

مقرر لغة انكليزية 4 كلية الهندسة الزراعية & كلية الطب البيطري

الفصل الثاني

2021-2020

Beef industry

Is raising grass-fed cattle the way to go?

Marvin Harris

Grass-fed beef is in high demand. Many consumers say it tastes better than grain-fed beef. And they're willing to pay more for it.

The down side of grass-fed beef is the cost. Grasses have a lower **feed conversion efficiency** than corn or soy. Cattle in pastures are also less likely to receive **growth hormones**. Thus, it takes longer for them to gain mass than their corn or soy fed counterparts. Furthermore, they do not receive **antibiotics** and can get sick more easily. Finally, corn-fed **herds** often produce higher **grades** of beef.

However, there are methods to counteract those shortcomings. Some grass-fed cattle forage in pastures for the first few years of life. Before shipping them to a **processing facility**, **ranchers** send them to a feedlot for **grain finishing**. For approximately six months they receive special **feed rations** to bring them up to **market weight** rapidly.

Reading

2 Read the magazine article. Then, mark the following statements as true (T) or false (F).

- 1 ☐ Soy-fed cattle grow faster than grass-fed cattle.
- 2 ☐ Grass-fed herds produce higher grade beef.
- 3 ☐ Grass-fed cattle do not eat in feedlots.

Vocabulary

3 Match the words (1-8) with the definitions (A-H).

- | | |
|--------------------------------------|---|
| 1 <input type="checkbox"/> rancher | 5 <input type="checkbox"/> feed ration |
| 2 <input type="checkbox"/> grass-fed | 6 <input type="checkbox"/> processing facility |
| 3 <input type="checkbox"/> grade | 7 <input type="checkbox"/> grain finishing |
| 4 <input type="checkbox"/> cattle | 8 <input type="checkbox"/> feed conversion efficiency |

- A a selected amount of food given to an animal
 B a place where animals are butchered
 C cows and bulls
 D a rating of the quality of beef
 E a measurement of how animals convert feed into mass
 F primarily eating grass from a pasture
 G a farmer who raises livestock
 H feeding cattle grain to raise weight before slaughter

4 Fill in the blanks with the correct words and phrases from the word bank.

WORD BANK

growth hormones feedlot antibiotics herd
 market weight beef

- 1 The cattle in the _____ are bigger than those in the pasture.
- 2 _____ is one of the most popular sources of food for humans.
- 3 Grass-fed cattle take longer to achieve _____.
- 4 Most cattle receive _____ to keep them free of disease.
- 5 _____ help cattle grow more quickly.
- 6 Disease can spread very quickly through a _____ of cows.

Question Formation

- 1- Can you drive? Why are you crying?
- 2- Where do you live? Did you go out last night?
- 3- Why didn't you like the film? Isn't this a beautiful place?
- 4- What are they talking about? Where is she from?
- 5- Who lives in this house? How many people came to the party?
- 6- Could you tell me where this bus goes?
- 7- Do you know if he's coming?

1. To make questions with modal verbs and with tenses where there is an auxiliary verb (be, have, etc.), invert the subject and the modal/auxiliary verb.

2. With the present and past simple, add *do/does* or *did* before the subject.

3. We often use negative questions to show surprise or when we expect somebody to agree with us.

4. If a verb is followed by a preposition, the preposition comes at the end of the question,

e.g. What are you talking about? About what are you talking?

We often just use the question word and the preposition,

e.g. A I'm thinking. B what about?

5. When *who/what/which, etc.* is the subject of the question, don't use *do/did*

e.g. Who wrote this? **Not:** Who did write this?

6. Use indirect questions when you want to ask a question in a more polite way.

e.g. Where does she live? (direct)

Could you tell me where she lives? (indirect)

- In indirect questions the order is subject + verb e.g. Can you tell me where it is?

Not: Can you tell me where is it?

- Don't use *do/did* in the second part of the question.

e.g. Do you know where he lives? **NOT** Does live

You can use *if* or *whether* after *Can you tell me*, *Do you know*, etc. e.g. Can you tell me if/whether he's at home?

a. Order the words to make questions.

1. you messages send ever text Do

.....?

2. party was a time you to the When last went

.....?

3. if Could bank here a you me near tell is there

.....?

4. dinner usually Who the cooks

.....?

5. shopping do going Who like you with

.....?

6. at don't weekend you What doing the like

.....?

7. car to would What you kind buy of

.....?

8. you time concert know finishes Do what the

.....?

b. Complete the questions.

1. How often exercise? (you / go)

2. Who Crime and Punishment? (write)

3. Could you tell me how much? (this book / cost)

4. What at the end of the film? (happen)

5. your trip to Paris last weekend? (you / enjoy)

6. What kind of music? (Tim / usually listen to)

7. Who Mia's handbag? (steal)

8. Do you know when? (the swimming pool / open)

9. Where your boyfriend tonight? (you / meet)

10. Can you remember where? (she / live)

Poultry industry



Cluck Farms

Home | About Us | Our Products | Rates | Contact Us

Welcome to Cluck Farms. We are a **primary breeder** of twenty-seven varieties of commercial chickens.

We provide **hens** and **roosters** to over four hundred operations nationwide. Depending on your needs, we can provide you with chickens ranging from one-week old **chicks** to one-year-old **pullets**.

In addition to breeding, we operate a small production facility. Our **layers** produce only the best eggs. All of our **broilers** and **roasters** are raised in a **free-range** manner.

We are available to consult with **poultry** operations in neighboring states. With sixty years' experience, we can advise you on **intensive** farming methods, free-range techniques, and effective **litter** removal.

Call us today to take a tour of our **hatcheries**.

Reading

2 Read the page from a website. Then, choose the correct answers.

- What is the purpose of the website?
 - to describe a business
 - to explain product prices
 - to compare breeding methods
 - to give advice on chicken farming
- Which type of chicken produces eggs?
 - pullets
 - roasters
 - layers
 - roosters
- Which service is NOT provided by the farm?
 - consultation for nearby farms
 - breeding of commercial chickens
 - production of poultry products
 - removal of farm litter

Vocabulary

3 Match the words (1-7) with the definitions (A-G).

- | | |
|--------------------|------------------------------|
| 1 <u>D</u> rooster | 5 <u>A</u> chick |
| 2 <u>B</u> layer | 6 <u>E</u> hatchery |
| 3 <u>C</u> hen | 7 <u>G</u> intensive farming |
| 4 <u>F</u> broiler | |

- a baby chicken
- a female chicken that produces eggs
- a female chicken
- a male chicken
- a facility where eggs are hatched
- a medium-sized chicken sold for food
- a method for raising chicken indoors

4 Fill in the blanks with the correct words and phrases from the word bank.

Word BANK

free-range roasters primary breeder
poultry litter pullets

- _____ chickens exercise more than confined chickens.
- _____ is the waste produced in a coop.
- Robert's Farm is the _____ for most local farms.
- Chicken is a major _____ product.
- _____ cost a lot because they are so big.
- Those _____ will be layers soon.

