

## Lesson B5–1

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# Developing Transition Skills in Agricultural/Horticultural Occupations

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**Unit B.** Employability in Agricultural/Horticultural Industry

**Problem Area 5.** Developing Transition Skills

**Lesson 1.** Developing Transition Skills in Agricultural/Horticultural Occupations

### **New Mexico Content Standard:**

**Pathway Strand:** Systems

**Standard:** VII: Understand roles within teams, work units, departments, organizations, inter-organizational systems and the larger environment.

**Benchmark:** VII-A: Examine company performance and goals to appreciate AFNR organizations and the AFNR industry.

**Performance Standard:** 1. Examine the role and major function of AFNR organizations to better utilize AFNR guidelines. 2. Examine economic, social, and technological changes to spotlight their impact on AFNR organizations and the industry. 3. Explain technological changes to reveal their impact on information technology and transportation.

**Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:

1. Explain change.
2. Describe transition and list skills associated with making transitions.
3. Explain the adoption process.
4. Identify and assess important factors in making transitions.

**List of Resources.** The following resources may be useful in teaching this lesson:

**Recommended Resources.** One of the following resources should be selected to accompany the lesson:

Morgan, Elizabeth M., et al. *AgriScience Explorations*, Second Edition. Danville, Illinois: Interstate Publishers, Inc., 2000.

Schroeder, Charles B., et al. *Introduction to Horticulture*, Third Edition. Danville, Illinois: Interstate Publishers, Inc., 2002.

**Other Resources.** The following resources will be useful to students and teachers:

Germer, Jerry. *Country Careers*. New York, New York: John Wiley & Sons, Inc., 1993.

*Chronicle Agricultural Occupations Guidebook*. Moravia, New York: Chronicle Guidance Publishers, Inc., 1997.

## List of Equipment, Tools, Supplies, and Facilities

Writing surface  
Overhead projector  
Transparencies from attached masters

**Terms.** The following terms are presented in this lesson (shown in bold italics):

Adoption  
Adoption process  
Change  
Innovator  
Laggard  
Research  
Transition

**Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

*Ask the students to write down three ways agriculture/horticulture has changed in the last century. Allow a few minutes for them to write their lists. Examples of changes may include using tractors rather than animals to pull plows, using trucks to haul food long distances rather than growing it in the home garden, using herbicides to control weeds rather than hoeing by hand, and using refrigeration to keep flowers fresh (or foods from spoiling). Call on several students to read their lists. Place major changes on the writing surface as they are read by students. Involve all students in a discussion of these changes and place the changes in rank order using student input. Allow discussion on which changes contributed most to the*

level of living people now have. Summarize the interest approach by explaining that agriculture/horticulture has undergone many changes and many more changes will occur in the future. Indicate that people adjust to change in different ways. Success in a career is often associated with the ability to adopt new practices.

## Summary of Content and Teaching Strategies

**Objective 1:** Explain change.

**Anticipated Problem:** What is change?

- I. **Change** is to become different. Differences may be the result of natural forces or caused by human effort.
  - A. Some change is the result of naturally occurring events, such as the natural aging of organisms, changing seasons of the year, or moving weather fronts that create changes in the atmospheric conditions to cause precipitation or temperature fluctuations.
  - B. Some change is the result of human effort to develop new technology and ways of doing work.
    1. **Research** is a systematic process used in answering questions. The findings of research may result in new technology or better ways of solving problems.
    2. Once new technology has been identified, it must be developed into forms that are practical and useful in agriculture/horticulture.
  - C. Changing the way something is done does not always result in betterment.
    1. New technology must be carefully assessed before it is used.
    2. New technology sometimes has effects that are unknown when it is being developed. For example, many individuals did not know the side effects of using pesticides to control insects and other pests until after the technology had been used for several years.

Use presentation and discussion methods to achieve the objective. TM: B5–1A can be used to outline the content. Have students name examples of natural changes over which humans have little control. Next, ask them to name examples of changes in agriculture/horticulture which were developed through human effort (many of these will have been listed during the interest approach). Students may also be asked to describe changes that have occurred in how meals are prepared at home, with the emphasis on convenience foods.

