

LANDSCAPE AND TURF MANAGEMENT

Lesson 16: WEEDING, WATERING, AND MULCHING

I. LESSON DESCRIPTION

Students read a guide on techniques for weeding, watering, and mulching, then answer a brief verbal quiz. *Estimated time requirement for this lesson is 45 minutes.*

Curriculum Standards: National Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards, National Council for Agricultural Education, 2009:

- AFNR LifeKnowledge® and Cluster Skills Standards (CS):
 - CS.01.01.01.a. Work productively with a group or independently.
- Plant Systems (PS):
 - PS.02.01.02.b. Determine the optimal air, temperature and water conditions for plant growth.
 - PS.03.02.05.a. Explain the reasons for controlling plant growth.
 - PS.03.02.05.b. Demonstrate proper techniques to control and manage plant growth through mechanical, cultural or chemical means.

Eliminating weed competition, proper watering techniques, and appropriate choices of mulch material enhance proper development of plants.

Student Learning Objectives: After completing this lesson, students will be able to:

- (1) Describe two methods of controlling weeds,
- (2) Discuss watering techniques, and
- (3) List several mulch materials.

Instructional Methods: Reading Assignment, Verbal Quiz.

II. LESSON PLAN

Legend:

Text in normal face - Represents teacher's words.

Text in italic face - Represents suggestions for the teacher.

Interest Approach:

- "May and June. Soft syllables, gentle names for the two best months in the garden year: cool, misty mornings gently burned away with a warming spring sun, followed by breezy

afternoons and chilly nights. The discussion of philosophy is over, it's time for work to begin. . . ." Peter Loewer

- "Now 'tis the spring, and weeds are shallow-rooted;
Suffer them now and they'll o'er grow the garden."
William Shakespeare
- "Nature soon takes over if the gardener is absent." Penelope Hobhouse
- Weeding, watering, and mulching are certainly not the most glamorous aspects of horticulture, but they are important measures. By controlling weeds, we help a desirable plant win the competition for limited resources; and by mulching we not only conserve moisture, but also discourage weeds. Tedious tasks these may be, but many gardeners enjoy them and they are requisites for healthy plants and landscapes.

Relevancy:

- You'll study a brief reading assignment on weeding, watering, and mulching, then have a short quiz.

Learning Objectives:

- After attending this class, you will be able to:
 - (1) Describe two methods of controlling weeds,
 - (2) Discuss watering techniques, and
 - (3) List several mulch materials.
- Now let's learn about weeding, watering and mulching.

Instructional Methods

Reading Assignment: 15 minutes estimated

- Distribute to each student a copy of the reading assignment, 16_Mulch_Reading.doc.*
- Please take 15 minutes to study this reading assignment.

Verbal quiz: 30 minutes estimated

- Divide the class into teams so students can discuss answers to the following questions as groups. The students may refer to their handouts, then they respond verbally to each question.*

- ❑ How do weeds affect the desirable plants in a landscape? *(Answer: On the reading assignment, see the second paragraph in "Segment One – Weeding.")*
- ❑ Describe how various weather conditions affect the rate of transpiration. *(Answer: On the reading assignment, see the initial set of bullets under "Segment Two – Watering".)*
- ❑ True or False: It is best to water lawns to a depth of 2". *(Answer: False. Deep watering to a depth of 6" will encourage development of a deep root system capable of utilizing more efficiently the soil nutrients.)*
- ❑ Name at least three beneficial organic materials for mulch, and two materials that are not recommended. *(Answer: Recommended materials include wood chips, bark chips, shredded bark, pine needles, shredded leaves, leaf mold, cocoa hulls, and licorice root. Not recommended are peat moss and uncomposted sawdust.)*

Summary:

- ❑ By weeding, watering, and mulching, you can take a break from the more complicated disciplines of horticulture, such as pest identification and disease diagnosis. You will also have healthier plants and a more attractive landscape.
- ❑ The next lesson will focus on proper handling techniques for nursery stock.

OPTIONAL ACTIVITIES

- Retail garden centers and landscape suppliers often have a demonstration area set up with samples of various mulch materials. Ask students to go observe the various materials, and inventory the materials, along with their colors and textures.
- Assign students a research project to list the common chemical herbicides available at the retail garden center, and the less common organic alternatives, which typically are absent in the stores. A resource can be *New Farm* magazine at <http://www.newfarm.org/> - On the right column you'll see a "Search Site" feature; type "organic herbicide" including the quotation marks, and you'll retrieve a few relevant articles.
- Encourage students to research various automatic irrigation systems available. Typically retail garden centers may have a limited variety of consumer products for an automated system, but students can explore the larger variety of commercial systems available with an appropriate web search engine.

RESOURCES

Books:

- *Weeds of the Northeast*, by Richard H. Uva, Joseph C. Neal, Joseph M. Ditomaso, paperback, 416 pages, Publisher: Cornell University Press, April 1, 1997, ISBN: 0801483344 – Recommended highly as excellent source of reference photos and text

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