Auxiliary Verbs

- | | |
|--|---|
| 1. A- Do you speak French? | B- Yes, I do. Quite well. |
| 2. I like dogs, but my husband doesn't. Jim's coming, but Anna isn't. | |
| 3. A- I loved the film. | B- So did I. |
| A- I haven't finished yet. | B- Neither have I. |
| He's a doctor and so is his wife. | |
| 4. A- I went to a psychic yesterday. | B- Did you? |
| A- I'll make the dinner. | B- Will you? That's great lock it, I promise. |
| 5. A- You didn't lock the door | B- I did lock it, I promise. |
| A- Silvia isn't coming. | B- She is coming. I've just spoken to her. |
| 6. You won't forget, will you? Your wife can speak Italian, can't she? | |

Use Auxiliary verbs (*do, have, etc.*) or modal verbs (*can, must, etc.*):

1. In short answers, instead of answering just Yes/No.
2. To avoid repeating the main verb / verb phrase.
e.g. I like dogs but my husband doesn't (like dogs).
3. With *so* and *neither* to say that something is the same. Use *so* + *auxiliary* + *subject* after a positive verb, and *neither* (*or nor*) + *auxiliary* + *subject* after a negative verb.
4. To make 'echo questions', or to show interest.
5. To show emphasis in a positive sentence.

With the present/past simple, add (*do- does- did*) before the main verb.

With other auxiliaries stress the auxiliary verb.

6. To make question tags.

Use a positive question tag with a negative verb and a negative question tag with a positive verb.

- Question tags are often used simply to ask another person to agree with you, e.g. It's a nice day, isn't it? In this case, the question tag is said with falling intonation.

Question tags can also be used to check something you think is true, e.g. She's a painter, isn't she? In this case the question tag is said with raising intonation, as in a normal yes/no question.

a. Complete the following mini- dialogues with an auxiliary

1. A) It's cold today, it?
B) Yes, it's freezing.
2. A) So you didn't go to the cinema?
B) I go to the meeting, but I left early.
3. A) What did you think of the film?
B) Tom liked it, but I I thought it was awful.
4. A) I wouldn't like to be famous.
B) Neither do I.

5. A) Emma doesn't like me.
B) She like you. She thinks you're very nice.
6. A) Sarah's a baby.
B)she? I didn't know she was pregnant.
7. A) Will your boyfriend be in the party?
B) No, he He's away this week.
8. A) I can't come tonight.
B)you? why not?

b. Complete the conversation with auxiliary verbs.

- A) You're Tom's sister, you?
B) Yes, I (1).....
- A) It's a great club, (2)..... it?
B) Yes, It(3) But I don't like the music much.
- A) (4)..... You? I love it.
B) Really?(5) you been here before?
- A) No, I(6)
- B) Neither(7) I.
- A) So you (8)..... go out much, then?
B) Well, I(9) go out, but I (10)..... go to clubs very often.
- A) Oh, I(11) I love clubbing.
B) I'd love a drink.
- A) So (12)..... I. Let's go to the bar.

Dairy industry



Colchester Family Dairy Farm

About Us

Colchester Family Dairy Farm is located in Bernville, Ohio. Founded in 1882 by Roger Colchester, our farm is still run by the Colchester family.

Our facilities - Our main barn houses a milk herd of 75 **Holsteins**. In addition, we have a nursery barn where bull calves and heifers are raised until they are sold. The milking machines in our **milking parlor** are the best available. They can send fifty gallons a minute from **udders** to storage through our **milk pipeline**.

What we do - Our farm produces milk and milk products, none of which contain **rBST**. We sell four varieties of milk and make our own cheese and butter.

Our commitment to quality - Every gallon of milk produced at our farm is **pasteurized** and **homogenized**. We test each batch for quality. If it doesn't pass our rigorous testing, we don't sell it.

Reading

2 Read the page from a website. Then, mark the following statements as true (T) or false (F).

- 1 ☐ The dairy receives calves from a breeder.
- 2 ☐ The dairy produces more than milk.
- 3 ☐ The milk at the farm is tested for rBST.

Vocabulary

3 Fill in the blanks with the correct words and phrases from the word bank.

Word BANK

homogenized Holstein udders
rBST milk pipeline

- 1 Most people prefer milk that is _____.
- 2 Machines pull milk from cows' _____.
- 3 _____ makes cows produce more milk.
- 4 The _____ carries milk to storage.
- 5 _____ cows are known as great milk producers.

4 Match the words (1-6) with the definitions (A-F).

- | | |
|-----------------------------------|---|
| 1 <input type="checkbox"/> dairy | 4 <input type="checkbox"/> milking parlor |
| 2 <input type="checkbox"/> heifer | 5 <input type="checkbox"/> pasteurize |
| 3 <input type="checkbox"/> calf | 6 <input type="checkbox"/> milking herd |

- A a female cow that has not given birth
 B food made from milk
 C an area where cows are milked
 D to heat milk in order to kill bacteria
 E a group of cows that produce milk
 F a baby cow



Adjectives as nouns, adjective order nationalities

1- The English are famous for drinking tea.

The Dutch make wonderful cheeses.

The Chinese invented paper.

2- The Argentinians invented the tango. The Greeks are very extrovert.

3- The Turks drink a lot of coffee. The Poles play a lot of basketball.

1. You can use (the) with the nationality adjectives which end in –sh, –ch, –ss or –ese. Don't add s to these words, or use them without (the).

2. Nationality words which end in –an and a few others, e.g. Greek and Thai, are both adjectives and nouns. To talk about the people from that country, use a plural noun ending in –s.

3. Some nationalities have a special noun for the people which is different from the adjective, e.g. Polish=adjective, pole=noun.

To talk about the people, you can either use the + adjective or the + plural noun, e.g. the Polish or the poles.

With any nationality, you can also use the adjective + people, e.g. French people.

To talk about one person from a country you can't use a/an + adjective alone. a Japanese man/woman/person, an Englishman/Englishwoman /English person, NOT a Japanese, an English, etc. an Italian, a Greek, etc. A Turk, a Pole, etc.

Specific groups of people

- The poor are getting poorer and the rich are getting richer.
- The government needs to create more jobs for the unemployed.

You can use the+ some adjectives to talk about specific groups in society.

e.g. the young, the blind, the homeless, the old, the elderly, the sick.

These expressions are always plural.

One, ones

A- Which one would you like? B- The red one , please.
Two ice creams, please. Big ones .

When we don't want to repeat a noun after an adjective because it is already clear, we use the adjective+ one(singular) or + ones (plural).

Adjective order

- We've got a lovely old cottage just outside Bath.
- She has long fair hair.
- I bought a beautiful Italian leather belt.

