4. Свиньи — умные животные. Они обучаются командам легче, чем собаки и кошки. В редких случаях свиней держат дома (обычно это карликовые породы). Во Франции специально обученные свиньи выискивают трюфели. 5. Свиньи любят валяться в грязи. Так животные избавляются от кожных паразитов. Когда грязь высыхает, она отпадает вместе с паразитами. Кроме того, валяние в грязи помогает свиньям охладить организм в жаркую погоду.

Ex. 5.Ответьте на вопросы по тексту:

1. How can you describe pigs?
2. Pigs are omnivores. What does it mean?
3. How many teeth do pigs have?
4. For what purposes do people raise pigs?
5. When does the births peak take place in pigs?
6. What do pigs use mud for?

Ex. 6. Прочитайте и переведите текст. Обсудите новую информацию о свиньях.

Pigs, also called hogs or swine, are ungulates which have been domesticated as sources of food, leather, and similar products since ancient times. More recently, they have been involved in biomedical research and treatments, especially for their eyes and hearts, which closely resemble those of human beings. Their long association with human beings has led to their considerable representation in culture from paintings to proverbs. The domestic pig is used for its meat, called pork. Other products made from pigs include sausage, bacon, gammon, ham and pork scratchings.

The head of a pig can be used to make a preserved jelly called head cheese. Liver, chitterlings, and other offal from pigs are widely used for food. In some religions, such as Judaism and Islam, there are religious restrictions on the consumption of pork. Pigs harbour a range of parasites and diseases that can be transmitted to human beings. They include trichinosis, cysticercosis, and brucellosis.

Pigs are also known to host large concentrations of parasitic ascarid worms in their digestive tract. The presence of these diseases and parasites is one of the reasons why pork meat should always be well cooked or cured before eating. Pigs are susceptible to bronchitis and pneumonia. They have small lungs in relation to body size; for this reason, bronchitis or pneumonia can kill a pig quickly. Pigs are known to be intelligent animals and are believed to be more trainable than dogs or cats. Nevertheless, pigs are rarely used as working animals. An exception is the use of truffle pigs — ordinary pigs trained to find truffles.

Ex. 7. How can you describe pigs? Подготовьте сообщения для обсуждения в группе.

TEXT 2

HOG MANAGEMENT

Hog breeding is known to be a very important branch of animal husbandry.

Hogs are bred for the production of bacon and pork. Best pork breeds of pigs produce pork at 4 to 5 months and bacon at 6 to 7,5 months. Unlike the other farm animals hogs are rapid-growing ones. Hogs may be kept under the system, that is, on pasture, under the indoor system, that is, in pigsties or combination of both. The hog breeders consider the last system to be the most effective one.

The best place for keeping the pregnant sow or a gilt is a pasture lot provided with a shelter to protect her from unfavorable weather. Locating the feed and water supply some distance from the shelter will make her take more exercise.

Feed pregnant sows properly, for sows in thin condition will produce weak litters. Several days before farrowing the pregnant sow should be put in the farrowing pen. Some farmers are known to place sows in the farrowing pen just before farrowing in order not to restrict her exercise.

It is known that the sow and her litter are usually kept indoors, where it is easier to provide the necessary care.

Hog breeders want their sows to be healthy and prolific. Prolificacy and early maturity are highly important biological characters of hogs. If a sow is prolific and a good mother she may be kept for breeding up to 5 years or longer.

Mind:

That is – то есть
So that- так, чтобы
That is why- вот почему; поэтому
Neither … nor – ни…ни

Активные слова и выражения: Sow, a pregnant sow, boar, to farrow, farrowing pen, litter, prolific, service, female, suckling period, to grind (ground), weak, teat, that, that is, so that, that is why, neither…nor, prolificacy, early maturity, thin condition

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части:

1. Shelter	a. are kept for breeding for 5 years and more.
2. Pregnant sows	b. are first used at the age of 10 months.
3. Prolific sows	c. is shorter than in other farm animals
4. The gestation period in sows	d. should be provided on pasture.
5. Young boars	e. may be the result of the excessive use of young boars.
6. Small, weak litters	f. should take much exercise.

Ex. 2. Заполните пропуски подходящими по смыслу словами:

Prolific, litters, farrowing pens, suckling period, boar, pigsties.

1. In winter sows and their…are kept in… .
2. Pregnant sows are put into … … some days before farrowing.
3. During the breeding season the … should be given some grain.
4. Unlike the other farm animals sows are highly … .
5. The … … in sows lasts about two months.

Ex. 3. Переведите следующие предложения. Обратите внимание на различные значения слова “that”:

1. The sow that is in thin condition will produce a small, week litter. That is why the breeders should feed and care for the sows properly.
2. We know that he is a good veterinarian.
3. Their breed of boars is better than that of sow.
4. That experiment was conducted at our Experimental Station.
5. That the pigsties should be clean, dry and warm is known to all hogmen.
6. The zootechnicians must maintain sanitary conditions in pigsties so that the animals grow and develop properly.
7. We need a highly prolific sow, that is a sow that will produce 12 or more pig in a litter.

Ex. 4. Переведите предложения, обращая внимание на парные союзы:

1. Prolificacy varies with both the breed of the sow and her age.
2. Neither a cowshed nor a pigsty, were cleaned yesterday.
3. This pregnant sow will be examined by the veterinarian either to-day or tomorrow.
4. The more exercise the boar takes the more vigorous he will be during the breeding season.
5. Exercise for the boar is as important as for the sow.
6. The milk yield this month is not as high as it was last month.

Ex. 5. Ответьте на следующие вопросы по тексту:

1. What are hogs kept for?
2. What systems of keeping hogs do you know?
3. How can we make sows take more exertise?
4. Where should the sow be placed some days before farrowing?
5. Why is it better to keep the sow and her litter indoors?
6. For how many years may a prolific sow be kept for breeding?

Ex. 6. Переведите на английский язык:

А) свиноводство, свиновод, свиноматка, супоросная свинья, хряк, опорос, закута для опороса, помёт, плодовитая свинья, подсосный период, случка, ни … ни, то есть, вот почему.

Б) 1. Мы хотим, чтобы свиноматки давали большие помёты.

2. Плодовитые свиньи используются для разведения пять или более лет.

3. Супоросных свиней содержат на пастбище.
4. В отличие от коров, свиноматки очень плодовиты.

В) 1. Свиньи сального типа, как известно, менее плодовиты, чем свиньи беконного типа.
2. Свиноводы знают, что содержание свиней даже на хороших пастбищах не обеспечивает их потребности в питательных веществах.
3. Поэтому животных подкармливают или концентрированными кормами, или силосом.
4. В подсосный период поросята быстро растут, при условии, если им дают все необходимые вещества.
5. Качество свинины изменяется в зависимости от возраста, породных особенностей животных, а также от вида корма.

Ex. 7. Прочитайте текст и изложите кратко его содержание.

FATTENING HOGS

Unlike the other farm animals hogs grow and develop rapidly, provided they are fed and managed properly. Hogs may be fattened in less than 6 months. That is why during one year one may fatten two generations of hogs.

The ration of hogs usually consists of concentrated feeds with small amounts of roughage. Roughages are high in fibre that is poorly digestible. Pasture is very important for hogs. Hogs being on good pasture, less grain and other feeds are required to fatten them. Corn is widely used as a fattening feed throughout the United States. Wheat, good-quality barley, sorghum or rye is fed to hogs as well. Corn may not be ground for hogs, other grains are usually ground coarsely.

Like other livestock hogs should have salt and water at all times. Certain antibiotics are used for fattening hogs. They are known to increase the rate of gain as much as 30 per cent or more during the period from weaning to 75 lb. (pound) in weight.

Ex. 8. Найдите информацию о наиболее популярных породах свиней и подготовьте доклад. Используйте следующие сайты:

https://www.countrylife.co.uk/country-life/in-praise-of-porkers-7-native-british-pig-breeds-82781; https://animals.mom.me/traditional-pig-breeds-8187.html; http://www.canswine.ca/; https://www.thecanadianencyclopedia.ca/en/article/pig-farming

TEXT 3

I. Слова и выражения для повторения: to eat, age, corn, oats, pen, live weight, to require, balanced ration, provided, nutritious, alfalfa, clover, grazing, forage, to clean, udder, to allow, to develop, health.

II. Дайте русские эквиваленты следующих интернациональных слов:
sanitation, parasite, symptom, cultivation, operation, bacteria, limit, continental, practical, technical, export.

CARE OF PIGS

The first week of a pig's life is known to be especially critical. During this period due temperature, ventilation and sanitation in the pen are most important. Sometimes it is advisable to put newborn pigs in a warm place and bring them to their mother every two hours. In four or six hours they may be left with their mother.

Young pigs begin eating solid food at the age of 3 to 4 weeks. At this age they are known to be fed a thin slop of milk, wheat middlings and oatmeal. As they get older they may be fed soaked shelled corn. The feed is usually given to them in a separate enclosure known as a creep. Due to the creep feeding little pigs may be fed the best feed.

Weaning pigs is usually done at 6 or 8 weeks of age. The best practice is to remove the sow from the pen, leaving the piglings in familiar surroundings. During the period of weaning the ration should be palatable and nutritious. More than 600 pounds of a balanced ration is required in feeding a pig from its weaning until it has a live weight of about 200 pounds.

Some hogmen are known to raise pigs entirely on grain. For such pigs to develop normally a mineral supplement should be provided. The mixture that is generally satisfactory includes equal parts of steamed bone meal, ground limestone and common salt.

Young pigs require more iron and copper than is supplied in the sow's milk. That is why they eat some turf and soil.

Pigs on good pasture require 10 to 15 per cent less feed than those raised without pasture. Pigs being kept on pasture, one of the main tasks of the hogbreeder is to prevent diseases and parasites. This is achieved best of all by using portable houses and by dividing the pasture into many plots. Provided that portable houses and temporary fences are used, the grazing should be large enough to provide forage for two or three weeks. Then the pigs are moved to a new plot. Thus the rotational grazing is known to be one of the best ways to prevent diseases and control parasites.

For pigs to develop normally due conditions in the piggery should be provided. The bedding ought to be short not to irritate the udder of the sow and to allow the pigs to move freely. To prevent infection the piggery should be thoroughly cleaned and disinfected. Rapid growth of pigs is due to both the proper feeding and the sanitary conditions in the piggery.

MIND:

due - должный, соответствующий
due to - благодаря, из-за, вследствие
to be due to- обуславливаться, объясняться

Активные слова и выражения: enclosure, creep, disease, fence, to move, to control, piggery, palatable, a thin slop of ..., steamed bone meal, due to, to be due to.

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части:

1. When pigs are on pasture — a. is given to pigs raised on grain.

2. Rotational grazing	b. of removing the sow from the pigs.
3. A mineral supplement	c. is to be short.
4. Weaning is the process	d. is good to control parasites.
5. During weaning	e. less feed is required.
6. The bedding in the piggery	f. for young pigs.
7. Creeps are organized	g. pigs should be fed palatable and nutritious feeds.

Ex. 2. Заполните пропуски подходящими по смыслу словами:

a piggery, newborn pigs, a creep, diseases, due to, palatable

1. Only mother's milk is needed to … … .
2. The temperature in … should be 18° C.
3. The feed of newly weaned pigs is to be both … and nutritious.
4. Our main aim is to control … and parasites.
5. All young animals are usually fed in … .
6. Weak pigs have become vigorous … … proper care and feeding.

Ex. 3. Переведите предложения на русский язык:

1. To develop well pigs should be fed properly.
2. For pigs to develop well they should be fed properly.
3. To make the sow take more exercise place the feed some distance from the shelter.
4. We must place the feed some distance from the shelter for the sow to take more exercise.
5. For the boar to be in thrifty condition due feeding and much exercise are to be provided.
6. To be in thrifty condition the boar is to take much exercise.

Ex. 4. Переведите предложения. Обратите внимание на выделенные слова.

1. The milk yields have been increased <u>due to</u> feeding nutritious feeds.
2. The increase in the milk yields <u>was due to</u> feeding nutritious feeds.
3. Corn is widely used in fattening hogs <u>due to</u> its high feeding value and palatability.
4. <u>Due</u> attention should be paid to the sanitary conditions in the piggery.

Ex. 5. Ответьте на вопросы к тексту:

1. Which period in a pig's life is most critical?
2. At what age do young pigs begin to eat solid food?
3. How is weaning done?
4. What is it necessary to provide pigs with when they are raised on grain?
5. When do pigs require less feed?
6. What is the best way of controlling diseases and parasites?
7. What conditions should be provided in a piggery?

Ex. 6. Переведите на английский язык:

а) болезнь, временная изгородь, предупреждать болезнь, бороться с болезнью, свинарник, загороженное место, столовая, соответствующий, вкусный корм, благодаря.

б) 1. Маленьких поросят кормят в столовой.

2. Благодаря такому кормлению они растут и развиваются хорошо.

3. Эта свиноматка даст хороший помёт.

4. Чтобы этот хряк был хорошим производителем в следующем сезоне, соответствующий уход и кормление должны быть обеспечены для него.

в) 1. Значение свиноводства для увеличения производства мяса обуславливается биологическими особенностями свиней.

2. Благодаря высокой плодовитости и скороспелости свиней можно получать двадцать и более центнеров свинины от каждой свиноматки.

3. В отличие от говядины, в свинине содержится меньше воды и больше жира.

4. Чтобы свиноводы получали быстрые привесы, они должны кормить поросят только легко усвояемыми и вкусными кормами.

Ex. 7. Прочитайте текст, переведите, найдите в нём описание свинарника, подготовьте сообщение об особенностях содержания свиней.

SYSTEMS OF KEEPING PIGS

There are two main systems of keeping pigs, the indoor system and the outdoor system.

Pigs kept under the indoor system require more vitamins and minerals than those kept under the outdoor system.

For pigs to grow rapidly due conditions in a piggery should be provided. The temperature should not be less than 16-21 ^{o}C the humidity should not be higher than 70%. The floor of the piggery should be warm. If it is not warm, it should be bedded.

When pigs are kept on pasture in summer they grow and develop well. Green grass is high in vitamins and minerals required by the animals. Pigs on pasture take plenty of exercise, which is very essential for their health. The best pasture grasses are alfalfa and clover. The animals should be given some concentrates, silage or root crops in addition to pasture, even if pastures are good. To make rapid gains pigs must be fed liberally from birth onwards. Their rations are to be properly balanced with proteins, minerals and vitamins.

It is very important to control diseases and parasites when pigs are kept on pasture. This is done by rotational grazing.

TEXT 4

RAISING HOGS

Good pigs managed and fed properly require less than 3 pounds of feed per pound of gain during the fattening period, and 4 to 5 pounds of feed will be used per

pound of gain during the period just before marketing. Grains are mainly used in the ration.

To produce less fat pigs should be marketed at weights of 200 pounds or less. Breeds of pigs of bacon types should be used; low-energy rations should be fed during the 120-200 pound stage.

Hogs like root crops but these crops should not be used alone. Better results are usually obtained by feeding small quantities of the root crops with grain and legume forage or by using alfalfa as the main feed.

Antibiotics are sometimes added to the feeds of hogs and other livestock to control harmful bacteria and other organisms that may interfere with the growth of the animals. In this way more economical gains and better growth are obtained.

One economical way to harvest corn is to turn hogs into the field. This method of harvesting corn is known as "hogging off". Small fenced fields are best for this system. Temporary fences may be used to divide large fields into smaller areas so that the hogs may use them better. Soybeans planted with corn are a good source of protein. The period from birth to 75 pounds in weight is the most critical one in the pig's life. That is why after weaning it is necessary to continue to feed the pigs a good balanced ration.

Pigs should not be weaned until they are eight weeks of age. At weaning time they should weigh 35 to 40 pounds or more. For a few days before weaning the ration of the sow should be reduced to decrease her milk flow. Then the sow is taken away from the pen, the pigs being left in their familiar surroundings. The hog breeder should feed the pigs liberally to obtain rapid gains. Palatable and digestible feeds such as barley and corn grain, oat meal, clover or alfalfa grass must be supplied. Concentrated and other feeds should be ground. The quality of grinding should be carefully tested, as fine grinding increases the digestibility of feed.

Активные слова и выражения: fattening period, a pound, low-energy ration, to interfere, to wean, gain, a pen, familiar surroundings, hogman.

Exercises

Ex. 1. Ответьте на следующие вопросы к тексту:

1. How can less fat pigs be produced?
2. Why is it important to add antibiotics to hog feeds?
3. What is "hogging off"?
4. Why are antibiotics added to the feeds of hogs?
5. What is weaning time?

Ex. 2. Закончите предложения по тексту:

1. Hogs like……
2. Antibiotics are sometimes added to the feeds of hogs and other livestock….
3. One economical way to harvest corn is……..
4. The period from birth to 75 pounds in weight is……
5. Pigs should not be weaned until……
6. The hog breeder should feed the pigs…….

Ex. 3. Переведите следующий текст (без подготовки).

SOW

In selecting sows and boars for the breeding herd it is best to take individuals from large litters. By selecting sows and boars from stock that is known to be prolific, the farmer can maintain a productive breeding herd.

Pregnant sows should be kept in good condition but not fat. Pasture grass that is rich in protein and essential minerals is ideal for pregnant sows. If good pasture is not available, grain or other protein-concentrated feed may be used to provide a balanced ration. A mineral supplement is often good for sows and pigs. Sows tending to fatten excessively, the hog raiser should feed them low – energy ration.

Sows are usually placed in farrowing pens a few days before the pigs are born. The farrowing pens should be clean, dry and well ventilated. If farrowing takes place in very cold weather the sows and pigs need additional care and protection. After the pigs are a day old the sow needs a small amount of feed and plenty of water. The feeding should be increased gradually for several days until the sow is on full feed.

CHAPTER III

Sheep farming

The Names of sheep breeds

Corriedale ['kɔrideil] корридель (новозеландская порода полутонкорунных овец мясо-шёрстного направления)

Cotswold['kɔtswəuld] — котсуолд, котсуолдская овца (английская порода длинношёрстных овец мясо-шёрстного направления)

Dorset['dɔ:sit] — дорсет (английская порода мясо-шёрстных овец с короткой шерстью), Dorset Down — дорсетская низинная; Dorset Horn — дорсетская рогатая

Hampshire ['haəmpʃə] — гемпшир (английская порода полутонкорунных короткошёрстых овец мясо-шёрстного направления)

Leicester ['lestə] — лейстер (английская порода полутонкорунных длинношёрстных овец мясо-шёрстного направления)

Lincoln ['linkən] — линкольн (английская порода длинношёрстных овец)

Merino [mə'ri:nəu] — меринос (порода тонкорунных овец шёрстного направления)

Oxford ['ɔksfəd] — оксфорд (английская короткошёрстная порода овец мясо-шёрстного направления)

Panama [ˌpaenə':ma:] — панама (американская порода длинношёрстных овец мясо-шёрстного направления)

Rambouillet — рамбулье (французская порода тонкорунных овец шёрстно-мясного направления)

Romney ['rɔmni] — ромни (английская порода полутонкорунных овец мясного направления)

Suffolk ['sʌfək] — суффолк (английская порода короткошёрстных овец мясо-шёрстного направления)
Targhee — тарги (американская порода полутонкорунных овец мясного направления)

Правила чтения:

I (y)[ai] - nine, fine, ripe, five, wide, size, pine, side, life, time, my, dry, style, type, try.
i (y)[I] - it, is, big, in, sit, fit, lift, this, did, its, system, little, ill.
Ir [э:] - bird, firm, first, third, birth, sir, girl,
Igh [ait] - might, fight, flight, right, slight, high.
i+nd (ld,gn) [ai] - Kind, mind, find, bind, sign, wild, design
wr [r] - write, wrong,
wh+o [h] - -whole, who.
wh+гл.[w] - which, when, where.

Слова и выражения для повторения: sheep, management, valuable, to grow, to supply, hay, healthy, vigorous, purebred, grain, in the fall, to keep, thrifty condition, unless, supplementary, breeding condition.

I. Определите, к какой части речи относятся следующие слова, и переведите их, не пользуясь словарём.

1. to protect, protected, protecting, protective, protection, protector.
2. care, to care, careful, careless, carefully.
3. to move, movement, moving, movable, unmovable.

TEXT 1

Mountain sheep

Sheep raising is one of the most important branches of animal husbandry. Sheep are reared for two purposes: wool and mutton production.

In sheep kept for mutton early maturity and quality of meat are known to be most important. Mutton is likely to be much more valuable than wool in Great Britain. The reverse is true for Australia, South Africa and other countries where the Merino is predominant.

The necessary qualities common to all breeds of sheep are hardiness, prolificacy, milking capacity of ewes, activity and good wool characters.

There are two main divisions of sheep in Great Britain which have to be carefully differentiated. They are mountain flocks and low ground flocks. The former are kept for breeding purposes only, the latter are kept for fattening as well as breeding.

As to the hill sheep feeding it is considered to be the simplest and most natural method of sheep-rearing. The flock is very hardy and eats all kinds of moses and grasses growing on hills and these seem to be sufficient for the sheep. Supplementary feeding is unlike to take place in ordinary years, unless the ground is heavily covered with snow. Winter being very stormy, however, it becomes necessary to supply the sheep with hay during the period when the ground is covered.

If only a thin layer of snow covers the ground most sheep seem to be able to find the feed, provided the surface is not frozen hard. Where hay cannot be supplied some sheep farmers provide the flock with maize and turnips.

Активные слова и выражения: to rear, wool, mutton, hardy, mountain flock, lowground flock, to choose (chose, chosen), ram, ewe, milking capacity, to improve, offspring, much, the former, the latter, hardiness.

Exercises

Ex. 1. Переведите предложения, обращая внимание на значение выделенных слов.

a) 1. Much water and salt should be available for cattle.
   2. The new sow is much more prolific than the old one.
   3. Much wool has been obtained from each sheep in this flock.
   4. Concentrates should be fed much more liberally, provided the ram is in thin flesh.

b) 1. Cattle are grouped into dairy cattle and beef cattle. The former are widely raised in our region. The latter are raised in the South where pastures are used throughout the year.
   2. Of these two methods the latter is the most effective.
   3. We feed our sheep either maize or hay. The former is used, provided hay is not available.

Ex. 2. Ответьте на следующие вопросы:

1. What are sheep reared for in England?
2. What is the main purpose of keeping sheep in Australia?
3. What are the two divisions of sheep in Great Britain?
4. Why is hill sheep feeding the simplest method of sheep rearing?
5. When is it necessary to provide the sheep with hay or maize?
6. What kind of rams should be chosen for breeding purposes?
7. How should the rams be fed to be in breeding condition?

Ex. 3. Переведите на английский язык:

а) овцематка, баран, выносливость, потомство, плодовитость, молочность, шерсть, баранина, горные овцы, низинные овцы, намного, выбирать, улучшать, отара.

б) 1. Овцы дают шерсть и баранину.
   2. Выносливость, плодовитость, молочность являются важными качествами овец.
   3. В Англии имеется два вида овец: горные овцы и низинные овцы. Последних разводят на откорм.
   4. Овцематки и бараны, выбираемые для случки, должны быть в хорошей заводской кондиции.

в) 1. В России имеется более 70 пород и породных групп овец: поэтому можно выбирать наиболее подходящую породу для каждой климатической зоны страны.

2. Задача овцеводов состоит в том, чтобы увеличить поголовье овец и повысить их продуктивность.
3. В организме овец накапливается много жира, благодаря этому минимальное количество корма и воды бывает достаточно им в трудные периоды летом и зимой.
4. Мясная продуктивность и молочность овец вероятно во многом зависит от ранней отбивки ягнят от матерей.
5. В отличие от других сельскохозяйственных животных, овцы значительно лучше используют пастбищные и грубые корма.

Ex. 4. Прочтите текст и изложите его содержание по-английски.

FEEDING SHEEP IN THE USA

Sheep are best adapted to the land that is high and dry. In general sheep rearing is not practiced in regions where it is both too hot and too wet.
In feeding sheep succulent feeds and roughages as well as good pasture grasses and legume hay may be used in great amounts. Grazing land is usually divided into small plots by movable fencing. Rotational grazing of pastures helps to control diseases and parasites.

As to grains corn is the main low-protein concentrate available in many parts of the United States. Some other grains are also used in feeding sheep. Grain crops sown in the fall provide pasture for sheep during late fall, winter and early spring. Wheat, barley and rye make good winter forage. Where good-quality legume hay is available high-protein concentrates are likely to be unnecessary.

TEXT 2

I. Слова и выражения для повторения: to manage, to produce, lamb, roughage, nutrient, amount, to increase, to decrease, depending on, birth, to eat, grass, solid, growth, succulent, available, as well, daily, a day, either … or.

II. Дайте русские эквиваленты следующих интернациональных слов:
form, formal, formally, formation, historic, population, combination, contribution, canal, structure, sort.

Lowground sheep

Most lowground flocks are either kept for providing high-class breeding animals, chiefly rams, or they are managed so as to produce as many fat lambs as possible.

Being fed good roughage during the early part of the pregnancy period, the pregnant ewes are supplied with the necessary nutrients to be in good condition. Placing the feed some distance from the pen the sheepmen make the ewes take exercise. For a period of 4 to 6 weeks before lambing grain is to be added to the ewe’s ration. Whether the amount of grain to be fed should be increased is decided, depending on the ewe’s condition.

Ewes are known to lamb in a lambing pen. Like the farrowing or calving pens the lambing pen should be cleaned, disinfected and ventilated before the ewe is put into it. The lambing pen should be dry and warm.

On the fat-lamb producing farms a creep feeding is commonly practiced. Having been arranged on pasture, the creep allows the lambs to eat the best fresh grass while the ewes following them eat everything left by the lambs.

Pastures are divided into several small paddocks by temporary fencing, each being grazed for 3 to 4 days. Then the sheep are moved to the next one. In this way the sheep are always eating fresh and clean grass.

In addition to feeding on pasture lowground flocks are provided with concentrated rations in troughs. Having finished feeding the sheep, the sheep raiser turns the trough upside down and leaves it so until the next feeding comes. Hay is widely used in feeding the sheep as well. Silage is also fed but to a limited extent.

Sheep grow better, when fed a concentrated ration twice daily. Young lambs should be fed three times a day.

During dry weather in spring or early summer the ewes should be given as much water as they desire, for in this case the milk flow for the lambs will be maintained even though there be little or no growth of succulent grass available.

Активные слова и выражения: to lamb, trough, pregnant ewe, pregnancy period, lambing pen, upside down, even though, whether.

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части.

1. Most lowground flocks are kept	a. are divided into small paddocks.
2. Pregnant ewes are given	b. are fed three times a day.
3. Lambing pens	c. are fed in troughs.
4. Creeps are practiced	d. for breeding.
5. Pastures	e. on fat-lamb producing farms.
6. Concentrates	f. some grain before lambing.
7. Young lambs	g. are kept clean and dry.

Ex. 2. Переведите предложения, обращая внимание на союз “whether”.

1. He asked the sheepman whether the lambs had already been fed.
2. Whether lambs are weaned at the age of 3 or 5 months depends on the amount of milk that the ewe has.
3. The farmer is interested whether the lambs are provided with enough dry bedding.
4. The amount of supplementary feeding depends on whether the pasture is good or bad.

Ex. 3. Ответьте на вопросы по тексту:

1. What are lowground sheep kept for?
2. What feed are pregnant ewes fed during the early part of the pregnancy period?
3. How do breeders make the pregnant ewes take exercise?
4. Is creep feeding often practiced in raising lambs?
5. In which case will the sheep eat fresh and clean grass all the time?
6. What additional feeding are lowground sheep provided with?
7. How many times a day should the sheep be fed a concentrated feed?

Ex. 4. Переведите на английский язык следующие словосочетания и предложения:

а) суягная овцематка, суягность, окот (ягнение), окотная клеть, кормушка, ли.

б) 1. Находясь на пастбище, ягнята развиваются хорошо.

2. Отобрав племенных баранов, животновод улучшил свою отару.

3. Окотная клеть должна содержаться в надлежащем состоянии.

4. Суягных овец надо хорошо кормить.

в) 1. Интенсивный откорм овец увеличивает количество откармливаемых животных при одних и тех же кормовых ресурсах.

2. Новорожденные ягнята должны получать первое материнское молоко не позднее чем через полчаса после рождения.

3. Чтобы получать большое количество ягнят, необходимо повышать упитанность овец перед случкой.

4. Чем больше молодняка в отаре, тем выше ее продуктивность, т.к. молодняк растет быстрее, чем взрослые животные.

5. Концентраты особенно полезны баранам-производителям, растущему молодняку и подсосным маткам.

Ex. 5. Прочтите текст и выполните задание, данное после текста.

FATTENING LAMBS

Lambs in farm flocks should be fed well from birth.

When lambs are suckling their mothers on good pasture, little or no grain is needed to the ewes. If pasture grasses are of low quality, creep feeding can be arranged on pasture or some grain may be fed to the ewes to increase their milk production.

Lambs start to eat solid feeds at the age of two weeks or a little later. Half corn and half oats make a good mixture. Another suitable mixture consists of corn, oats, wheat bran and some protein supplement in proper proportion. For the first two weeks grain for lambs should be ground. The lambs being older than two weeks, grinding is unnecessary.

If lambs are suckling their dams on good pasture, they can reach 80 to 90 lb. in weight in 4-5 months. The mutton at this stage is of the best quality.

Ответьте на следующие вопросы:

1. How may lambs be fed, if pasture grasses are poor?
2. When do lambs begin to eat solid feeds?
3. What are the two best mixtures for lambs?
4. How many months are required for lambs to reach 80-90 lb. in weight?

TEXT 3

Domestic sheep

Domestic sheep (Ovis aries) are quadrupedal, ruminant mammals kept as livestock. Domestic sheep are the most numerous species in their genus. Being one of

the earliest animals domesticated for agricultural purposes, sheep are primarily valued for their fleece and meat.

Sheep is typically harvested by shearing. A sheep's wool is widely used. Ovine meat is called lamb when from younger animals and mutton when from older ones. They continue to be important for wool and meat today, and are also occasionally raised for pelts, as dairy animals or as model organisms for science.

Sheep husbandry is practiced throughout the inhabited world, and has played a pivotal role in many civilizations. The domestic sheep is a multipurpose animal and there are more than 200 breeds now. In the modern era, Australia, New Zealand, and the United Kingdom are most closely associated with sheep production.

As livestock, sheep are most often associated with pastoral, Arcadian imagery. Domestic sheep are relatively small ruminants, typically with horns forming a lateral spiral and crimped hair called wool. A few primitive breeds of sheep retain some of the characteristics of their wild cousins, such as short tails.

Depending on breed, domestic sheep may have no horns at all or horns in both sexes or in males only. Another trait unique to sheep is their wide variation in colour. Colours of domestic sheep range from pure white to dark chocolate brown and even spotted or piebald. Selection for easily dyeable white fleeces began early in sheep domestication, and as white wool is a dominant trait it spreads quickly. However, coloured sheep appear in many modern breeds.

Depending on breed, sheep show a range of heights and weights. Ewes typically weigh between 45–100 kg, with the larger rams between 45–160 kg. Mature sheep have 32 teeth. The average life expectancy of a sheep is 10 to 12 years, though some sheep may live as long as 20 years. Sheep have good hearing, and are sensitive to noise. Sheep have horizontal slit-shaped pupils, possessing excellent peripheral vision; sheep can see behind themselves without turning their heads. Sheep also have an excellent sense of smell.

Активные слова и выражения: arcadian, dye, fleece, imagery, lateral, mutton, ovine, pastoral, pelt, piebald, pupil, quadrupedal, to shear, spotted

Exercises

Ex. 1. Переведите на английский язык следующие слова и выражения: баранина; овечья шерсть; самый многочисленный вид; хороший слух; многоцелевое животное; широкое цветовое разнообразие; смотреть назад; отличный; для сельскохозяйственных целей; четвероногое, жвачное животное; выращивать; зависеть от породы.

Ex. 2. Восстановите предложения на английском языке.

1. Sheep (были приручены) for agricultural purposes.
2. Sheep are primarily valued for their (шерсть) and (мясо).
3. They are also occasionally raised for (шкуры), as (молочное животное) or as model organisms for (науки).
4. As livestock, sheep are most often associated with (пастушеским), (сельским) imagery.

5. Domestic sheep are relatively small (жвачные животные), typically with (рогами).
6. Coloured sheep (появляются) in many modern breeds.
7. (Средняя продолжительность жизни) of a sheep is 10 to 12 years.
8. Sheep can see behind themselves without (поворачивая головы).

Ex. 3 Соедините термин и определение.

1.a flock	a) intact males
2. an ewe	b) castrated males
3. wethers	c) a lateral spiral and crimped hair
4. rams	d) adult female sheep
5. lambs	e) a group of sheep
6. wool	f) younger sheep

Ex. 4. Переведите предложения на английский язык.

1. Домашняя овца (лат. Ovisaries) — парнокопытное, жвачное млекопитающее. Это животное уже в глубокой древности было одомашнено человеком в сельскохозяйственных целях. Овечье мясо — баранина — является одним из важнейших продуктов питания во многих странах мира. Овец также разводят для получения овечьего молока и шкур. Наконец, овцы используются в научных экспериментах.
2. Размер и вес домашних овец сильно различается в зависимости от породы. Взрослые самки обычно весят от 45 до 100 кг, а взрослые самцы — от 70 до 160 кг.
3. У взрослых овец 32 зуба.
4. У овец хороший слух и чувствительность к внезапному шуму.
5. Овцы могут смотреть назад, не поворачивая головы, благодаря горизонтально вытянутым зрачкам и боковому расположению глаз.
6. Овцеводство практикуется во всем мире и во все времена играло важную роль в экономике многих стран. В настоящее время наибольшей популярностью оно пользуется в России, Китае, Австралии, Великобритании и Новой Зеландии.

Ex. 5. Составьте предложения, используя активные слова и выражения текста.

Ex. 6. Подготовьте доклад об овцеводстве в странах изучаемого языка. Для подготовки используйте следующие сайты:

https://www.agriculture.gov.au/abares/research-topics/surveys/lamb
https://www.ibisworld.com.au/industry-trends/market-research-reports/agriculture-forestry-fishing/agriculture/sheep-farming.html
https://www.ibisworld.com/united-states/market-research-reports/sheep-farming-industry/
https://www.independent.ie/business/farming/sheep/
https://spca.bc.ca/programs-services/farm-animal-programs/farm-animal-production/sheep/

Ex. 7. Прочитайте и переведите текст. Выясните:

1) some methods of sheep treatment; 2) prevalent maladies in sheep; 3) some words about predation.

Health and Sheep

Sheep may fall victim to poisons, infectious diseases, and physical injuries. Throughout history a lot of money was aimed to prevent sheep ailments. Historically, shepherds often created remedies by experimentation on the farm. In the 20th and 21st centuries a minority of sheep owners has turned to alternative treatments such as homeopathy, herbalism and even traditional Chinese medicine to solve sheep veterinary problems. The need for traditional anti-parasite drugs and antibiotics is still widespread. A common form of preventative medication for sheep is vaccinations and treatments for parasites. Both external and internal parasites are the most prevalent malady in sheep, and are either fatal, or reduce the productivity of flocks. Worms are the most common internal parasites. They are ingested during grazing, incubate within the sheep, and are expelled through the digestive system. A wide array of bacterial diseases affects sheep. Diseases of the hoof such as foot scald are treated with footbaths and other remedies. A great threat for sheep is predators. Sheep have little ability to defend themselves, compared with other species kept as livestock. Even if sheep survive an attack, they may die from their injuries, or simply from panic. Sheep producers have used a wide variety of measures to combat predation. Premodern shepherds used their own presence, livestock guardian dogs, and protective structures such as barns and fencing.

Повторение темы "Sheep farming"

1. Прочтите текст. Составьте план к тексту по-английски.

"SHEEP"

Sheep are best adapted to the land that is high and dry, though they may be raised successfully on almost any land that is not too wet. Sheep raising is usually not practiced in regions that have a combination of high temperatures and high rainfall.

To keep the sheep healthy, they should be moved from one grazing area to another. This practice requires fences to divide permanent pastures into several grazing areas. Movable fencing may be used to regulate grazing of forage crops. Sheep do not need grain if good pasture is available.

Legume hays should make up a large part of the ewes winter ration. After the lambs are born grain may be fed to ewes and lambs to supplement available forage.

A strong, healthy lamb needs little care. A weak lamb should be put into a warm place for about two hours after birth. The lamb should be returned to its mother as soon as it is strong enough to nurse. If the lamb cannot nurse, bottle feeding may be necessary.

2. Прочтите текст и выполните задание, данное после текста.

FEEDING PREGNANT EWES

During the early part of the pregnancy period plenty of good roughage provides sufficient nutrients, unless the ewes are unusually thin. Feed part of the roughages at a distance from the pen to make ewes take exercise.

For a period of 4 to 6 weeks before lambing grain is to be added to the ration of the ewes. Feed the grain earlier if the ewes are thin. About ½ lb. of oats, corn or other grains or a mixture of grains is fed per ewe per day. If the roughage is of poor quality, feed some high-protein feed in addition to grain.

Ewes that are kept on pasture in winter should have some roughages preferably legume hay in addition to pasturage in periods of poor grazing due to storms or poor grass.

When legume hay is of poor quality or is not available, it may be well to feed a mineral mixture.

Укажите, какие утверждения не соответствуют содержанию текста.

a) Thin ewes are given plenty of roughage at the early part of the pregnancy period.
b) Ewes are given grain at the last part of the pregnancy period.
c) When pastures are poor ewes are given some mineral mixture.

3. Прочтите текст. Озаглавьте абзацы текста.

FEEDING THE EWE AND HER LAMB

After lambing the ewe and her lambs are to be kept together in a special lambing pen for 2 to 4 days. At this time the ewe is fed legume hay and plenty of water is provided for her. After 2 or 3 days a small amount of grain is added. This is increased gradually to 1 pound per ewe per day.

When ewes and their lambs are placed on pasture, no extra feeding of ewes is necessary, provided the pasture grass is good.

CHAPTER IV
Poultry breeding

The Names of poultry breeds

Plymouth Rock ['plimət'rɔk] — плимутрок (порода кур американской группы, мясо-яичного направления)
Barred Plymouth — полосатый плимутрок
Australorp['ɒstrələ:p] — австралорп (порода кур австралийской группы яичного (лёгкого) направления)
Brahma ['bra:mə] — брама (порода кур азиатской группы мясного (тяжелого) направления)
Cornish ['kɔ:niʃ] — корниши (порода кур английской группы мясного (тяжелого) направления)
Leghorn [leg'hɔ:n] — леггорн (общепользовательная порода кур американской группы яичного (легкого) направления)
Minorca [mi'nɔ:kə] — минорка (порода кур испанской группы яичного (легкого) направления)
New Hampshire [nju: 'haempʃə] — нью-гемпшир (порода кур американской группы общепользовательного направления)

Rhode Island Red ['rəud 'ailənd 'red] — красные род-айленд (порода кур американской группы мясного (тяжелого) направления)

Правила чтения

u, eu, ui [ju:] - use, produce, institute, suitable.
u[ʌ] - subject, bus, must, thus, cut, run, us.
u[u] - put, full, pull.
ou[ʌ] - young, trouble, country.
ou[u:] - found,round,count,out,house,about,
ou[u:] - soup,group.
ur [ə:] - turn, burn, hum, fur, murse.
ure[juə] - pure,secure,cure,endure.

1. Определите, к какой части речи относятся следующие слова, и переведите их не пользуясь словарем.

1. hill, hilly
2. mountain, mountainous
3. hardiness, hardy, hardier, hardiest
4. predominant, predominance, to predominate

2. Дайте эквиваленты следующих интернациональных слов и выражений:

Aggressive, bronchitis, cannibalism, carbon dioxide, chronic, dozen, hepatitis, incubation, infectious, jungle, maximum, minor, ornamental, polygamous, periodically, respiratory

TEXT 1

POULTRY BREEDING

Classification of birds. The term “fowl” is applied chiefly to edible species of birds raised commercially or domestically for the production of table birds, that is meat or white meat, eggs, down and feathers. In animal husbandry, fowl is also called poultry and such birds as chickens, ducks, turkeys, and geese are of primary commercial importance, while guinea fowl and squabs are mainly of local interest. On poultry farms, the male chicken is called the rooster or the cock; the female, especially that is more than a year old, is called the hen; the female less than a year old is called the pullet; the immature male is known as the cockerel; very young chickens of either sex are called chicks; and castrated males are called capons. It is required that the birds bred for meat should reach a specific weight, so they are to be grown for a particular amount of time. Thus, in poultry markets, fowl commonly means a full-grown female bird. The females, both mature hens and pullets, are mainly raised for meat and for their edible eggs; while cocks as well as capons are raised to become meat birds. Seven-week-old chickens are classified as broilers or fryers, and those that are 14 weeks old as roasters. In habit, chickens are strictly diurnal, highly gregarious, and polygamous. It is the high fertility of the species that is considered an important characteristic, especially because the eggs as well as the meat are valued as food. Periodically, domestic hens become broody, that is why,

they stop laying and show a strong desire to sit on their nests and hatch chicks. The incubation period is approximately three weeks if the proper hatching temperature is maintained. The chicks when they are hatched are not naked but covered with down and are immediately able to run around. Although they are able to feed themselves, newly hatched chickens can survive about a week without eating, subsisting on egg yolk that is included in the abdomen.

The origin of poultry. Chickens are descended from the wild red jungle fowl of India and belong to the species Gallus gallus, and they have been domesticated for at least 4,000 years. It is interesting that humans first domesticated chickens of Indian origin for the purpose of cockfighting in Asia, Africa, and Europe. Very little formal attention was given to egg or meat production until cockfighting was prohibited in England in 1849 and later in most other countries. For many years, poultry breeders were interested mainly in developing exotic ornamental breeds and new standard breeds of chickens, and poultry shows became very popular. It was from 1890 to 1920 that chicken raisers emphasized on egg and meat production, though meat production was often a by-product of egg production. Only hens that could no longer produce enough eggs were killed and sold for meat. Commercial hatcheries became important only after 1920 in Great Britain and in the US after World War II. By the mid-20th century, meat production had become more important than egg production as a specialized industry. To satisfy the requirements of commercial poultry farms is the main aim of poultry breeders at present. They have already developed numerous breeds and varieties of poultry that show great diversity in size and shape. It is known that the members of one breed are alike in shape, while the varieties of the breed may differ in minor characteristics such as the shape of the comb and in colour and markings. It is a group of breeds developed in a single country or geographical area that is called a class, that is why, the breeds are generally classified as Asiatic, Mediterranean, English, and American, among which the Leghorn, the Minorca, the Brahma, the Cornish, the New Hampshire are of great significance.

Chicken breeding is an outstanding example of the application of basic genetic principles. To affect faster and cheaper gains in broilers and maximize egg production for the egg-laying strains, poultry breeders have successfully applied inbreeding, line breeding, and crossbreeding, as well as intensive mass selection. It was due to incrosses and crossbreeding that hybrid vigour was achieved. Crossbreeding for egg production has used the single-comb White Leghorn, the Rhode Island Red, the New Hampshire, the Barred Plymouth Rock, the White Plymouth Rock, the Black Australorp, and the White Minorca. Crossbreeding for broiler production has used the White Plymouth Rock or New Hampshire crossed with the White or Silver Cornish or incrosses utilizing widely diverse inbred strains within a single breed. As a result, rapid and efficient weight gains, and high quality, meaty carcasses have been achieved.

Chicken feeding. To ensure a maximum intake of energy for bird growth and fat production by means of proper chicken feeding is essential for the efficiency of any poultry farm. It is high-quality and well-balanced protein sources that produce a maximum amount of muscle, organ, skin, and feather growth. In addition, it has been found that the essential minerals produce bones and eggs, that is, three to four per

cent of the live bird is composed of minerals and 10 per cent of the egg. Thus, it is important that birds should be provided with all minerals in their ration and especially with calcium which is necessary for egg formation. It is also desirable that all vitamins, such as A, C, D, E and K and all 12 of the B vitamins, should be included in the birds' ration. To have free access to water at any time is essential for birds' health. To stimulate appetite, control harmful bacteria and prevent diseases, farmers often use antibiotics. As a result, it has been calculated that modem rations produce about 450 g of broiler on about 0.9 kg of feed and a dozen eggs from 2.0 kg of feed. In terms of money, feed represents more than two thirds of the cost in egg production.

Management of poultry. Chicken meat and eggs have become mass-production commodities due to modem high-volume poultry farms where such operations as feeding, watering and cleaning as well as egg gathering are highly mechanized. To control heat, light and humidity, commercial farms widely use the battery system for raising chickens, that is, birds are confined in separate cages arranged in rows one above the other throughout the year. It has been found that this system increases production, lowers mortality, reduces cannibalism, decreases feeding requirements, reduces diseases and parasites, improves culling, and reduces both space and labour requirements. A carefully controlled environment that avoids crowding, chilling, overheating, or frightening is almost universal in chicken raising now. Among the world's agricultural industries, meat chicken breeding is one of the most advanced and it is presently considered the model for other animal industries.

Broiler industry. It is the broiler industry that is leading the way in advanced agricultural technology and efficiency. Intensive nutritional research and application, highly improved breeding stock, intelligent management, and scientific disease control have gone into the effort to give a modem broiler of uniformly high quality produced at ever-lower cost. Today, one person can care for 25,000 to 50,000 broilers that reach market weight in three months' time, giving an annual output of from 100,000 to 200,000 broilers. A modern broiler chick gains over 43 times its initial weight in an eight-week period. It is the aggressive marketing methods that have increased the per capita consumption of broilers more than five times in the recent decades, while per capita consumption of eggs has declined. More than 90 per cent of the 4,200,000,000 chicks 214 hatched per year in the early 1980s were used for broiler production and the remainder for egg production. As to the achievements in egg production, annual egg production per hen has increased from 104 to 244 since 1910. Poultry breeders and farmers predict further increase in the demand for poultry production in the future.

Main diseases of poultry. It is necessary that farmers should use strict sanitary measures on their farms as poultry are quite susceptible to a number of diseases. Some of the more common diseases that should be mentioned are the following: fowl typhoid, fowl cholera, chronic respiratory disease, bluecomb, Newcastle disease, fowl pox, blackhead, avian infectious hepatitis, infectious bronchitis, and some other infectious diseases. Strict sanitary precautions, the intelligent use of antibiotics and vaccines, and the widespread use of cages for layers and confinement rearing for broilers have made it possible to ensure satisfactory disease control. Parasitic diseases

of poultry, including hexamitiasis of turkeys, are caused by roundworms, tapeworms, lice, and mites. It is modem methods of sanitation, prevention, and treatment that provide excellent control.

Активные слова и выражения: guinea fowl, squab, diurnal, gregarious, nest, naked, abdomen, cockfighting, marking, incross, commodity, row, mortality, chilling, fowl typhoid, fowl pox, cage, capon, cockerel, comb (single comb), consumption, culling, diversity, down, duck, egg (egg laying/gathering), feather, fryer (syn broiler), fowl, goose (geese), hatching, heat, hen (broody hen, layer hen, laying hen), humidity, poultry (poultry house, table poultry), poultryman (syn poultry breeder), pullet, roaster, shell, stock (syn flock), turkey, yolk (egg yolk), meaty, achieve, decline, lay (laid, laid), survive, value (for smth).

Exercises

Ex. 1. Закончите предложения, используя информацию из прочитанного текста:

1. It is important to understand that the term “fowl” includes.... 2. To produce broilers, it is necessary to grow... .3. To become broody, hens should... . 4. It is the egg yolk that.... 5. To use fowl for cockfighting was the main.... 6. In the 1920s in order to increase meat and egg production... . 7. To classify the breeds of chickens, breeders use.... 8. It is essential that new egg-laying strains should produce... . 9. It is due to well-balanced feed rations that.... 10. According to the statistical data it is necessary to use about one kilogramme of feed.... 11. It is required to provide poultry houses with.... 12. It is interesting that the broiler industry.... 13. It is possible to reduce cannibalism by... . 14. It is desirable that infectious diseases should be prevented by... 15. In order to control parasitic diseases of poultry it is necessary....

Ex. 2. Заполните таблицу:

Classification and main terms	
The origin	
Main breeds and classes	
Feeding of poultry	
Systems of keeping poultry (advantages and disadvantages)	
Main diseases	

Ex. 3. Заполните пропуски подходящим словом в правильной форме:

to achieve, advanced, approximately, battery system, cage, chilling, comb, consumption, diversity, down, egg-laying, hatched, hatching, humidity, in terms of, to decline, to lay, laying hen, meaty, numerous, shell, stock, to survive, table poultry, yolk

1. Because of the high content of cholesterol many people have stopped eating eggs, and as a result the ... of eggs per capita ....

2. The highest efficiency of the poultry production ... due to the introduction of... technology and application of scientific methods to breeding poultry....
3. ... money the intensive system of keeping poultry is more expensive than the free range system.
4. The production of ... has highly specialized farms eggs.
5. Newly ... chickens are not naked but covered with soft ... which is not enough for the chickens to ... under cold conditions so they should be placed into the warm place in order to be protected from ....
6. It is necessary that... temperature should be ... 38 °C in the incubator.
7. It is due to breeding and selection that the poultry breeds show great... in size and shape of... which may be single, rose, pea, raspberry, homed etc.
8. The relative ... is the amount of moisture in the atmosphere which may be expressed as a percentage and it is lost in the incubator.
9. Standard ... tests have been used for many years to measure actual productivity of poultry.

Ex. 4. Переведите на русский язык следующие слова:

1. incubate, incubation, incubative, incubator, incubated; 2. hatch, hatching, hatchability, hatched, hatchery, hatcheryman; 3. lay, layer, laying, egg-laying hen, laying cage, laying battery; 4. advance, advanced, advancing, advancement; 5. predict, prediction, predictable, predicted, predicting; 6. achieve, achievement, achieved, achieving, 7. survive, survival, surviving, survived; 8. value, valued, valuable, valueless, 9. decline, declining, declined; 10. cull, culled, culling; 11. chill, chilled, chilling

Ex. 5. Составьте предложения, используя следующие конструкции:

1) It is necessary for smb to do smth; 2) I t is necessary that smb (should) do smth; 3) It is ... that/who
Model: It is necessary/poultry breeders/to meet the requirements of poultry farms/to develop new strains
1. **It is necessary for poultry breeders to meet** the requirements of large-scale commercial poultry farms by developing new highly productive poultry strains.
2. **It is necessary that poultry breeders should develop** new highly productive poultry strains to meet the requirements of large-scale poultry farms.
3. **It is poultry breeders who develop** new highly productive poultry strains to meet the requirements of large-scale poultry farms.

a) It is essential/broiler producers/to choose types with excellent table qualities/mature quickly;
b) It is required/poultrymen/pullets and cockerels/to separate/ individual cages/at the age of 8 to 9 weeks;
c) It is important/farmers/to feed broilers/high-protein and high energy rations;
d) It is desirable/a farmer/to obtain 150—180 eggs per year/each laying hen;
e) It is impossible/poultry breeders/to ensure high and stable egg production/free range system/in autumn and winter months;

f) It is recommended/poultry breeders/to choose the Leghorn or the Rhode Island Red breeds/for egg production;
g) It is possible/breeders/to influence the future performance of laying stock/proper chicks rearing

Ex. 6. Переведите на английский язык следующие словосочетания и предложения:

а) клеточная батарея для несушек; бройлерная клетка; либо каплун, либо петушок; простой (одиночный) гребень; предсказать 219 рост потребления на душу населения; в денежном выражении; достигать большого разнообразия; производить и пух и перо; птицевод; птица на мясо; успешно внедрять передовые технологии; многочисленные разновидности уток и гусей; наседка; курица-несушка; яйценоскость; инкубирование (высиживание) цыплят; уменьшилось примерно на 20%; влажность в птичнике; выживать при неблагоприятных условиях; питательная ценность желтка яиц; защитить как от переохлаждения, так и от перегрева; откладывать и высиживать яйца; суточный вылупившийся цыпленок; ценить за высокое качество; мясистая туша; твердая скорлупа; стадо индеек; выращивать домашнюю птицу; выбраковка молодых кур и петухов; контролировать отопительную систему b) 1. Необходимо, чтобы куры, зараженные птичьим гриппом, были отделены от стаи как можно скорее и забиты. 2. Именно в птицеводстве ученые достигли наибольших успехов в селекции и выведении новых яйценоских разновидностей птицы. 3. Обеспечить растущие потребности населения в свежих яйцах и птичьем мясе — это основная задача крупных птицеводческих хозяйств, построенных вблизи крупных городов. 4. Важно, что яичная продуктивность птицы определяется не только количеством яиц, снесенных несушкой, но и общим весом яиц. 5. На качество инкубационных яиц влияют многочисленные факторы, такие как особенности породы птицы, ее возраст, условия кормления и содержания, вес и форма яиц, а также качество скорлупы.

TEXT 2

THE DESCRIPTION OF THE POULTRY

Like the turkey, pheasant, quail, and other related birds, the domestic fowl is adapted for living on the ground, where it finds its natural food. The bird’s foot consisting of four toes with sharp claws is designed for scratching the earth. The first toe, called a hallux, points backwards. Birds have two legs; the lower part of each leg is called the tarsus or the shank, and the top part of the leg is known as the thigh. A pointed extension or a sharp outgrowth on the legs of male birds (e. g. roosters) is known as a spur.

Various breeds show great diversity in size and shape. The 5—kg Brahma cock, for example, has a miniature counterpart, the Bantam, weighing about 567 g. However, the large, heavy body with the round and full breast and short wings make most breeds of domestic poultry incapable of flying except for short distances.

The back is usually broad and tapering to the tail with saddle feathers in great abundance. The bird’s neck is often of medium length (though it may be rather long

in some breeds) and it is covered with feathers described as hackle feathers. Either of two long curving feathers in the tail of a rooster is called main tail feathers or sometimes sickles.

The length of the tail feathers varies greatly, for instance, the stubby tail of the squat Cochin is one extreme; another extreme is presented by the Japanese or Yokohama breed, in which the tail feathers of the cock may be as much as 2 m long. The rooster's tail is usually carried in an erect position.

The bird's wing consists of two main types of feathers: hard or cover wing feathers which are in the middle of the wing and flight feathers which are at the end of the wing and they are usually covered by the saddle feathers. The flight feathers are subdivided into the primary feathers or main flight wing feathers which grow on the outer half of a bird's wing sickle feather and the secondary feathers growing along the inner edge of a bird's wing. Because feathers of birds' wings are nonliving structures that cannot repair themselves when worn or broken, they must be renewed periodically. Most adult birds molt, that is lose and replace their feathers, at least once a year. Plumage of various fowl ranges in colour through white, gray, yellow, blue, red, brown, and black. The colour of fluff and feathers of the wings may be the same or quite different.

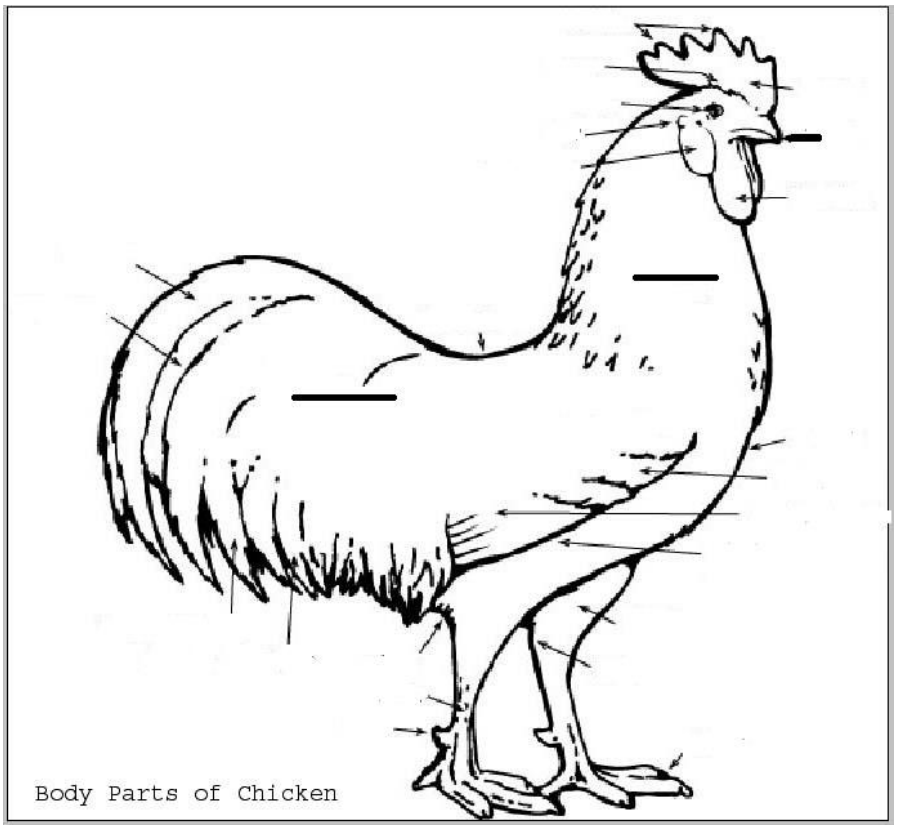
Birds have toothless, lightweight jaws, called beaks or bills. Unlike humans or other mammals, birds can move their upper jaws independently of the rest of their heads opening their mouths extremely wide. Birds' beaks occur in a wide range of shapes and sizes depending on the type of food a bird eats. Both female and male beaks are commonly short, stout, well curved, hooked and its colour depends on the breed. In adults of both sexes the head is decorated with the wattles, and the comb. The former are below the beak and the latter is a naked, fleshy crest on the top of the bird's head.

The comb is more developed in the male and is variously shaped depending on the variety of the domestic fowl. The comb structure can range from a simple, single, erect or drooping, serrated (зубчатый) appearance to more elaborate forms, such as the rose, the pea, the leaf, the strawberry combs, the V-shaped comb etc. The wattles as well as the comb usually vary in colour from pink to red.

The ears of birds are completely internal, with openings placed just behind and below the eyes. Special textured feathers called earlobes, usually red in colour, form a protective screen that prevents objects from entering the ear. Birds rely on their ears for hearing and also for balance, which is especially critical during flight. The eyes of birds protected by the eyelids are large and provide excellent vision. These lids moisten and clean the eye as well as protect them from wind and bright light.

Exercises

Ex. 1. Подпишите основные части тела птицы, упомянутые в тексте:



Ex. 2 Заполните таблицу:

Part of the body	Description of the body part
Body	Large, heavy…
Head	Decorated with…
Tail	Tail feathers may be…
Wings	Consist of many feathers such as….
Legs	Main parts are…

Ex. 3. Найдите дополнительную информацию о различных видах и породах домашней птицы, подготовьте доклад или презентацию для выступления в мини-конференции. Для подготовки к выступлению используйте следующие сайты:

1. https://thepoultrysite.com/
2. https://www.britannica.com/topic/poultry-farming/Types-of-poultry
3. https://www.poultryworld.net/

Ex. 4. Подготовьте сообщение с последующим обсуждением по одному из видов домашней птицы, используя информацию, представленную ниже и дополнительную литературу или интернет-источники:

Group 1. Duck Production

Original breeds: the Muscovy duck (Colombia, Peru); wild mallard (China); 2,000 years ago.

Terms: the female — the duck; the male — the drake; young birds — ducklings; flock of ducks.

Breeds: 12 domesticated breeds, three classes: meat-producing, egg producing, and ornamental.

Main domestic breeds: the White Peking (originally from China), meaty, fast growing, prodigious in egg production; the Khaki Campbell and Indian Runner; both prolific layers (each averaging 300 eggs per year); the Aylesbury (popular in England); the Peking duck (favourite in the USA).

Main producers: small-farm enterprises in some areas in England and the Netherlands; commercial plants in the US, especially large duckling industry in Suffolk County on Long Island, New York; at present also in Wisconsin, Indiana, and Virginia.

Advantages of duck production: convert some waste products and scattered grain (e.g. by gleaning rice fields) into nutritious and very desirable eggs and meat (white or yellow flesh); ready for marketing at 7—8 weeks; average weight 3.1 kg; birds are easily transported; can be raised in close confinement.

Main products from ducks: meat, eggs (a limited market); feathers (have been mainly replaced by synthetics); eiderdown (гагачийпух) (still of wide use in luxury quilts and pillows).

Group 2. Goose Production

Original breed: the greylag (Anser anser), a wild goose of northern Eurasia. **Terms:** the female — the duck; the male — the gander; young birds — goslings; flock of geese, gaggle of geese.

Breeds: two outstanding meat breeds: the Toulouse goose (an all grey breed originating in France); the Embden or Emden (an all-white goose originating in Germany). The African breed fattens more rapidly than any other breed.

Main producers: a minor farm enterprise in practically all countries, but important commercial goose production in Germany, Austria, some eastern European countries (mainly Poland), parts of France; mainly small-scale farms and few large farms in the USA.

Advantages of geese production: the birds are hardy; good foragers (are usually grown on ranges); require little care after the first 2—3 weeks. Geese may be used by farmers for weed control.

Main products from geese: meat (popular for Christmas in England); eggs (a limited market); feathers and down (high-quality insulation in quilts, pillows, sleeping bags, coats); the demand for goose down has increased in recent decades.

Group C. Turkey Production

Origin: the family Meleagrididae (order Galliformes), game birds native to North America, the Indians domesticated birds for food and sacrifice. In 1519 the Spanish brought the Mexican species to Europe.

Terms: the male turkey — stags or toms, the adult female — hens; the poult — the young turkey less than 8 weeks old.

Breeds: the Broad Breasted Bronze, the Broad Breasted White, the 1 White Holland — the most popular of the larger breeds, representing nearly three-fourths of the total production. The Beltsville Small White is the most popular of the smaller breeds and accounts for 25 per cent.

Problems of turkey production: in the late 1930s and early 1940s, production rapidly developed on a large scale, but it was difficult to control diseases; farmers grow birds on wire platforms which made production costly and labour inefficient; turkey poults (птенцы) are hard to start on feed. To make the birds eat, farmers use different methods, for example bright troughs (кормушки) or put yellow corn on top of the feed.

Advantages of turkey production: recent improvements in nutrition, breeding, disease control, management have made production efficient, large poultry bird; males produce more meat than females, at 24 weeks of age the toms are fifty per cent heavier than the hens; in breeding flocks, one tom is required per eight or ten hens. Due to recent improvements the amount of feed required to produce a pound of turkey meat has fallen 40 per cent; rapid increase in gains; 50 to 23-36 kg of feed; a turkey for market weight; from 2.5 to 3 pounds of feed per pound of gain on full-size turkeys; 1.1—1.2 kg of feed per 0.45 kg of gain for turkey broilers, which are marketed at from 12 to 15 weeks of age. Usually turkeys are given open range, but automatic waterers. sell feeders, range shelters, heavy fencing, and rotated pastures are widely used.

Main producers: Canada, the US. Successful marketing techniques have increased turkey consumption; e. g., in the US, per capita consumption from 1930/34 to 1980 rose 500 per cent.

Main products: Turkeys began to be raised for meat on a wide scale after World War II. Roasted turkey is a popular dish for Christmas in many Catholic countries.

UNIT II
ANIMAL HUSBANDRY

Introductory text
Animal husbandry

Animal husbandry is an important component of modern agriculture. Animal husbandry is the agricultural practice of breeding and raising livestock. Livestock is the term used to refer to a domesticated animal reared in an agricultural setting to produce food or fibre, or for animal's labour. The science of animal husbandry is taught in many universities and colleges around the world. Students of animal science may pursue degrees in veterinary medicine following graduation, or go on to pursue master's degrees or doctorates in disciplines such as genetics and breeding, or reproductive physiology. Graduates of these programmes may be found working in the veterinary and human pharmaceutical industries, the livestock and pet supply and feed industries, or in academia. The mission is to provide the community with high quality services that will support the relationship between people and their pets. One of our key roles is to implement government policies aimed at preventing or managing outbreak of serious animal diseases and in doing so support the farming industry, protect the welfare of farmed animals and safeguard public health from animal borne disease.

Активные слова и выражения: livestock, to rear, to pursue, genetics, reproductive physiology, pharmaceutical industry, outbreak, welfare, safeguard.

Exercises

Ex. 1. Ответьте на вопросы к тексту:

1. What is animal husbandry?
2. Where can graduates of these programmes work?
3. What is the mission of animal husbandry workers?
4. What is government policy aimed at?

Ex. 2. На основе текста и собственного опыта составьте высказывание о важности животноводческой отрасли сельского хозяйства.

CHAPTER I
Different kinds of farms

Слова и выражения для повторения: animal husbandry, the breeding of farm animals, dairy cattle, beef cattle, hog, sheep, poultry, to breed, to feed, to produce, meat, milk, egg, grass, grain, livestock, in summer, in winter, in the fall (in autumn), in spring, to supply (with).

Определите, к какой части речи относятся следующие слова, и переведите их, не пользуясь словарем:

1. different, difference, to differ, differently
2. to connect, connective, connection
3. milk, to milk, milker

Дайте русские эквиваленты следующих интернациональных слов: practical, continent, machine, potash, portion, risk, theory, popular, balance, ration, critical, tradition, traditional, traditionally.

TEXT 1

Mixed farm

This is a big mixed farm. It has been known for about 100 years. The farmer grows some grain crops such as oats, rye and barley. Wheat is cultivated to a less extent because it does not grow well here. Different kinds of fruit and vegetables are also grown on this farm. Oats and rye are grown as fodder for the animals. A large part of potatoes, cabbages and beets is also grown for fodder. The farmer has practiced different kinds of rotations.

On the farm there is a good cattle herd. All the animals belong to high productive breeds.

In winter the cattle are kept in the cowsheds and take exercise every day. They are on pasture 3-4 hours daily. In summer they are pastured all day long. Pasture provides feed and a lot of exercise. The animals grow and develop well on.

Besides cattle the farm breeds sheep, pigs and poultry. Cows are bred mostly for milk, sheep for meat and woof, pigs for pork and bacon and poultry for meat and eggs.

There are many different kinds of farm buildings on the farm. They are cowsheds, pigsties, sheep-pens and poultry houses.

There are not many horses on the farm. Nearly all the work is done by farmers with the help of machines.

There is always much work to do on the farm. It is necessary to work in the fields, to feed the animals, to milk the cows and to collect the eggs.

Now the farmer is in the pigsty. He is feeding the pigs.

Активные слова и выражения: to grow (grew, grown), crop, oats, barley, wheat., fodder, kind; a breed, herd, to keep (kept), exercise, pasture, pig, cow, pigsty, sheep-pen, cowshed.

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части.

1.The farmer grows	a. for pork and bacon.
2. These animals	b. is done with machines.
3.Pasture provides	c. cows, sheep and pigs.
4.Pigs are bred	d. oats and rye for fodder.
5.Cows are kept	e. belong to grain crops.
6.Nearly all field work	f. belong to high productive breeds.
7.The most important farm animals are	g. in cowsheds.
8.Wheat, rye and barley	h. most feed and exercise for the cattle.

Ex. 2. Ответьте на следующие вопросы по тексту:

1. What grain crops does the farmer grow?

2. Why is wheat grown to a limited extent?
3. What are cabbages and beets grown for?
4. What breeds of cattle do the animals on the farm belong to?
5. Where are the cattle kept in winter?
6. Where are the animals kept in summer?
7. What are the cows bred for?
8. What kinds of farm buildings are there on the farm?
9. Are there many horses on the farm?

Ex. 3. Переведите на английский язык:

а) стадо, пастбище, содержать, обеспечивать, овес, расти (выращивать), вид, корова, коровник, свинарник, упражнение (моцион), пшеница, овчарня, ячмень, порода, культура.

б) 1. Эту породу коров разводят на молоко. 2. Овец содержат в овчарнях. 3. Животные имеют моцион на пастбище летом. 4. Он уже накормил свиней. 5. Фермер в коровнике. Он кормит коров.

в) 1. Смешанные хозяйства - это хозяйства, занимающиеся выращиванием различных сельскохозяйственных культур и разведением домашних животных. 2. Коровы, которых содержат на пастбище летом, хорошо развиваются и производят много молока. 3. Кроме кормовых и зерновых культур, которые в основном выращиваются на корм скоту, хозяйство выращивает также много различных овощей. 4. Пастбища очень важны при разведении сельскохозяйственных животных, так как они дают необходимый корм и моцион. 5. В этом крупном птицеводческом хозяйстве очень мало лошадей, т.к. вся работа выполняется с помощью машин.

Ex. 4. Прочтите текст, найдите ответы на следующие вопросы:

1. What animals are known as farm animals?
2. What do farm animals supply us with?
3. Where are farm animals kept in winter?
4. What is important for animals in summer?

The animals that are bred by man are known as domestic animals. Those animals that are used in agriculture are known as farm animals. Cattle, sheep, pigs and poultry supply us with meat, milk and eggs. All these products are very important for the diet of the people because they are highly nutritious.

In winter farm animals are kept in special farm buildings. They are cowsheds, pigsties, sheep-pens and poultry houses. Pasture is very important for the animals during summer. In warm regions the animals are pastured in winter too.

There are many different breeds of dairy and beef cattle and of other farm animals. Some of them are high productive and some are not.

TEXT 2

Слова и выражения для повторения: beef cattle, lamb, to batten, herd, management, oats, exercise, to feed, fodder, to provide, cow, proper, grass, to produce, in order to, poultry, calf, to keep, daily.

Дайте русские эквиваленты следующих интернациональных слов: climate, role, central, reproduction, intensive, generation, infection, practice, season, calcium, periodically, agent, tropics, optimal, active.

DAIRY FARM

The area of the farm is 420 acres, 350 of which are in grass.

There are about 250 cows and about 250 calves on the farm. The farm has 20 bulls as well. The heifers are kept in age groups of 20 to 30 in each. Two or three bulls are provided for each group. All the cows kept on the farm belong to high productive breeds.

The average milk yield obtained from a cow has increased from 600 to 700 or 800 gallons per year.

Dairy cows are milked twice a day. As to the high-yielding cows they have to be milked three times a day. Cows are not milked by hand. They are milked with special machines.

As the climate of the region is mild the cattle are kept on pasture both in summer and in winter. Permanent as well as temporary pastures are very good here, because the soil is fertile. The main pasture grasses are clover and alfalfa.

The pasture land is divided into 75 paddocks. Each paddock is not more than four acres. The pastures are commonly grazed at about 100 cows to the acre and the interval between grazings is rather long. When supplementary feed is necessary, it is given to the dairy cows in the form of concentrates or root crops and sometimes in the form of silage.

The amount of feed consumed by the cow per day varies with the amount of milk produced by the cow and her live weight.

The quality of the feed is as important as its quantity.

Активные слова и выражения: bull, heifer, age, average, yield, to increase, permanent, clover, alfalfa, supplementary, silage, to consume, amount, weight, quality, to vary with, temporary, to obtain, as, as to, as well, as well as, both, both ... and.

Exercises

Ex. 1. Переведите предложения, обращая внимание на значения слова "as" и его сочетаний.

1. Domestic animals are very important as they supply us with highly nutritious products. 2. He works as an agronomist. 3. As the animals grow they are given more food. 4. Meat is as nutritious as milk and eggs. 5. As to the meat yield it has been increased. 6. They have increased the milk yields as well. 7. Proper care as well as management has been provided to the cattle.

Ex. 2. Переведите, обращая внимание на парный союз both... andи местоимение both.

1. Both crops are grown on our farm. 2. Both grain and root crops are used in feeding livestock. 3. Both daily cattle breeds are highly productive. 4. Both dairy and beef cattle are bred here. 5. Both the quality and the quantity of the feed are important. 6. Both

animal husbandry and plant growing are important branches of agriculture. 7. Both cowsheds have already been cleaned. 8. Their farm breeds both cattle and sheep.

Ex. 3. Ответьте на следующие вопросы по тексту:

1. How large is the farm?
2. How many cows are there on the farm?
3. How are heifers kept?
4. What breeds do the cows belong to?
5. What is the average milk yield per cow per year?
6. How often are the cows milked?
7. Where are the cows kept?
8. What are the main pasture grasses?
9. What does the amount of feed per cow vary with?
10. What supplementary feed is given to the dairy cows?

Ex. 4. Переведите на английский язык:

а) средний, дополнительный, постоянный, силос, удой молока, вес, качество, количество, возраст, бык, тёлка, как... так и, зависеть от, клевер, потреблять, увеличивать (ся), люцерна, стравливать (выпасать), временный, тоже.

б) 1. Корма, используемые нами, должны быть питательными. 2. Корнеплоды, выращиваемые в этом хозяйстве, используются как корм для скота. 3. Качество корма, потребляемого коровами, должно быть высоким. 4. Коровы, обеспеченные дополнительным кормом, увеличили надои молока в прошлом году.

в) 1. Что касается дополнительных кормов, их часто дают высокопродуктивным коровам в виде концентратов или силоса. 2. Надои молока, так же как и выход мяса, значительно увеличились в нашем хозяйстве. 3. В настоящее время коров не доят вручную, эту работу выполняют специальные машины. 4. В прошлом году это хозяйство получило довольно высокие надои молока от коров, которых кормили дополнительными высокопитательными кормами. 5. Рекомендуется разделять большое пастбище на загоны, каждый из них стравливается в течение определённого периода времени.

Ex. 5. Прочтите текст и озаглавьте абзацы по-английски:

FARMS IN ENGLAND

There are about 53500 farms in England. Most of them are small farms, less than 50 acres each. These small farms are family farms. All the work on the farm is done by the farmer and his family.

The types of farms in England vary with the soil and climate. In the Eastern part of England most farms are arable that is farmers grow different crops such as grain crops, potatoes and others. In the Eastern part of the country dairy farms are predominant.

Small farms in England are usually mixed farms on which farmers grow vegetables and fruit as well as keep cows, pigs and poultry for home use. They are to grow different crops and grasses in order to feed the animals.

The main aim in the agricultural policy of this country is the production of more meat than the increase in milk production.

TEXT 3

Слова и выражения для повторения: amount, quantity, quality, to consume, yield, as well as, poultry breeder, as well, pasture, beef production, weight, silage, calf (calves), to fatten, properly, cattle, to keep, healthy, meat, kind, cow, sheep, supplementary, to increase, average, to vary with.

Дайте русские эквиваленты следующих интернациональных слов: separation, total, climate, section, classification, concentrate, energy, illustration, result, carbohydrate, lactation.

BEEF PRODUCTION FARM

The area of the farm is 287 acres. Most of it is under pastures. Beef production is the most important part of the farm's economy.

High beef production is achieved by proper care and management as well as proper feeding and fattening of cattle. They are kept on both natural and cultivated pastures. The pasture land is divided into paddocks which are grazed in turn. Such system of using pastures is known as rotational grazing.

When pasture forage is scarce or when cattle are not on pasture, they are fed with corn silage, grass silage or high-quality clover or alfalfa hay. Com and legumes are the crops grown by the farmer for fattening cattle. Growing legumes, the farmer increases soil fertility.

As to the calves they are kept in groups separated by 10 days' age. Keeping calves in age groups allows the farmer to feed them according to their age. Weaning is usually done at the age of eight weeks. Male calves are castrated at about a week old.

Most of the calves are sold as veal. Calves raised for veal production are generally ready for marketing at the age of 6 or 8 weeks. At this age they weigh about 200 to 300 pounds.

The best veal is obtained by liberal feeding of whole milk. Calves consuming a great amount of whole milk grow and develop properly and the quality of meat is high. The total amount of milk required during the period of vealing will depend on the birth weight of the calf. About 10 pounds of milk is required for one pound of gain.

A shed divided into four sections is used as a calf house. New calves are to be put into this house in age groups.

MIND:

most – самый, наиболее (перед прилагательным)
most (of) - большинство (перед существительным)

Активные слова и выражения: Forage, scarce, corn, legume, hay, to raise, to wean, veal, to develop, to weigh, to require, to depend on, birth, gain, age pound, whole milk, rotational grazing

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части:

1. Proper management and feeding are required	a. are grown for fattening cattle.
2. Cattle are fed	b. is necessary to obtain the best veal.
3. Corn and legume	c. depends on the birth weight of the calf.
4.Calves are kept	d. in order to achieve high beef production.
5.Weaning calves	e. corn silage and legume hay.
6.Liberal feeding of whole milk	f. in age groups.
7.The amount of milk	g. is done at the age of eight weeks.

Ex. 2. Переведите следующие предложения, обращая внимание на значение слова "most":

1. This is the most productive beef breed in our region.
2. Concentrates are the most nutritious feeds.
3. Most of the farms in our region are cattle breeding farms.
4. Most pastures are natural in this part of the country.
5. Clover and alfalfa are the most important pasture grasses.
6. Most farmers wean calves at the age of 8 weeks.

Ex. 3. Ответьте на следующие вопросы по тексту:

1. What is necessary for high beef production?
2. What pastures are the cattle kept on?
3. When are the cattle fed with silage and hay?
4. What age are the calves weaned at?
5. What are calves raised for?
6. How many pounds do the calves weigh at the time of marketing?
7. How is the best veal obtained?
8. What does the amount of milk required during the period of vealing depend on?
9. Where are the calves kept?
10. Are the calves kept in age groups?

Ex. 4. Переведите на английский язык:

а) цельное молоко, кукуруза, бобовое сено, большинство, получать, возраст, отнимать, развивать(ся), требовать, фунт, вес при рождении, привес, зависеть от.

б) 1. Коров, дающих много молока, доят 3 раза в день. 2. Доение производится машинами. 3. Используя высококачественные корма, фермеры получают больше мяса. 4. Привесы телят были увеличены путём дополнительного кормления.

в) 1. Чтобы кормить телят в соответствии с их возрастом, их следует содержать в возрастных группах. 2. Высококачественную телятину можно получать, если

телятам давать соответственное количество молока и как следует за ними ухаживать. 3. Повышение плодородия почвы достигается различными путями, одним из них является взращивание бобовых культур. 4. Разные виды силоса скармливают скоту в видедополнительного корма к скудному пастбищу или когда скот содержат в коровнике. 5. Стравливание загонов, на которые делят пастбищную землю, производят по очереди и называют загонной пастьбой.

Ex. 5. Прочтите текст и ответьте на следующие вопросы по-русски:

1. Какие хозяйства всё ещё преобладают в США?
2. Какая отрасль сельского хозяйства является ведущей?
3. Какие корма являются основными?

FARMS IN THE USA

About 61 per cent of the total land area of the United States is in farms. Most farms in this country are family farms. They are rather small. These small traditional farms cannot compete with big industrial farms and they are now disappearing.

Livestock plays the leading part in the agriculture of the USA. Different high-productive dairy and beef breeds of cattle are raised on large farms. Sheep, pigs as well as poultry are raised by the American farmers all over the country.

Among the forage crops grown in this country com is the most important one. Hay crops are also widely grown as feed for livestock.

TEXT 4

Слова и выражения для повторения: horse, cattle, dairy cattle beef cattle, cow, sheep, hog, pig, poultry, a breed, fodder, to feed, to keep, to produce, to provide, to milk, to grow, to breed, breeder, cowshed, sheep-pen, poultry house, pigsty, herd, pasture, grain.

Определите, к какой части речи относятся следующие слева, и переведите их, не пользуясь словарем:

1) cultivation, cultivator, to cultivate.
2) high, higher, highly.
3) meat, meaty.
4) light, to light.

FARMER’S WORK

The farmer’s work though healthy is by no means an easy one.

There is always much work to do on the farm. He must look after his stables and his horses. He is to milk the cows and clean the cowsheds. Then he has to take great care of the young animals, the lambs, the calves and the pigs. Cattle, sheep and hogs should be fed and fattened. Somebody has to go round the poultry houses and to collect eggs.

The farmer should provide proper care and management of the cattle. The cowsheds, sheep-pens, pigsties and poultry houses ought to be kept clean, dry, lighted and well ventilated. Grasses, grain crops and root crops should be grown for fodder in order to feed the animals.

The farmer has to work very hard on his farm. He has to get up early in the morning in order to do all the necessary work.

In the old days most of the work had to be done by hand and with the aid of horses. Now the soil is plowed with a tractor, cows are milked by electricity and chickens are bred in incubators.

Активные слова и выражения: healthy, stable, clean, lamb, calf (calves), to fatten, proper, care, management, dry, light, root crop, to collect, by no means, to take care of, in order to

Exercises

Ex. 1. Заполните пропуски подходящими по смыслу словами:

incubator, buildings, management, exercise, cowshed, pigs.

1. Proper care and ... of the cattle are very important. 2. Pastures provide a lot of ... and feed. 3. All the ... for the animals should be clean and well ventilated. 4. Cattle and ... are fattened on this farm. 5. Chickens are bred in... . 6. There is a new ... on their farm.

Ex. 2. О**тветьте на следующие вопросы по тексту:**

1. Is the farmer's work easy?
2. What must the farmer do on his farm?
3. Why should the farmer grow grasses and root crops?
4. What is the soil plowed with?
5. Are cows milked by electricity now?
6. How are chickens bred now?

Ex. 3. Переведите на английский язык:

а) конюшня, чистить, здоровый, теленок (телята), ягненок, соответствующий уход и содержание, собирать, откармливать, корнеплоды, светлый сухой;

б) 1. Фермер должен чистить коровник каждый день. 2. Он должен накормить ягнят. 3. Свиньи должны содержаться на пастбище летом. 4. Соответствующий уход должен быть обеспечен для этих животных.

в) 1. Необходимо надлежащим образом заботиться обо всех животных, разводимых в хозяйстве. 2. Чтобы животные росли и развивались хорошо их нужно летом содержать на пастбище. 3. Нет необходимости давать коровам корнеплоды, если их держат на высококачественном пастбище. 4. В нашем хозяйстве много сельскохозяйственных построек, которые используются для различных целей. 5. В этом маленьком хозяйстве всех животных содержат в одном и том же помещении.

Ex. 4. Прочтите текст и, исходя из этого содержания, определите, какие из следующих утверждений являются ошибочными; внесите в них необходимые исправления:

1. The products which man obtains from farm animals are rich in protein.
2. Only root crops and grasses are grown as fodder for the animals.
3. Pastures are very important only for cattle.

CARE AND MANAGEMENT OF FARM ANIMALS

Farm animals are bred by man for the production of highly nutritious products such as meat, milk, and eggs. These products are very important because they are rich in animal protein. We may obtain a lot of meat, milk and eggs if we take great care of the animals. We must keep the animals in light, clean and dry farm buildings. We should feed the animals properly. Proper grain crops, grasses and root crops are to be grown as fodder for the animals. The feed for the animals ought to be highly nutritious. Pastures are very important for all classes of farm animals. They are important for cattle and sheep, for pigs and horses. Pastures provide a lot of feed and exercise. Exercise is very important for the health of the animals.

ПОВТОРЕНИЕ ТЕМЫ"DIFFERENT KINDS OF FARMS":

1. Прочтите текст. Догадайтесь о значении подчёркнутого слова. Выполните задание, данное после текста:

Dairy Farm in East Lancashire

In this part of England there are about 3,600 farms. Most of the farms are from 35 to 50 acres. They are small family farms.

The climatic conditions of this area are not very favorable to dairy farming.

The farmers breed dairy cattle in this part of the country because there are many industrial towns with milk.

The typical small dairy farm in Lancashire is a family farm of about 40 acres with 18 to 20 milking cows. The farmer keeps poultry as well. It is bred for eggs. Most of the milk and eggs are marketed.

The land is all grass. Half of it is used for hay and the other half for grazing. The area used for grazing is divided into paddocks. The quality of pasture grasses is good. Summer pasture provides feed and exercise for the cows. Poultry is kept only in the house. This method is known as intensive method of poultry keeping.

There are three kinds of farm buildings on the farm. They are a hay barn, a cowshed and a poultry house.

As it is a small family farm, the farmer has to do all the work on his farm himself.

He must feed the animals, milk the cows, collect eggs and clean the cowshed and the poultry house. He himself takes the milk and eggs to the market. Most of the farm work is done with machines.

The principal winter feed is legume hay. Silage making is not popular here. As rainfall is high hay making is a risky business in this part of the country. Natural drying of hay in the field is rather difficult. There is a tendency to dry it in the barn. The method of bam hay drying produces better hay.

The annual milk yield per cow is about 750-800 gallons. The farmer supplies the cows with 3 1/2 pounds of concentrates per gallon of milk. These concentrates are provided for cows because it is difficult to make high-quality hay.

Прочтите текст ещё раз и укажите, какие утверждения не соответствуют содержанию текста. Внесите свои коррективы (по-английски).

1. High-quality pastures are very good for keeping dairy and beef cattle and

poultry.

2. Pasture grasses, legume hay and silage are the feeds most widely used by the farmers in feeding cows.

3. The farms situated in this region of the country produce milk half of which is used by the farmer and his family and half is marketed.

4. Both methods of hay making, by natural drying in the field and by drying in the bam, do not produce high-quality hay.

CHAPTER II

Farm animals feeding

Слова и выражения для повторения: Cattle breeding, to produce , barley growing, sheep, grass, clover, alfalfa, to consume, dairy cow, grain, as well, both... and, should, have to, is to, hay yield, root crop, to provide, pasture, pig, quality, amount, to supply.

Определите, к какой части речи относятся следующие слова, и переведите их, не пользуясь словарём.

1) to feed, feeder, feeding, fed, the feed.
2) a product, production, to produce, productive, producer, produced..
3) proper, improper, properly

Определите, какой частью речи являются выделенные слова, переведите:

1. In winter the farmer feeds his cattle with high-quality legume hay and silage. 2. Roughage feeds are not good for feeding hogs. 3. They market pigs at the weaning age. 4. It is the largest market in our region. 5. These farms increase their milk yields from year to year. 6. There was a great increase in cattle population last year. 7. Farmers milk average and low yielding cows twice a day. 8. This dairy breed is high-yielding. 9. Farmers breed poultry for meat, and eggs. 10. There is always much work to do on the farm. 11. They work as zootechnicians.

TEXT 1

CLASSIFICATION OF FEEDS

Various feeds are used by man in feeding livestock. They are classified into three main groups: succulents, roughages and concentrates.

Succulent feeds are pasture grasses, silage and root crops. Roots contain a large amount of water and are laxative to stock. They are low in protein, but comparatively high in carbohydrates. Being fed together with hay or straw, roots provide good rations for sheep and cattle.

Green grass should be grazed when it is 4-8 inches high. Young grass is very rich in protein and animals eat it readily but its low fibre content may cause scours. The feeding value of grass is the highest in spring and early summer.

Silage is made from a variety of plants. Good silage is the one that is green in colour. Silage should be made from young leafy grass and clover. Having been prepared in this way, silage is always of high feeding value.

Roughages are bulky feeds. They are high in fibre content which is poorly digestible. For this reason they are not suitable for pigs, but one can give large quantities of roughages to cattle and sheep.

Good hay is the one that contains plenty of green leaf. The quality of hay varies with the kind of grass and the stage of growth at which it is cut. Hay made from grass in the early flowering stage is better than the one made from mature grass.

Oat straw is a valuable feed for providing bulk in the rations of beef animals and low-yielding dairy cows. Barley straw is sometimes fed to beef cattle. It is more digestible than wheat straw. Wheat straw is high in indigestible fibre. Most of it is, therefore, used for bedding.

Concentrates are feeds which are rich in either protein or energy or both. Being high in easily digestible nutrients and low in moisture and indigestible fibre, concentrates are very valuable in feeding all classes of animals. General grains, cakes and bran are illustrations of concentrates.

Having supplied the animals with the proper kind and amount of feed, the farmer will obtain good results.

Активные слова и выражения: succulent, roughage, concentrate, to contain, ration, water, straw, to eat (ate, eaten), fibre, content, to cause, scours, digestible, growth, to cut (cut), mature, bedding, nutrient, feeding, value, one, either...or, to be low in, to be high in, for this reason, plenty of

Exercises

Ex. 1. Переведите предложения, обращая внимание на значение выделенных слов.

a) 1. One must feed domestic animals properly. 2. One of the reasons of low gains may be poor feeding. 3**.** These feeds are the most nutritious ones for pigs. 4. In order to obtain good gains one should provide proper feeding and management. 5. The new cowshed is better than the old one. 6. One can use different kinds of bedding. 7. One should give enough water to the animals.

b) 1. During winter feeding months cattle are fed either silage or hay. 2. Grass is of feeding value either in spring or in early summer. 3. These roughages may be fed either to the cattle or to the sheep.

Ex. 2. Ответьте на следующие вопросы по тексту:

1. How are feeds classified?
2. Which feeds are high in water?
3. When is the feeding value of grass the highest?
4. What does the quality of hay vary with?
5. Why is wheat straw not used for feeding animals?
6. What are concentrates rich in?
7. What succulent (roughage, concentrate) feeds do you know?

Ex. 3. Переведите на английский язык:

а) Грубые корма, сочные корма, питательная ценность, неперевариваемая клетчатка, подстилка, содержание воды, питательные вещества, рост, вызывать, содержать, солома, рацион, или...или

б) 1. Будучи неперевариваемой, пшеничная солома не используется на корм скоту. 2. Корма, содержащие много воды, являются сочными. 3. Зрелая трава не должна использоваться для приготовления сена. 4. Концентраты содержат много легкоперевариимых питательных веществ.

в) 1. При скармливании животным зеленого корма улучшается качество продукции, получаемой от них. 2. Питательная ценность зеленой травы зависит от возраста растений; по мере того как растение стареет, содержание в нем клетчатки увеличивается. 3. В большинстве районов страны животные получают зеленый корм с естественных пастбищ. 4. Хорошо приготовленный силос имеет высокую питательную ценность и его можно давать сельскохозяйственным животным всех видов. 5. Все виды зерна, отруби, жмыхи относятся к концентрированным кормам, т.к. они содержат наибольшее количество легкоперевариимых питательных веществ.

Ex. 4. Прочитайте текст и озаглавьте его по-английски. Передайте содержание текста на английском языке:

Pasture grasses belong to succulent feeds. Hay made from grasses belongs to roughage feeds.

Pastures are classified into natural and cultivated. Cultivated pastures are classified into permanent arid temporary. Temporary pastures are used only 2 or 3 years, they may be used during one season as well. Permanent pastures are used for many years.

In the Northern areas where winters are cold pastures are used only in summer. In the warm areas cattle and other farm animals may be kept on pasture all the year round.

The best pastures are in spring and in early summer when grass is young and high in protein. Young grass also contains much calcium and vitamins, especially carotene. Green grass is consumed by farm animals in large amounts.

When pasture grasses become scarce cattle, sheep and hogs should be fed with high-quality roughages and concentrates.

TEXT 2

Слова и выражения для повторения: Water, fat, content, vary with, calf, fibre, source, digestible, livestock, to require, healthy, supplementary, heifer, cow, bull, proper, either...or, both...and.

Дайте русские эквиваленты следующих интернациональных слов:
Minerals, process, skeleton, phosphorus, class, electric, automatically, individual, progressive, transpirations, experiment, hectare, function, organ, control, naturalist.

COMPOSITION OF FEEDS

Feeds are composed of many substances. The more common of them are water, protein, carbohydrates, fats, minerals and vitamins.

Water

Feeds vary greatly in moisture or water content. The amount of water in oats and barley, for instance, is usually as little as 8 to 10% (per cent), while silage, roots and green feeds contain as much as 70 to 90 per cent water. Dairy cows should drink as much water as possible for the production of milk as milk is 87% water.

Proteins

Proteins are complex substances used to build up tissue, promote growth maintain and stimulate milk and fat production, develop the unborn calf and supply protein in milk. A cow producing 25 pounds of milk daily must receive 2.5 to 3 pounds in her ration. The lack of protein will reduce the amount of milk produced by u cow. The necessary amount of protein may be provided by feeding both roughage and concentrated feeds, such as linseed meal, cottonseed meal, soybeans, alfalfa and clover hay, green crops and others.

Carbohydrates

Carbohydrates are starches, sugar and fibre. They supply most of the energy required by the animals in order to do work, to keep themselves warm and to produce milk. Concentrated feeds such as oats, barley, com, wheat, rye are high in carbohydrates. That is why to provide the animals with concentrates is very important.

Fats

Fats in the diet are also used as a source of energy. But excessive fat in the ration is undesirable because it may lead to digestive troubles. Fats supply more heat, and energy than carbohydrates. Oil bearing seeds are the main sources of fat.

Minerals

Minerals are essential for the growth of the skeleton and all body processes. About 80 per cent of the mineral matter, chiefly calcium and phosphorus are found in the skeleton. It is therefore very important to supply the young animals whose skeleton is growing rapidly with enough minerals.

Vitamins

Vitamins play an important part in the feeding of all classes of livestock. They are required in small amounts for the normal growth and health of the animals.
To be in thrifty condition farm animals are to be provided with all these substances in proper proportion.

MIND:

as (much) as possible - как можно (больше)

Активные слова и выражения: Composition, substance, to receive, fat, carbohydrate, to reduce, thrifty condition, to drink (drank, drunk), as ... as possible, vary in, for instance, that is why, digestive troubles, oil bearing seeds

Exercises

Ex. 1. Составьте предложения, соединяя подходящие по смыслу части:

1.Roots are	a. indigestible fibre
2.The feeding value of grass	b. stimulate fat and milk production
3.Roughages are not	c. should be given to dairy cows
4.Concentrates are low in	d. in small amounts
5.Plenty of water	e. high in water
6.Proteins	f. is the highest in spring
7.Carbohydrates and fats are	g. suitable for pigs
8.Vitamins are necessary	h. the sources of energy

Ex. 2. Переведите на русский язык, обращая внимание на выражение as... as possible.

1. Hogs should be given as little roughages as possible.
2. The quality of feed should be as high as possible.
3. These animals ought to consume as much succulents as possible.
4. The soil for this experiment should be as rich as possible.
5. Farmers should use pastures as early as possible in spring.

Ex. 3. Ответьте на следующие вопросы по тексту:

1. What do feeds vary in?
2. Why should dairy cows consume plenty of water?
3. What are proteins used for?
4. How many pounds of proteins is it necessary to give a cow producing 25 pounds of milk a day?
5. What do carbohydrates supply?
6. What is energy required for?
7. Do fats supply less energy than carbohydrates?
8. Why are minerals essential for the young animals?
9. Are vitamins required by the animals in great amounts?

Ex. 4. Переведите на английский язык:

а) жир, углевод, упитанное состояние, снижать, получать, состав, пить, вещество, как можно выше

б) 1. Чтобы расти хорошо, животные должны получать все необходимые вещества.

2. Давать животным все необходимые вещества очень важно.

3.Чтобы производить молоко, корова должна получать много воды и питательных веществ.

4. Обеспечивать животных протеином необходимо.

в) 1. Так как в корнеплодах содержится много воды и мало протеина и минеральных веществ, они должны использоваться в сочетании с грубыми и концентрированными кормами.
2. В хорошо облиственном сене содержание протеина может повышаться до 15-18%.
3. Состав и питательная ценность соломы зависят от вида культуры, её уборки и многих других факторов.
4. Натуральные корма не всегда обеспечивают потребность сельскохозяйственных животных в витаминах.
5. Чтобы получать высокие привесы у свиней, необходимо обеспечивать их высокопитательными кормами.

Ex. 5. Прочтите текст. Выпишите из него предложение, где говорится о том, когда нужно давать животным больше воды, а когда меньше.

The Importance of Water for Farm Animals

Water is very important for farm animals. They should be provided with the necessary amount of water every day. The quantity of water required by the animals varies with the nature of the feed, the activity of the animal and the season as well.

The water content of feeds varies greatly. Roots, for instance, are about 88 per cent water, while hay is only 15 per cent.

Dairy cows must be supplied with large amounts of water for milk production as milk is high in water. A high-yielding dairy cow will drink as much as 8-10 gallons of water per day. In warm weather and after eating hay cows require more water than in cold weather and after eating succulent feeds.

Water given to the animals should be clean. It should not be too cold or too warm.

TEXT 3

ANIMAL NUTRITION

Since animal nutrition research began to develop rapidly during the 1930s, many discoveries about animal metabolism and nutrient requirements have been made. Nutrition is interpreted as the study of the organic process by which an organism assimilates and uses food and liquids for normal functioning. Adequate nutrition for any living organism is necessary for the following reasons: 1) in order to provide adequate energy levels; 2) to maintain proper body structures and processes, for instance, muscle function, immune protection, bone density and strength; 3) to ensure the repair and development of all the organism’s systems, thus to maintain balance between health and disease. In the case of farm animals, proper nutrition is affected by various factors, such as animal species and breed, animal age, body shape and size and other physiological characteristics.

A nutrient is any element or compound which is necessary for an organism’s metabolism, growth, development or other functions. It is essential to provide farm animals with adequate amounts of nutrients which they get from various feeds. In general, animals require the same nutrients as humans. There are six basic nutrients which are important for animals’ health and they are classified into the two main

groups: 1) substances that provide energy; 2) substances that support metabolism. The former group includes carbohydrates, proteins and fats; the latter comprises minerals (for instance, phosphorus, calcium), vitamins and water.

It has been found that any particular substance can play more than one role in the body. For example, most animals get energy from 51 carbohydrates and fats, which are oxidized in the body. However, protein supplies energy if other sources are inadequate or if it is supplied in great excess above the requirements of the body. Moreover, proteins provide the building blocks (amino acids) for enzymes and other proteins within the body. Thus, for most living organisms nutrients provide not only the energy necessary for certain vital processes but also the various materials from which all structural and functional components can be made up.

