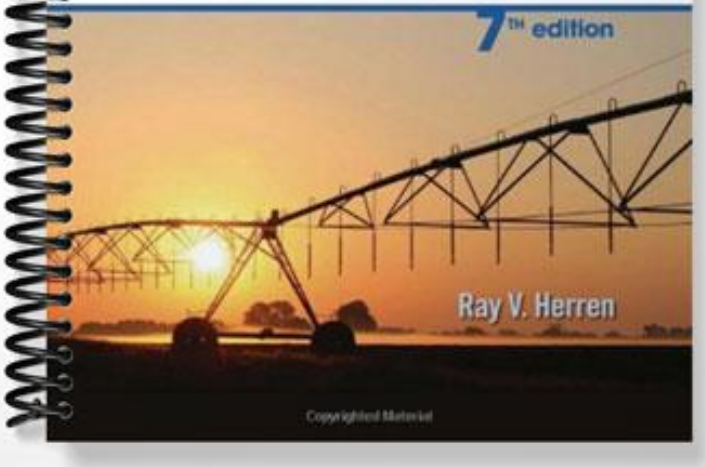
SOLUTIONS MANUAL

AGRICULTURAL MECHANICS

Fundamentals and Applications

7TH edition



Ray V. Herren

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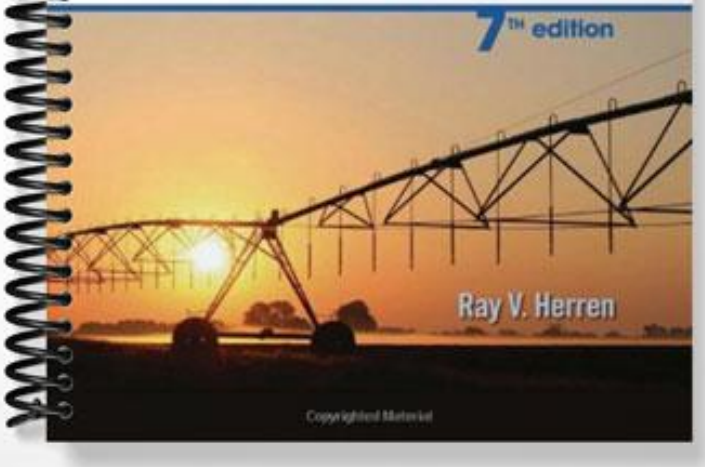

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Lesson Plan
Unit 2 – Career Options in Agricultural Mechanics

Performance Objective
After the learner completes Unit 2 and participates in the suggested activities, the learner should be able to determine how skills in agricultural mechanics may be used to earn a good living.

Competencies
- List the major divisions in the agricultural cluster of occupations.
- Identify occupations in agriculture that require mechanical skills.
- Describe the relationship between mechanical applications and success in certain agricultural occupations.
- Conduct an in-depth study of one or more jobs in agricultural mechanics.
- Establish tentative personal goals for using agricultural mechanics skills.

Terms to Know
The following terms are used in this unit and defined in the text glossary. Spanish translations of the terms also appear in the glossary.
- **Off-the-farm agricultural jobs** — those jobs requiring agricultural skills, but not regarded as farming or ranching.
- **Supervised agricultural experience** — activities of the student outside the agricultural class or laboratory done to develop agricultural skills.
- **Occupational division** — group of occupations or jobs within a cluster that require similar skills.
- **FFA** — the student organization for students studying in high school agricultural education. This part of the program teaches leadership skills and provides motivation to learn.
- **Agribusiness and agricultural production** — an area classification of agriculturally related jobs that contains eight divisions.
- **4-H** — a youth organization administered through the Cooperative Extension Service.
- **Boy Scouts of America** — an international organization for boys dedicated to developing character and training for the responsibilities of adult life.

Curriculum Standards Correlations
- National AFNR Performance Indicators: CS 01.05 and CS 01.06
- CCTC Standards: AG 5
- Green Sustainability Knowledge and Skills Statements: Agriculture, Food, & Natural Resources Career Cluster™ 1

Instructor Resources
- Computerized test bank in ExamView®
- Instructor slide presentations
- Correlation guides (National AFNR, CCTC, and Green Sustainability)
- Image Library
- CourseMate materials for Unit 2

Instructor Notes:

- Ask students to orally define and discuss the key terms.
- Discuss general job opportunities in agriculture. (Agriculture is Number One)
- Identify the divisions of agriculture and ask students to identify a division of interest to them and then to identify the role of mechanics in that division. (Agricultural Divisions)
- Ask students to identify an agricultural career of interest to them and explain why they are interested in that particular career. (Career Selection)
- Allow students to earn extra credit by interviewing someone in their career of interest and presenting a report to the class. (Meeting the Challenge)
- Allow time to review Unit 2 and complete the self-evaluation.

Class Activities and Projects

1. Using the CourseMate resources, have students give examples of career options in Worksheet 2-01 and identify careers of interest in Worksheet 2-02.
2. Suggest an FFA SAE (supervised agricultural experiences) project idea:
   - Create a 10-minute presentation for other FFA members about careers in agribusiness (FFA SAE Ideas, Business Systems 37)

Suggested Assessment/Homework Activities

You may choose to assign any or all of these items or provide some as additional review options or for extra credit. Depending on the length of your course, you may break the unit reading into segments or assign different items for homework each night. Note that the lab manual exercises are designed to be conducted in a group lab setting and require additional materials and preparation, and may be spread across units.

Textbook

- Complete Self-Evaluation for Unit 2
- Read Unit 3

CourseMate

- Review the Study Guide
- Complete the assignments for Unit 2 (2-01, 2-02, and 2-03)
- Complete worksheets for Unit 2 (2-01 and 2-02)
- Study the Flashcards
- Explore the Web links
- Complete the pre-assessment quiz for Unit 3
- Complete the post-assessment quiz for Unit 2
- Review engagement tracker to track student progress and time spent on each activity.

Lab Manual

- Class Activity 2-1: Agricultural Occupations

Online Resources:

- Learn about careers in agriculture from National Ag Day, main url: www.agday.org/, search: Careers in Agriculture, Job Descriptions

- The USDA and Purdue University have joined to describe the more than 50,000 job openings each year for college graduates in agriculture, main url: www.agriculture.purdue.edu/, search: careers
- FFA provides a portal to information on agricultural careers, main url: www.ffa.org, search: Agricultural Career Network

Answers to Self-Evaluation

A. Multiple Choice

1.	a	2.	c	3.	d	4.	d	5.	c
6.	b	7.	c	8.	a	9.	c	10.	a

B. Matching

1.	b, j	2.	d, i	3.	c, f	4.	a, h	5.	e, g

C. Completion

1. 22
2. FFA, 4-H, Boy Scouts of America
3. occupational division
4. scientific approach
5. declining, growing

D. Brief Answers

1. In order to take advantage of high school courses, supervised agricultural experience, work experience abroad, and future schooling. By narrowing choices early on, proper training can be obtained, giving the student an edge.
2. The proper schooling, good grades, a serious work attitude, good communication skills, and leadership competencies.
3. a. Visit with people who have jobs in agriculture that use mechanical skills.
   b. Prepare a list of questions to ask workers about their jobs.
   c. Talk to as many people as possible about agricultural mechanics.
   d. Plan to learn every skill possible in school, at home, and on the job.
   e. Learn what and why in the classroom.
   f. Learn how through shop and laboratory activities.