You can put more than one adjective before a noun (often two and occasionally three). These adjectives go in a particular order, e.g. NOT an old lovely cottage. Opinion adjectives, e.g. *beautiful nice, lovely*, usually go before fact adjective, e.g. *big, old, round*.

If there is more than one fact adjective, they go in this order:

size	age	Shape\ style	Colour\ pattern	nationality	material	noun
big	new	long	Pink\ striped	Italian	silk	scarf

a-Rewrite the underlined phrase using the + an adj.

The people who live in Spain go to bed very late. the Spanish

1. The people from Netherlands are very good at languages.
2. The people who had injuries were taken to hospital.
3. The system of reading for people who can't see is called braille.
4. The people from France enjoy eating good food.
5. A nurse's job is to look after the people who aren't well.
6. I think the people from Switzerland are very punctual.
7. The worst season for people without a home is winter.
8. There is a discount for students and people without a job.

b-Write the adjectives in brackets in the right place.

A big car park (empty): a big empty car park

1. An attractive man (young)
2. Dirty shoes (old)
3. A leather jacket (purple/stylish)
4. A tall woman (thin)
5. A sandy beach (long)
6. A new floor (lovely/wooden)
7. A smart suit (Italian)
8. Beautiful eyes (big\ dark)
9. An old dog (black \ friendly)

Sheep industry

Cloudhaven Sheep Farm



Galton Industries is proud to introduce our newest venture, the Cloudhaven Sheep Farm. Building on our success with the Cloudhaven Cattle Yard, we have created a lambing facility that offers the same quality production. Cloudhaven oversees three **flocks**, combining for a total of approximately 3,000 head of sheep. We supply both **feeder lambs** and **market slaughter lambs**. Thanks to our **accelerated lambing** process, we can meet the demands of any customer, large or small. Our **ewes** produce one to two lambs per year. During each **lambing period**, we keep half of the lambs for **finishing**. The others are **distributed**

to meet **seasonal market** demands.

This is all made possible by our system of **confinement lamb production**. Our experienced managers ensure the safety and quality of lambs inside our facility. Not only does this process increase quality, but it also helps keep our costs down. Unlike **range production** operations, confinement production means we have zero losses to **predation**. And we pass those savings on to our customers. So, come see us at Cloudhaven Sheep Farm for quality sheep at low prices.

Reading

2 Read the business announcement. Then, choose the correct answers.

- 1 What is the passage mostly about?
 - A a takeover of a failing sheep operation
 - B the advantages of range production
 - C the success of a cattle operation
 - D the operations of a new facility
- 2 What was the company's previous business venture?
 - A a cattle yard
 - B a slaughterhouse
 - C a free range poultry operation
 - D a meat processing facility
- 3 What is the advantage of confinement lamb production?
 - A production of more lambs
 - B no predation losses
 - C accelerated lambing process
 - D better market prices

Vocabulary

3 Match the words (1-6) with the definitions (A-F).

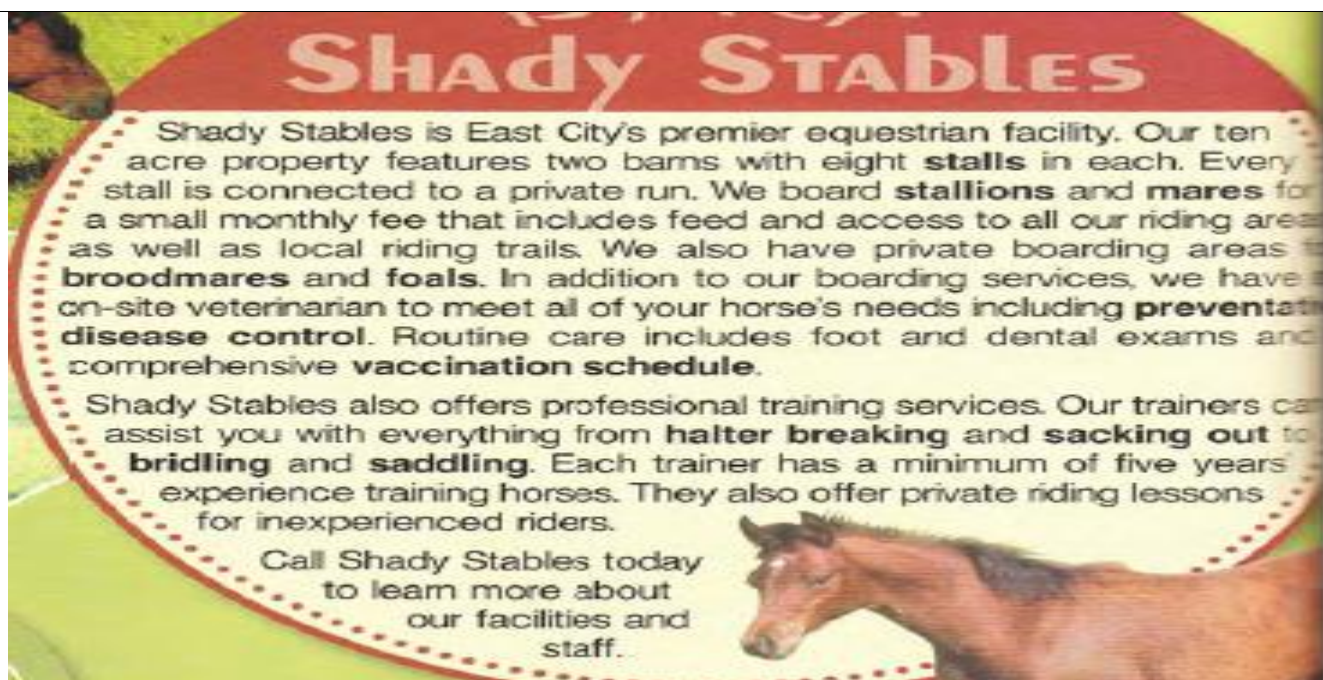
- | | |
|-----------------|---------------------------|
| 1 — flock | 5 — market slaughter lamb |
| 2 — ewe | 6 — confinement lamb |
| 3 — distribute | production |
| 4 — feeder lamb | |

- A a large group of domesticated sheep
- B a method for raising sheep indoors
- C a lamb that is sold to be slaughtered
- D a lamb that is sold for finishing
- E to supply goods to shops to be sold
- F a female sheep

4 Read the sentence pair. Choose where the words best fit the blanks.

- 1 **seasonal market / accelerated lambing**
 - A The farm produced more lambs for the _____.
 - B Weak ewes cannot participate in _____.
- 2 **lambing period / finishing**
 - A Lambs are put up for sale after _____.
 - B Ewes need extra care during the _____.

Equine industry



Shady Stables

Shady Stables is East City's premier equestrian facility. Our ten-acre property features two barns with eight **stalls** in each. Every stall is connected to a private run. We board **stallions** and **mares** for a small monthly fee that includes feed and access to all our riding areas as well as local riding trails. We also have private boarding areas for **broodmares** and **foals**. In addition to our boarding services, we have an on-site veterinarian to meet all of your horse's needs including **preventative disease control**. Routine care includes foot and dental exams and comprehensive **vaccination schedule**.

