

Advanced Crop Science

Curriculum Guide: *Advanced Crop Science*

Unit: VI. Corn and Grain Sorghum Production

Unit Objective:

Students will demonstrate an understanding of basic principles of corn and grain sorghum production by explaining, in an oral report, a key aspect of production and developing five questions about their topic that can be used for a class review.

Show-Me Standards: 2.1, SC8

References:

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

Crops. *Missouri Farm Facts*. Accessed October 28, 2003, from <http://agebb.missouri.edu/mass/farmfact/crops/index.htm>.

Crops Publications. MU Extension. University of Missouri-Columbia. Accessed October 28, 2003 from <http://muextension.missouri.edu/explore/agguides/crops/index.htm>.

Missouri Corn Online. Missouri Corn Growers Association. Accessed October 28, 2003, from <http://www.mocorn.org/>.

National Corn Growers Association. Accessed October 28, 2003, from <http://www.ncga.com/>.

National Grain Sorghum Producers. Accessed November 11, 2003, from <http://www.sorghumgrowers.com/>.

University of Missouri Grain Sorghum Production Page. Accessed October 28, 2003, from http://www.psu.missouri.edu/cropsys/Grain_Sorghum/.

Students may use additional outside sources to complete this activity.

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Instructional Strategies/Activities:

- Students will engage in study questions in lessons 1 through 8.
- Students will complete AS 1.1, Ingredients for a Successful Crop of Corn; AS 2.1, Identifying Corn and Sorghum Diseases; AS 3.1, Figuring Corn Populations and Costs; AS 4.1, Corn and Grain Sorghum Pests; AS 5.1, Determining Replanting Costs and Returns; AS 6.1, Measuring Harvest Losses; AS 7.1, Determining Storage Break-Even Costs; and AS 8.1, Determining Crop Costs and Returns.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following locations: p. VI-5, p. VI-20, p. VI-45, and pp. VI-91–VI-92 (1, 2).

Performance-Based Assessment:

Students will be divided into groups. Each group will develop an oral report that explains a key aspect of corn and grain sorghum production, such as selecting a planting method or harvesting the crop. Each group will also develop five questions about its assigned topic that can be used by the instructor for a class review. Presentations should be from 5 to 15 minutes long and include appropriate supporting material, such as illustrations, tables, or charts.

Assessment will be based on the overall content and presentation of the report and the review questions.

**Unit VI—Corn and Grain Sorghum 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. Divide the class into groups and assign each group a key aspect of corn and grain sorghum production discussed in the unit. Choose topics from those listed below, which correspond to the lessons in the unit.
 - Planning the crop
 - Selecting a variety
 - Selecting a tillage and planning method
 - Selecting a pest control program
 - Scouting and maintaining the crop
 - Harvesting the crop
 - Marketing the crop
 - Figuring crop costs
2. Have each group develop an oral report about its topic and give the report to the class. Reports should be from 5 to 15 minutes long.
3. Have the groups write five questions and answers based on the material they present in their report.
 - a. Questions should be short answer or multiple choice.
 - b. Students should turn in their questions and answers following their report.
4. Have students incorporate other elements, such as illustrations, and make use of presentation software or other equipment or material as needed to make the report interesting and informative.
5. Students may use material found in the unit or discussed in class as well as additional outside material to complete their report.
6. Students may not use the source material word for word and must provide a complete bibliography of their sources following their report.
7. Students should be prepared to answer questions about their topic.
8. Guide or correct the students' presentations, if needed.

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9. Following the reports, read through the students' questions and answers about their topic and check them for accuracy.
10. Use some or all of the questions for a class review of corn and grain sorghum production.
11. The final assessment score will be based on the overall content and presentation of the report and the review questions.
12. ADDITIONAL ACTIVITIES:
 - a. Lead a discussion about nontraditional uses for products and by-products of corn and grain sorghum production. Have students provide examples and write the examples on a poster. Each day challenge the students to think of additional products and applications to add to the poster.
 - b. Have students identify a nontraditional use for a product or by-product of corn or grain sorghum production and briefly explain it to the class. Students could work independently or in small groups.

**Unit VI—Corn and Grain Sorghum Production
Student Handout**

1. The instructor will divide the class into groups and assign each group a topic related to corn and grain sorghum production.
2. Develop an oral report that explains the key factors and considerations concerning your topic. Reports should be from 5 to 15 minutes long.
3. Write five questions and answers based on the material in your report.
 - a. Questions should be short answer or multiple choice.
 - b. You will turn in your questions following your report.
4. Include other elements, such as illustrations, and make use of presentation software or other equipment or material as needed to make your report interesting and informative.
5. You may use material found in the unit or discussed in class as well as additional outside material to complete your report.
6. You may not use the source material word for word and must provide the instructor with a complete bibliography of your sources following your report.
7. Present your report to the class. Be prepared to answer questions from the instructor and your classmates about your topic.
8. Your final assessment score will be based on the content and presentation of your report and the questions you wrote about your topic.

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Unit VI—Corn and Grain Sorghum Production Scoring Guide

Name _____

Assessment Area	Criteria	0 Points	1 Point	2 Points	3 Points	4 Points	Weight	Total
Information and Content of Report	<ul style="list-style-type: none"> <input type="checkbox"/> Information is complete <input type="checkbox"/> Facts are accurate <input type="checkbox"/> Report gives a thorough overview of the topic <input type="checkbox"/> Includes five review questions and correct answers 	0 criteria met	1 criterion met	2 criteria met	3 criteria met	All 4 criteria met	X 17.5	
Presentation of Report	<ul style="list-style-type: none"> <input type="checkbox"/> Well organized <input type="checkbox"/> Uses correct grammar <input type="checkbox"/> Good use of supporting material <input type="checkbox"/> Needs little or no prompting from the instructor 	0 criteria met	1 criterion met	2 criteria met	3 criteria met	All 4 criteria met	X 5	
Delivery of Report	<ul style="list-style-type: none"> <input type="checkbox"/> Holds audience interest <input type="checkbox"/> Speaks clearly <input type="checkbox"/> Maintains good posture <input type="checkbox"/> Maintains eye contact 	0 criteria met	1 criterion met	2 criteria met	3 criteria met	All 4 criteria met	X 2.5	
TOTAL								

Final Assessment Total _____/100 pts.

Comments:

