

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
МИКОЛАЇВСЬКИЙ НАЦІОНАЛЬНИЙ АГРАРНИЙ УНІВЕРСИТЕТ

Факультет культури й виховання

Кафедра іноземних мов

АНГЛІЙСЬКА МОВА

Методичні рекомендації

та навчальний матеріал для аудиторної та самостійної роботи
здобувачів вищої освіти ступеня «Молодший бакалавр»
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Передмова

Методичні рекомендації та навчальний матеріал для здобувачів вищої освіти ступеня «Молодший бакалавр» спеціальності 210 «Агрономія» денної форми навчання призначені для практичної роботи студентів і забезпечують навчальний матеріал для вивчення модулю «Мова професійного спілкування».

Мета даних методичних рекомендацій – забезпечення розвитку мовних та мовленнєвих навичок здобувачів вищої освіти з тем, передбачених навчальною програмою з іноземних мов рекомендованою Міністерством аграрної політики України та підготовка здобувачів вищої освіти до складання іспиту з англійської мови.

Рекомендації складаються з 30 тем за професійною тематикою.

Методичні рекомендації розраховані на 150 год. (5 кр.) аудиторної та самостійної роботи.

За кожну тему студент може отримати від 5-7 балів, що передбачено навчальною програмою з іноземних мов.

Методичні рекомендації розроблені згідно до вимог типової базової програми. Запропоновані тексти забезпечують швидке й ефективне засвоєння студентами лексичного матеріалу.

Для підготовки методичних рекомендацій використовувались матеріали з новітніх підручників, автентичних джерел та періодичних видань.

Unit 1 Backgrounds of agriculture

Agriculture began in the area known as the Fertile Crescent. The area is a hot, dry desert. But it has two of the requirements for farming: good soil and a water supply. Many early farmers used the Nile River as a water supply. The Nile River floods at the same time every year. Farmers planted crops before the floods. This helped their plants to survive in the desert. Later, farmers created irrigation ditches. They moved water from the Nile River to their fields. They could cultivate crops any time of the year and harvest extra food. Producing extra food was important. Later, farmers fed animals with it. These domesticated animals became another important part of agriculture.

1. Read the textbook passage. Then, mark the following statements as true (T) or false (F).

1. _ Crops cannot grow in deserts.
2. _ The Nile River floods every year.
3. _ Farmers raised animals before plants.

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

- | | |
|-----------------|---|
| 1 _ agriculture | A a large group of cultivated plants |
| 2 _ crop | B to put seeds in soil |
| 3 _ cultivate | C growing plants and raising animals |
| 4 _ produce | D to make something |
| 5 _ domesticate | E to raise a crop from seeding to harvest |
| 6 _ plant | F to tame an animal |

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

1 *water supply / irrigation*

A The river is the farmer's _____

B _____ helps farmers grow crops in areas with little rainfall.

2 *harvesting / farming*

A _____ includes raising animals and crops.

B Farmers wait until crops are mature to start _____.

3. Reading and fill the gaps with the

excuse me crops ditches water control gates

Student: _____, Mrs. Anderson. I have a question about the first farmers.

Teacher: Great. What is it?

Student: Well, they were in a desert. How did they irrigate their _____?

Teacher: Oh, with _____. They connected their fields and the Nile River.

Student: Okay. So, _____ moved through the ditches to the fields.

Teacher: Exactly.

Student: Then, I have another question. How did they _____ the water?

Teacher: The ditches had _____. They opened and water flowed through.

4. Choose the correct answers.

1 *What is the conversation mainly about?*

A a way to predict floods

B an early irrigation method

C the number of early farmers

D the most common early crops

2 *How did farmers control water?*

A They put gates in ditches.

B They filled ditches with dirt.

C They carried water in buckets.

D They planted far from the river

Unit 2 Plant products

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

- | | |
|---------------------|------------------------------------|
| 1 _ harvest | A a crop that grows underground |
| 2 _ legume | B a crop that produces grain |
| 3 _ melon | C a crop that has peels |
| 4 _ tuber | D crops that have been gathered |
| 5 _ cereal | E a type of large, sweet fruit |
| 6 _ farmer's market | F a group of farmers selling crops |

2. Reading

a) Support your local farmers!

Come to the **farmer's market** this Saturday, 8AM-3PM on Main Street. This year's harvest is the best yet!

FRESH FOOD Buy fresh **fruit** and **vegetables** for a good price!

Fruit: Delicious melons, strawberries, and blueberries.

Vegetables: Fresh broccoli, peas, and lettuce. We sell **tubers** and **legumes** too!

*This week we have Thompson's Granola. Thompson **cereal** crops are grown on a nearby farm.

CLOTHING

We offer some **industrial** crop products, such as **hemp** shoes, shirts, and hats.

b) Read the advertisement. Then, fill in the blanks with the correct items.

- 1 Available fruits: _____
- 2 Available vegetables: _____
- 3 Cereal products: _____
- 4 Industrial crop products: _____

c) Check (I') the sentence that uses the underlined part correctly.

1. A Legumes are a very popular fruit.
B Kevin likes to wear hemp clothing.
2. A Many people prefer cereals because they have no seeds.
B Vegetables are used in many meals.
3. A Most harvests grow completely underground.
B Fruit is popular because it is sweet.
4. A Industrial crops are not eaten.
B Some tubers are used to make clothes.

3. Complete the conversation with the words below.

How much granola Potatoes Help you strawberries cereal crops

Farmer: Welcome to the farmer's market. Can I 1 _____ with something?

Customer: Yes, please. I want some fresh fruit.