Shady Stables also offers professional training services. Our trainers can assist you with everything from **halter breaking** and **sacking out** to **bridling** and **saddling**. Each trainer has a minimum of five years' experience training horses. They also offer private riding lessons for inexperienced riders.

Call Shady Stables today to learn more about our facilities and staff.

Reading

2 Read the brochure from a horse stable. Then, mark the following statements as true (T) or false (F).

- 1 ☐ The monthly boarding fee includes food.
- 2 ☐ The facility is near a veterinary clinic.
- 3 ☐ Trainers have years of experience teaching new riders.

Vocabulary

3 Match the words (1-7) with the definitions (A-G).

- | | |
|-------------------------------------|---|
| 1 <input type="checkbox"/> bridling | 5 <input type="checkbox"/> mare |
| 2 <input type="checkbox"/> foal | 6 <input type="checkbox"/> halter breaking |
| 3 <input type="checkbox"/> stallion | 7 <input type="checkbox"/> preventative disease control |
| 4 <input type="checkbox"/> saddling | |

- A training a horse to be led by a halter
 B a baby horse
 C a female horse
 D training a horse to accept a saddle
 E training a horse to accept a bit
 F a male horse
 G activities that prevent illnesses

4 Write a word that is similar in meaning to the underlined part.

- 1 The female horse used for breeding is pregnant again. b r _ _ _ _ a _ _
- 2 Training a horse to not fear objects that humans place on it can be dangerous. _ a _ k _ _ _ _ _ u _
- 3 The veterinarian created a planned administration of vaccinations. _ _ c c _ _ _ t _ _ _ _ _ c h _ _ _ _ _
- 4 Clean the small partitions inside a barn. _ t _ _ _ _ _

Adverbs and adverbial phrases

- 1-I don't understand you when you speak quickly . The driver was seriously injured.
- 2-I never have breakfast. He's always late.
- 3-They'll be here soon. I rained all day yesterday.
- 4-I've nearly finished. We're incredibly tired. He works a lot.
- 5-Unfortunately, we arrived half an hour late. Ideally, we should leave at 10:00.

Adverbs can describe an action (*he walked slowly*) or modify adjectives or other adverbs (*it's incredibly expensive, he works very hard*).

They can either be one word (*often*) or a phrase (*once a week*).

1. Adverbs of manner (how somebody does something) usually go after the verb or phrase. However, with passive verbs they usually go in mid-position (before the main verb but after the auxiliary verb)

2. Adverbs of frequency go before the main verb but after the verb to be.

Note: sometimes / usually / normally can go at the beginning of a sentence too

3. Adverbs of time usually go at the end of a sentence or clause.

4. Adverbs of degree (which describe how much something is done or modify an adjective)

- *extremely, incredibly, very, etc.* are used with adjectives and adverbs and go before them.

- *much / a lot* are often used with verbs and go after the verb or verb phrase.

- *a little / a bit* can be used with adjectives or verbs, e.g. I'm a bit tired. She sleeps a bit in the afternoon.

5. Comment adverbs (which give the speaker's opinion) usually go at the beginning of a sentence or clause. Other common comment adjectives are *luckily, clearly, obviously, apparently, etc.*

Note: Most other adverbs go in mid-position, e.g. I just need ten more minutes. She didn't even say goodbye.

a. Underline the adverb(s) or adverbial phrase(s) and correct the sentences which are wrong.

1. She likes very much the theatre.
2. Dave was late for work yesterday .
3. Immediately the ambulances arrived.
4. They go usually jogging after work.
5. I was extremely tired last night .
6. They won easily the match because they played brilliantly.
7. I forgot your birthday almost .
8. We luckily had taken an umbrella.
9. She always eats healthy.
10. He's been apparently sacked.

b. Put the adverbs in brackets in the normal position

1. The building was damaged in the fire .(badly, last week)
2. We need to do something . (obviously, quickly)
3. Ben is at his friend's house . (often, in the evening)

4. She walked out and she didn't say goodbye. (just, even)
5. He drives fast. (always, extremely)
6. She danced at the ballet (beautifully, last night)
7. She wasn't injured when she fall. (luckily, seriously)
8. He broke his leg when he was skiing. (apparently, nearly)
9. My father sleeps in the afternoon. (usually, a bit)

UNIT 6:

Apiculture

Sweet Rewards Beekeeper Supply

Whether you're considering beekeeping as a hobby or a career, Sweet Rewards Beekeeper Supplies has everything you need. We carry a wide selection of **beehive frames** to house your **colony**. From **top-bar hives** to traditional **skeps**, we have hives for any type of **apiary**.

In addition to hive frames, we also carry a complete line of beekeeper tools. We have several sizes of **smokers**, as well as **liquid smoke** and **cold smoke aerosols**. When it's time to harvest **honey**, take advantage of our new line of honey jars. We even serve beekeepers who prefer traditional methods. For these customers, we carry **honeycomb** presses.

Finally, no beekeeping operation is complete without protective gear. We have **beesuits** in a variety of sizes and designs including square veils, round veils, and shoulder veils.

Stop in today and see what makes Sweet Rewards the first choice for professional beekeepers.

Reading

2 Read the webpage. Then, choose the correct answers.

- 1 Which product do bees live in?

A apiary	C beehive frame
B beesuit	D honeycomb press
- 2 What is true of the honeycomb press?

A It protects beekeepers.
B It supports large colonies.
C It is preferred by professionals.
D It is used by traditional beekeepers.
- 3 What does the store NOT sell?

A bee colonies	C harvest equipment
B smoking tools	D protective clothing

Vocabulary

3 Read the sentence pair. Choose where the words best fit the blanks.

1 **apiary / beesuit**

- A This _____ produces a lot of honey.
B A good _____ protects beekeepers' skin.

2 **liquid smoke / colony**

- A Wendy's _____ lives in a top-bar hive.
B _____ is a good option for people who dislike the smell of smoke.

3 **veils / skeps**

- A There are many types of protective _____.
B Traditional beekeepers use _____.

4 Match the words (1-6) with the definitions (A-F).

- | | |
|---------------|------------------------|
| 1 — smoker | 4 — top-bar hive |
| 2 — honey | 5 — beehive frame |
| 3 — honeycomb | 6 — cold smoke aerosol |

- A a structure that houses a bee colony
B a structure with a bar that bees build their colony on
C a pressurized container that releases smoke
D a structure with six-sided cells
E a sweet substance that bees make
F a device that burns materials to produce smoke

Salts and acidity

THE MIDLAND HERALD

MONDAY AUGUST, 14

Farmers Struggle against Salt and Acid

WAYNESBORO - Martin Harrison has been a farmer for half a century. Recently, his crops have grown poorly. The culprit: rising **salinity** and **acidity** along with decreasing **sodicity**.

Harrison's farm is located in Brown County, an area known for its rich farmland with little risk for salinity problems. Historically, the **primary salinity** of the soils there was low. That started to change two years ago when drought arrived. Farmers began irrigating their fields with well water. That water has high potassium, chloride, and **sulfur** content. At first there were no problems. However, mineral deposits built up. This resulted in the increased **secondary salinity** of the soil. It also made the soil acidic and **alkaline**.

Harrison started to notice problems last summer. His tomato plants died. The soil had become **toxic** to several other vegetables as well. He now increases the soil's **pH value** by adding **lime**. But that is just a temporary solution to the problems caused by irrigation. Until the drought ends, crop yields will suffer.

Reading

2 Read the newspaper article. Then, choose the correct answers.

- What changed the soil's primary salinity?
 - saline deposits in the soil
 - acids from rainwater
 - minerals from well water
 - toxins from fertilizer
- How does the farmer improve his soil?
 - He plants fewer crops.
 - He adds lime to the soil.
 - He irrigates in the summer.
 - He increases the salinity.
- When can you infer the crops will grow properly again?
 - when farmers can stop irrigating
 - when the pH value of the soil is lowered
 - when sulfur content in the soil increases
 - when farmers purify the well water

Vocabulary

3 Match the words (1-5) with the definitions (A-E).

- | | |
|--------------|----------------------|
| 1 — acidity | 4 — primary salinity |
| 2 — alkaline | 5 — lime |
| 3 — sodicity | |

- the amount of sodium in the soil
- the amount of acid in the soil
- a substance added to improve soil
- salt that is in soil from natural processes
- having a pH value greater than 7.0

4 Write a word that is similar in meaning to the underlined part.

- Plants won't grow in soil with too much alkaline metal. — — — i — m
- Some substances are harmful to plants. t — — — c
- Irrigation leads to an increase in the salt level changed by land use and management. — — c o n — — — s — l — — — —
- Chemicals can alter soil's measure of acidity or alkalinity. — H — a — — —
- The soil has high metallic element levels. — u l — — —
- What is the concentration of salt of the soil? s — — — — — t —

UNIT:8

Soil conservation

A Guide to Soil Conservation

Without healthy soil, farmers can't produce healthy crops. But soil faces many threats, including **nutrient depletion** and **erosion**. Fortunately, several methods of **soil conservation** can turn unhealthy soil into a plant paradise.

One method, **crop rotation**, solves nutrient depletion. **Cover crops**, or **green manure**, are rotated with other crops. This process increases the amount of nitrogen in the soil and reverses **land degradation**.

In addition to addressing nutrient-depletion, farmers also combat erosion. Several practices can prevent erosion. Planting **windbreaks** stops topsoil loss from wind. **Perimeter runoff control** prevents erosion from water. For example, **grassways** slow water and direct it away from fields.

Contour-farming techniques, such as **keyline design**, also prevent water from eroding soil. In one method, farmers plow rows **perpendicular** to hills. The water slows as it reaches the rows, which results in less soil loss.

Reading

2 Read the magazine article. Then, choose the correct answers.

- What is the main purpose of the article?
 - to show the benefits of soil additives
 - to describe soil conservation methods
 - to recommend soil conservation products
 - to explain the financial costs of soil damage
- Which is NOT a suggestion made in the article?
 - planting cover crops
 - using keyline design
 - applying manure fertilizer
 - having perimeter runoff control
- Which would be the best solution for nutrient depletion?

A crop rotation	C windbreaks
B soil conservation	D contour farming

Vocabulary

3 Match the words (1-8) with the definitions (A-H).

- | | |
|------------------------------|--|
| 1 — nutrient depletion | A a name for cover crops that add nitrogen |
| 2 — contour farming | B process where nutrients are taken from soil |
| 3 — cover crops | C grassy areas that slow water flow |
| 4 — green manure | D the practice of maintaining soil |
| 5 — soil conservation | E plants that add nutrients to soil and prevent it from washing away |
| 6 — grassways | F a method of plowing to prevent erosion |
| 7 — keyline design | G the use of plants near a field's borders to prevent erosion |
| 8 — perimeter runoff control | H design that maximizes water resources |

4 Write a word that is similar in meaning to the underlined part.

- The rows are at right angles to the fence.
p _ _ p e _ d _ _ _ _ a _
- The farmer needs a way to stop wind or water removing the soil in his fields. _ _ o _ _ _ n
- Tree barriers shelter fields from the wind.
_ _ n _ _ _ _ a _ _
- Growing different crops at different times helps keep soil healthy.
c _ _ _ r _ _ _ t _ _ _
- The forest experienced negative effects on the land after the flood.
_ _ n _ _ e _ _ _ d _ _ _ _ n

UNIT:9

Preparing, seeding, and planting

The Farmer's Guide



Chapter 1: Preparing, Seeding, and Planting

Although different crops demand different preparation, some practices apply to almost any crop. And what you do before planting is just as important as what you do after. Preparing the **topsoil** is always key. Test it in late summer to determine if **amendments** like lime, sulfur, or phosphorous are needed to adjust acidity. If the soil is nutrient-deficient, add fertilizer.

Likewise, most fields require treatment with an **herbicide**. Waiting two weeks to plant after using some herbicides is recommended.

Once the **soil temperature** is right, planting can begin. The **seeding rate** is determined by the ideal **seeds per pound** and **seeds per square foot**. Be sure to calculate the appropriate **plant density**. A miscalculation will result in low **emergence**.

The actual planting of seeds will vary by crop. **Broadcast seeding** may work for some seeds, while seed drills work better for small grains such as wheat or oats.

Reading

2 Read the section of The Farmer's Guide. Then, mark the following statements as true (T) or false (F).

- 1 ___ Amendments add nutrients to soil.
- 2 ___ Herbicides should be applied weeks after planting.
- 3 ___ Broadcast seeding is effective with oats.

Vocabulary

3 Match the words (1-5) with the definitions (A-E).

- | | |
|-------------------------|-----------------------------|
| 1 ___ seeds per pound | 4 ___ amendment |
| 2 ___ broadcast seeding | 5 ___ seeds per square foot |
| 3 ___ plant density | |

- A a method of scattering seeds
B amount of seeds planted per square foot
C the number of seeds in a pound of seeds
D the number of plants in a certain area
E a substance added to improve soil

4 Fill in the blanks with the correct words and phrases from the word bank.

Word BANK

soil temperature topsoil seeding rate
herbicide emergence fertilizer

- 1 The farmer used _____ to improve the soil.
- 2 The weeds died after Mary used _____.
- 3 It is still too cold to plant the seeds; the _____ is 25 degrees.
- 4 During droughts, the _____ can be blown away by strong winds.
- 5 The farmer was pleased to have 90 percent _____ of the newly planted crops.
- 6 This field's _____ is 10 pounds per acre.