**Objective 2:** Describe transition and list skills associated with making transitions.

**Anticipated Problem:** What is transition? What skills do people need in order to make transitions?

- II. **Transition** in agriculture/horticulture is the ability to change the methods that are used or how a process is performed. Some changes can occur over a short amount of time while others take much longer.
  - A. The ability of an individual to make transitions is learned.
    - 1. Education prepares an individual for making transitions. Adults need to participate in continuing education, keep current on events and technology, and have an attitude of accepting change.
    - 2. Without education, people are often afraid of change and resist making changes.
  - B. People can strive to develop skills that help them in dealing with change.
    - 1. The ability to weigh the “pros and cons” of change is important. This involves identifying the advantages and disadvantages of making a change.
    - 2. The ability to make a decision about change is based on assessing the benefits of the proposed change.
    - 3. Being willing to learn new skills makes it easier to learn them. Resisting change makes it more difficult to change.
    - 4. In occupations, people often need to quickly accept and adapt to change. Failure to do so may result in an employer no longer needing an employee. This could lead to the termination of the individual from employment.
    - 5. Keeping informed about new technology as it is being developed helps an individual in making the transition to it.
  - C. Many areas of agriculture/horticulture are in continual transition. People in the affected occupations must accommodate the changes.

*Use discussion and presentation approaches in covering this objective. Use TM: B5–1B to outline the major concepts. Ask students to identify examples of new technology that people did not accept because they were not educated to use it. Ask students why some people change more readily than others (it is associated with education and enthusiasm for change).*

**Objective 3:** Explain the adoption process.

**Anticipated Problem:** What is the adoption process?

- III. **Adoption** is choosing and using a new practice in agriculture/horticulture. Adoption is sometimes easy and sometimes difficult. Adoption is how people cope with transition.
  - A. The **adoption process** is a series of stages that an individual goes through from first hearing about an idea or new technology to its final adoption.
    - 1. Some people go through the process much more rapidly than others.

2. Some people may reject a new technology and never adopt it.
- B. The stages in the adoption process are usually completed in sequence and often without a conscious effort to move from one stage to the next. The stages are:
- Stage 1: Awareness**—In awareness, an individual knows that something exists but lacks knowledge about it.
- Stage 2: Interest**—In the interest stage, an individual moves beyond awareness and begins to learn more.
- Stage 3: Trial**—In the trial stage, an individual tries out something on a small scale to gain firsthand experience with it.
- Stage 4: Evaluation**—In the evaluation stage, the individual mentally assesses the experiences in the trial stage. This assessment is based on the benefits that the new technology may provide.
- Stage 5: Adoption (or rejection)**—In the adoption stage, an individual accepts the new technology and begins using it on a larger scale.
- C. People go through the adoption process in all phases of their lives.
1. In occupations, people often must accept and begin using new technology.
  2. In personal lives, new technology is all around, and people either adopt it or reject it.
- D. People may be classified on how rapidly they adopt new practices.
1. An **innovator** is an individual who adopts a new practice before other people. Innovators are the first to get new equipment or produce a new product.
  2. A **laggard** is an individual who is among the last to adopt a new practice. Laggards wait until almost everyone else has adopted a practice.
  3. The majority of individuals, known as middle adopters, are between innovators and laggards.

*Use discussion and presentation approaches to cover this objective. TM: B5–1C can be used to outline the content on the stages of the adoption process. Use examples in class and have students discuss where the majority of the citizens are in adopting new technologies. For example, many homes today have microwave ovens, but few had them 25 years ago; and few people today have digital television, but that will likely change greatly over the next few years. Point out that precision farming is an example of a new technology that many are in the process of adopting or rejecting. Ask students to assess how they feel about the adoption of precision farming. Use TM: B5–1D to define innovators, laggards, and middle adopters. Ask the students if they feel they are innovators, laggards, or between the two.*

**Objective 4:** Identify and assess important factors in making transitions.

**Anticipated Problem:** What are the important factors in making transitions?

- IV. The process of making transitions involves giving careful consideration to several factors in agricultural/horticultural occupations.
- A. Economic costs and returns—Monetary benefits are important in adoption. Some things may cost more than the benefits they would generate.

- B. Complexity—Complexity is important in adoption. More complex technology takes longer to adopt. Individuals who have more education and training have the ability to deal with the complexity.
- C. Visibility—Visibility is important because things that can be seen are adopted more quickly than things that cannot be seen.
- D. Compatibility—Compatibility with other technology is also important in adoption. People cannot usually stop and begin totally anew.
- E. Information—Being educated on new technology helps an individual adopt it earlier. Information brings about a smoother transition.
  - 1. Having informed associates or friends helps an individual informally gain information.
  - 2. Educational programs, the mass media, and other sources can be used to obtain information on new technology and improve transition skills.

*Use class presentation and discussion to cover the factors in transition. Use TM: B5–1E to summarize the factors in adoption/transition. Select an emerging technology and have students assess each of the factors in terms of the technology. Precision farming is one example that could be assessed for each factor. Other examples might be digital television, hydroponic crop production, and fish production in tanks in a greenhouse.*

**Review/Summary.** Use the objectives for the lesson and call on individual students to explain the content associated with each. Use this as an opportunity to expand on coverage of the objectives. Assessing examples of current technology and trends in agricultural/horticultural occupations may be a useful strategy. Conclude by emphasizing the importance of carefully assessing changes before accepting or rejecting them. In some cases, rejecting changes results in occupational problems, such as being fired or failing to get a promotion or increase in pay.

**Application.** Students can use the content of this lesson when making decisions in their personal lives as well as in occupational choices and preparation. Supervised experience offers good opportunities for students to adjust to changes and adopt new technologies.

**Evaluation.** Evaluation can involve using a written test, observation of student performance on the objectives in the review/summary, and participation of students in class discussion about transition skills. A sample written test is attached.

## Answers to Sample Test:

### Part One: Matching

1=e, 2=d, 3=a, 4=c, 5=f, 6=b

### Part Two: Short Answer

1. The five stages are awareness, interest, trial, evaluation, and adoption.

2. Student answers should include any two of the following five factors and should briefly explain the two listed: economic costs and returns, complexity, visibility, compatibility, and information.
3. Student answers should include two of the following skills and should briefly explain the two listed: ability to weigh pros and cons, ability to assess benefits, willingness to learn new skills, ability to accept change, and keeping informed about technology.

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# Test

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## Lesson B5–1: Developing Transition Skills in Agricultural/Horticultural Occupations

**Part One: Matching**

*Instructions.* Match the term with the correct response. Write the letter of the term by the definition.

- |               |                     |              |
|---------------|---------------------|--------------|
| a. change     | c. adoption         | e. innovator |
| b. transition | d. adoption process | f. laggard   |

- \_\_\_\_\_ 1. An individual who adopts a new practice before other people.
- \_\_\_\_\_ 2. A series of stages an individual goes through in making a transition.
- \_\_\_\_\_ 3. To become different.
- \_\_\_\_\_ 4. The ability to change methods and adopt new ways of doing things.
- \_\_\_\_\_ 5. An individual who is among the last to adopt a new practice.
- \_\_\_\_\_ 6. Choosing and using a new practice in agriculture/horticulture.

**Part Two: Short Answer**

*Instructions.* Provide information to answer the following questions.

1. What are the five stages an individual goes through in the adoption process?
  
  
  
  
  
  
  
  
  
  
2. Name and briefly explain any two of the major factors in making transitions in agriculture/horticulture.
  
  
  
  
  
  
  
  
  
  
3. Name and briefly explain any two of the important skills individuals can develop to help them in dealing with change.

# What Is Change?

**Change—to become different**

**Two major sources of change:**

- **Natural events**
- **Created by human effort**

# Transition Skills

**Transition—ability to change the methods used**

- **May occur gradually**
- **The ability to adapt to change is learned**

**Skills that help people deal with change:**

- **Ability to weigh pros and cons**
- **Ability to assess the benefits**
- **Being willing to learn new skills**
- **Accepting change in work**
- **Keeping informed about technology**

# **Adoption Is a Process**

**Adoption—to choose and use a new practice**

**Adoption process—series of stages an individual goes through**

**Stage 1—Awareness**

**Stage 2—Interest**

**Stage 3—Trial**

**Stage 4—Evaluation**

**Stage 5—Adoption/Rejection**

# Individuals Vary in Rate of Adoption

**Innovators—individuals who are the first to adopt**

- Small percentage of population
- Well-educated and informed

**Laggards—individuals who are the last to adopt**

- Small percentage of population
- Often poorly educated and not informed

**Middle adopters—individuals who adopt after innovators and before laggards**

- Majority of the population
- Within the middle adopters, some adopt early and others adopt late

# Factors in Making Transitions

The process of making a transition may involve considering one or more of the following factors:

- **Economic costs and returns—opportunity for returns/benefits increases rate of adoption**
- **Complexity—more time is required for complex technology**
- **Visibility—things that can be seen are adopted more quickly**
- **Compatibility—how new technology fits in with existing practices**
- **Information—keeping informed speeds adoption**