On the one hand, there are so-called non-essential nutrients which are synthesized by the cell if they are unavailable to the living organism with the food or feed. On the other hand, there are essential nutrients which cannot be manufactured within the cell in the body. Consequently, it is important to supply farm animals with feeds which contain certain essential amino acids as well as essential fatty acids. The problem of proper feed supply is of great importance to animal husbandry. Thus, various animal feeds are grown or developed for livestock and poultry, selected and prepared in order to provide highly nutritional diets that both maintain the health of the animals and increase the quality of such farm products as meat, milk, or eggs. Scientists have studied the usefulness of different feeds as sources of essential amino acids, vitamins, and minerals, as well as lipids and carbohydrates. They also have suggested the proper balance of available nutrients in the animal diet and as a result different nutrient supplements and feed-processing technologies have been developed.

Since the 1950s, antibiotics and other growth stimulants have been added to feeding rations in order to increase the rate of growth and reduce death loss of farm animals. Antibiotics help to overcome the growth depressing effects of an inadequate and poor-quality diet or of imperfect management practices, but their effectiveness differs among animal species.

The achievements of animal physiology and special studies of life processes in farm animals have ensured the development of the optimal diet for each animal. Many of the feeds have appeared as the result of research, experimentation, and chemical analyses which were conducted by animal scientists. However, the problem of adequate animal nutrition is still the subject of current studies for farm scientists. Human nutrition has been improved as a result of animal nutrition investigations.

Активные слова и выражения: to assimilate, liquid, bone density, feed-processing technologies, to overcome, management practices, lipids, growth stimulants.

Exercises

Ex. 1. Ответьте на вопросы по тексту:

1. Which problems does animal nutrition deal with?
2. What stimulated the development of animal nutrition research?

3. What characteristics influence proper nutrition?
4. What is the definition of the term “nutrient”?
5. What is the most general classification of nutrients?
6. What is the use of nutrients for animals’ health?
7. What is the difference between essential and non-essential nutrients?
8. What scientific discoveries are of practical value to farmers?

Ex. 2. Составьте развернутое высказывание по одному из следующих вопросов:

1. Are there any similarities or differences in human and animal nutrition?
2. How can human nutrition benefit from the knowledge that has come from the animal nutrition research?

Ex. 3. Закончите предложения, используя информацию из текста:

1. On the one hand, proteins are important as.... On the other hand, they are... .2. Carbohydrates as well as fats are substances that provide organisms... .3. Non-essential amino acids are as important for living organisms as.... 4. It is essential to know.... 5. For some animal species antibiotics are not so... as... . 6. As to the achievements in animal physiology scientists have already... . 7. In order to increase animal productivity it is necessary to provide their animals with as... as possible. 8. Inadequate nutrition affects such animal physiological characteristics as.... 9. Water is often referred to as.... 10. The improvements in animal nutrition have been followed by... . 11. Thus, the problem of proper animal nutrition is... . 12. It is vital to provide animals with... .

Ex. 4. Переведите на английский язык:

a) обеспечивать незаменимыми аминокислотами; перевариваемые углеводы; требовать (нуждаться в) заменимых жиров(-ах); доступные (имеющиеся в наличии) питательные добавки; поддерживать правильное развитие; тот же самый корм (такая же пища); избыток липидов; жизненно важные белки; содержать питательные вещества; способствовать росту; потреблять корма; улучшать структуру; полезность кормовых добавок; первые из упомянутых ранее соединений; восстанавливать ткани; влиять на качество; производить высококачественные корма; состоять из аминокислот; включать в питание минеральные вещества; содержать (включать) различные витамины
b) 1. Различные исследования по питательной ценности кормов проводятся во многих лабораториях во всем мире для того, чтобы улучшить кормление сельскохозяйственных животных. 2. На рост, развитие и восстановление всех органов животного влияет качество корма, которое животное потребляет. 3. На экзамене студентов спрашивали о значении и структуре таких сложных органических соединений, как белки, углеводы и жиры. 4. Хотя минеральные вещества и витамины требуются в рационе для животных в меньших количествах, чем основные питательные вещества, однако, они так же важны для процессов метаболизма. 5. За достижениями в области органической химии последовало широкое применение питательных добавок в животноводстве.

Ex. 5. Составьте и разыграйте диалог между фермером и специалистом по питанию животных:

Student A is a farmer, who bought some dairy cattle in June and kept them on pasture during the summer season. In autumn, animals were moved into a cowshed and now they are fed some concentrates. The milk yields have fallen and some animals have become sick. The farmer asks a specialist in animal nutrition for some recommendations.

Student B is a specialist in animal nutrition. He is going to give the farmer some recommendations. He explains that the changes in cow management have influenced their health and milk yields. Furthermore, the nutritional value of pasture grasses and concentrates is different. He refers to special tables on the nutritional value of feeds and recommends to add some vitamins and minerals to the diet as well as to invite a vet to examine the sick animals.

Ex. 6. Прочитайте и переведите текст. Выполните задание после текста:

THE ROLE OF PROTEINS IN ANIMAL NUTRITION

All animals require small amounts of protein for the daily repair of muscles, internal organs, and other body tissues. For young animals, protein is required for growth of the muscles and other parts of the body. As milk, eggs, and wool contain much protein, additional amounts are necessary in the food of such animals as cattle, sheep and poultry.

Proteins are composed of more than twenty different amino acids, which are liberated during digestion. Farm animals with simple stomachs, for instance, swine, poultry, rabbits, and mink, require adequate amounts of the following ten essential amino acids daily: arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, trytophan, and valine. In addition to these amino acids, poultry require glycine and glutamic acid for growth.

High-quality protein contains correct amounts of the essential amino acids and it is supplied by eggs, milk, fish meal, meat by-products, and soybean meal. Poor-quality protein is found in com grain and it contains too little of one or more essential amino acids. Animal feeds which contain poor-quality proteins are usually mixed with other feeds or nutrient supplements that supply the lacking amino acids.

The quality of the protein in the food is of little importance to ruminants, including cattle, sheep, goats, and the other animals that have four stomachs, because the bacteria that aid in the digestion of food in the rumen (first stomach) use simple nitrogen compounds to build proteins in their cells. Further on in the digestive tract the animals digest the bacteria. Thus, ruminants produce high-quality protein from a food that may originally contain poor protein, or from urea (a nitrogen compound). However, very young ruminants, such as calves, lambs, require good-quality protein until the rumen develops sufficiently for this bacterial process.

Закончите предложения, используя данные из текста:

1. Small amounts of protein are required by all living organisms in their diet every day in order to .... 2. Young animals such as calves, lambs and pigs need protein in order to .... 3. Chicken, geese and ducks require protein supplements in their rations

in order to .... 4. Farmers add certain amino acids to poultry feeds in order to .... 5. Com grain which is used as feed for animals is mixed with other feeds in order to... . 6. Special bacteria in a ruminant stomach use some simple nitrogen compounds in order to ....

TEXT 4

ANIMAL FEEDS

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

Even today the problem of feeds is still a subject of study for agricultural scientists. Proteins, carbohydrates, fats, minerals and vitamins are known as the basic nutrients that animals require for growth, reproduction, and good health, but the amount of these substances varies greatly with the type of feed.

The first effort to evaluate feeds for animals on a comparative basis was made by Albrecht Thaer (1752— 1828), in Germany, who developed “hay values” as measures of nutritive value of feeds. Tables of the value of feeds and of the requirements of animals were first drawn up in Germany; later they were used in other countries as well. Present-day knowledge represents an expansion and further improvement of these early efforts. The usual chemical analyses of feeds provide information on the total amount of dry matter, protein, fat, fibre, and ash contained in the feed. Energy value, mineral elements, and vitamins are also determined; these values are included in complete tables of feed composition.

The better methods for chemical analyses of feeds are developed, the more reliable data are obtained for calculating feeding rations for animals. Animal feeds are classified according to: 1) the origin, that is, plant or animal origin of feeds; 2) the chemical composition, such as high protein, high-fibre, high-moisture etc.; 3) the nutritional value, as concentrates and bulky feeds.

Generally, animal feeds may be classified into two large groups: concentrates and roughages. The former are higher in energy value than the latter and are subdivided into the following types: 1) cereal grains such as wheat, com (maize), oats, rye, barley and their by-products which remain after grain has been processed for human use, 2) high protein oil meals or cakes from soybeans, sorghum, 3) by-products from processing of sugar beets, 4) animal and fish by-products. Roughages include such feeds as: 1) green roughages (clover, timothy, other pasture grasses and legumes), 2) dry roughages or fodder (hays, straws); 3) silage, 4) root crops.

Green forage grasses, silage and roots comprise a group of succulent feeds which are high in moisture.

Concentrates are valuable in feeding all classes of animals as they have a high food value relative to volume, that is, they are rich in both protein and carbohydrates as well, they contain a number of microelements, minerals and vitamins.

Roughages are bulky feeds with high-fibre content which is poorly digestible. Thus, they are fed in large quantities to cattle and sheep but they are not suitable for feeding pigs.

Succulents are known as palatable feeds but contain a lot of water and have a laxative effect. The younger the grass is, the higher it is in vitamins and minerals, so farmers start grazing cattle and sheep as early in spring as possible. The quality of silage and its nutritive value is greatly affected by a number of factors such as the type of a forage crop, the plant age and storage conditions.

Roots are low in protein but high in carbohydrates and moisture, so they are often used as supplements to hay and straw in order to provide complete rations for cattle and sheep.

Feeds vary not only in the amount of nutrients but in costs from season to season. Thus, it is important for a farmer to select feed ingredients for complete rations as economically as possible. Nowadays large-scale commercial livestock companies as well as small-scale producers widely use special computer programmes for selecting feed mixtures that will satisfy the nutrient requirements of a specific type of animal at a particular stage of development. The more palatable and nutritious rations are provided for animals on the basis of the lower-cost feeds, the higher profits a farmer can get.

Активные слова и выражения: feedstuff, hay value, to draw up (a table),ash, laxative effect, costs, small-scale (large-scale),: amount, barley, beet (sugar beet), by-product, cake, cereal, composition, concentrate, content, fibre, fodder, forage (crops), grain, hay, improvement, legume, matter (dry matter), meal, measure, moisture, number, oats, processing, root crop (roots), roughage, rye, sorghum, soybean, storage, straw, succulent, wheat, bulky, cereal, comparative, complete(ration), digestible, palatable

Exercises

Ex. 1. Ответьте на вопросы по тексту:

1. What does the term “feed” include?
2. Have all the problems of animal feeds been solved?
3. What was used as the measure of the nutritive value of feeds at the beginning of the 19th century?
4. How are feeds evaluated now?
5. How are feeds classified?
6. What are different feeds valuable for?
7. Are different types of feeds suitable for all kinds of animals?
8. What problems should any farmer consider in order to provide a complete ration for his animals?
9. What are the advantages of large-scale feed companies?
10. How has the process of selecting complete rations for animals been improved in recent decades?

Ex. 2. Переведите на английский язык:

а) большие количества сахарной свёклы; зерно хлебных злаков; ячмень на фураж; жмыховая мука; побочные продукты от переработки молока; объемистые корма; химический состав бобовых культур; перевариваемая клетчатка; покупать концентраты; сочные корма богаты влагой; солома из

пшеницы; согласно классификации; получать грубые корма; оставаться надежным источником; сено из овса; полный рацион; различаться по содержанию сухого вещества; хранилище для сорго; вкусные корнеплоды; перерабатывать сою; определять меры; определить питательную ценность ржи; на сравнительной основе; удовлетворять потребности; иметь относительно низкое содержание белка; улучшения в методах кормления сельскохозяйственных животных; низкокачественные продукты питания; низкотемпературная зона; растение длинного дня; высокопроизводительная рабочая сила; корма по низкой стоимости; высокоценные корма; ферма больших размеров; краткосрочные планы; растение с мелкими семенами; высокоурожайные культурные растения; поле с большой площадью; низкое содержание белка

b) 1. В настоящее время гораздо легче определить питательную ценность различных кормов, так как разработаны современные надежные методы анализа состава кормов. 2. Чем больше разнообразных кормовых добавок производится крупными промышленными компаниями, тем более питательными будут рационы для животных. 3. Фермеры обычно не получают таких высоких удоев молока зимой, как летом, так как на продуктивность животных влияют изменения в системе содержания животных. 4. Большинство фермеров используют специальные таблицы, чтобы определить питательную ценность кормов и составить полные рационы кормления как можно более экономно. 5. Необходимо кормить животных как вкусными, так и легкоусвояемыми кормами.

Ex. 3. Переведите на русский язык: the total amount of amino acids; a small quantity of grass; a minimum amount of fatty acids; a large amount of carbohydrates; the number of offspring; the correct amounts of the feed ingredients; the building number; the number of cows on a farm; a large quantity of meat/feeds; the number of organic compounds; a number of species/nutrients/ characteristics

Ex. 4. Соедините название кормовой культуры и определение:

sorghum, com (maize), wheat, rye, barley, roots, soybeans, oats

1 ... is the most important of the cereals in the temperate regions (регионы с умеренным климатом). It is used as food for people and feed for livestock. There are two main varieties: spring and winter crops. 2. ... is a common cereal crop in temperate areas, the grain is mainly used for livestock feeding or for making beer by fermentation process. 3.... is hardy (зимостойкая) cereal crop which is grown in most types of soil in cool wet northern temperate regions, best quality crop can be used for making biscuits, porridge. 4. ... is known as hardy annual grass (морозостойкое однолетнее злаковое растение). It is grown in temperate areas such as Russia, Poland, and Germany and used for making brown bread and whisky. 5.... is the only grain crop which was brought from the New World and it is still the principal crop in the USA where it is used as feed for cattle and pigs. 6.... are plants which produce edible beans (съедобные бобы) which are high in protein and fat content and are very low in starch (крахмал). Beans are used for direct human consumption as well

as livestock feed and for processing into oil. 7. ... is a drought-resistant (засухоустойчивый) cereal plant which is grown in the semi-arid tropical regions, it is one of the important crops in the USA. 8.... are such plants as carrots, beets, turnips which contain food materials in a root; they are used as food vegetables or fodder.

TEXT 5

BASIC TYPES OF FEEDS

Animal feeds are classified into two main groups: concentrates and roughages. The former are high in energy value and are subdivided into the following four groups: (a) cereal grains and their by-products (barley, com (or maize), oats, rye, wheat), (b) high-protein oil meals or cakes (soybean, cottonseed), (c) by-products from processing of sugar beets, and (d) by-products from other industries. Roughages include such feeds as: (a) pasture grasses, (b) hays, (c) silage, (d) root crops, and (e) straw. Concentrate feeds - Cereal grains and their by-products.

In the agricultural practices of North America and northern Europe, barley, com, oats, rye, and sorghum are grown mainly as animal feed, however small quantities are processed for human consumption as well. These grains are fed, whole or ground, either singly or mixed with high-protein oil meals or other by-products, minerals, and vitamins, to form a complete feed for pigs and poultry or an adequate dietary supplement for ruminants and horses.

By-products from commercial processing of the cereal grains, for instance wheat bran, com gluten meal, rice bran or hulls, are used as animal feeds in large quantities.

High-protein meals. Vegetable seeds such as soybeans, flaxseeds, cottonseeds, sunflower seeds are produced mainly as a source of oil for human food and industrial uses. After these seeds are processed to remove the oil, the residues, which may contain from 5 per cent to less than 1 per cent of fat and 20 to 50 per cent of protein, are used as animal feeds. The latter are valuable supplements to roughages or cereal grains and other low-protein feeds because they provide the protein needed for efficient growth of production.

By-products o f sugar beets. From the sugar-beet industry come beet tops, which are used on the farm either fresh or ensiled, and dried beet pulp and beet molasses, which are produced in the sugar factory. These are all palatable, high-quality sources of carbohydrates. In some European countries, fodder beets and some other roots are grown as animal feed.

Other by-product feeds. By-products of brewing industry (yeast), dairy industry (dried skim milk or whey or buttermilk) and fish industry (fish meal) contain 50 per cent or more of high-quality protein and such mineral elements as calcium and phosphorus so they are well-known as useful animal feeds.

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

grasses, legumes, bushes, and trees are acceptable as feeds for grazing animals. The nutritive value of the cultivated varieties has been studied, but information is incomplete for many naturally growing plants.

b) Hay. It is produced by drying different mature10 grasses (such as timothy and Sudan grass) or legumes (alfalfa, clover) when they contain the maximum quantity of digestible protein and carbohydrates but before the seeds develop. The moisture content must be reduced to 22 per cent or less to prevent moulding, heating, and spoilage during storage. Legume hays are high in protein, while the grasses are lower in protein but vary greatly with the stage of maturity and level of nitrogen fertilization which have been applied to the crop. Hay is usually fed to animals when sufficient fresh pasture grass is unavailable.

c) Silage. Silage is usually made from immature plants of com, sorghums, grasses, legumes in a storage container to exclude the air and allow fermentation to develop acetic and other acids, which preserve the moist feed. Storage may be in upright tower silos or in trenches in the ground. Best quality silage results when the forage is ensiled with a moisture content of 50 to 65 per cent. Ensiled forage can be stored for a longer period of time with lower loss of nutrients than dry hay. The nutritive value of silage depends upon the type of forage ensiled and how properly it has been made.

d) Root crops. Nowadays such root crops as mangels, rutabagas, cassava and sometimes potatoes are used less extensively as animal feed than in the past, for economic reasons. Roots are lower in dry-matter content than are most of the other feeds listed. They are relatively low in protein also and provide mostly energy.

e) Straw and hulls. Quantities of straws that remain after wheat, oats, barley, and rice crops are harvested and used as feed for cattle and other ruminants. The straws are low in protein and very high in fibre. Moreover, digestibility of straws is low. Straw is useful in maintaining mature animals during periods of shortage of other feeds, but it is too low in quality in order to be satisfactory for long periods without adding supplements. Com stalks, cottonseed hulls, and rice hulls can also be used as sources of fibre in ruminant rations. Rice hulls are lower in value, while the others are similar to straw.

Активные слова и выражения: corn gluten meal, hull, flaxseed, sunflower seed, residue, ensiled, beet molasses, brewing industry (yeast), dried skim milk/whey/buttermilk, mature, to mould, mangels, rutabagas, cassava, digestibility

Exercises

Ex. 1ю Переведите следующие предложения на английский язык и ответьте на них:

1. В каком виде зерновые скармливаются животным? (I'd like to know...)
2. Какие другие отрасли промышленности поставляют корма для животных? (Do you have any idea...)
3. Какими питательными веществами богата жмыховая мука и побочные продукты свекловичной отрасли? (It's interesting to know...)

4. Пастбищные травы все еще являются важным источником корма для сельскохозяйственных животных? (Do you think...)
5. От чего зависит питательная ценность силоса? (Do you mind telling me...)
6. Каковы питательные характеристики корнеплодов? (Could you explain...)
7. Каковы основные требования к качеству сена? (Have you got an idea...)
8. Питательная ценность всех трав известна? (Do you happen to know...)
9. Почему солому не скармливают животным в течение всего года? (Why do you suppose...)

Ex. 2. Подготовьте развернутое высказывание с презентацией по темам "Concentrate Feeds", "Roughages". Сравните питательную ценность различных кормов. Предложите рацион питания для различных видов сельскохозяйственных животных в разные сезоны.

Для составления высказывания используйте следующие речевые обороты: To begin with I'd like to say...; I think it would be best to...; There are many advantages and disadvantages here...; Accepting the fact that...; As can be seen from the graph/pie chart...; Look at the following bar chart...; The table gives the information about...; The share of... varies from... to...; The same percentage of...; From the look of it...; On the one hand, ... on the other hand; Moreover...; In conclusion I'd like to say that...

Ex. 3. Составьте и разыграйте диалог между фермерами.

Student A is a Russian farmer who has a cattle farm in the Central region of Russia.
Student B is an American farmer who has come from a cattle farm situated in one of the southern American states.
They discuss the problem of feeding their cattle in different seasons. Ask each other questions about availability of different feeds during the year, about their nutritive value, about nutritive supplements.
Model. Student A (a Russian farmer): My name is.... I have a cattle beef/dairy farm not far from... . Student B (an American farmer): Nice to meet you. My name is.... I am a cattleman from the State of.... I wonder which feeds you use to feed your cattle in summer and which are available in other seasons...

ПОВТОРЕНИЕ ТЕМЫ «FARM ANIMALS FEEDING»

Прочтите текст и скажите что такое сбалансированный рацион.
Animals need food to provide themselves with heat and energy. Consuming food, animals obtain the necessary nutrients in order to live and move. Food is also necessary for the growth of the animals.
Ration's the amount of food given to the animal during 24 hours; a balanced ration is the one which provides several nutrients in such proportion and amount that will maintain the animal in thrifty condition. A balanced ration should consist of the proper proportion of roughages, succulents and concentrates.

Прочтите текст. Составьте план к нему по-английски. Перескажите текст по плану.

Nutrients Substances

Cows require liberal amounts of carbohydrates. The feeds supplying carbohydrates are concentrate feeds such as oats, barley, com, wheat, rye or any combination of these grains. The lack of such feeds will reduce the milk yields and the weight of the animal.

High protein feeds are rather scarce and usually more expensive than low protein feeds. Protein rich concentrates used in feeding cows are linseed meal, cottonseed meal, soybeans and others. Roughage feeds high in protein are alfalfa and clover hay, soybean hay and growing green crops such as grass, green oats and green rye. Cows can have protein from both roughage and concentrate feeds.

The experiments have shown that the milk yield of cows may be reduced when insufficient quantities of fat are fed. In the ration cows should receive 70% of the total fat secreted during the lactation period. Oil bearing seeds are the main sources of high fat feeds.

Cows need sufficient quantities of calcium, phosphorus and iodine. Cows not receiving sufficient minerals often reduce their milk production. Minerals may be provided by feeding cows with well-balanced rations. Cows require most of the known vitamins. These are usually supplied in sufficient .amounts when good quality feeds are fed in winter and when cattle are on pasture during summer. Vitamin A is supplied largely by feeding fresh grass and clover and well-made green colour hays. Vitamin B is largely supplied by the grains and vitamin D through sunlight. Vitamin D is necessary for the proper assimilation of minerals.

Прочтите текст. Укажите № абзаца в котором говорится: а) о низкокачественном сене, б) о высококачественном сене.

Hay

1. Low quality hay. This type of hay is made from very mature grass cut during July. It has not been grazed before cutting. It usually has little leaf. This type of hay should not be fed to milking cows in large amounts. Other cattle may be provided with this hay in any quantity. If dairy cows are fed with such hay concentrates should be provided for them. The amount of concentrates varies with the milk yield of a cow and the quality of the concentrate.

2. This hay may be classified as hay which is rather mature but has a good proportion of leaf. There is no need to limit greatly this type of hay. It is usually fed to appetite but better results are obtained if not more than about 20 pounds are fed per day.

3. It is very difficult to obtain this type of hay. It should be made from young green grass which cannot be properly dried in the field. Barn hay drying allows obtaining such hay. It is as nutritious as good pasture grasses. There is no limit in feeding it. It is the forage of high digestibility. Best cows are allowed to eat this type of hay to appetite. They will eat 30 to 40 pounds and produce three and more gallons of milk without supplementary concentrates.

Ответьте на вопрос: "Какое сено можно давать неограниченно?"

CHAPTER 3

Farm animals' diseases

TEXT 1

Infectious Diseases

Infectious diseases are those caused by an infecting agent or organism. A disease can be infectious but not readily transmitted to others. There are several categories of organism capable of infecting domestic animals. They include parasites, bacteria and viruses. Some of these diseases are transmissible from animals to human beings— these are known as zoonoses. Examples of zoonoses are rabies and tuberculosis. Some examples of important bacterial diseases of domestic animals are shown below.

Anthrax. Anthrax is caused by *Bacillus anthracis* and can affect all warm_blooded animals. It is highly contagious to human beings handling an infected animal but it is not normally transmitted readily to other animals on the farm. Anthrax is usually rapidly fatal.

Brucellosis. Brucellosis is caused by several species including *Brucella abortus*. It commonly affects cattle, sheep, goats, pigs, human beings and causes abortion and fever. There is no effective treatment for affected animals. Human beings are normally treated with large doses of antibiotics for a very long period. Brucellosis can be effectively controlled by vaccination, combined with testing and eradication. It is fairly well controlled in livestock in the USA. There is concern about it spreading into cattle from other sources, e. g. buffalo.

Tuberculosis. Tuberculosis is caused by several species including *Mycobacterium tuberculosis*. It affects mammals, birds and reptiles. An effective treatment is available although drug resistance is becoming a serious problem for human beings. Tuberculosis requires a long course of therapy. Herds are tested regularly by veterinarians and if affected animals are found they should be slaughtered. Meat and milk of infected animals can transmit the disease.

Swine dysentery. Swine dysentery is caused by *Treponema hyodysenteriae*. The disease causes diarrhea and weight loss in young pigs. It is controlled by antibiotics in feed. Some vaccines are being developed.

Salmonellosis. Salmonellosis is caused by various species of *Salmonella*. There are typically two forms: an enteric form in which diarrhea and vomiting is present and young animals are mainly at risk of dehydration and an invasive form in which the bacteria of the *Salmonella genus* invade the bloodstream and cause septicaemia. The latter is often fatal. There are some vaccines against salmonellosis but they are of limited efficiency. Antibiotics and fluids are the usual treatments.

Mastitis. Mastitis is an infection of the mammary gland by various species of bacteria. It affects all mammals, reducing milk yield and quality. The disease is spread through contaminated equipment or hands of the milker and dirty barns

and yards. The symptoms are clotted and watery milk, fever, pain, swelling and change in the shape of the udder. Preventive measures are hygiene and therapy. A vaccine is available to reduce incidence of coliform mastitis.

Активные слова и выражения: abortion, to affect, barn, to clot, blood, to contaminate, dehydration, eradication, enteric, fever, fungus, gland, to invade, vomit, weight loss

Exercises

Ex. 1. Определите являются ли следующие предложения верными (T), если нет (F), объясните почему и исправьте ошибку:

1. Infectious diseases are those caused by an infecting agent or organism.
2. Some diseases which are transmissible from animals to animals are known as zoonoses.
3. A disease can be infectious and readily transmitted to others.
4. Meat and milk of infected animals can transmit swine dysentery.
5. Some important bacterial diseases of domestic animals are anthrax, mastitis, rabies.
6. Several categories of organism capable of infecting domestic animals include parasites, bacteria and viruses.

Ex. 2. Задайте вопросы к тексту начиная со слов в скобках:

1. Anthrax can affect all warm blooded animals. (Whom ...?)
2. Anthrax is highly contagious to human beings. (Is ...?)
3. Brucellosis is fairly well controlled in livestock in the USA. (Where ...?)
4. Tuberculosis requires long course of therapy. (What disease ...?)
5. Mastitis is spread through contaminated equipment or hands of the milker and dirty barns and yards. (What ways ...?)

Ex. 3. Прочитайте и переведите описание болезни и назовите ее:

1. Causes abortion, fever. No effective treatment for affected animals.
2. Affects all mammals reducing milk yield and quality. The symptoms are clotted and watery milk, fever, pain, swelling and change in the shape of the udder.
3. Causes diarrhea and weight loss in young pigs.
4. Herds are tested regularly by veterinarian and affected animals slaughtered. Meat and milk of infected animals can transmit disease.
5. Diarrhea and vomiting are present and young animals are mainly at risk of dehydration; the bacteria invade the bloodstream and cause septicaemia.

Ex. 4. Закончите предложения:

1. ... is highly contagious to human beings.
2. Infectious diseases are those caused by an infecting ...
3. Some diseases which are transmissible from animals to human beings are known as ...
4. Some examples of important bacterial diseases of domestic animals are ...
5. ... are the usual treatments.
6. ... requires a long course of therapy.

Ex. 5. Переведите на английский язык:

1. Инфекционные болезни отличаются от всех других болезней тем, что они вызываются живыми возбудителями.
2. К инфекционным заболеваниям сельскохозяйственных животных относятся сибирская язва, мастит, ящур, чума, туберкулез, бруцеллез, сальмонеллез.
3. Ящур — острое, чрезвычайно контагиозное заболевание парнокопытных. Ящуром заболевает крупный и мелкий рогатый скот, а также свиньи. Инкубационный период болезни — от 1 до 14 дней. От ящура гибнет 20– 50% крупного рогатого скота и до 60–80% свиней.
4. При туберкулезе у крупного рогатого скота чаще поражаются легкие или кишечник. Лечение заболевших туберкулезом животных не производится. Больных животных уничтожают.
5. Мастит может возникнуть у любого млекопитающего. Он часто встречается у лошадей, овец, свиней и собак. Наибольшую проблему представляет мастит у молочного скота, поскольку он приводит к снижению надоев.

Ex. 6. Прочитайте и переведите текст, письменно составьте аннотацию к тексту на английском языке:

Infectious Diseases (2)

Many microscopic organisms naturally and peacefully exist in enormous quantities within animal bodies. For example, the multichambered stomach of a cow contains bacteria that help the animal digest its food. But many other microscopic organisms, known as pathogens, cause diseases in animals. Pathogens include bacteria, viruses, fungi, prions—newly identified mutated proteins — and parasites. Pathogens are easily spread: an animal may consume food or drink something that has been contaminated with infected fecal material. If the ground is contaminated by *Salmonella* bacteria, for instance, infection can travel from barn to barn on the soles of a farmer's boots. Or an animal may be exposed while walking across contaminated ground. Some diseases are transmitted by biting insects.

Infectious bovine keratoconjunctivitis, or **IBK**, is a veterinary infection of cattle caused by *Moraxella bovis*, a species of bacteria. It is spread by direct contact or by the common flies serving as a vector. It is the most common ocular disease of cattle (mostly beef). This disease is highly contagious and occurs worldwide. Younger animals are more susceptible but the recovery with minimal damage is usual, if they are treated early. The disease is better known as pinkeye.

Johne's disease is a contagious, chronic and sometimes fatal infection that affects primarily the small intestine of ruminants. All ruminants are susceptible to Johne's disease, which is sometimes called paratuberculosis. Paratuberculosis is found worldwide, with Norway, Sweden and some states in Australia the only areas proven to be free of the disease. In cattle, the main symptoms of paratuberculosis are diarrhea and wasting. Most cases are seen in 2 to 6 year old animals. The initial symptoms can be subtle and may be limited to weight loss, decreased milk production, or roughening of the hair coat.

Ex. 7. Составьте предложения по теме, используя активные слова и выражения.

TEXT 2

Noninfectious Diseases

Many animal diseases are caused by noninfectious factors such as an animal's environment, genetics, and nutrition.

Heatstroke, for example, occurs when an animal is forced to endure high temperatures without access to water, adequate ventilation, or suitable shade. A common scenario involves an animal that has been locked inside a car without air-conditioning during hot weather.

Conversely, extreme cold can lead to **hypothermia** or **frostbite**. Other environmental hazards include the vast array of products people use to eliminate pests and weeds from homes, farms, and gardens. For example, poison used to kill rats and mice can cause fatal internal hemorrhaging in any animal that ingests this toxic substance. Improper use of sprays, dips, and collars can also cause illness. Automobile antifreeze is another well-known poison. Its sweet taste appeals to some animals, such as cats and dogs, but consuming only a small amount can result in death. Many plant species are also toxic to animals. Some, such as yew, commonly grow in pastures and yards.

Poor feeding can lead to diseases such as **nutritional secondary hyperparathyroidism**. It involves the muscles and bones of dogs and is associated with an all meat diet. Large, rapidly growing puppies that consume too many calories and too much calcium can develop hypertrophic osteodystrophy, a disease resulting in lameness. Cats need sufficient amounts of an essential amino acid called taurine in their diets. Without it, they may develop eye problems. Not enough iodine intake can cause enlargement of the thyroid gland in cows, horses, and other animals.

Trauma is a leading cause of an injury and premature death of animals, especially pets that are allowed to roam free outdoors. Many animals are hit by cars or bitten by other animals. Farm animals may be attacked by predators, or they may harm themselves on sharp fencing or discarded nails. Untreated wounds can become infected and cause permanent damage.

Активные слова и выражения: access, to appeal, array, to consume, damage, dip, to eliminate, to endure, enlargement, frostbite, harm, hazard, heatstroke, hemorrhage, hit, improper, to ingest, permanent, poison, predator, premature, sufficient, wound.

Exercises

Ex. 1. Переведите следующие слова и выражения на английский язык:

хромота, окружающая среда, щитовидная железа, преждевременная смерть, тепловой удар, генетика, постоянная угроза, питание, без доступа к воде, уничтожение сорняков, раны, растущие щенки, сельскохозяйственные животные, кровоизлияние, может привести к болезням, могут причинить себе вред.

Ex. 1. Составьте предложения, учитывая порядок слов:

1. feeding/can/some/to/diseases/poor/lead.
2. and/of/dips/use/also/collars/cause/can/the illness/sprays.
3. noninfectious/nutrition/animal's/an/environment/genetics/and/are/factors.
4. can/ an injury/trauma/and/in/death/animals/cause/premature.
5. animals/themselves/harm/farm/on/fencing/sharp/may.
6. are/species/also/plant/toxic/many/to/animals.
7. animals/hit/cars/are/or/by/other/many/bitten/animals/by.

Ex. 3. Закончите предложения, переведя выражения в скобках:

1. Heatstroke, for example, occurs when an animal is forced to endure high temperatures (*без доступа к воде*) during hot weather.
2. Untreated wounds can become infected and cause (*вред*).
3. Pets that are allowed to roam free outdoors (*могут получить травмы*).
4. (*Недостаточное количество йода*) intake can cause enlargement of (*щитовидной железы*), in cows, horses, and other animals.
5. (*Из_за нехватки аминокислот*) cats may develop eye problems.
6. Automobile antifreeze (*могут представлять угрозу*) for animals.

Ex. 4. Соедините подходящие по смыслу слова, чтобы получились словосочетания. Составьте и запишите предложения с этими словосочетаниями:

1. to eliminate	a) to animals
2. can lead to	b) hypertrophic osteodystrophy
3. to ingest	c) by cars
4. to be toxic	d) a toxic substance
5. can develop	e) weeds from gardens
6. to be hit	f) high temperatures without adequate ventilation
7. to harm	g) frostbite
8. to endure	h) on a sharp fencing

Ex. 5. Переведите предложения на английский язык:

1. Наиболее частыми причинами появления незаразных болезней животных являются: неправильное кормление, ненадлежащий уход и содержание в плохих помещениях.
2. Окружающая среда, генетика, питание могут вызвать многие болезни животных.
3. Тепловой удар происходит наиболее часто у животных, которые находятся в жарком месте, например, в солнечный день в машине.
4. Для животных представляют опасность разнообразные ядовитые вещества, которые человек использует для уничтожения сорняков в саду.
5. Кошкам необходимо достаточное количество аминокислот.
6. Слишком большое потребление животными кальция может привести к хромоте.

Ex. 6. Ответьте на вопросы по тексту:

1. What noninfectious factors can cause animal diseases?
2. Name some noninfectious diseases.
3. What actions of the owner can lead to heatstroke in animals?
4. What toxic substances can cause fatal internal hemorrhage in any animal?
5. Can poor feeding lead to diseases?
6. What diseases can be caused by incorrect feeding of pets?
7. What can lead to trauma in animals?

Ex. 7. Прочитайте, переведите и перескажите следующий текст:

Noninfections Diseases (2)

Hip dysplasia, a painful and debilitating skeletal condition, is a noninfectious disease caused in part by heredity. Certain defects of the heart, the roof of the mouth may also be inherited. Some animals are genetically predisposed to diseases such as generalized demodectic mange, a skin disease caused by mites and characterized by hair loss and scaling around the eyelids, mouth, and front legs.

An animal's immune system is designed to detect and eliminate invading organisms. Occasionally, however, it behaves as though the animal's own body is the attacker, and it destroys healthy tissue.

One of the diseases caused by this response is **rheumatoid arthritis** is a severe type of arthritis that involves inflammation of the joints.

Cancer exists in all animals. It is classified as either benign — that is, relatively noninvasive and unlikely to return after treatment; or as malignant — that is, aggressive and likely to spread. Any organ or system can be affected, either directly or through metastasis — when cancer cells from one part of the body spread to other areas of the body. Some forms of cancer are more widespread in animals of a particular breed, age, or sex, and even a specific colour. For example, cancer of the mammary gland occurs more often in female animals, while **melanoma**, or skin cancer, is the most frequent tumour of elderly gray horses, and **lymphosarcomas**, tumours of the lymph nodes, is the most common type of specific tumour in cats. The study of cancer, known as oncology, is a growing field in veterinary medicine.

TEXT 3

What is a Zoonotic Disease?

Some infectious diseases are dangerous to human beings. Zoonosis is a disease of animals that may be transmitted to men under natural conditions. Approximately 150 zoonotic diseases are known to exist. In most cases they are transmitted from animals, such as pets, farm animals, or rats that have close contact with human beings.

What are the examples of zoonotic diseases?

Zoonotic disease has a long history. Ancient Greece and the Bible mention **the plague**. Nowadays the number of potential zoonotic diseases is impressive. Examples of zoonoses include **rabies**, **ringworm**, and others.

Classical swine fever (CSF) or hog cholera is a highly contagious disease of pigs transmitted by fleas, aerosols, handling infected animals. Swine fever causes fever, skin lesions, convulsions and usually (particularly in young animals) death within 15 days. The incubation period of CSFV ranges from 2 to 14 days but symptoms may not be apparent until after 2 to 4 weeks.

Tuberculosis (TB) is a chronic contagious disease of animals and human beings, caused by bacteria of the genus *Mycobacterium*. It is transmitted by inhalation of droplets from an infected animal's cough or sneeze, or by wound infection. TB infection causes lesions called tubercles that develop in certain tissues, such as the lung or liver. The symptoms of tuberculosis in animals vary greatly, depending upon the infected organ or organs. If the disease is in the lungs there may be a cough; in the intestines — chronical diarrhea; in the brain—nervous symptoms; in the udder — swelling. Symptoms include fever, emaciation, and progressive loss of strength.

Ringworm is a fungal infection of the skin in domestic animals such as sheep and cattle. The signs of this disease are round, hairless patches that are usually found on the shoulder, rump, back or head and neck. This is just to name a few! Disease incidence varies greatly with region.

Who is at risk for zoonotic disease?

Any human being in contact with an infected animal or a disease vector is at risk for a zoonotic disease. A vector is a disease carrier that spreads the disease from an infected animal to an uninfected human or animal.

Активные слова и выражения: to alert, cough, emaciation, flea, inhalation, joint, liver, lungs, ringworm, to sneeze, to suspect, to urge

Exercises

Ex. 1. Переведите на русский язык следующие слова и выражения: the number of potential zoonotic diseases, symptoms include, a highly contagious disease, information about zoonotic diseases, may be transmitted to man under natural conditions, a disease carrier, to suspect a zoonotic disease, inhalation of droplets from an infected animal's cough or sneeze, the responsibility, to alert the owner, the incubation period of, the signs of this disease are.

Ex. 2. Закончите предложения, используя информацию из текста:

1. Zoontic diseases ...
2. Veterinarians are ...
3. The number of potential zoonotic diseases today ...
4. When a veterinarian suspects a zoonotic disease, it is his responsibility ...
5. Classical swine fever is a highly contagious disease of pigs ...
6. Tuberculosis is a chronic contagious disease of animals and human beings, ...
7. The signs of ringworm are ...

a) is impressive; b) transmitted by fleas, aerosols, handling infected animals; c) transmitted by inhalation of droplets from an infected animal's cough or sneeze; d) are transmitted from animals to human; e) round, hairless patches that are usually

found on the shoulder, rump, back or head and neck; f) to alert the owner of the potential for disease spread to human beings; g) an important source of information about zoonotic diseases.

Ex. 3. Заполните пропуски подходящими словами:

1. Approximately 150 zoonotic diseases are known ...
2. Doctors who work with both ... and ... are an important ... of information about zoonotic diseases.
3. ... of CSFV ranges from 2 to 14 days.
4. Some infectious diseases pose ... to human beings.
5. ... include plague, rabies, ringworm.
6. ... is a fungal infection of ... in domestic animals.
7. Tuberculosis infection causes ..., such as the lung or liver.
8. Any human ... with an ... animal or disease vector is at ... for zoonotic disease.

Ex. 4. Переведите предложения на английский язык:

1. Инфекционные заболевания, поражающие не только людей, но и некоторые виды животных, от которых происходит заражение человека, называют зоонозными инфекциями.
2. Среди различных зоонозных заболеваний наибольшее значение имеют такие болезни, которые поражают сельскохозяйственных животных, особенно крупный рогатый скот.
3. Человек заражается от больных животных либо при близком контакте с ними, либо употребляя в пищу их мясо, молоко, а также продукты, приготовленные из этого молока.
4. К числу зоонозных инфекций относится бешенство, передающееся от больного животного человеку при укусе.
5. Стригущий лишай — заразная болезнь кожи, вызываемая различными видами микроскопических грибков. Болезнь сопровождается выпадением волос на участке поражения — очаге. Такие очаги появляются на волосистой части головы и туловище.
6. Туберкулез легких у животных сопровождается кашлем, а туберкулез кишечника — диареей.

Ex. 5. Ответьте на вопросы по тексту:

1. What is a zoonotic disease?
2. When a veterinarian sees or suspects a zoonotic disease, what does he have to do?
3. What examples of zoonotic diseases do you know?
4. What are the chief symptoms of tuberculosis?
5. What are the chief symptoms of ringworm?
6. Who is at risk for zoonotic disease?

Ex. 6. Составьте предложения, используя активные слова и выражения к тексту.

Ex. 7. Прочитайте и переведите текст, письменно составьте аннотацию к тексту на английском языке:

Rabies

Rabies is an infectious disease affecting the nervous system. Rabies is transmitted by the bite of a rabid animal and the inoculation of the wound with the virus that is present in the saliva. It is commonly considered a disease of dogs, but because of the disposition of rabid dogs to bite other animals, rabies is common in domestic animals and men. Rabies is widely distributed, being most prevalent in the temperate zone, and where the population is most dense. The germ spreads from the wounds through the nerves and central nervous system. The period of incubation varies from a few days to several months. It is usually from ten to seventy days. In the dog, the symptoms may be divided into three stages.

The first, or melancholy stage, usually lasts from twelve to forty eight hours. The animal's behavior is altered and it becomes sullen, irritable and nervous. Sometimes it is friendly and inclined to lick the hand of its master.

An inclination to gnaw or swallow indigestible objects is sometimes noted. Frequently a certain part of the skin is rubbed or licked.

The second, or furious stage, may last several days. Violent nervous or rabid symptoms are manifested, and the dog may leave home and travel long distances. The animal usually shows a strong inclination to bite. It may move snapping at imaginary objects in its delirium, and may bite any person or animal with which it comes in contact. The bark is peculiar, the appetite is lost and the animal becomes weak and emaciated.

In the third or paralytic stage, the dog may present an emaciated, dirty appearance. The lower jaw may drop, the tongue hangs from the lips and the eyes appear sunken and glassy. Paralysis of the hind parts may be present. The treatment is preventive. Wherever an outbreak of rabies occurs all dogs should be confined on the owner's premises or muzzled. All dogs running without muzzles should be promptly killed.

TEXT 4

Nutritional and Metabolic Diseases

Nutritional and metabolic diseases are usually caused by an unbalanced diet (too much grain/too little forage), an inadequate supply of a nutrient (e. g. white muscle disease due to inadequate selenium) or by excess of a nutrient causing toxicity e. g. copper. There are numerous nutritional diseases of domesticated animals.

Some important examples that you will be expected to know:

Milk fever. Milk fever is a disease characterized by reduced blood calcium levels. This is a problem around parturition mainly in the dairy cow. A lactating cow is excreting around 1,25 g Ca/l in her milk. It may be losing 25–50 g Ca per day, which leads to a fall in blood calcium level. Milk fever occurs less frequently in

newly calved heifers compared to older cows. It is more common among some breeds, particularly the Jersey. Milk fever occurs soon after calving.

The symptoms are depression, loss of appetite, loss of consciousness, recumbency. Treatment generally involves a calcium injection by intravenous, intramuscular or subcutaneous routes. It is given slowly to avoid affecting the heart. An important prevention is to ensure low calcium in the dry period. High calcium availability in late pregnancy will reduce the cow's subsequent ability to mobilize calcium from bone to counteract loss in milk. High vitamin D in the ration is very important.

Ketosis. It is also known as acetonemia or pregnancy disease. Ketosis is a fairly common disease among adult cattle, although usually it occurs in dairy cattle. Ketosis typically occurs during the first six weeks of parturition. It occurs in dairy cattle because of their inability to intake enough nutrients to meet their energy needs. This can lead to hypoglycemia which is a pathologic state produced by a lower than normal level of glucose. That in turn leads to the formation of ketone bodies from the body and fat stores. Some typical symptoms you may notice about your cattle if they have ketosis are a decreased appetite, marked weight loss, decreased milk production, smell of acetone on breath, grinding of teeth, trembling, nervousness, eventually collapse and death. For confined cattle, decreased appetite is usually the first sign that they might have ketosis. Also if
they are fed in components such as part forage, part grain, they will tend to go for the forage more than they will go for the grain.

Активные слова и выражения: availability, consciousness, to counteract, to ensure, excess, to excrete, frequent, to grind one's teeth, metabolic disease, milk fever, nutrition, parturition, ration, recumbency, subcutaneous, subsequent, toxic, to tremble

Exercises

Ex. 1. Переведите слова и фразы на английский язык:

сразу после отела, сознание, телки, внутривенная инъекция, несбалансированная диета, беременность, потеря сознания, у молочных коров, скрежетать зубами, избежать воздействия на сердце, потеря аппетита, лежачее положение, снижение надоев молока.

Ex. 2. Поставьте утверждения в том порядке, в котором они даны в тексте:

a) Milk fever occurs frequently in newly calved heifers.
b) Ketosis occurs in dairy cattle because of their inability to intake enough nutrients to meet their energy needs.
c) Nutritional and metabolic diseases are usually caused by an unbalanced diet.
d) Symptoms are depression, loss of appetite, loss of consciousness, recumbency.
e) Milk fever is a problem around parturition mainly in the dairy cow.
f) The chief signs of ketosis are decreased appetite, marked weight loss, decreased milk production etc.
g) Ketosis is also known as acetonemia or pregnancy disease.

Ex. 3. Составьте предложения:

1. caused/are/nutritional/and/an/metabolic/diseases/by/unbalanced/inadequate/an/or/diet/supply/of/a/nutrient.
2. mainly/around/milk/fever/is/in/a/parturition/serious/problem/the/dairy cow.
3. calving/milk/fever/after/soon/occurs.
4. depression/are/the/loss/of/of/appetite/milk/recumbency/symptoms/fever.
5. calcium/an/a/dry/important/in/low/prevention/the/is/to/ensure/period.
6. lactation/in/ketosis/cows/early/usually/in/occurs.
7. signs/teeth/are/of/fall/grinding/in/of/milk/yield/ketosis/and/the.

Ex. 4. Закончите предложения:

1. (*Существует*) numerous nutritional diseases of domesticated animals.
2. Milk fever (*случается*) less frequently in newly calved heifers compared to older cows.
3. Treatment of milk fever generally involves calcium injection by (*внутривенным*), (*внутримышечным*) or (*подкожным*) routes.
4. Decreased appetite is (*первый признак*) that they might have ketosis.
5. The signs are (*потеря аппетита*), fall in milk yield, smell of acetone (*при дыхании*), grinding of teeth, (*дрожь*).

Ex. 5. Ответьте на следующие вопросы по тексту:

1. What are nutritional and metabolic diseases?
2. What are some examples of nutritional and metabolic diseases?
4. What are the chief symptoms of milk fever?
5. What are the chief symptoms of ketosis?
6. Who is at risk for nutritional and metabolic diseases?

Ex. 6. Прочитайте и переведите текст. Письменно составьте аннотацию к тексту

Laminitis

Is a severe lameness of one or more feet which affects horses, cattle, and sheep. The signs are pain, reluctance to move, fever. Chronic laminitis may lead to hoof malformation. Etiology is complex and confusing. Several predisposing factors are considered to have been identified: excessive consumption of grain lush grass or legumes, rapid changes in diet, excess protein in diet relative to forage. The disease is probably caused by the change in microbial flora in the gut and the rapid release of bacterial toxins into blood, resulting in inflammation and the change in chemistry of the hoof. It also may be precipitated by other purulent infections leading to toxemia, e. g. metritis. Laminitis in the horse is usually an acute problem while in the cow it is often subacute or chronic. Acute laminitis is very difficult to cure and, as the animal is in severe pain, the animal is often euthanized. Usual treatments are prolonged rest, painkillers and anti-inflammatory drugs and a carefully balanced ration.

