

# Advanced Crop Science

**Curriculum Guide:** *Advanced Crop Science*

**Unit:** IX. Forage Production

**Unit Objective:**

Students will demonstrate an understanding of forage production by collecting and identifying common forage crops and their seeds and assembling their samples in a binder or other format.

**Show-Me Standards:** 1.3, SC7

**References:**

*Advanced Crop Science*. University of Missouri-Columbia, Instructional Materials Laboratory, 2000.

*Crop and Grassland Plant Identification Manual*. University of Missouri-Columbia, Instructional Materials Laboratory, 1997.

Forage Information System. Accessed November 11, 2003, from <http://forages.oregonstate.edu/default.cfm>.

Forages. MU Extension. University of Missouri-Columbia. Accessed November 3, 2003, from <http://muextension.missouri.edu/explore/agguides/crops/#Forages>.

*Grassland Evaluation Contest Study Guide*. University of Missouri-Columbia, Instructional Materials Laboratory, 1997.

*Missouri CDE Handbook*. Accessed March 12, 2004, from [http://www.dese.mo.gov/divcareered/ag\\_cde\\_guidelines.htm](http://www.dese.mo.gov/divcareered/ag_cde_guidelines.htm).

Students may use additional outside sources to complete this activity.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lessons 1 through 8.
- Students will complete AS 1.1, Evaluating Topography and Soil for Forage Crops; AS 2.1, Identify Characteristics of Cool- and Warm-Season Grasses; and AS 6.1, Forage Seed and Plant Identification.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following locations: p. IX-16 (2), p. IX-47 (2), and p. IX-76 (2).

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

As part of the instructional activities for this unit, students will collect and identify five common forage plants and their seeds. For the performance-based assessment activity, students should collect and identify as many additional forage plants and their seeds as they can and assemble all the samples in a binder, photo album, or other format, such as a poster. Students should further describe the forages by identifying each sample as an annual or perennial, a grass or legume, and a cool-season or warm-season crop.

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

**Unit IX—Forage Production  
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. As part of the instructional activities for the unit, have students complete AS 6.1, Forage Seed and Plant Identification.
  - a. As part of AS 6.1, students will collect five common forage plants and their seeds. Students will mount the plants and seeds on sheets of paper and identify the plants by their common name.
  - b. See AS 6.1 for additional details.
2. For the performance-based assessment activity, have students collect and identify as many additional forage plants and seeds as they can. Students should mount and label the samples in the same way as the samples for AS 6.1. NOTE: For areas where five or more forage samples would be difficult to locate, reduce the assigned number of samples for AS 6.1 and the performance-based assessment activity accordingly.
3. Have students identify each sample as an annual or perennial, a grass or legume, and a cool-season or warm-season crop.
4. Have students assemble all their samples in a binder or photo album. Students could also mount their samples on poster board, if preferred.
5. Students may use material found in the unit or discussed in class as well as additional outside material to identify their samples.
6. If students do use outside sources to help identify plants, they must turn in a list of these sources along with their project.
7. Completed projects could be displayed in class, if desired.
8. The final assessment score will be based on the overall content and presentation of the collection.
9. ADDITIONAL ACTIVITY: Have students evaluate hay samples using the format outlined in the hay judging portion of the Agronomy Career Development Event.

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- a. Refer to the *Missouri CDE Handbook* for guidelines regarding Career Development Events.
- b. The *Missouri CDE Handbook* is available from the Missouri Department of Elementary and Secondary Education at [http://www.dese.mo.gov/divcareered/ag\\_cde\\_guidelines.htm](http://www.dese.mo.gov/divcareered/ag_cde_guidelines.htm).

**Unit IX—Forage Production  
Student Handout**

1. Collect samples of common forage plants and their seeds.
2. Mount each plant and its seeds on a separate sheet of paper and write its common name on the bottom of the page. Follow the directions on AS 6.1 for preparing samples, as well as any additional directions from your instructor.
3. Identify each sample as an annual or perennial, a grass or legume, and a cool-season or warm-season crop and write this information on the sheet with the sample.
4. Assemble all your samples in a binder or photo album.
5. You may use material found in the unit or discussed in class as well as additional outside material to identify your samples.
6. Turn in a list of any sources you used to identify plants along with your completed project.
7. Your final assessment score will be based on the overall content and presentation of your collection.



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### Unit IX—Forage Production Scoring Guide

Name \_\_\_\_\_

Assessment Area	Criteria	0 Points	1 Point	2 Points	3 Points	4 Points	Weight	Total
Thoroughness	Collection includes a representative assortment of forage crops	Failed	Poor	Fair	Good	Excellent	X 8.75	
Accuracy	Samples are correctly labeled and accurately identified as an annual or perennial, a cool-season or warm-season plant, and a grass or legume	Failed	Poor	Fair	Good	Excellent	X 8.75	
Presentation	Collection is well organized and eye-appealing	Failed	Poor	Fair	Good	Excellent	X 5	
Technical Considerations	Spelling and punctuation are correct	Failed	Poor	Fair	Good	Excellent	X 2.5	
<b>TOTAL</b>								

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

Comments:

