

PLANT MATERIALS

Lesson 13: HERBACEOUS LANDSCAPE PLANTS

I. LESSON DESCRIPTION

Students watch a slide show of 13 herbaceous landscape plants, and then answer a brief quiz on some of their features. *Estimated time requirement for this lesson is 18 minutes.*

Curriculum Standards: Minnesota Academic Standards in Science, Minnesota Department of Education, 5-24-10, Grades 9-12:

- 9.4.2.1.2* "Explain how ecosystems can change as a result of the introduction of one of more new species. For example: The effect of migration, localized evolution or disease organism."

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.
- Natural Resource Systems (NRS):
 - NRS.01.02.02.a. Describe morphological characteristics used to identify herbaceous plants.
 - NRS.01.02.02.b. Identify herbaceous plants.
- Plant Systems (PS):
 - PS.01.01.01.a. Explain systems used to classify plants.
 - PS.01.01.02.a. Describe the morphological characteristics used to identify agricultural plants.
 - PS.01.01.02.b. Identify agriculturally important plants by common names.
 - PS.01.01.02.c. Identify agriculturally important plants by scientific names.

Minnesota climate is suitable for a wide variety of non-woody plant material: perennials, annuals, and bulbs.

Student Learning Objectives: After completing this lesson, students will be able to recognize and name a few herbaceous plants the next time they see them in the landscape.

Instructional Methods: Presentation, Quiz.

II. LESSON PLAN

Legend:

Text in normal face - Represents teacher's words.

Text in italic face - Represents suggestions for the teacher.

Interest Approach:

- Celia Thaxter wrote, “We usually think of a Poppy as a coarse flower; but it is the most transparent and delicate of all the blossoms of the field. The rest, nearly all of them, depend upon the texture of their surfaces for color. But the Poppy is painted glass; it never glows so brightly as when the sun shines through it. Wherever it is seen, against the light or with the light, always it is a flame, and warms the wind like a blown ruby.”
- As you become acquainted with more and more herbaceous plants, you begin to appreciate the wealth of herbaceous of plant materials (annuals and herbaceous perennials) that bring a full range of effect to the garden, from a solitary point of punctuation, to a broad display of vibrant color.

Relevancy:

- In this lesson we’ll view only a quick sampling of this wealth, with 7 perennials, 3 annuals, and 3 bulbs.

Learning Objectives:

- After attending this class, you will be able to recognize a few more herbaceous plants the next time you see them in the landscape.
- Now let’s enjoy some watercolors of these flowering plants.

Instructional Methods

PowerPoint Presentation: 10 minutes estimated

- Present the PowerPoint file 13PowerPointHerbacs.ppt. There is no narration script – you can simply enjoy the watercolors in silence, or create your own narration with highlights of the handout 13ReadingHerbacs.doc. When you show the tulips, you may wish to point out an interesting point about *Tulipa gesneriana*. It is not really a species, but the collective name initially given to numerous cultivars in 1753 by Carl Linnaeus, the father of taxonomy, or the Latin naming system. The reason for the archaic term is that these watercolors were painted by a French artist about 200 years ago.*

Verbal quiz: 5 minutes estimated

- The questions here simply trigger further study of the handout, and verbal discussion.*
- Consult your handout, and list three plants that tolerate drought.
- Name six plants that have problems with aphids?
- Which of these plants is aquatic?
- Based on the table, name a plant will tolerate full shade?

Summary:

- While enjoying these watercolors, hopefully you've recognized a number of herbaceous plants that you frequently see in Minnesota landscapes.
- As you observe plants in the landscape, try to research their names. One way to gain familiarity with new plants is to visit your local garden center and study the name tags. Take note of the time of year that you find herbaceous plants in bloom, and consider creating a list that would provide continuous bloom over an entire growing season.
- We've completed the lessons on plant materials; now let's study some horticultural techniques to keep them healthy.

OPTIONAL ACTIVITIES

- If a public garden or arboretum is nearby, take students on a tour. Pay close attention to the name tags of herbaceous perennials, annuals, and bulbs. To locate a garden near you, see the final point under "Websites" below. If a public garden is not nearby, visit a large retail garden center or nursery.
- Bring to class one of the books listed below; consider inter-library loan to save costs. Let the students browse the books to see the rich variety of herbaceous plants available.
- If you know any nursery staff, invite them to your classroom to speak about favorite perennials, annuals, and bulbs for your region.
- Assign the students the creation of a time chart that shows the average bloom time for perennials, annuals, and bulbs. The bloom period will vary from region to region, so ask the students to find references that pertain to your zone.
- Assign the students the creation of a propagation chart that shows the various propagation methods for perennials and bulbs. Some examples are root divisions, seeds, cuttings, bulbs, corms, and rhizomes. Name several examples of plants best suited to each of these techniques.
- Plant bulbs in the garden or greenhouse, or force bulbs into bloom over the winter months in the classroom.

RESOURCES**Free:**

- Don't forget Inter-Library Loan makes any book a free (or nearly free) resource - ask your librarian for a request form (Sometimes you pay a few dollars for shipping, but usually not).

Books and CDROMs:

- *Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials*, Allan M. Armitage
- *Armitage's Garden Annuals*, Allan M. Armitage, 2004
- *Annuals and Tender Plants for North American Gardens*, by Wayne Winterrowd
- CDROMs from Horticipia, www.horticipia.com, 1-800-560-6186. Several professional level CDROM collections of plant photos, but two student editions are popular: (1) *The Professional XE Bundle* has a student version with a deep discount; it is licensed to a single PC. (2) *Horticipia A to Z* is a popular version among high schools.
- Timber Press has a wide array of quality books for horticulture. Located in Portland, Oregon, they publish books about gardening, horticulture, botany, natural history, and the Pacific Northwest. <http://www.timberpress.com/>

Websites: Within a web address, locations of specific pages may change in time; if the pages below are not found, then remove all characters that follow the website root such as ".com" or ".org" to visit the home page. Then explore the menus to find the page described below.

- <http://www.hort.uconn.edu/plants/about.html> - UConn Plant Database from the University of Connecticut.
- <http://plants.usda.gov> - This is the Plants Database from the U. S. Department of Agriculture. It is an image database that is searchable by common name, scientific name, and growth habit.
- <http://plantfacts.osu.edu/images.lasso> - "Plant Facts" image database of plants and pests, from Ohio State University.
- To find a list of botanical gardens and arboreta in your vicinity, go to <http://www.aabga.org>, click on the link "Public Gardens". Near the bottom of the page you'll find the Search criteria; just use the pull-down menu to find "Minnesota", and then click the Search button.