Farmer: These 2 _____ are perfect. We picked them yesterday.

Customer: Oh, good. And I'd like some 3 _____, too. 4 _____ are they?

Farmer: A three pound bag costs one dollar.

Customer: I'll take a bag, thanks.

Farmer: Okay. Anything else today?

Customer: Yeah. I saw your ad for 5 _____. Do you have that?

Farmer: Yes, we do. 6 _____ are grown on a nearby farm.

Unit 3 Animal products

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

1 *wool/milk*

A _____ is an important food source.

B Many clothes are made of _____

2 *protein / leather*

A _____ is often used to cover furniture.

B Plant products and meat contain _____

3 *meat / by-products*

A Humans have always used animals for _____

B _____ are used in many common products.

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

MORE THAN A MEAL

We rely on animals for a number of products. Some are more obvious than others. Animals' **milk** and **meat** provide us with **protein**. We make clothing and furniture with wool and leather. In addition, there is a long list of animal **by-products**. We use them every day. But we don't always know it. We **render fat** or **tallow**, into tires, soaps, and candles. Marshmallows buttons and tape include **bones** and **hooves**. Wool is often used in carpet. Even baseballs use animal products. Animal by-products are found in unexpected places. Thanks to rendering very little goes to waste. Meat is just one of many products that we take from animals.

1. What is the article mainly about?

A Animals that only produce meat

C Products made from animals

B The most popular types of meat

D Waste products of rendering

2. Which of the following is NOT a by-product?

A fat

B bone

C hooves

D protein

3. What is true of rendering?

A It limits waste.

C It provides protein.

B It is a by-product.

D It is in marshmallows.

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

1. Too much oily substance from plants and animals is unhealthy. _____

2. Hard materials that give a body structure are a by-product. _____s

3. The hard feet of animals are used to make tape h _____ v _____

4. Soap is made by melting animal fat r _____ ing

5. Fat that is used to make candles is also used in soap. _____ a _____ ow

Unit 4 Soil

Dear Green Thumb:

My tomatoes are dying. They get plenty of sun and water. What am I doing wrong? - Tom G.

Dear Tom:

Check the **soil**. Tomato roots need the right amount of water and air. They don't do well in **sand** or **clay**. Both have the wrong **soil structure**. Sand particles are too loose to hold enough water. **Dense** clay prevents **aeration**. You need a **soil texture** in between those extremes. **Loam** with high **silt** is usually good. The other issue is nutrients. A soil's **parent material** determines what nutrients are in it. You can improve the nutrients by adding **humus**.

1. Read the newspaper advice column. Then, mark the following statements as true (T) or false (F).

- 1 Tomatoes grow well in clay.
- 2 Aeration does not occur in clay.
- 3 Humus adds nutrients to soil

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

- | | |
|--|---|
| 1 <input type="checkbox"/> soil | A a material made of small pieces of rock and mineral |
| 2 <input type="checkbox"/> sand | B a material that is deposited by water |
| 3 <input type="checkbox"/> silt | C rock and minerals that eventually form soil |
| 4 <input type="checkbox"/> soil texture | D a layer of material that plants grow in |
| 5 <input type="checkbox"/> parent material | E the size of particles in a soil |
| 6 <input type="checkbox"/> dense | F having a lot of material in a small space |

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

aeration	clay	loam	humus	soil structures
----------	------	------	-------	-----------------

- 1 Some _____ hold more water than others.
- 2 Crops don't grow well in pure _____ soil.
- 3 Use _____ to add nutrients to soil
- 4 _____ provides roots with air.
- 5 _____ is a mix of three soil types.

Unit 5 Water

DROUGHT CONTINUES

SAN FERNANDO — The Central Valley's current **drought** is the worst in 50 years. It started five years ago. Average **rainfall** in the valley is down 35%. Less rainfall in the mountains also limits the **water cycle** in this already **arid** region as well.

Many **rain-fed** crops are dying. Recently, many farmers dug ditches to **irrigate** them. They used extra **groundwater** from their wells, too. Many experts say that will create water **shortages** in the future.

Expect higher prices for many fruits and vegetables this summer. Peaches and nectarines are an exception. Local farmers are growing **drought-resistant** varieties of those crops.

1. Read the article from the San Fernando Sun newspaper. Then, choose the correct answers.

1 What is the article mostly about?

- A a crop shortage
- B a lack of rainfall

- C new irrigation methods
- D new types of crops

2 According to the article, what will cause a water shortage in the future?

- A raising rain-fed crops
- B using extra groundwater

- C farming in arid locations
- D planting crops in the mountains

3 What is true of the peaches and nectarines?

- A They will not be damaged by the drought.
- B They will be more expensive this year.

- C They will need more water than most fruits.
- D They will be grown by out of town farmers.

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

1 ditch / groundwater

- A Irrigate the crops by digging a _____
- B Areas with a lot of _____ are ideal for farming.

2 shortage / rainfall

- A With so much _____, Dawn didn't have to water her plants.
- B Many crops died due to the water _____

3 rain-fed / drought-resistant

- A Linda prefers _____ crops since she lives in an arid region.
- B Andrew doesn't irrigate; his crops are _____

3. Match the words (1-4) with the definitions (A-D)

- 1 _ water cycle
- 2 _ drought

- 3 _ arid
- 4 _ irrigate

A to guide water to plants
B the pattern of water moving and changing form

C receiving little rainfall
D a period of unusual dryness

Unit 6 Seeds

Cold-weather **hybrid** broccoli. Bred for superior **seed vigor**. **Seedlings** survive in temperatures down to 37° F. Germination: Soak seeds in water overnight to remove **hard coats** and end **dormancy**. Place in 70° F soil to **germinate**.

Location: **Sow** in a place that gets full sun.

Sowing method: Use a pen or similar shaped object to prepare holes 0.5 cm deep, 2 cm apart. Drop one **seed** per hole. Cover with soil. Water.

Days to sprout: 7-14

Days to maturity: 58

Harvest: Cut Buds Before they flower

Price: \$0.5/100g packet

***Bulk** orders of 100 or more receive a discount of 10%

1. Read the page from The New Gardener's Seed catalog. Then, mark the following statements as true (T) or false (F).

- 1 _ The seedlings can survive below 37° F.
- 2 _ The broccoli seeds have hard coats.
- 3 _ The seeds will sprout within two weeks

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

- | | |
|----------------|--|
| 1 _ hard coat | A the firm outer layer of a seed |
| 2 _ germinate | B to sprout from a seed |
| 3 _ seedling | C to plant seeds |
| 4 _ seed vigor | D made by parents of different breeds |
| 5 _ hybrid | E a young plant |
| 6 _ sow | F the strength and survivability of a seed |

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

- 1 Farmers plant small objects from which plants grow in the spring.
S _ _ d _
- 2 Each plant has a different number of days until it can be harvested.
D _ _ t _ ma _ _ _ _ y
- 3 Some plants require special ways in which seeds are planted.
_ ow _ _ me _ _ _ _ _
- 4 To plant a large crop, you need a large quantity order of seeds.
B _ _ k
- 5 Some plants produce seeds that pass the winter in an inactive state.
_ _ or _ _ _ _ y

Unit 7 Plant growth

QUINOA ON THE RISE

Few plants have as much protein as quinoa, and it can grow in many environments. For that reason, it's become popular with gardeners and commercial farmers alike. Check out the following tips to grow quinoa at home.

Quinoa requires full sun to conduct **photosynthesis**. Sow seeds where the plant will get plenty of light. Provide at least 10 inches between rows to give the **roots** plenty of space.

If you maintain **growth charts**, you'll notice that quinoa grows slowly at first. But when the **stem** reaches about 12 inches, the **buds** will **flower**. The plant is ready for harvest when the leaves drop. Only the **seedheads** will remain. These can be stripped from the **branches** with little effort. Remove and dry the seeds for your first quinoa harvest.

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

- 1 _ No plant has more protein than quinoa.
- 2 _ Quinoa sprouts quickly and then slows.
- 3 _ Farmers who grow quinoa harvest its seeds.

2. Match the words (1-4) with the definitions (A-D).

- | | |
|--------------------|--|
| 1 _ photosynthesis | A a narrow part that supports leaves |
| 2 _ branch | B a chemical process that produces energy |
| 3 _ stalk | C a limb of a plant |
| 4 _ quinoa | D a strong plant that is grown for its seeds |

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

roots	growth chart	seedhead	leaves	buds	flowering
-------	--------------	----------	--------	------	-----------

1. Those _____ will grow into flowers.
2. Plants absorb nutrients from the soil with their _____
3. Photosynthesis occurs in the _____ of a plant.
4. Tom keeps a detailed _____ of his crops to test how effective his fertilizers are.
5. _____ plants usually produce colorful blooms in the spring.
6. The _____ of a quinoa plant contains protein-rich harvest.

Unit 8 Harvest

Harvest Date	Field # / Crop	Yield	Package Type	Package Weight	Rained On
06/29	1/Hay	0.5 ton/acre	Round Bale	0.6 tons	No
08/16	2/Wheat	30 bushels/acre	Bushel	600 bushels	Yes
10/02	3/Wheat	80 bushels/acre	Bushel	1600 bushels	No

Notes: Field #1 had the most abundant yield. Field #2 was more difficult. It **matured** later than expected. The farmers **reaped** several **bushels** too early. We also experienced an equipment problem during **threshing**. Some of the hay was not properly separated from the **chaff**. Field #3 was more successful. Inspectors discarded nearly a ton of unacceptable material from the **stacks**. Most came out of field #2.

1. Read the harvest summary report. Then, mark the following statements as true (T) or false (F)

- 1 _ The crops all have the same package type.
- 2 _ None of the crops were rained on.
- 3 _ Field #2 produced the smallest amount of wheat.

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

- 1 *reap / mature*
 - A _____ the crops in six months.
 - B Some plants take longer to _____
- 2 *chaff / harvest*
 - A The annual _____ is next month.
 - B This machine removes the unusable _____
- 3 *tons / bales*
 - A There were many more _____ of hay this year.
 - B How many of hay this year of wheat were harvested?

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

- 1 This year's quantity of crops produced was twice last year's.
y _ _ _ d
- 2 Removing unusable parts from wheat makes it edible.
_ h _ _ s _ _ n _
- 3 Instead of gathering the crops in bales, we left them in organized piles.
_ t a _ _ _
- 4 When you go to the market, get 2 units of measurement equal to 9.3 Gallons of grain.
b _ s _ _ _ _
- 5 When you place an order, tell them what form of packaging to use.
p _ _ _ _ _ _ t _ _ _

Unit 9 Storage

STORAGE PROBLEM

Mr. Garcia,

We found a problem in **bunker silo** number 13. **Mold** is growing near the south opening. I suspect two causes. First, there was improper **leveling**. Too much **moisture** gathered at one end. Secondly, the silo has too much **ventilation**. It can't **dry** and **cool** the silage.

As a result, most of the silage is destroyed. The rest is in **silage bags** for now. Number 13 is closed until we remove the mold. Should we use one of the **tower silos** for **storage** in the meantime? We should also discuss how to fix number 13. I don't want this to happen again.
Carta Thompson, Storage Manager

1. Read the email. Then, complete the summary of the email.

Workers discovered mold in 1 _____ 13. There were two causes: improper 2 _____ and too much 3 _____. Most of the silage was destroyed. The rest is in 4 _____ bags. The workers might store silage in the 5 _____ silos.

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

1 *cool / dry*

A _____ the grain or the heat will ruin it.

B After the harvest, _____ the wet crops.

2 *storage / mold*

A Nancy is worried about getting _____ in her silo.

B Jim sold some of the grain and put the rest in _____

3 *silage bag / ventilation*

A There is a problem with the silo; use a _____

B Don's storage facilities have excellent _____

3. Match the words (1-4) with the definitions (A-D)

1 leveling

2 moisture

3 tower silo

4 bunker silo

A flattening the top of a pile

B a long trench used to store grain

C wetness

D a tall storage facility

Unit 10 Feed and nutrients

ANIMAL NUTRITIONIST

Date posted: Jan. 25

Employer: Hillford Poultry Farm

Location: Lancaster, PA

Job Description: Prepare **feed** formula for fifteen varieties of chicken. Research and select low-cost ingredients with high **nutrient** content. Balance carbohydrate, fat, protein, **vitamin**, and **mineral** content in daily **rations**. Adjust feed formula as needed.

Job Qualifications: Masters Degree or higher in animal **nutrition**. Minimum of two years' experience, preferably on a **poultry** farm.

Salary: Based on experience, generous benefit package available.

Contact Information: Brian Walker (610) 555-5905

bwalker@hillford.com

1. Read the job posting. Then, mark the following statements as true (T) or false (F).

- 1 _ Hillford Farms has fifteen varieties of chicken.
- 2 _ The Hillford Farms daily ration includes fats.
- 3 _ Applicants need a degree in poultry management.

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

- | | |
|-------------------------|--|
| 1 _ nutrient | A an organic substance found in food that is essential for good health |
| 2 _ feed | B food given to animals |
| 3 _ poultry | C a person who makes healthy food for animals |
| 4 _ animal nutritionist | D any organic or inorganic substance that provides nourishment |
| 5 _ vitamin | E domesticated birds such as chickens and turkeys |

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

1 Henry increased the daily amount of food.

r _ _ _ n

2 Inorganic substances like potassium are essential for good health.

_ i _ _ r a _

3 Besides sleep and shelter, the process of nourishing an organism is the most important thing at every organism needs.

_ u _ r _ t _ _

4 Animals need a sufficient amount of Substances used to make energy in their diet

C a _ _ _ _ _ _ _ _ t e _

Unit 11 Housing animals

PROPER ANIMAL HOUSING METHODS

by Ben Keller

Here are some tips for how to properly house animals. I will use my hog barn as an example.

The ideas apply to coops and pens as well. Animals with proper housing are in their comfort zones. They are healthier and more productive than animals with poor housing. First, make sure the enclosure matches the space requirements of the animal. You also need to know the animals' critical temperatures. Install automated heating and cooling to prevent heat stress and cold stress. Don't forget to have a good waste management system. Slotted floors provide a simple way to keep your animal's living space clean.

1. Read the page from a farming blog. Then, mark the following statements as true (T) or false (F).

- 1 _ The author raises poultry.
- 2 _ Housing affects animals' productivity.
- 3 _ Slotted floors prevent heat stress.

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

- 1 *coop / cold stress*
A The chickens live in a separate _____.
B Install a heater to prevent _____.
- 2 *heat stress / pen*
A During the summer, _____ is a problem.
B Pigs do best if they are kept in their own _____.
- 3 *slotted floor / waste management*
A _____ is essential for odor control.
B A _____ helps air to circulate.

3. Match the words (1-4) with the definitions (A-D).

- | | |
|------------------------|---|
| 1 barn | A conditions under which an animal is comfortable |
| 2 comfort zone | B a structure used to house animals |
| 3 critical temperature | C the amount of space that an animal needs |
| 4 space requirement | D a temperature that must be maintained |

Unit 12 Breeding

TOM'S CATTLE BREEDING SERVICE

We have twenty Black Angus bulls available for **breeding**. Each bull has a detailed **sire summary** and complete **pedigree**. All are of high **breeding value**. Schedule an appointment to discuss your needs. We will help you with **trait selection**. We are 85% accurate in predicting **heritability** of most traits. Do you want a high **rate of gain**? Do you need strong musculature? Consider our bulls. You get a computer print out of the **expected progeny difference** (EPD). We can also provide information about each bull's **progeny**. Call us today!

1. Read the notice. Then, mark the statements as true (T) or false (F).

- 1 The company sells high quality bulls.
- 2 The company helps customers select desirable traits.
- 3 The computer print out details the breeding value of the steers.

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

breeding value	progeny	rate of gain	heritability
----------------	---------	--------------	--------------

- 1 Healthy breeders usually produce healthy _____.
- 2 Laura's breeding bulls have high _____.
- 3 This year's calves have a lower _____.
- 4 Each trait has a different degree of _____.

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

- | | |
|------------------------|--|
| 1. ___ breeding | A. A line of ancestors |
| 2. ___ pedigree | B. The act of mating animals |
| 3. ___ Trait selection | C. A rating of the likelihood that a trait will be inherited |
| 4. ___ EPD | D. A list of predictions about the passage of traits |
| 5. ___ sire summary | E. The act of breeding to achieve specific traits |

Unit 13 Slaughter and processing

JACOBSON'S BUTCHERING CO. LOCATED AT 143 FIRST STREET

At Jacobson's, we believe in humane slaughter and safe practices. Only trained professionals perform the slaughtering. We inspect all animals for disease before butchering. Our processing fees are as follows:

Kill fees:
Beef: \$50/head.
Hog: \$35/head.
Lamb: \$25/head.

Cut fees (each cut is priced per pound):
Beef: \$.35/pound.
Hogs: \$.40/pound.
Lamb: \$.35/pound.

Not only do we process meat, but we also treat hides. No part of the animal is wasted. Ask about our all-natural dog and cat foods made from offal.

1. Read the website. Then, choose the correct answers.

- Who slaughters the animals at Jacobson's?
A the animals' owners
B professional butchers
C the company's owner
D a meat inspector
- What are Jacobson's cut fees based on?
A type of animal
B weight of the animal
C health of the animal
D time to process the animal
- What is NOT a service offered by the company?
A treating hides
B making pet food
C inspection of animals
D delivery of meat

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

- When the animals are big enough they are killed for food or manufacture.
s _ _ gh _ _ _ _
- Most slaughterhouses charge extra fees to prepare animals for eating or manufacturing.
_ r _ c _ _ _
- Jonathon sent 50 animals to the slaughterhouses
_ _ _ d
- Jackie learned how to use animals skins to make traditional clothing. _ i _ _ _
- Mr. Randal requested several different parts of meat. _ _ _ s

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

butchering	kill fee	humane	inspected	offal
------------	----------	--------	-----------	-------

- Wendell's Slaughterhouse has a lower _____.
- Slaughterhouses must use _____ methods.
- _____ is often used to make other products.
- Each animal must be _____ before slaughter.
- Carol thinks the cattle aren't ready for _____ yet.

Unit 14 Cultivating and planting equipment

USED FARMING EQUIPMENT FOR SALE

Used **broadcast seeder** for sale. Spread your seeds and fertilizer with ease. It's reliable and only one year old. If interested, call and ask for Jim Drury: 617-555-3958.

Buy a 1954 John Deere **tractor**. Great pulling power! Special price if you buy our used **planter** or **transplanter**.
617-555-2156. Ask for Linda.

Want perfect soil? Buy a **rototiller** or **cultivator** for less. Both machines are hardly used. Call Dennis Fisk at 627-555-3402.

Stone picker for sale. Save your back and buy today! Call J. Henry: 617-555-2948.

Need a **seed drill** or **harrow** for planting? We have two great machines waiting for you. Call Maya Till at 627-555-2395.

Preparing fields? Used **chisel plow** and **cultipacker** for sale. Call 627-555-9898 for more details.

1. Read the newspaper advertisements. Then, mark the following statements as true (T) or false (F).

- 1 _ The tractor has a special price with the purchase of other items.
- 2 _ The broadcast seeder is used to prepare fields.
- 3 _ The seed drill ad claims to protect the buyer's back.

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

- 1 That field has a lot of weeds; use the tool that breaks apart soil and weeds.
c _ I _ v _ _ _ _
- 2 Eric is plowing the field with his new that breaks apart soil and smoothes the ground.
h a _ _ w
- 3 She wants a device attached to a tractor that goes deep in the earth to turn soil.
c h _ _ _ _ p _ _ _
- 4 Paul got a new device pulled behind a tractor that lays down seeds in rows and covers them.
_ _ a n _ _ _
- 5 Plant the seedlings with the device pulled behind a tractor that places small plants in the soil.
_ _ r a n _ _ _ _ _ _ _ r

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

- | | |
|----------------------|--|
| 1 _ rototiller | A a device that spreads seeds and fertilizer over a field |
| 2 _ cultipacker | B a device pulled by a tractor that deposits seeds in the ground |
| 3 _ tractor | C a machine that turns over soil |
| 4 _ stone picker | D a device that separates stones and soil |
| 5 _ broadcast seeder | E a vehicle that pulls farm equipment |
| 6 _ seed drill | F a machine that flattens soil |

Unit 15 Harvest equipment

FINNEMAN'S HARVESTING AND BALING

Finneman's offers a wide range of services. We provide custom harvesting and grain transportation, hay baling, and more!

Services for Grain Crops - We have the best combine harvesters and gleaners around! If you want your grain transported we can help. Chaser bins or gravity wagons transport your grain from field to storage. We have grain augers and conveyor belts for rent too! We make moving grain easy.

Silage - Our forage harvesters are perfect for clearing a field. Don't waste the plant remains after harvest. Rent a forage harvester and make silage.

Hay - We provide hay baling! We bring our balers to you. Bale wrappers are available upon request.

Don't wait for your hay to dry. Ask about our hay conditioners.

1. Read the website. Then, mark the following statements as true (T) or false (F).

- 1 _ Customers can purchase grain from Finneman's.
- 2 _ Silage is made from plant remains.
- 3 _ Finneman's can condition wet hay.

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

- | | |
|-----------------------|--|
| 1 _ chaser bin | A A machine that harvests crops of grain |
| 2 _ baler | B A harvest machine that does not use gas |
| 3 _ gleaner | C A cart used to carry grain from a field to storage |
| 4 _ combine harvester | D A device that bundles hay |
| 5 _ forage harvester | E A device that cuts up plants for use as silage |

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

1 Grain is easier to unload with an angled cart that is pulled behind a tractor.

g _ _ _ _ y w _ _ o _

2 Use the device that wraps bales to keep the" dry before the rain starts.

_ a _ _ _ r _ p _ _ _

3 Don't forget the device that cuts hay so it will dry quickly.

_ _ y c _ _ _ _ _ _ n _ r

4 The moving strip of material that transports objects to other areas moves grain from here to the other side of the barn.

C _ _ v _ _ _ _ b _ _ _

5 The new device that moves grain from trucks and carts into storage bins made the harvest much faster .

_ r _ _ n _ _ g _ _

Unit 16 Beef industry

IS RAISING GRASS-FED CATTLE THE WAY TO GO?

Grass-fed beef is in high demand. Mar. 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.

1. 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.

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

- | | |
|--------------------------------|---|
| 1 _ rancher | A a selected amount of food given to an animal |
| 2 _ grass-fed | B a place where animals are butchered |
| 3 _ grade | C cows and bulls |
| 4 _ cattle | D a rating of the quality of beef |
| 5 _ feed ration | E a measurement of how animals convert feed into mass |
| 6 _ processing facility | F primarily eating grass from a pasture |
| 7 _ grain finishing | G a farmer who raises livestock |
| 8 _ feed conversion efficiency | H feeding cattle grain to raise weight before slaughter |

3. Fill in the blanks with the correct words and phrases from the 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 quick through a _____ of cows

Unit 17 Swine industry

EFFECTIVE USE OF SPACE IN SWINE FARMING

Many swine farms do not provide optimal, space arrangements (Turner 2009). We studied twenty **sow farms** to learn about the best space arrangements in use today. Below are the findings from our research. The space requirements are different depending on the type of farm, Nevertheless it appears important to provide more than the minimally required **static space**. Otherwise, **hogs** tend to be sicker and less productive. In **farrow-to-finish farms**, providing **social space** is advisable. When **sows** have adequate social space they produce healthier litters. In the case of **farrow-to-nursery farms**, providing social space does not add additional value. Therefore, we found that it is sufficient to provide adequate **dynamic space**

1. Read the page from an agricultural industry journal.

Then, mark the following statements as true (T) or false (F).

- 1 _ Providing minimal static space leads to healthier hogs.
- 2 _ Social space is recommended in farrow-to-finish farms.
- 3 _ Farrow-to-nursery farms only need dynamic space.

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

- | | |
|----------------------------|---|
| 1 _ hog | A a group of baby pigs |
| 2 _ sow farm | B a farm that raises female pigs |
| 3 _ litter | C enough space for an animal to move |
| 4 _ dynamic space | D a farm that raises pigs to market weight |
| 5 _ farrow-to-finish farm | E a pig that has achieved market weight |
| 6 _ farrow-to-nursery farm | F a farm that raises pigs until they are weaned |

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

1 The female pig just had another litter.

2 Larger pens provide space that allows animals to interact with one another.

__oc__ __s__ c__

3 The amount of space required to contain an animal's body is not enough; the pig needs room to move.

st__ __p__e

4 Raising pigs and related animals is difficult.

__w__

Unit 18 Poultry industry

CLUCK FARMS

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**.

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

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

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

- | | |
|-----------------------|--|
| 1 _ rooster | A a baby chicken |
| 2 _ layer | B a female chicken that produces eggs |
| 3 _ hen | C a female chicken |
| 4 _ broiler | D a male chicken |
| 5 _ chick | E a facility where eggs are hatched |
| 6 _ hatchery | F a medium-sized chicken sold for food |
| 7 _ intensive farming | G a method for raising chicken indoors |

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

free-range	roasters	primary	breeder	litter	pullets	poultry
------------	----------	---------	---------	--------	---------	---------

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

Unit 19 Dairy industry

FAMILY DAIRY FARM

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.

1. 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

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

homogenized	udders	milk pipeline	rBST	Holstein
-------------	--------	---------------	------	----------

- 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.

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

- | | |
|--------------------|--|
| 1 _ dairy | A a female cow that has not given birth |
| 2 _ heifer | B food made from milk |
| 3 _ calf | C an area where cows are milked |
| 4 _ milking parlor | D to heat milk in order to kill bacteria |
| 5 _ pasteurize | E a group of cows that produce milk |
| 6 _ milking herd | F a baby cow |

Unit 20 Sheep industry

CLOUDHAVEN SHEEP FARM

Galton Industries is proud to introduce our newest venture, the Clouthaven Sheep Farm. Building on our success with the Clouthaven Cattle Yard, we have created a lambing facility that offers the same quality production. Clouthaven 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 Clouthaven Sheep Farm for quality sheep at low prices.

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

1 What is the passage mostly about?

- | | |
|---|-------------------------------------|
| A a takeover of a failing sheep operation | C the success of a cattle operation |
| B the advantages of range production | D the operations of a new facility |

2 What was the company's previous business venture?

- | | |
|--------------------|----------------------------------|
| A a cattle yard | C a free range poultry operation |
| B a slaughterhouse | D a meat processing facility |

3 What is the advantage of confinement lamb production?

- | | |
|----------------------------|-------------------------------|
| A production of more lambs | C accelerated lambing process |
| B no predation losses | D better market prices |

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

- | | |
|---------------------------------|---|
| 1 _ Flock | A a large group of domesticated sheep |
| 2 _ Ewe | B a method for raising sheep indoors |
| 3 _ Distribute | C a lamb that is sold to be slaughtered |
| 4 _ Feeder lamb | D a lamb that is sold for finishing |
| 5 _ Market slaughter lamb | E to supply goods to shops to be sold |
| 6 _ Confinement lamb production | F a female sheep |

3. 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 _____ .

Unit 21 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 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.

1. 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.