Ex. 7. Расскажите о наиболее распространенных и серьезных болезнях животных.

ПОВТОРЕНИЕ ТЕМЫ «ANIMALS DISEASES»

I. Соедините термин и его перевод:

1) edema	a) заражать
2) fungus	b) страдать
3) swelling	c) лежачее положение
4) to suffer	d) кашель
5) to contaminate	e) отек
6) recumbency	f) опухоль
7) cough	g) щитовидная железа
8) emaciation	h) гриб
9) hemorrhaging	i) жар
10) thyroid gland	j) истощение
11) fever	k) кровоизлияние

II. Соедините болезни и их симптомы:

Disease	Symptoms
1) Ringworm	a) a bloody diarrhea
2) Mastitis	b) round, hairless patches on the shoulder, rump, back or head and neck; weakness; rough hair coat and diarrhea
3) swine dysentery	c) if the disease is in the lung there may be a cough; in the intestines, chronic diarrhea; in the joints, testicles
4) tuberculosis	d) clotted and watery milk, fever, pain, swelling and change in the shape of the udder

III. Переведите предложения на английский язык:

1. Инфекционные болезни отличаются от всех других болезней тем, что они вызываются живыми возбудителями.
2. Человек заражается вирусными заболеваниями от больных животных либо при близком контакте с ними, либо употребляя в пищу их мясо, молоко, а также продукты, приготовленные из этого молока.

SUPPLEMENTARY READING

FUNCTION OF FOOD CONSTITUENTS

All the constituents of foods above mentioned play an important part in nourishing the animal and the secret of success in animal rearing and feeding lies in giving these substances not only in sufficient quantity but also in proper proportion. It is important that the stock-owner should know of what use these food elements are to the body.

Water. Animals can live for a considerable time without taking solid food, but soon suffer in health if kept short of water or if supplied with water in a spasmodic manner. Without a sufficiency of fluid the animal could not digest the dry food costituents.

Carbohydrates. The carbohydrates are chiefly utilized for the production of energy and heat, and what is not required for immediate use is stored as fat, which is to be regarded as a reserve store of energy. It is the carbohydrates which are mainly used for the deposition of fat when animals are fattened.

Fibre. A certain amount of crude fibre is necessary in the diet of all animals except those under 3,5 weeks of age, when all young domesticated animals are on a fluid diet and most are supported solely by sucking. Fibre supplies energy and doubtless helps towards the formation of fat, but its chief uses are to distend the stomach and intestines, and to make the animals feel full and comfortable.

Adequate fibre is necessary to cattle for proper muscular activity of the whole digestive system. Secondly, the proportion of fibre in the diet has as important bearing upon the actual digestion done by living organisms within the rumen. Thirdly, a high-protein and low-fibre intake may lead to bloat. Fourthly, adequate fibre is necessary in the cow's rations if she is to give a high yield of butterfat and solids-not-fat.

On the other hand, if too much fibre is given in the ration the animals cannot digest enough food to get sufficient nutriment. This is the reason why wheat straw would be very bad food for hard-working horses. Ruminants make the most use of fibre, then horses, pigs and dogs in the order given. Fattening pigs, though requiring a certain amount of fibre, must have the allowance strictly limited, though sows and boars can do with more.

Fat. The fat that is digested and absorbed may be oxidized to form energy direct, or it may be built up to form body fat. Speaking generally, fat has two and a half times the value of carbohydrates or protein as energy producer. While a certain amount of fat is desirable, indeed necessary, in the daily diet of animals, an excessive amount does harm. For proper utilization by the body, the fats have to fully oxidize; where too much fat is taken in the food, this oxidation does not proceed fully and a series of harmful substances, called ketones, accumulate in the system. These cause disarrangement of nerve and other functions and produce symptoms of illness.

Protein. Protein is the only constituent in a food that can be used to build up muscle or make good the wear and tear of muscular tissue. Under present economic conditions, with the scarcity and high price of concentrates, animals are frequently expected to subsist on a diet deficient in protein: a not uncommon cause of infertility. If they are given too little the body draws on the protein of the muscles and the animals fail to remain in good health. If given too much there is undue strain on the kidneys, and also if there is a large amount of protein undergoing decomposition in the intestines it acts as an intestinal irritant, thus causing diarrhea and may lead to the reabsorption of toxic substances into the blood-stream.

Mineral Matter. Mineral matter is absolutely essential for the well-being of the animal. It is required for building up bone in the growing animal, and it is required in solution in the blood and in the tissue fluids. Among other important duties it controls very largely the rate of absorption of the digested nutrients from the intestines. If too little of any mineral is given in the food the body draws its supply from the bones and tissues, and the same thing takes place if too much of one mineral is given and too little of another. The mineral matter in food plays a very important part in maintaining health and good growth in young animals. Animals growing quickly, such as chicks, puppies, and pigs, and cows giving large quantities of milk, are most likely to suffer from mineral insufficiency, and it is certain that they often do. This is particularly the case when pigs are fed on wheat offal which are notably deficient in calcium, without being given some compensating food such as fish-meal or meat- and bone-meal or steamed bone flour.

PREPARATION OF FOODS

Some foods are fed to animals in the natural state, while others are prepared in some such way as by grinding, cutting, boiling, steaming, or soaking in water. The object of preparing a food before giving it to an animal is to increase its digestibility. Cereals, grains, and legumes are sometimes bruised, and crushed. Oats may be bruised for hard-working horses, for colts changing their teeth, and for calves. Beans should be split for horses, as the tough seedcoat makes them difficult to masticate. Maize also is more easily eaten if it is cracked. It is important to remember that bruised seeds do not keep well, especially if exposed to a damp atmosphere, and are liable to turn musty, owing to fermentation changes.

Straight breeding programs

Straight breeding produces not only progeny for further finishing, but also replacement females for the herd. For this reason, many traits have to be selected in balance, as they contribute to the overall package. It is important to identify and select those cattle that are superior for specific traits. Straight breeding programs appeal to many beef breeders because they produce replacement females from within the herd. They are reasonably easy to manage because only one cattle breed exists on the property.

Crossbreeding programs

Crossbreeding systems can bring together a desired combination of genes more rapidly than can be achieved through within-breed selection. Advantage can be taken of complementarity among breeds, but knowledge of individual breed characteristics is important. Crossbreeding capitalizes on the existing genetic differences between two or more breeds to produce progeny that have characteristics suitable for a defined market or environment.

The decision to crossbreed is also often related to the potential gains of **hybrid vigour**, an additional boost to production. Hybrid vigour, or **heterosis,** is the difference between the performance of the progeny and the average performance of the parents. In general, the more distantly the parental breeds are related, the greater the amount of heterosis that can be expected. The greatest level of heterosis results from the crossing of the least related purebred *Bos indicus* and *Bos taurus* breeds. Heterosis is greater for some traits than others (e.g. fitness traits: parasite resistance, survivability, environmental adaptation etc.).

For greatest benefit in all crossbreeding programs, it is imperative that the programs be based on straightbred animals of high genetic merit for economically important traits. Continuing improvement from a crossbreeding program depends on the genetic merit of the foundation animals used in the cross (i.e. the selection intensity in the populations in which they were bred) and the selection intensity placed on the subsequent crossbred generations.

Crossbreeding provides flexibility because it allows you to quickly alter particular characteristics of a herd for a specific purpose, such as to cater to a particular market, increase production or remedy a problem. There can be disadvantages with crossbreeding, such as management difficulties.

Planned crossbreeding systems

Although the potential gains from crossbreeding are large, most of the success depends on good planning and the use of superior genetics to provide the priority traits identified for a specific breeding enterprise. The following briefly outlines the key ‘planned’ approaches to crossbreeding.

Rotational crosses

Rotational crossing simply means that two or more different sire breeds are used in sequence over the female groups, which are grouped according to their sire breed. Two, three or even four sire breeds may be used. In a simple system that uses two breeds, cows of breed A are mated to sire breed B, with the resulting heifers being joined back to sire breed A. Within a three-breed rotation, the progeny of sire breed A over cow breed B are mated to sire breed C. The female progeny of the latter cross are mated back to sire breed A for the rest of their breeding lives. The minimum number of joining groups is equal to the number of sire breeds.

An **increase** of 10 to 20 per cent in the weights of calves weaned per cow joined can be achieved from a two-breed rotation (criss-cross). A **greater increase** in

the weight of calves weaned per cow joined can be achieved from a three-breed rotation. In a rotational cross system, each breed contributes its strengths and weaknesses equally to the production system over a number of years. The level of heterosis achieved depends on the number of breeds involved (i.e. the more breeds, the more heterosis). However, in a rotational cross system variability among the progeny may make it more difficult to consistently meet a market specification. Therefore, the use of breeds that are not radically different is probably preferred. All animals in the herd benefit from hybrid vigour for both growth and maternal traits. All females from a rotational cross system are potentially available for selection as replacements; this increases the selection intensity and subsequent opportunities for genetic improvement. Rotational systems consider the market animal and the future replacement breeders. Rotational crossbreeding may present some management difficulties in that specific breeder groups need to be mated to specific sire breeds.

Important points of rotational crosses:

- The system generates its own replacement females.
- Hybrid vigour is retained, giving a 10 to 20 per cent increase in weaning weight.
- Cows can be run as one mob for most of the year, as they need to be separated by sire group only for joining.
- Depending on the breed chosen, some variability will occur within the progeny.
- Breeds with good maternal traits should be used, as the female progeny of all sire breeds are kept.

Two-way cross (F1)

This is a simple system whereby a bull of one breed is joined to straightbred cows of another breed. All the progeny are sold (to slaughter or, in the case of females, as F1 breeders). Hybrid vigour is generated in the progeny only. Because the cows are straightbred there is no hybrid vigour generated at this level. This system does not produce its own replacements, so replacements need to be purchased or bred in a separate enterprise. This system offers the opportunity to produce and market specialised F1 females that are often highly sought after.

Important points of two-way crosses:

- There is a 5 to 10 per cent increase in weaning weight turned off per cow mated.
- Straightbred female replacements can often be purchased.
- Heifer progeny have increased value as f1 breeders.
- F1 steers have increased value for feeding or slaughter.

Terminal sire joined to first-cross (F1) females

In this system, a third breed of bull is joined to firstcross (F1) cows and all progeny are sold, meaning that the system terminates at that point. This is the most productive system, as F1 females of the right breed groups can maximize maternal

heterosis for fertility, milking ability and longevity. They can also be selected for environmental adaptation and medium size, meaning that their feed requirements are not too high. Sires can then be selected for their growth and carcass traits.

The main problem with this system is that it doesn't generate its own replacement females: they must be sourced from outside the system. They can be bred on another part of the property, but this necessitates running a herd of purebred cows, which are often of lower productivity. Buying F1 females can be difficult, but longevity can mean that fewer replacements are needed.

The environment in which the herd is to run needs to be considered when you are selecting the breeds that make up the F1 females. If feed resources are plentiful and of high quality, breeds with high milking ability may be used and may even include the dairy breeds. Some possible combinations are Friesian × Hereford or Simmental × Angus.

In poor environments, breeds that have more moderate size and milk production may be more suitable (e.g. Angus × Hereford). In tropical and sub-tropical areas, *Bos indicus* or Sanga breeds may be combined with British breeds (e.g. Brahman × Hereford, Santa Gertrudis × Angus).

The environment and the target market need to be considered when selecting the terminal sire. It may be possible to use a high growth, high carcass yield breed such as the charolais or Limousin in environments with adequate high quality feed. However, in lesser situations a 50:50 European British cross sire may be better suited (e.g. Charolais × Angus).

In some situations, the terminal sire breed chosen for the main breeding herd may not be suitable for use over heifers having their first calves. This may mean having separate sires available.

Important points of joining terminal sire to first-cross (F1) females:

- Maximum hybrid vigour is utilized.
- There is a 20 to 50 per cent increase in weaning weight turned off per cow mated.
- The breed can be selected to maximize complementarity.
- Cows can be selected to best suit the environment and sires selected to specifications.
- • Offers an opportunity to select sires by using EBVs and indexes.
- Replacement females are needed from outside the system.
- Heifers may need to be mated to bulls with low calving risk.

Composites

An alternative to crossbreeding in some situations is to use a composite breed.

The development of a composite breed results from the crossing of two or more existing breeds and then selecting from within that population. Examples include Santa Gertrudis, Droughtmaster and Brangus. The key advantage is that after the formation stage, when the initial crosses are made, the management requirements are the same as for straight breeding. There is tremendous opportunity to change

direction as the market or other circumstances dictate, by incorporating another new breed or crossbreed with desirable characteristics that change the animal's performance only as much as necessary. Composite breeding allows for the blending of characteristics from a number of breeds into a composite that considers the turnoff animal as well as the replacement females.

The level of hybrid vigour retained depends on the number of breeds used to develop the composite (e.g. a four-breed composite will retain 25% more hybrid vigour than a two-breed one).

ANIMAL HUSBANDRY

Agriculture provides people with food, feed and other useful products. All over the world farmers cultivate valuable plants and raise productive domesticated animals. There are two main branches in modern agriculture: crop production (or crop farming) and animal husbandry (or animal farming).

Nowadays, in many countries people are still relying on meat, milk and eggs as main sources of food. Both breeders and farmers have already bred and are still breeding highly productive agricultural animals. Animal farming is a process in which a farmer breeds, raises and cares for livestock either for commerce or private use.

The word "livestock" refers to domesticated animals such as beef and dairy cattle, sheep, goats, swine (hogs), horses, donkeys and mules, buffalo, oxen, rabbits or "exotic" animals, for example, camels, emus, ostriches, or any animal which a farmer keeps and uses either for food or pleasure. Sometimes animal scientists include in this term also poultry, such as chickens, ducks, geese and turkeys, but they include neither honey bees nor fish within the term "livestock". However, poultry farming and beekeeping are important branches of agriculture as well as aquaculture.

There are over a hundred large land mammals in the world but man has domesticated only few types into livestock. There are two main requirements for domestication of mammals: 1) the availability of feed which a farmer can easily control and provide; 2) a rapid rate of reproduction.

As cattle, sheep and horses are herbivorous mammals, farmers try to keep these domestic animals on pastures. However, farmers often grow either cereals or other agricultural crops as additional feed for their animals. Such ruminant animals as cattle, sheep and goats are important for people because they convert large quantities of grasses or other types of feeds, as well as non-protein nitrogen into meat, milk and wool. Poultry also convert feed efficiently into protein. Historically, livestock and poultry have provided the following benefits to humanity: meat, eggs, dairy products, raw materials, fertilizer, labour, management of land.

1) Meat and eggs. In many countries livestock replaced wild game as the main source of animal protein because only livestock convert various food sources into human food. Poultry provide people with white meat as well as with eggs.

2) Dairy products. People process milk of cows, sheep, goats into a variety of valuable dairy products such as yoghurt, cheese, butter, ice cream, kefir, and koumiss.

3) Raw materials. Livestock produce useful raw materials, for example, horses and cows provide leather, poultry produce feather and down, sheep and goats provide wool for textile industry.

4) Fertilizer. Livestock leave behind manure which farmers spread on fields and this increases yields of crops many times. Historically, plant and animal farming have been closely linked.

5) Labour. In modem agriculture neither cattle nor horses are the main source of mechanical energy. However, in some poor countries people are still using livestock as draft cattle.

6) Management of land. Sometimes farmers use the grazing of livestock as a way to control weeds8. When a farmer is planning to rear livestock, he usually chooses the most suitable type for the local conditions. Both climate and type of land, as well as local traditions influence a farmer's choice.

AQUACULTURE

(1) Aquaculture, also called Fish Farming, Fish Culture, or Mariculture, means the propagation and husbandry of aquatic organisms for commercial, recreational, and scientific purposes. The main aim of aquaculture is to ensure the production of aquacultural crops for human consumption and for use by the pharmaceutical and chemical industries. However, aquaculture is known to produce aquatic bait1 animals, ornamental or aquarium fishes, aquatic animals used to increase natural populations for capture and sport fisheries.

(2) Aquaculture is supposed to be an agricultural activity, despite the many differences between aquaculture and terrestrial agriculture. Aquaculture mainly produces protein crops, while starchy staple crops are the primary products of terrestrial agriculture. In addition, terrestrial animal waste is usually collected by farmers and used as fertilizer, whereas in aquaculture such waste accumulates in the culture environment. Consequently, aquaculturists are expected to manage their production units carefully in order to avoid any water deterioration or pollution, especially in areas where fish usually spawn. Moreover, aquaculturists should not make the culture organisms suffer from any stresses as a result of the intensive production.

(3) Scientists know fish to be cold-blooded aquatic vertebrates, some species of which are especially valued as food due to high content of protein, phosphorus, iodine and vitamins A and D. In addition, a wide variety of other aquatic organisms are produced through aquaculture, including crustaceans (mainly shrimps, crayfish, and prawns), mollusks, algae (a seaweed), and some aquatic plants. In contrast to capture fisheries, aquaculture requires deliberate human intervention in the organisms' productivity to result in yields that exceed those from the natural environment alone. Stocking water with juvenile organisms (also called seed),

fertilizing the water, feeding the organisms, and maintaining water quality are considered to be common examples of such intervention. The concept of pond fertilization was developed in Europe about 1500. In this process, manure is added to the water to encourage the growth of small organisms such as aquatic invertebrates and plankton, which in turn are eaten by the fish.

(4) Aquaculture was developed more than 2,000 years ago in such countries as China, Rome, and Egypt. Formerly, aquacultural practices involved capturing wild immature specimens and then raising them 258 under optimal conditions in which they were well fed and protected from predators and competitors for light and space. For instance, carp fingerlings (or juvenile fish) were captured from rivers, and kept in ponds or other bodies of water for further growth. It was not until 1733, however, that a German farmer successfully raised fish from eggs that he had artificially obtained and fertilized. Male and female trout were collected when ready for spawning. Eggs and sperm were pressed from their bodies and mixed together under favourable conditions. After the eggs hatched, the fish fry were taken to tanks or ponds for further cultivation. Methods have also been developed for artificial breeding of saltwater fish, and now it is possible not only to rear sea animals but also to have the complete life cycle under hatchery control.

(5) Nowadays various methods enable aquaculturists to rear aquatic organisms artificially in fresh, brackish or salt water. In addition, aquacultural production can occur not only in natural waters but in artificial aquatic impoundments, for instance fish may be confined in earthen ponds, concrete pools, barricaded coastal waters, or cages placed into open water. In these enclosures, the fish can be supplied with adequate food and protected from many natural predators. Earthen ponds have been found to be suitable for fish and crustacean aquaculture. These ponds are usually equipped with water inlets and outlets that provide independent control of water addition and discharge. Ponds are stocked with a specific quantity of juvenile aquatic animals. Management practices range from pond fertilization, which increases the number of natural food organisms, to the supply of a complete, formulated feed that provides all nutrients necessary for growth. Animals that have reached market size are harvested from the ponds. Channel catfish grown in the United States, and marine shrimp grown in China, Central America, and South America, are often cultured in earthen ponds of about 5 to 10 hectares.

(6) Fish can also be raised in cages or raceways. The latter are long, narrow earthen or concrete ponds that receive a continuous flow of water from a nearby artesian well, spring, or stream. Fish breeders believe raising fish in cages to be a good method in case of using the water of lakes, bays, or the open ocean. Besides, aquaculturists have shown raceways and cages to be more efficient than earthen ponds, for many more fingerlings can be stocked in them, however, nutritionally complete formulated feed must be provided to fish grown in these systems. Rainbow trout are grown in raceways in many places, including Chile, Europe, and the United States. Salmon are grown in cages, and Norway ranks the first in the world production of farmed salmon.

(7) Recently in aquaculture there have appeared a method known as ocean ranching which means the rearing of fish and shellfish under artificially controlled conditions in order to restock lakes, seas and oceans and it is usually carried out by government agencies in the US and some other countries. According to this method young fish are bred in the controlled environment until they become mature enough to be 259 released into the open sea. Using this approach, oysters (as a source of both food and pearls), scallops, and mussels are raised throughout the world. Moreover, ocean ranching is of great value for raising carp, trout, catfish, and tilapia. Experiments with ocean ranching in the late 20th century led to the economically successful aquaculture of lobsters.

(8) By introducing advanced technologies aquaculture has assumed commercial importance, for instance world production has more than doubled between 1970 and 1975. The rapid expansion of aquaculture has been to a large extent in the production of relatively high-priced species frequently consumed as a fresh product. In 1959 the first marine shrimp hatchery and farm was established in Japan, and it was the beginning of the commercial shrimp-culture industry. The salmon culture industry in Europe and the channel-catfish-culture industry in the United States both began in the 1960s. Catfish farming in the United States has more than quintupled its production since it began to grow in the 1960s. At present the production of catfish, carp, and tilapias reared in extensive, low-energy systems is still increasing. The given examples prove the commercial production of shrimp, crayfish, prawns, trout, salmon, and oysters to be of great importance for the economy of many countries, such as Norway, Japan, and the USA etc.

(9) One of the main aims of aquaculture is to breed edible fish in special ponds for sale to meet the increasing demand of population for fish. However, the growth of world aquaculture has been stimulated by a number of other factors, including overfishing, destruction of habitats for some unique fish species, water pollution, and dietary changes. Globally, consumer demand for fish continues to increase, especially in developed countries which in 2004 imported 33 million tons of fish worth over $61 billion, that is 81 per cent of all fish imports that year, in value terms. Levels of captures of fish in the wild have remained roughly stable since the mid- 1980s, fluctuating around 90-93 million tons annually. There is little chance of any significant increases in catches above these levels. Although catches in the wild are still high, they have declined in recent years. World aquaculture production has been experiencing a boom since the mid- 1980s, maintaining an average growth rate of around 8 per cent per year and today it continues to expand in almost all world regions. According to the Food and Agricultural Organization of the United Nations (FAO), nearly half of all fish consumed as food worldwide are raised on fish farms rather than caught in the wild. The report on The State of World Aquaculture was presented at the meeting held in September, 2006 in New Delhi. In accordance with the report, while in 1980 just 9 per cent of the fish consumed by people came from aquaculture, today 43 per cent comes from aquaculture, which is 45.5 million tons of farmed fish, worth $63 billion, eaten each year. For comparison, currently, freshwater

and marine capture fisheries produce 95 million tons annually, of which 60 million tons is used for human consumption. FAO's report 260 estimates that an additional 40 million tons of aquatic food will be required by 2030 in order just to maintain current levels of consumption. However, there exist some problems preventing further growth of aquaculture production such as the lack of investment capital for producers in the developing countries, a shortage of land and freshwater for use in aquaculture, rising energy costs, environmental pollution and questions of product safety. Specialists consider China, India, Japan, Philippines, Indonesia, Thailand, South Korea, Bangladesh, and Vietnam to be the major aquaculture-producing countries at present.

(10) While most fish farming is devoted to the commercial food market, sport fishing is supposed to be one of the most popular forms of recreation in the world which allows people to enjoy fishing from shore and from boats, for almost every type of game fish. In addition, there exists a steady commercial market for goldfish and other decorative fish because many people want beautiful fish to swim in their home aquariums. Nowadays in many cities people can visit special water parks where they can observe various fish species swim, eat and communicate with each other in the surroundings closer to their natural habitats.

BEEKEEPING

(1) Beekeeping, also called apiculture, means management of colonies of bees for the production of honey and other hive products and for the pollination of crops. Bees are sure to be among the most studied and best known insects. The honeybee is considered to be a common name for any of several species of highly social bees known for their honey-hoarding behavior and their use as a domesticated species. One should refer the honeybee to the order Hymenoptera and to one of the Apis species. Honeybees are native to Asia and the Middle East and were introduced to North America by early European colonists. By the mid-1800s, honeybees had become widespread in the world. At present, one may find honeybees on every continent except Antarctica, since they can be easily reared and adapted to many climates.

(2) It has been found that honeybees are social insects noted for providing their nests with large amounts of honey. One can describe a colony of honeybees as a highly complex cluster of individuals functioning actually as a single organism. The colony usually consists of the queen bee, the worker bees and male bees, or drones. The former is normally the only one in each colony. Unlike the worker bee, the queen bee is a fertilized female capable of laying a thousand or more eggs per day. Like any worker bee the queen bee has a sting but it is a venomous sting. The number of the worker bees known as sexually undeveloped females may vary from a few to 60,000 bees. It is quite likely that there may be few drones in the colony, but sometimes there may live as many as 1,000 drones. Colonies are kept in hives where honeybees build the nest. Groups of hives are called apiaries, and a beekeeper may also be called an apiarist or apiculturist.

