

# Agricultural Structures

**Curriculum Guide:** *Agricultural Structures*

**Unit:** VII. Fencing

**Unit Objective:**

Students will apply principles of correct fence installation by devising a fencing plan that complies with local codes and includes the materials used, cost, and layout of the fence.

**Show-Me Standards:** 3.8, SS7

**References:**

*Agricultural Structures*. University of Missouri-Columbia, Instructional Materials Laboratory, 1999.

Call 1-800-DIG-RITE First. University of Missouri Outreach & Extension. Lincoln University. Accessed March 24, 2004, from <http://outreach.missouri.edu/webster/ag-edge/legal/dig-rite.html>.

Cook, J. B., & Nickolaus, G. F. *Basic Procedures in Administration of Zoning Regulations: Appeals*. MU Extension. University of Missouri-Columbia. Accessed December 2, 2003, from <http://muextension.missouri.edu/explore/commdm/dm7613.htm>.

Cook, J. B., & Nickolaus, G. F. *Basic Procedures in Administration of Zoning Regulations: Making Applications*. MU Extension. University of Missouri-Columbia. Accessed December 2, 2003, from <http://muextension.missouri.edu/explore/commdm/dm7612.htm>.

Local regulatory agencies, such as the planning and development department, public works department, and county board of commissioners

Matthews, S. F. *Missouri Fencing and Boundary Laws*. MU Extension. University of Missouri-Columbia. Accessed December 2, 2003, from <http://muextension.missouri.edu/explore/agguides/agecon/g00810.htm>.

Phillips, R. E. *Constructing Wire Fences*. MU Extension. University of Missouri-Columbia. Accessed August 20, 2003, from <http://muextension.missouri.edu/explore/agguides/agengin/g01192.htm>.

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Zulovich, J. M. *Selecting Wire Fencing Materials*. MU Extension. University of Missouri-Columbia. Accessed August 20, 2003, from <http://muextension.missouri.edu/explore/agguides/agengin/g01191.htm>.

Students may use additional outside sources to complete this activity.

### **Instructional Strategies/Activities:**

- Students will engage in study questions in lessons 1 through 5.
- Students will complete AS 1.1, Building Legal Fences; AS 2.1, Constructing Model Brace Assemblies; JS 3.1, Constructing Barbed Wire Fencing; AS 4.1, Tensioning Fences; and AS 5.1, Splicing Wire.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following locations: p. VII-5, p. VII-16 (1), and p. VII-54.

### **Performance-Based Assessment:**

Each student will devise a fencing plan for an area designated by the instructor. The plan will include the materials used, cost, and an aerial-view drawing to indicate the layout of the fence. Students must also determine what local building and zoning codes apply to the fence and must design a fence that complies with all relevant codes.

Assessment will be based on the overall content and presentation of the fencing plan.

### Unit VII—Fencing Instructor Guide

The instructor should assign the performance-based assessment activity at the beginning of the unit. Students will work toward completing the activity as they progress through the unit lessons. The assessment activity will be due at the completion of the unit.

1. Emphasize the importance of following local building codes and zoning laws when working with fencing. Discuss relevant local building codes and zoning laws.
  - a. Information regarding building codes and zoning laws is available from local regulatory agencies, such as the planning and development department, public works department, and county board of commissioners.
  - b. General information about Missouri building codes and zoning laws is also available from the MU Extension, University of Missouri-Columbia, accessed December 3, 2003, from <http://muextension.missouri.edu/explore/agguides/>.
2. Describe an area to be enclosed with fencing, such as a pasture or a yard. Include as much detail as necessary to describe the area and its intended use, such as the dimensions of the area, whether or not the fence must enclose or keep out livestock, and the uses of the adjoining land.
3. Have students devise a fencing plan for the described area.
  - a. Have students make an aerial-view scale drawing to indicate fence layout and post spacing. Have students use computer-aided drafting (CAD) equipment or pencils and paper to make their drawing, as preferred. Drawing to scale was discussed in Unit 1, Working With Plans.
  - b. Have students compile a bill of the materials they will need, the estimated cost of each item, and the estimated total cost of the fence. A bill of materials work sheet is included with the student handout.
  - c. Students must also determine what local building and zoning codes apply to the fence and design a fence that complies with all relevant codes.
4. The final assessment score will be based on the overall content and presentation of the fencing plan.



### Unit VII—Fencing Student Handout

1. The instructor will describe an area to be enclosed with fencing.
2. Develop a fencing plan for the described area. Be sure to determine what local building and zoning codes apply to the fence and design a fence that complies with all relevant codes.
3. Make an aerial-view scale drawing to indicate fence layout and post spacing.
4. Complete a bill of materials for the project. Include all the materials that will be needed to complete the fence. A form for a bill of materials is included on the back of this sheet.
5. Your final assessment score will be based on the overall content and presentation of your fencing plan.

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Name \_\_\_\_\_

Date \_\_\_\_\_

Project Title \_\_\_\_\_

### **Bill of Materials**

Determine the materials you will need for this project and complete the bill of materials below.

<b>No. of Pieces or Amount of Material</b>	<b>Material</b>	<b>Estimated Cost per Unit</b>	<b>Cost</b>

**Estimated Total Cost** \_\_\_\_\_

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## Unit VII—Fencing Scoring Guide

Name \_\_\_\_\_

Assessment Area	Criteria	0 Points	1 Point	2 Points	3 Points	4 Points	Weight	Total
Fence Plan	Fence is well suited for its intended use and posts are properly spaced	Failed	Poor	Fair	Good	Excellent	X 7.5	
Building and Zoning Codes	Fence complies with all relevant building and zoning codes	Failed	Poor	Fair	Good	Excellent	X 6.25	
Bill of Materials	Bill of materials includes all materials needed, their cost, and the total cost of the fence	Failed	Poor	Fair	Good	Excellent	X 6.25	
Presentation	Plan is well drawn and to scale	Failed	Poor	Fair	Good	Excellent	X 5	
<b>TOTAL</b>								

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Final Assessment Total \_\_\_\_\_/100 pts.

Comments:

