

INTRODUCTION TO GRASSES AND LEGUMES
Leader Guide

Job # 58253
Rec'd = 12-5-90
New Count = 1538-5
= 12-7-90
Shelf Count = 0
12-7-90
Last In = 16939
12-7-90
Initial = up
12-2-90

This plant science activity provides information about plants that can benefit and harm livestock and horses. The series which includes two slide-tape sets and ten publications is a supplement to 4-H livestock and horse programs.

Supplementary material for leaders includes suggestions for recognizing plants in the field, activities to use as learning experiences, and tips for agents and leaders in setting up plant identification contests. Using this material and participating in these activities will add interest to club meetings and broaden the educational experience for your club members.

Using these materials strengthens the club members interest in nature. It can lead to a better understanding by 4-H members of the role of grasses and legumes in the pasture and in animal nutrition. This activity can also help members recognize hazardous or poisonous plants that could injure animals.

Members can learn to appreciate the role of plants in nature and their role in the food chain. These plants form the basic food for animals through harvest as pasture, hay, or grains.

Grasses and legumes are some of the most important plants to humans. They include forage plants which are essential to livestock, and plants that produce grains, which provide food for humans.

Plants in the grass classification grow in a way that helps them survive livestock grazing. The sensitive growing point stays close to the ground where it is protected from animals.

Legumes have a unique ability to combine with bacteria to convert the nitrogen in the atmosphere into a form usable by the plants. When people make this conversion (through nitrogen fertilizer), they consume a large amount of energy. Thus, the legume plant assumes a more important role as we attempt to conserve non-renewable energy sources.

The forage plants of primary interest in livestock production are classified as grasses or legumes. Lesson plan materials for this plant science activity include:

Materials Provided

Slide Sets:
Introduction to Grasses
Introduction to Legumes

Learning Objective

The slide sets provide a general description of seven grasses and seven legumes found in fields and pastures in Oregon. The slides (with tape narration) can be used for a general introduction to plants. A review may be repeated in later sessions to illustrate and re-emphasize the plant characteristics used in identification. These are available from the State 4-H Audio-Visual Library through your county Extension Office.

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4-H 1000L
Reprinted July 1990

Leader Material

- 1001L Using Plant Science Activities as a Learning Experience Suggests activities to reinforce learning experiences in plant identification for leaders and Extension agents.
- 1002L Recognizing Plants in the Field Suggestions for organizing and directing a field trip to study plants.
- 1003L Forage Quality: What It Is (EC943) and Why It Is Important Provides information to teach youth on the factors affecting quality. The importance of forage quality in livestock feeding programs is explained.
- 1004L Forage Quality: Tips for Teaching Forage Quality and Evaluation Suggests teaching techniques for leaders to teach youth skills in visual evaluation of forage.
- 1005L How to Set Up a Plant Identification Contest Provides leaders and Extension staff tips on how to set up and effectively use contests as an education experience.
- 10010L Reference List: Plant Descriptive Material Provides a list of fact sheets and other references available through the OSU Extension Service as a resource for leaders on plant descriptions and identification. An aid to identify beneficial and hazardous plants.

Member Material

- 1006 Plant Identification Illustrated Glossary Acquaints members with the simple terms used to describe plants. The terms include those in the slide set and in the plant identification key introduced later.
- 1007 Collecting, Preserving, and Mounting Plant Materials Teaches preparing plant mounts as a club activity. These mounts can be used for teaching and reviewing plant identification. Mounts can be exchanged with other clubs in the county and other parts of the state to build a complete collection.
- 1008 Forage Quality: What to (EC942) Look For in Evaluating Hay Provides 4-H members the factors to consider in evaluation.
- 1009 How to Use a Plant Identification Key Acquaints club members with the use of keys in plant identification. Simple keys to identify cereals and forage legumes are provided.

This lesson plan is designed to provide leaders in livestock and horse clubs with sufficient resource material on plant identification and evaluation. Leaders may then introduce plant identification and evaluation to members. Through the activities suggested and innovative use of presentations by club members, this lesson plan can broaden activities available to 4-H members and help youth use the information for better management of livestock feeding.