(3) There exist a few recognized species of honeybees, including the European honeybee, the Indian honeybee, the dwarf honeybee, the mountain giant honeybee etc. However, only the European, the Indian, and to some extent, the dwarf honey bees are the species that have been domesticated. The former is said to be the most widespread domesticated bee and the one species kept in North America. There have been found many races of the European honeybee, but the ones most popular in modem beekeeping are the Italian, Carniolan, and Caucasian. Most honeybees used in hives today seem to be mixtures of these and sometimes other races. Thus, modem beekeeping mainly refers to the husbandry of the European honeybee, though one can also refer beekeeping to the management of other domesticated species.

(4) A beekeeper is an ancient and widespread profession and beekeeping originally appeared in the Middle East. The early Egyptians kept bees I 279 and traded for honey and beeswax along the East African coast several thousand years ago. Until 1851, beekeepers harvested honey and beeswax by killing the colonies inhabiting the hives. In that year the American apiarist Lorenzo Lorraine Langstroth discovered the principle of "bee space" according to which bees leave spaces of about 0.6 cm between wax combs. In artificial hives, if this space is left between adjacent comb frames4 and between the end frames and the walls of the hive, each comb will remain unattached to neighbouring combs. Langstroth's discovery made it possible to remove individual frames from a beehive and to harvest honey and wax without destroying the colony. Due to this discovery, one can control bee diseases and maintain a larger number of colonies.

(5) Honeybees are the primary source of honey and beeswax. The latter is described as fine wax with unusual qualities. Honeybees also produce propolis, a substance possessing antibacterial properties, and royal jelly and pollen for human consumption. Honeybee venom is extracted for the production of antivenom therapy and is being investigated as a treatment for several serious diseases of the muscles, connective tissue, and immune system, including multiple sclerosis and arthritis. In addition, bees have proved to be of great practical value for crop farming as in the act of collecting nectar they pollinate the flowers of many valuable crops and wild plants they visit.

(6) The pollination of plants is sure to be the most important contribution of bees to the economy and the environment. Many species of wild pollinators have disappeared from the land as their habitats were destroyed by humans. It is the honeybee that has taken over as pollinator of many of the wild plants that remain. In this regard, the ecological value of honeybees is tremendous. It has been found that approximately one fourth of all crops produced in the United States and some other countries are pollinated by honeybees. The value of the crops that rely on such pollination has been estimated as high as $10 billion annually in the United States. Beekeepers worldwide are known to earn their living from selling the honey and beeswax their hives produce, but in some countries, beekeepers are paid for their pollination services. However, honeybee colonies used in commercial pollination and those kept in cities may suffer from pesticides, fungicides, fertilizers, and other

agricultural chemicals widely used in modem crop farming. As a result, bees are frequently poisoned by accident and this is a major concern of modem beekeepers.

(7) Apiaries require an abundant supply of nectar and pollen. One should keep apiaries in an area where nectar-producing plants such as clover or eucalyptus are in abundance. As a rule, the apiaries of major honey producers are established in areas where intensive agriculture occurs, because it is not practical to grow plants for honey production alone. For a commercially successful operation, the area should support 30 to 50 colonies in an apiary. Some beekeepers have migratory apiaries and transport their bees to suitable forage. Apiaries may consist of from 1 to 200 hives, depending on the means of the beekeeper and the flower resources available. Commercial beekeepers who make their entire living from bees often keep hundreds or thousands of hives. Most beekeepers use standard equipment, that is, boxes (called supers15) holding ten separate comb frames. It is interesting that the modem hive and the one described by Langstroth in 1851 are alike in dimensions.

(8) Modern-day apiculturists believe the honeybee to be an adaptable animal that can survive under a variety of situations and conditions. Nevertheless, insecticides are likely to kill and weaken thousands of colonies each year. Beekeepers who rent their colonies for pollination also may expect some loss of bees to result from collecting the nectar from contaminated areas. Generally, honey itself turns out to be free from insecticides, because when a food source becomes contaminated, the colony is killed or weakened, and so the bees cannot produce an excess for harvest. Other problems facing beekeepers include parasitic mites; bacterial, fungal, and viral diseases; and loss of forage due to habitat destruction by humans. One should know that two species of blood-sucking parasitic mites are particularly troublesome for beekeepers and are currently affecting both wild bees and honeybees worldwide. It is the mites that have killed tens of thousands of honeybee colonies in North America during the past ten years. Scientific breeding programmes are aimed at developing tolerant strains of domestic honeybees to replace the mite-susceptible ones currently used.

(9) Beekeeping is a successfully developing branch of agriculture m many countries, for example China, the United States, Argentina, Turkey, Ukraine, Mexico, and Russia are believed to be the world leading honey-producing countries. The leading honey exporters are China, Argentina, Mexico, while the leading importers are Germany, the United States, Japan, and the United Kingdom. In regard to American beekeeping, imports of honey from the United States have exceeded exports in recent years. At the beginning of the 21st century the US maintained an estimated 2.5 million colonies of honeybees, producing about 78 million kg of honey. According to the statistics more than 200,000 people owned one or more hives but only about 1 600 earned a full-time living due to beekeeping. Such states as North Dakota, California, Florida, Minnesota, Montana, Idaho, and New York are supposed to be the leading ones in honey production. Nowadays average commercial production is about 31 kg of honey per colony, and 9 to 18 kg of beeswax for every ton of honey harvested.

APPENDIX

НАИБОЛЕЕ РАСПРОСТРАНЕННЫЕ СОЮЗЫ И ДРУГИЕ СЛУЖЕБНЫЕ СЛОВА

As- как, так как, когда, по мере того как	Since (союз) - так как, с тех пор как
As to - что касается	Since (предлог) - с, (наречие)- с тех
As well as - так же как и	пор
As well - также	Though - хотя
As soon as - как только	Although – хотя
As long as - до тех пор пока	Unless – если не
As... as - так(ой)же... как и	Until – до тех пор пока не
Not so...as- не так(ой) ... как	When – когда
So as - так чтобы	Whether- ли
That - что, который, то что	Which – который, что
After - после того как	While – в то время как
After - после	Both...and – как…так и (both - оба)
Because - потому что, так как	Either...or – или …или
Because of- из-за, вследствие	Neither...nor – ни…ни
Before (союз) - до того как	The +сравнит.степень..., the + ср.ст. –
Before (предлог) - после	чем…, тем
For (союз) - так как	Across – через
For (предлог) - для, в течение	Among - среди
If - если, ли	Between - между
Provided – если, при условии	Under - под
(не путать с 2 и 3 формой «to provide)	Without – без (with –c)

ЗАПОМНИТЕ ВОПРОСИТЕЛЬНЫЕ СЛОВА!

WHO?	-КТО?
WHOM?	-КОГО? КОМУ?
WHOSE?	-ЧЕЙ? ЧЬЯ? ЧЬИ?
WHAT?	-ЧТО? КАКОЙ?
WHEN?	-КОГДА?
WHERE?	-ГДЕ? КУДА?
WHY?	-ПОЧЕМУ?
HOW?	-КАК?
HOW MANY?	-СКОЛЬКО?
HOW MUCH?	-СКОЛЬКО?

ЧИСЛИТЕЛЬНЫЕ: ЕДИНИЦЫ МЕРЫ

(Numerals: units of measure)

В англоязычных странах используются следующие единицы меры.

a) Единицы веса:
ounce (oz) — *унция*
pound (lb) — *фунт*
16 ounces = 1 pound
1 ounce = ~ 28 grammes (g)
1 pound = ~ 0.45 **kg (kilogramme *(Br E);* kilogram** *(Am E)*

b) Единицы длины и площади:
inch — *дюйм*
foot — *фут*
mile — *миля*
acre — *акр*
12 **inches (in) = 1 foot (ft)**
1 inch **=** 2.54 **centimetres (cm) (centimeter** *Am E)*
1 foot = ~ 30 **cm**
1 mile = ~ 1.6 **kilometres** (km) **(kilometer** *Am E)*
1 acre = ~ 0.4 **hectare**

c) *Единицы объема жидкости:*
gallon (gal) — *галлон* — мера жидких и сыпучих тел;
английский галлон = 4,55 л; американский = 3,79 л
1 **gallon =** 4.55 **litres** or 3.79 **litres (liter *Am E)***

СПИСОК ФОРМ НАИБОЛЕЕ УПОТРЕБИТЕЛЬНЫХ НЕСТАНДАРТНЫХ ГЛАГОЛОВ

ц	Past Simple	Participle II	Translation
be	was/were	been	быть
become	became	become	стать, сделаться
begin	began	begun	начать
bite	bit	bit(ten)	кусать
breed	bred	bred	разводить
build	built	built	строить
choose	chose	chosen	выбрать
come	came	come	прийти
cost	cost	cost	стоить
cut	cut	cut	резать
do	did	done	делать, выполнять
fall	fell	fallen	падать
feed	fed	fed	кормить
feel	felt	felt	чувствовать
find	found	found	находить
forget	forgot	forgotten	забыть
get	got	got	получить
give	gave	given	дать
go	went	gone	идти, уходить, уезжать
grow	grew	grown	расти
have	had	had	иметь
hear	heard	heard	слышать
hold	held	held	держать
keep	kept	kept	хранить
know	knew	known	знать
leave	left	left	оставить
make	made	made	делать
mean	meant	meant	подразумевать
meet	met	met	встретить
pay	paid	paid	платить
put	put	put	класть
read	read	read	читать
ride	rode	ridden	ездить верхом
rise	rose	risen	подняться
run	ran	run	бежать, течь
say	said	said	говорить, сказать
see	saw	seen	видеть
sell	sold	sold	продавать
send	sent	sent	послать

set	set	set	устанавливать
show	showed	shown	показывать
speak	spoke	spoken	говорить
speed	sped	sped	ускорять, спешить
spend	spent	spent	тратить
stand	stood	stood	стоять
take	took	taken	взять, брать
teach	taught	taught	учить
tell	told	told	рассказывать, сказать
think	thought	thought	думать
throw	threw	thrown	бросать
understand	understood	understood	понимать
win	won	won	выиграть
write	wrote	written	писать

НАИБОЛЕЕ ЧАСТО УПОТРЕБЛЯЕМЫЕ ВЫРАЖЕНИЯ ДЛЯ СОСТАВЛЕНИЯ ПЕРЕССКАЗА

1. The text is about …
   is devoted to …
   deals with …
   touches upon …
2. The aim (purpose, object) of the text is to give some information about …
   to determine …
   to present some data about …
   to describe …
3. The text is divided into 5 parts.
   The first part deals with …
   The second part is about …
   The third part touches upon …
   The fourth part describes …
   The fifth part gives some information about …
4. In conclusion the text (the author) says that …
5. To my mind, the text is interesting (informative, important), because …
   I've got some facts about …

МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ ПО РАБОТЕ С ТЕКСТАМИ И ЛЕКСИКОЙ

Методические рекомендации по самостоятельной работе с лексикой:

1. Выпишите новое слово в рабочую или специальную словарную тетрадь.
2. Напишите транскрипцию слова (для английского и французского языков обязательно).
3. Найдите в словаре перевод этого слова и запишите. Выпишите многозначность слова (одно-два дополнительных значений).
4. Отработайте произношение этого слова, повторив его несколько раз вслух.
5. Запишите с новым словом словосочетания и предложения (используя знакомые слова).
6. Подберите к новому слову синонимы/антонимы из уже известных слов.
7. Выпишите из прочитанного текста группу однокоренных слов.

Методические рекомендации по подготовке пересказа текста:

1. Следует решить, что является в содержании текста главным.
2. Составить план пересказа.
3. Предложения, необходимые для пересказа, сделать более краткими, простыми по грамматической структуре.
4. Отработать произношение необходимых для пересказа слов и словосочетаний, обращая внимание на произношение трудных иностранных слов и имен собственных.
5. При пересказе четко придерживаться составленного плана.

Методические рекомендации по подготовке Microsoft Power Point-презентаций:

- при создании презентации важно исходить из доклада, который вы делаете (на конференции) сами или сопровождаете его;
- необходимо четко спланировать презентацию, сделать ее макет на бумаге;
- учитывайте цели, задачи, содержание темы;
  не помещайте весь свой устный текст на слайд: помните правило: не более 5-6 строчек на слайде, не более 6-8 слов в строчке;
- избегайте использования заглавных букв для большого текста: они трудны для чтения; лишь небольшие заголовки можно писать заглавными буквами;
- размер шрифта отражает важность информации: заголовки должны быть больше, чем основной текст.
- ограничивайте тип шрифта и величину букв одним-двумя, сохраняйте это на протяжении всей презентации (если выбираете размер 40 для заголовков, то для остального текста следует выбрать меньший размер шрифта, например от 20).

- используйте простой шрифт типа —Times New Roman или —Arial; они рекомендуются как наиболее оптимальные и имеющиеся в списке шрифтов большинства программ Word.
- не переносите слова на другую строчку, -это прерывает восприятие информации;
- если на слайде дается перечень нескольких пунктов, то рекомендуется оформлять их маркерами или нумеровать (Фразы в этих пунктах должны иметь параллельные грамматические структуры, т.е. один и тот же тип предложения, одно и то же время, число и залог глагола);
- если хотите выделить какую-то часть информации в тексте, не подчеркивайте ее, а выделяйте жирным шрифтом или вторым из основных цветов слайда;
- длину строчек на каждом слайде желательно делать одинаковой.
- текст на слайде не должен преобладать над графикой;
- внимательно проверьте грамотность вашего текста; он должен быть безошибочным;
- ограничивайте цвета, используемые на слайде, двумя-тремя на контрастном фоне;
- между текстом и фоном должен быть четкий контраст (рекомендуемые сочетания – более бледные цвета для фона, более темные цвета для текста).
- используйте яркие чистые цвета для более важной информации: яркие цвета всегда выделяются и привлекают внимание присутствующих;
- желательно продумать цветовую гамму всей презентации, прежде чем выбирать цвета для отдельных слайдов; используйте один стандартный шаблон для всей презентации;
- важно помнить об эмоциональной реакции, которую могут вызвать некоторые цвета, а также желательно выбирать цвета, которые сочетаются друг с другом.
- не перегружайте слайд текстом (см. выше), но также и графикой: это затрудняет восприятие; лучше разделить информацию на несколько слайдов.

Методические рекомендации для работы по аудированию.

1. Сконцентрируйтесь на общем понимании текста. Старайтесь уловить его главную мысль. Если вы не понимаете о чем идет речь, можно уточнить значении отдельных слов в словаре.
2. Во время слушания концентрируйтесь на точном произношении каждого слова.
3. Следуйте принципу "Лучше немного, но тщательно, чем много, но поверхностно". После того, как поймете текст в общем, с целью пополнения активного словарного запаса, уточняйте значение непонятных слов. Для этого выберете какой-либо отрывок и полностью переведите его на русский язык. Вы узнаете много новых слов: эпитетов, синонимов уже известных вам слов.

4.Занимайтесь регулярно. Выделите занятием определенное время и занимайтесь каждый день. Помните, что понемногу, но часто лучше, чем много, но иногда.
5. Когда устный текст будет звучать для вас также ясно и понятно, как текст на русском языке, переходите к пассивному слушанию: за рулем автомобиля, выполняя какую-либо работу, отдыхая. Чем больше времени вы потратите на это занятие, тем глубже и эффективнее будет ваше обучение.
6.Для того, чтобы перевести слова и выражения из пассивного запаса в активный делайте следующее: читайте вслух, запоминайте синтаксические конструкции, записывайте свою речь на аудионоситель для того, чтобы сравнить свое произношение с произношением диктора.

Рекомендации для работы с текстом:

Прежде чем приступить к чтению и переводу текста необходимо предварительно ознакомиться с пояснениями к тексту.
Затем нужно прочитать внимательно весь текст до конца, чтобы познакомиться с его содержанием. Читая текст, нужно отметить все трудные места, затем разбить текст на абзацы и внимательно по предложениям начать переводить его. Если в абзаце имеются сложные предложения, следует разобраться в каждом отдельно, связывая его затем с последующим.
Предложения следует анализировать так:
а) найти подлежащее и сказуемое; б) разбить все предложение на смысловые элементы; в) перевести дословно; г) не глядя на предложение, рассказать себе простыми словами основной смысл его, д) сделать окончательный перевод, строя русское предложение согласно правилам русского языка.
Переведя предложение, следует выписывать незнакомые слова и одновременно отыскивать в словаре значение, соответствующее данному контексту.
Часто при переводе можно встретить идиомы, которые на русский язык дословно не переводятся, поэтому перевод их надо делать, либо исходя из общего смысла данного предложения, либо прибегать к помощи специального словаря. Переведя все абзацы текста, следует его еще раз прочитать, чтобы установить, хорошо ли читается перевод, понятен ли его смысл, а также обработать встречающиеся шероховатости стиля.

КРАТКИЙ ТЕРМИНОЛОГИЧЕСКИЙ АНГЛО-РУССКИЙ СЛОВАРЬ

A	
abdomen	живот, брюшная полость
abomasum	сычуг
abortion	аборт, выкидыш
absorb	поглощать
achieve	достигать
acre	акр
affect	влиять
age	возраст
alfalfa	люцерна
amount	количество
animal	животное
animal husbandry	животноводство
annual	ежегодный
arable	пахотный
artificial	искусственный
ash	пепел
available	доступный
average	средний
B	
bark	кора
barn	амбар, сарай
bedding	подстилка
beef	мясной, говядина
belong to	принадлежать,относиться
birth	рождение
blood	кровь
boar	кабан, хряк, боров
body	тело
box-stall	денник
branch	отрасль
breed	порода, разводить
breeder	животновод
bristly	жесткий, щетинистый
build	строить
building	строение
bulky	рыхлый, объемистый
bull	бык
by-product	побочный продукт
C	
cage	клетка
calf (calves)	теленок (телята)

calve	телиться
calving	отел
canine	собачий
capon	каплун (кастрируемый петух, откармливаемый на мясо)
carbohydrate	углевод
carbon	углерод
care	уход, содержание
cartilage	хрящ
cattle	крупный рогатый скот
cause	вызывать, быть причиной, причина
chew	жевать
chick	цыпленок
chilling	охлаждающий(ся), охлаждение
clean	чистый, чистить
clot	комок, сгусток, тромб
coarse	грубый
cockerel	петух
colostrum	молозиво
comb	гребень
comparable	сопоставимый, соизмеримый
compartment	отделение, отсек
concentrates	концентраты
consciousness	сознание
consume	потреблять
consumption	потребление
contain	содержать
content	содержание
continual	постоянный, непрерывный
contribute	вносить вклад
cough	кашель, кашлять
cow	корова
cowshed	коровник
creep	ползать
crop	с/х культура
cud	жвачка
cull	выбраковывать, брак
D	
dairy	молочный
dairy-maid	доярка
damage	вред, ущерб
decrease	снижать, уменьшать, снижение

dehorn	удалять рога
dehydration	обезвоживание
develop	развивать, выводить
digestible	перевариваемый
digestive	пищеварительный
disease	болезнь
divide	делить
down	пух
draft	тягловый
dry	сухой, сушить
E	
eat	есть, поедать
egg	яйцо
eliminate	устранять, искоренять, исключать
emaciation	истощение
endure	терпеть
enlargement	расширение, увеличение
eradication	искоренение
esophagus	пищевод
estimate	оценивать
ewe	овца
excrete	выделять
exercise	моцион
F	
farm	хозяйство, ферма
farrow	опорос, пороситься
fat	жир
fatten	откармливать
fattening	откорм
feather	перо
feed	кормить
feedstuff	корма, фураж
female	женская особь, самка
fence	забор
fertile	плодовитый, плодородный
fertility	плодовитость,плодородие
fever	лихорадка
fibre	волокно
field	поле
flea	блоха
fleece	руно, овечья шерсть
flesh	плоть, мясо
flexible	гибкий

flock	стадо
fodder	корм, фураж
food	пища, корм
forage	фураж
fowl	домашняя птица
fowl pox	оспа птиц
fowl typhoid	тиф птиц
fungus	грибок
G	
gain	прирост, привес
gallbladder	желчный пузырь
gestation	беременность
gland	железа
goose-geese	гусь-гуси
grain(s)	зерно, зерновые
grass	трава
graze	пастись
gregarious	стадный
grind	тонко молоть
grow	расти, выращивать
growth	рост
guinea fowl	цесарка
H	
hard	усердный, упорный
hatching	выведение, вылупление
hay	сено
health	здоровье
heat	течка
heifer	телка
hemorrhage	кровоизлияние
herbivores	травоядные
herd	стадо
hide	прятать(ся)
high	высокий
hog	боров, свинья
hogman	свиновод
hold (held, held)	содержать
horse	лошадь
hull	оболочка, шелуха
humidity	влажность
I	
increase	увеличивать
indoor	внутри помещения

ingest	проглатывать, усваивать
inhalation	вдыхание
interfere	вмешиваться
invade	вторгаться
K	
keep	содержать
L	
lamb	ягненок, ягниться
lambing pen	загон для ягнения
lateral	боковой
light	светлый, легкий
lipids	жиры
liquid	жидкий
litter	помёт
liver	печень
livestock	скот
look after	ухаживать
low	низкий
lungs	легкие
M	
maintenance	содержание
male	особь мужского пола, самец
management	содержание, уход
manure	удобрение
market	рынок, продавать
matter (dry matter)	вещество (сухое вещество)
mature	созревать, половозреть
maturity	зрелость
meal	прием пищи
measure	мера, измерять
meat	мясо
milk	молоко, доить
moisture	влага, влажность
mortality	смертность
mould	форма, плесень
mutton	баранина
N	
naked	голый
nest	гнездо
newborn	новорожденный
nutrients	питательные вещества
nutritious	Питательный

O	
oats	овёс
obtain	получать
offspring	потомство, отпрыски
omasum	книжка
omnivorous	всеядные
outbreak	вспышка
outdoor	на выгоне
ovine	овечий
P	
paddock	загон, выгон
pancreas	поджелудочная железа
parturition	роды
pastoral	сельский, пастушеский
pasture	пастбище
pen	загон
per day	в день
piebald	пегий, пестрый
pig	свинья
pigling	поросенок
pigsty	свинарник
poison	яд
pork	свинина
poult	птенец
poultry	птица (дом.)
poultryman	птицевод
pound	фунт
predator	хищник
pregnant	беременная
premature	преждевременный
processing	обработка
produce	производить, давать
productive	продуктивный
prolific	плодовитый
protein	белок
provide	обеспечивать
pullet	молодка
pupil	зрачок
purebread	чистопородный
pursue	преследовать
Q	
quadrupedal	четвероногий
quality	качество

quantity	количество
R	
raise	разводить
ram	баран
rate	уровень, норма
ration	рацион
raw	сырой, сырьевой
rear	задний, разводить
recumbency	лежачее положение
regurgitate	Извергать(ся), хлынуть
require	требовать(ся)
residue	осадок, остаток
reticulum	сетка
ringworm	стригущий лишай
rooster	петух
root crops	корнеплоды
rotation	ротация, севооборот
roughages	грубые корма
rumen	рубец
ruminant	жвачное животное
S	
sac	мешок, мешочек
scarce	скудный
scours	понос (у скота)
secretion	выделение, секреция
sheep	овца
shell	раковина, скорлупа
silage	силос
sire	предок, производитель
skim milk	снятое молоко
sneeze	чихать
snout	морда, рыло
soil	почва
source	источник
sow	свиноматка
squeeze	сжатие, сжимать
squirt	струя, разбрызгивать
stable	хлев, конюшня
stanchion	столб, стойка, опора
starch	крахмал
straw	солома
subcutaneous	подкожный
substance	вещество

succulents	сочные корма
suck	сосать
suckling	сосунок, младенец
sugar	сахар
supply	снабжать, обеспечивать
surgery	хирургия, хирургическая операция
swallow	глотать
T	
tear	рвать
teat	сосок
thrifty	упитанный
tissue	ткань
tremble	дрожь, дрожать
turkey	индейка
U	
udder	вымя
ungulate	копытное животное
use	использовать
V	
value	ценность
vary	изменяться
veal	телятина
vegetable	овощи
vigorous	сильный, бодрый, энергичный
vomit	рвота
W	
water	вода
weak	слабый
wean	отнимать (от груди)
weaning	отъем
weight	вес
whole milk	цельное молоко
wool	шерсть
wound	рана
Y	
yield	удой
yolk	желток

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ТЕКСТЫ ДЛЯ ЧТЕНИЯ С УПРАЖНЕНИЯМИ

Учебно-методическое пособие

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