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

- | | |
|----------------------------------|--|
| 1 _ bridling | A training a horse to be led by a halter |
| 2 _ foal | B a baby horse |
| 3 _ stallion | C a female horse |
| 4 _ saddling | D training a horse to accept a saddle |
| 5 _ mare | E training a horse to accept a bit |
| 6 _ halter breaking | F a male horse |
| 7 _ preventative disease control | G activities that prevent illnesses |

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

- 1 The female horse used for breeding is pregnant again.
br _ _ _ _ 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 _ _ _ _

Unit 22 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.

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

1 Which product do bees live in?

A apiary

B beesuit

C beehive frame

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

B smoking tools

C harvest equipment

D protective clothing

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

1 *apiary* / *beesuit*

A This _____ produces a lot of hone.

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 _____ .

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

1 _ smoker

2 _ honey

3 _ honeycomb

4 _ top-bar hive

5 _ beehive frame

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

Unit 23 Classification and Composition

SOIL ANALYSIS REPORT

We took soil samples from three proposed farm locations. See to chart below for details.

The samples indicate substantially different soils at each location. The table below summarizes the texture, composition, and classificatic the samples. No **highly-organic** soils were found. Both sites 01 and 03 offer desirable soil. However, in both cases we recommend adding **peat**. That will make them more suitable for agriculture. The soil at Site 02 is not suitable for irrigated agriculture.

Sample	Grain texture	Composition			Unified Soil Classification System
		% sand	% silt	% clay	Symbol/ Group Name
Site 01	Fine-grained	5	15	80	CL/clay
Site 02	Coarse-grained	75	21	4	SM/silty sand
Site 03	Medium-grained	2	68	32	MH/ elastic silt

1. Read the soil analysis report. Then, mark the following statements as true (T) or false (F).

- 1 _ No site had the same grain texture.
- 2 _ Sites 01 and 03 had highly-organic soil.
- 3 _ Adding peat to Site 02 will make it suitable for irrigated farming.

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

- 1 *highly-organic / coarse-grained*
 - A _____ soil is best suited for farming.
 - B Growing crops in _____ soil is difficult.
- 2 *peat / clay*
 - A _____ makes soil more fertile.
 - B _____ is much more dense than sand.
- 3 *unified soil classification system / composition*
 - A Each soil type has a different _____
 - B Soil types are organized by the _____

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

- | | |
|--------------------|----------------------------------|
| 1 _ sand | A soil deposited by water |
| 2 _ silt | B consisting of tiny particles |
| 3 _ grain | C a small piece of material |
| 4 _ classification | D group something belongs to |
| 5 _ fine-grained | E how something feels |
| 6 _ texture | F soil made of rock and minerals |

Unit 24 Salts and acidity

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. 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.

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

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

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

- 1 acidity
2 alkaline
3 sodicity
4 primary salinity
5 lime
- A the amount of sodium in the soil
B the amount of acid in the soil
C a substance added to improve soil
D salt that is in soil from natural processes
E having a pH value greater than 7.0

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

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

Unit 25 The nitrogen cycle

Nitrogen is a crucial nutrient for growing plants. Without the **nitrogen cycle**, which restores **nutrient-poor** soil, plants could not survive. During this cycle, nitrogen takes on many forms. It starts in the atmosphere as nitrogen gas. In this form plants cannot absorb it. That changes

after **fixation**, the next phase of the nitrogen cycle. During fixation, bacteria turn nitrogen into **ammonia**. In the next phase, mineralization, **decomposers** in the soil turn ammonia into **nitrites** **nitrites** **nitrites**-forms of nitrogen that plants can use. Finally, during **denitrification**-bacteria reduce nitrates back into nitrogen gas.

Of course, the nitrogen cycle can also have negative effects. For example, it produces chemicals like **nitrous oxide**. When this substance leaks into bodies of water, **eutrophication** occurs. This build-up of algae can ruin a water supply. Unfortunately, commercial farming produces a great deal of such chemicals. A challenge facing modern farmers is to reduce their contribution to this harmful aspect of the nitrogen cycle.

1. Read the textbook passage. Then, mark the following statements as true (T) or false (F).

- 1 _ Plants cannot survive without nitrogen.
- 2 _ During fixation, decomposers turn ammonia into nitrogen.
- 3 _ Nitrous oxide can cause algae build up in water supplies.

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

1 *ammonia / nitrous oxide*

- A _____ is a component in many fertilizers.
B _____ is a toxic product of the nitrogen cycle.

2 *eutrophication / denitrification*

- A _____ restores nitrogen in the air.
B _____ occurred in the pond due to fertilizer runoff.

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

- 1 _ fixation
- 2 _ decomposer
- 3 _ nitrite
- 4 _ nutrient-poor
- 5 _ nitrate
- 6 _ nitrogen cycle

- A not having the right amount of minerals to be healthy
B substance that bacteria create from ammonia
C the processes by which nitrogen is changed into chemical forms
D the process of converting nitrogen into ammonia
E substance that bacteria create from nitrites
F organism that turns dead animals or plants into chemical nutrients

Unit 26 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.

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

1 What is the main purpose of the article?

A to show the benefits of soil additives

B to describe soil conservation methods

C to recommend soil conservation products

D to explain the financial costs of soil damage

2 Which is NOT a suggestion made in the article

A planting cover crops

B using keyline design

C applying manure fertilizer

D having perimeter runoff control

3 Which would be the best solution for nutrient depletion?

A crop rotation

B soil conservation

C windbreaks

D contour farming

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

1 _ nutrient depletion

2 _ contour farming

3 _ cover crops

4 _ green manure

5 _ soil conservation

6 _ grassways

7 _ keyline design

8 _ perimeter runoff control

B process where nutrients are taken from soil

C grassy areas that slow water flow

D the practice of maintaining soil

E plants that add nutrients to soil and prevent

from washing away

F a method of plowing to prevent erosion

G the use of plants near a field's borders to prevent erosion

H design that maximizes water resources

A a name for cover crops that add nitrogen

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

1 The rows are at right angles to the fence. P _ _ pe _ d _ _ _ _ a _

2 The farmer needs a way to stop wind or water removing the soil in his fields _ _ o _ _ _ n

3 Tree barriers shelter fields from the wind. _ _ n _ _ _ _ a _ _

4 Growing different crops at different times helps keep soil healthy. C _ _ _ r _ _ _ t _ _ _

5 The forest experienced negative effects on the land after the flood. _ _ n _ _ e _ _ d _ _ _ _ n

Unit 27 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.

1. 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.

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

- | | |
|---------------------------|---|
| 1 _ seeds per pound | A a method of scattering seeds |
| 2 _ broadcast seeding | B amount of seeds planted per square foot |
| 3 _ plant density | C the number of seeds in a pound of seeds |
| 4 _ amendment | D the number of plants in a certain area |
| 5 _ seeds per square foot | E a substance added to improve soil |

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

soil temperature	topsoil	fertilizer	herbicide	emergence	seeding rate
------------------	---------	------------	-----------	-----------	--------------

- 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 28 Climate and weather

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.

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

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

2. Fill in the blanks with the correct words and phrases from the 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 _____.

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

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

Unit 29 Pricing

Dear Mr. Kowalski,

Our office analyzed your business practices as you requested. We have a few suggestions to improve your **pricing strategy**.

We believe that it is time to consider **pricing for competition**. There are several new **produce** sellers in your area. Some are offering lower prices for the same vegetables that you sell. For example, you sell spinach for \$5.49 per pound. Most other sellers are offering spinach for less than \$5.00 per pound. They attract customers who want large quantities by offering **pricing for value**. We suggest moderate price decreases that maintain **pricing for profit**. As long as your prices remain higher than your **cost of production**, your business will make money.

We also think it is time for you to expand beyond **direct marketing**. Profits will remain limited if you only sell at the local farmer's market. We recommend exploring a strategy of **indirect marketing** through larger area supermarkets. Our office will continue to analyze **supply and demand** in your area. We will provide updated recommendations based on the most current trends.

Sincerely,

Nancy Curry, Professional Consultant

1. Read the business letter. Then, choose the correct answers.

1 What is the purpose of the letter?

A to market a new product

B to offer new services to a client

C to bill a customer for services

D to explain the results of an analysis

2 How do the client's prices compare to others?

A They are higher than other's prices.

B They are the same as other's prices

C They are lower than other's prices.

D They change more often than other's prices

3 What suggestion does Ms. Curry make?

A lowering production costs

B studying local supply and demand

C marketing to grocery stores in the area

D increasing prices by five percent

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

1 *marketing / indirect marketing*

A In _____, customers buy from farmers

B _____ involves farmers selling crops to stores where customers shop

2 *supply and demand / cost of production*

A Prices must make up for the _____

B Prices change according to _____

3 *pricing strategy / produce*

A Sell this _____ before it spoils.

B Change your _____ to make a bigger profit.

3. Match the words (1-4) with the definitions (A-D).

1 _ pricing

2 _ pricing for profit

3 _ pricing for competition

4 _ pricing for value

A setting a price that is less than other sellers

B setting a lower price for large quantities

C the process of establishing costs for items

D setting a price that exceeds the cost of production

Unit 30 Government intervention

GOVERNMENT PROMISES HELP FOR WHEAT GROWERS

Government officials introduced a plan this week to enhance wheat production. Spokesperson Harriet Greene responded to reporters' questions on Friday. She said the government is committed to improving economic conditions in wheat-growing regions.

Greene said the plan supports the small farmer: that the world's **food and fiber industry** relies on. The plan does have critics. But Greene responded that improving the wheat industry improves economies everywhere. She stated that the industry's **decline** negatively affects people around the world.

The plan is to decrease supply by employing a strategy of adjusting production. Leaving some wheat fields **fallow** should prevent excessive **surpluses** and wasted resources. Hopefully, this will increase **market demand**. Additionally, the government will implement various forms of **price support**. This includes establishing **price floors** raising **quotas** and reducing **tariffs** on export. Finally, the government is setting up a department to address **foreign trade enhancement**. The department will identify ways to increase wheat trade worldwide.

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

- 1 _ Some people do not support the plan
- 2 _ The plan calls for planting all available wheat fields.
- 3 _ The government intends to lower taxes on exported wheat.

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

- | | |
|----------------------------|--|
| 1 _ decline | A the desirability of a product |
| 2 _ quota | B the process of becoming less or worse |
| 3 _ price floor | C a limit on the amount of something |
| 4 _ market demand | D a legal limit on how Iowa price can be |
| 5 _ adjusting production | E the act of improving international trade |
| 6 _ foreign trade enhance- | F changing the amount of a product that is m |

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

- 1 Most agriculture focuses on the production of food and other products.
f _ _ _ n _ _ ib _ _ in _ _ _ _ _
- 2 Taxes on imports and exports can help trade.
t _ r _ _ _ _
- 3 Leave that field unplanted this season.
_ _ I I _ _
- 4 The extra supply of wheat lowered prices.
_ u _ p _ _ _
- 5 Methods of maintaining high prices ensures that crop prices don't collapse.
_ _ _ c e _ _ p p _ _ _

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