UNIT: 10

Climate and weather

Vegetables

SEEDS UNLIMITED

Poblano Pepper **\$3.19/pack**
Plant in: full sun / soil temperature: 68-90 degrees Fahrenheit
Description: Poblanos are flavorful peppers that are perfect for spicing sauces. They grow in warm areas with moderate **humidity**. Check your **hardiness zone** to make sure Poblanos grow in your region. Plant seeds about twelve weeks before **last frost**. A local **long-range forecast** will help you determine when to plant. Poblanos need some water, but just to keep the soil slightly damp. Do not over-water. Harvest after 14 to 16 weeks.

Famosa Cabbage **\$3.79/pack**
Plant in: partial shade / soil temperature: 59-64.4 degrees Fahrenheit
Description: The Famosa Cabbage is a crispy vegetable that grows in cool **climates**. Famosas need lots of water, so areas with high **precipitation** are ideal for growing. Use plenty of **mulch** to maintain healthy **soil moisture**. These cabbages need only partial sun. Plant six weeks before last frost. Harvest in late autumn for best results.

Reading

2 Read the seed catalog. Then, mark the following statements as true (T) or false (F).

- ___ Poblano peppers grow best in areas with high precipitation.
- ___ Both types of seeds require full sun.
- ___ The cabbage should be harvested in the fall.

Vocabulary

3 Fill in the blanks with the correct words and phrases from the word bank.

Word BANK

precipitation last frost
temperature hardiness zones

- 1 If the _____ falls too low, the plants will die.
- 2 Don't plant any seeds until after the _____.
- 3 If there is enough _____, you won't have to irrigate.
- 4 Different plants may have different _____.

4 Match the words (1-5) with the definitions (A-E).

- 1 ___ climate
 - 2 ___ humidity
 - 3 ___ mulch
 - 4 ___ long-range forecast
 - 5 ___ soil moisture
- A weather conditions in a particular area
B the amount of water in the soil
C the amount of water in the air
D material that is spread on the ground to protect plants
E a prediction of future weather conditions

GLOSSARY

accelerated lambing [N-UNCOUNT-U5] **Accelerated lambing** is the act of breeding ewes more than once per year.

acidity [N-UNCOUNT-U9] **Acidity** is the concentration of acid in soil.

adjusting production [N-UNCOUNT-U15] **Adjusting production** is the process of limiting the production of a product to only what is needed for immediate sales.

alkaline [ADJ-U9] If a soil is **alkaline**, it contains an alkali and has a pH value greater than 7.0.

amendment [N-COUNT-U12] An **amendment** is a substance added to soil to improve it.

ammonia [N-UNCOUNT-U10] **Ammonia** is a chemical made from Nitrogen and Hydrogen, created during fixation.

antibiotics [N-COUNT-U11] **Antibiotics** are drugs that are used to kill harmful bacteria.

apiary [N-COUNT-U7] An **apiary** is a place where bees are kept.

beef [N-UNCOUNT-U1] **Beef** is the name for the meat derived from cattle.

beehive frame [N-COUNT-U7] A **beehive frame** is a structure that is constructed to house a bee colony.

beesuit [N-COUNT-U7] A **beesuit** is a protective garment that is worn by beekeepers.

bridling [N-UNCOUNT-U6] **Bridling** is the act of training a horse to accept a bit in its mouth.

broadcast seeding [N-UNCOUNT-U12] **Broadcast seeding** is a way of scattering seeds evenly over a large area of land by hand or mechanically, often followed by raking to cover the seeds.

broiler [N-COUNT-U3] A **broiler** is a medium-sized chicken sold in the US that is larger than a fryer but smaller than a roaster.

broodmare [N-COUNT-U6] A **broodmare** is a female horse that is used for breeding.

calf [N-COUNT-U4] A **calf** is a baby cow.

cattle [N-COUNT-U1] **Cattle** are the cows and bulls raised on a farm or ranch for beef or milk.

chick [N-COUNT-U3] A **chick** is a baby chicken.

classification [N-UNCOUNT-U8] **Classification** is the process of sorting things into different groups.

clay [N-UNCOUNT-U8] **Clay** is a type of sticky soil used to make pots, bricks, or tiles.

climate [N-COUNT-U13] A **climate** is set of weather conditions that is usual in a particular area.

coarse-grained [ADJ-U8] If soil is **coarse-grained**, it consists of relatively large particles.

cold smoke aerosol [N-COUNT-U7] A **cold smoke aerosol** is a pressurized container filled with a smoky substance that pacifies bees.

colony [N-COUNT-U7] A **colony** is an area where a group of bees live.

composition [N-UNCOUNT-U8] **Composition** is the parts that make something what it is.

confinement lamb production [N-UNCOUNT-U5] **Confinement lamb production** is a method of raising sheep in which the sheep are kept indoors.

contour farming [N-UNCOUNT-U11] **Contour farming** is when farmers plough rows perpendicular to the slope of a hill so that water does not as easily erode soil.

cost of production [N-UNCOUNT-U14] **Cost of production** is the sum of all costs required to produce something, including labor, land and materials.

cover crops [N-COUNT-U11] **Cover crops** are plants that farmers plant to increase the nutrients in the soil and to prevent soil from washing away.

crop rotation [N-UNCOUNT-U11] **Crop rotation** is the process by which farmers grow different crops at different times to replenish the soil.

dairy [N-UNCOUNT-U4] **Dairy** is a classification of food that includes all items made from milk.

decline [N-UNCOUNT-U15] **Decline** is the process of becoming less or worse.

decomposer [N-COUNT-U10] A **decomposer** is an organism or process that turns dead organic matter into chemical nutrients.

dentrification [N-UNCOUNT-U10] **Dentrification** is the process by which nitrogen is removed or lost from nitrogen compounds like nitrates and nitrites.

direct marketing [N-UNCOUNT-U14] **Direct marketing** is a method of sales in which the producer sells products directly to consumers.

distribute [V-T-U5] To **distribute** something is to sell it.

dynamic space [N-COUNT-U2] A **dynamic space** is the amount of space required to contain a sow's body in an enclosure and allow her to move.

emergence [N-UNCOUNT-U12] **Emergence** is the percentage of seeds that sprout into seedlings.

erosion [N-UNCOUNT-U11] **Erosion** occurs when wind or water removes the soil from a particular area and leaves it somewhere else.

eutrophication [N-UNCOUNT-U10] **Eutrophication** is the process by which substances like nitrates permeate fresh bodies of water.

ewe [N-COUNT-U5] A **ewe** is a female sheep.

fallow [ADJ-U15] If a field is **fallow**, it does not have crops planted in it.

farrow-to-finish farm [N-COUNT-U2] A **farrow-to-finish farm** is a farm that breeds and raises pigs from birth until they reach market weight.

farrow-to-nursery farm [N-COUNT-U2] A **farrow-to-nursery farm** is a farm that breeds and raises pigs that are then transferred to finishing farms to reach market weight.

feed conversion efficiency [N-NONCOUNT-U1] **Feed conversion efficiency** is a measure of how efficiently an animal converts feed into body mass.

feed ration [N-COUNT/NONCOUNT-U1] A **feed ration** is a selected amount of food that is enough for an animal's daily needs.

feeder lamb [N-COUNT-U5] A **feeder lamb** is a lamb that is sold for finishing.

feedlot [N-COUNT-U1] A **feedlot** is a large enclosed area for feeding a large number of cattle before processing.

fertilizer [N-UNCOUNT-U12] Any substance added to soil that improves its fertility is called a **fertilizer**.

fine-grained [ADJ-U8] If a soil is **fine-grained**, it consists of relatively tiny particles.

finishing [N-UNCOUNT-U5] **Finishing** is the act of feeding livestock and preparing it for slaughtering.

fixation [N-UNCOUNT-U10] During **fixation**, nitrogen in the air is converted into ammonia.

flock [N-COUNT-U5] A **flock** is a large group of sheep.

foal [N-COUNT-U6] A **foal** is a horse that is younger than one year.

food and fiber industry [N-COUNT-U15] The **food and fiber industry** is a network of farmers, distributors, retailers and other organizations that contribute to the production of food and other products.

foreign trade enhancement [N-COUNT-U15] **Foreign trade enhancement** is the practice of improving systems and technologies for trade with other countries.

free-range [N-UNCOUNT-U3] If a chicken is **free-range**, it is able to roam around outside.

grade [N-COUNT-U1] The **grade** of beef is a measure of its quality.

grain [N-COUNT-U8] A **grain** is a very small, hard piece of material.

grass-fed [ADJ-U1] If cattle are **grass-fed**, they primarily eat grass foraged from a pasture or fields.

grassway [N-COUNT-U11] A **grassway** is one form of perimeter runoff control that appears between rows of crops.

green manure [N-UNCOUNT-U11] **Green manure** is a name for cover crops that farmers plant when they want to add Nitrogen to the soil.

growth hormone [N-COUNT-U1] A **growth hormone** is a chemical that increases cattle's rate of growth or milk production.

halter breaking [N-UNCOUNT-U6] **Halter breaking** is the act of training a horse to be led by a halter that is placed on its head.

hardiness zone [N-COUNT-U13] A **hardiness zone** is a defined geographical area with a climate that supports a particular set of plant life.

hatchery [N-COUNT-U3] A **hatchery** is a place that provides artificial conditions for hatching eggs.

heifer [N-COUNT-U4] A **heifer** is a young cow that has not yet given birth to a calf.

hen [N-COUNT-U3] A **hen** is an adult female chicken.

herbicide [N-UNCOUNT-U12] **Herbicides** are substances used to kill plants or slow down their growth.

herd [N-COUNT-U1] A **herd** is a group of cattle.

highly-organic [ADJ-U8] If a soil is **highly-organic**, it largely consists of organic material as opposed to non-organic mineral material.

hog [N-COUNT-U2] A **hog** is a pig that has grown large enough to be eaten.

Holstein [N-COUNT-U4] A **Holstein** is a breed of cattle that dairy farmers use.

homogenize [V-T-U4] To **homogenize** is to mix milk so that the cream is completely blended into it.

honey [N-UNCOUNT-U7] **Honey** is a sweet substance that is made by bees.

honeycomb [N-COUNT-U7] A **honeycomb** is a structure of six-sided cells that is constructed by bees within their hives.

humidity [N-UNCOUNT-U13] **Humidity** is the amount or measurement of moisture in the air.

indirect marketing [N-UNCOUNT-U14] **Indirect marketing** is a method of sales in which the producer sells products to a retailer or other party who then sells to consumers.

intensive farming [N-UNCOUNT-U3] **Intensive farming** is a method of raising chickens in a climate-controlled enclosed area.

keyline design [N-COUNT-U11] **Keyline design** is used to maximize the water resources for one piece of land.

lambing period [N-COUNT-U5] A **lambing period** is the time during which ewes produce lambs.

land degradation [N-UNCOUNT-U11] **Land degradation** occurs when human interaction with the land causes negative effects, like floods and fires.

last frost [N-UNCOUNT-U13] **Last frost** is the last time during the year that the temperature gets low enough to kill plants in a particular region. It usually indicates the beginning of the growing season.

layer (as in bird raised to lay eggs) [N-COUNT-U3] A **layer** is a hen that is used to produce eggs.

lime [N-UNCOUNT-U9] **Lime** is a white, alkaline substance used in farming that is made by crushing shells or limestone.

liquid smoke [N-UNCOUNT-U7] **Liquid smoke** is a substance made from mixing smoke with water. It is used to pacify bees.

litter [N-COUNT-U2] A **litter** is a group of baby pigs born together.

litter [N-UNCOUNT-U3] **Litter** is the manure and wood shaving waste produced by a chicken.

long-range forecast [N-UNCOUNT-U13] A **long-range forecast** is a prediction of weather conditions more than ten days in advance.

mare [N-COUNT-U6] A **mare** is a female horse.

market [N-COUNT-U14] A **market** is a place or area where products are advertised and sold.

market demand [N-UNCOUNT-U15] **Market demand** is the total demand for a particular product in a particular area or market.

market slaughter lamb [N-COUNT-U5] A **market slaughter** lamb is a lamb that is sold to be slaughtered.

market weight [N-NONCOUNT-U1] **Market weight** is how much cattle should weigh before they are processed into beef.

milk pipeline [N-COUNT-U4] A **milk pipeline** is system at a dairy that transfers milk from a cow into cooling and storage containers.

milking herd [N-COUNT-U4] A **milking herd** is a group of cows that produce milk.

milking parlor [N-COUNT-U4] A **milking parlor** is a special area in a dairy where cows are milked.

mineralization [N-UNCOUNT-U10] **Mineralization** is the process where nitrogen from organic matter is converted into ammonium.

mulch [N-UNCOUNT-U13] **Mulch** is a material that is spread over the ground to protect plants and stop unwanted plants from growing.

nitrate [N-COUNT-U10] **Nitrates** are chemical compounds that bacteria create from nitrites.

nitrite [N-COUNT-U10] **Nitrites** are chemical compounds that bacteria create from ammonium.

nitrogen cycle [N-COUNT-U10] The **Nitrogen cycle** is the set of processes by which nitrogen is changed into chemical forms and travels through various mediums, including soil, water, and air.

nitrous oxide [N-UNCOUNT-U10] **Nitrous oxide** is a product of denitrification, and its levels have risen significantly with the increased use of fertilizers.

nutrient depletion [N-UNCOUNT-U11] **Nutrient depletion** is the process where nutrients are taken out of the soil by plants or animals.

nutrient-poor [ADJ-U10] If soil is **nutrient-poor**, it does not have the right amount of minerals and other nutrients to produce healthy crops.

pasteurize [V-T-U4] To **pasteurize** is to use a special process of heating milk to kill bacteria.

peat [N-UNCOUNT-U8] **Peat** is a material made from decaying plants that can be added to soil to help plants grow.

perimeter runoff control [N-UNCOUNT-U11] **Perimeter** runoff control is the use of things like plants to prevent water from eroding the soil.

perpendicular [ADJ-U11] If a line is **perpendicular**, it forms a right angle to a line or plane.

pH value [N-COUNT-U9] The **pH value** is a measure between 0 and 14 that indicates the acidity (pH < 7.0) or alkalinity (pH >7.0) of a substance.

plant density [N-COUNT-U12] **Plant density** is the number of plants in a certain area.

poultry [N-COUNT/UNCOUNT-U3] **Poultry** are birds raised on farm for eggs and/or meat.

precipitation [N-UNCOUNT-U13] **Precipitation** is rain, snow and other forms of water that fall from the sky.

preventative disease control [N-PHRASE-U6] **Preventative disease control** is a regimen of activities that are performed to avoid disease.

price floor [N-COUNT-U15] A **price floor** is a legal limit on how low the price of a product can be.

price support [N-UNCOUNT-U15] **Price support** is a method of maintaining a high price for a product.

pricing [N-UNCOUNT-U14] **Pricing** is the process of establishing a cost for something.

pricing for competition [N-UNCOUNT-U14] **Pricing for competition** is the process of establishing a product's price based on prices that other sellers are using.

pricing for profit [N-UNCOUNT-U14] **Pricing for profit** is the process of establishing a product's price that will cover and exceed the cost of production.

pricing for value [N-UNCOUNT-U14] **Pricing for value** is the process of establishing a product's price that offers lower prices for larger quantities.

pricing strategy [N-COUNT-U14] A **pricing strategy** is the method a seller chooses for establishing a product's price.

primary breeder [N-COUNT-U3] A **primary breeder** is a person who breeds chickens used by others for egg production.

primary salinity [N-UNCOUNT-U9] **Primary salinity** is when salts get into the soil by natural processes, such as groundwater movement.

processing facility [N-COUNT-U1] A **processing facility** is a place where cattle are killed and butchered.

produce [N-UNCOUNT-U14] **Produce** is fresh, raw food like fruits and vegetables.

pullet [N-COUNT-U3] A **pullet** is a young hen under one year of age.

quota [N-COUNT-U15] A **quota** is a limit on the amount or number of a product that can be imported or exported.

rBST [N-UNCOUNT-U4] **Recombinant bovine somatotropin (rBST)** is an artificial growth hormone given to cows to increase milk production.

roaster [N-COUNT-U3] A **roaster** is the largest size of chicken sold in the US.

rooster [N-COUNT-U3] A **rooster** is an adult male chicken.

sacking out [N-UNCOUNT-U6] **Sacking out** is the act of training a horse to not fear objects that humans place on it, particularly blankets or sacks.

saddling [N-UNCOUNT-U6] **Saddling** is the act of training a horse to accept having a saddle placed on its back.

salinity [N-UNCOUNT-U9] **Salinity** is the concentration of salt in soil.

sand [N-UNCOUNT-U8] **Sand** is a type of soil made of very small pieces of rocks or minerals that is often found on the beach or in the desert.

seasonal market [N-COUNT-U5] A **seasonal market** is a periodic increase in demand for livestock.

secondary salinity [N-UNCOUNT-U9] **Secondary salinity** is when salts get into the soil from human activities such as from irrigation.

seeding rate [N-COUNT-U12] **Seeding rate** is the amount of seeds planted per hectare.

seeds per pound [N-COUNT-U12] **Seeds per pound** is a measure of the number individual seeds in a pound of seeds.

seeds per square foot [N-COUNT-U12] **Seeds per square foot** is the amount of seeds planted in a square foot of space.

silt [N-UNCOUNT-U8] **Silt** is made when soil mixes with a body of water and then is deposited.

skep [N-COUNT-U7] A **skep** is a traditional beehive made from grass or straw.

smoker [N-COUNT-U7] A **smoker** is a device that produces smoke for the purpose of pacifying bees.

social space [N-UNCOUNT-U2] **Social space** is the amount of space required to allow a sow in an enclosure to socially interact with other sows.

sodicity [N-UNCOUNT-U9] **Sodicity** is the concentration of sodium in soil.

sodium [N-UNCOUNT-U9] **Sodium** is a chemical element with the symbol Na that is an ingredient in table salt.

soil conservation [N-UNCOUNT-U11] **Soil Conservation** is the act of maintaining soil so that it does not erode.

soil moisture [N-UNCOUNT-U13] **Soil moisture** is the amount of water contained in a particular region's soil.

soil temperature [N-UNCOUNT-U12] The **temperature** of the **soil** is called soil temperature.

sow [N-COUNT-U2] A **sow** is a female pig.

sow farm [N-COUNT-U2] A **sow farm** is a farm that raises female pigs for the purpose of producing baby pigs or piglets.

stall [N-COUNT-U6] A **stall** is a small partition inside a barn for an animal to live in.

stallion [N-COUNT-U6] A **stallion** is a male horse.

static space [N-UNCOUNT-U2] **Static space** is the amount of space required to contain a sow's body in an enclosure.

sulfur [N-UNCOUNT-U9] **Sulfur** is a chemical element with the symbol S that is typically yellow in color and has a powerful smell.

supply and demand [N-UNCOUNT-U14] **Supply and demand** is the relationship between the amount of a product that can be produced and the amount that consumers can or will buy.

surplus [N-COUNT-U15] A **surplus** is an amount or quantity of a product that exceeds the demand for that product.

swine [N-COUNT-U2] A **swine** is a type of animal including pigs and related animals.

tariff [N-COUNT-U15] A **tariff** is a tax on products that are being imported to or exported from a country.

temperature [N-COUNT-U13] **Temperature** is the measurement of something's heat.

texture [N-COUNT-U8] **Texture** is how something feels when touched.

top-bar hive [N-COUNT-U7] A **top-bar hive** is a beehive that has a suspended bar from which bees hang their honeycomb.

topsoil [N-UNCOUNT-U12] **Topsoil** is the top most layer of soil in which plants anchor most of their roots and from which they absorb most of their nutrients.

toxic [ADJ-U9] If something is **toxic**, it is harmful to life.

udder [N-COUNT-U4] An **udder** is the part of a cow that hangs from her belly and produces milk.

Unified Soil Classification System (USCS) [N-UNCOUNT-U8] The **Unified Soil Classification System** is a tool for grouping soils into types based on their texture and composition.

vaccination schedule [N-COUNT-U6] A **vaccination schedule** is a planned administration of disease-preventing injections.

veil [N-COUNT-U7] A **veil** is a protective covering for the head and face that is worn by beekeepers.

windbreaks [N-COUNT-U11] **Windbreaks** are tree barriers planted in a way that prevent the soil from eroding.