AGRI 0160B - METHODS OF PROPAGATION

Catalog Description

Formerly known as HORT 134B
Hours: 54 laboratory
Description: Provides an advanced level of skill, technique and experience in spring plant production. In-depth studies of propagation materials, sexual and asexual reproduction, transplanting and planting. Preparation and use of propagation and planting media. (not transferable)

Course Student Learning Outcomes

- CSLO #1: Develop propagation plans for various crops.
- CSLO #2: Determine correct selection of rooting hormones for various propagation methods, and demonstrate proper application.
- CSLO #3: Analyze plant materials for appropriate cuttage selection, and apply appropriate handling and storage protocols to various plant species for collection and propagule preparation.

Effective Term

Fall 2014

Course Type

Credit - Degree-applicable

Contact Hours

54

Outside of Class Hours

0

Total Student Learning Hours

54

Course Objectives

1. Perform procedures of advanced, spring-specific plant propagation such as drop layering, air layering, tuber division, softwood and semi-ripe wood cuttings on several species of plants following appropriate propagation protocols for each.
2. Determine proper timing for various spring-specific propagation and production techniques appropriate to plant species and demonstrate appropriate propagation methods for each.
3. Analyze plant materials for appropriate cuttage selection, and apply appropriate handling and storage protocols to various plant species for spring collection and propagule preparation.
4. Formulate and prepare planting and propagation media appropriate for spring-specific propagation methods.
5. Determine correct selection of rooting hormones for various propagation methods, and correctly apply to propagules.
6. Produce a written journal of several different species of spring-specific propagules including propagation data and plant progress tracking sheets.
7. Successfully produce plant labels using computerized labeling system.
8.Determine crop cycle of spring seed propagated crops.

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

Methods of Evaluation

- Classroom Discussions
  - Example:
- Projects
  - Example:
- Reports
  - Example: Students will maintain a propagation journal including descriptions of daily lab activities, and a compilation of propagation data and tracking sheets for each species propagated describing techniques, media and hormone selection, timing and weekly progress of callus formation to root initiation, growth care and maintenance, and transplant activities. Evaluation and grade will be based upon the thoroughness and correctness of information provided in each data and tracking sheet.
- Skill Demonstrations
  - Example: Weekly skill demonstrations of various propagation methods will be evaluated for correct use of application and techniques appropriate for each.

Repeatable

No

Methods of Instruction

- Laboratory

Lab:

1. Proper media preparation will be demonstrated by instructor followed by students demonstrating the techniques.
2. Instructor will discuss appropriate handling and storage protocols for various plant species for spring collection and propagule preparation. Students will then apply the the appropriate methods for specific plant species chosen by the instructor.

Typical Out of Class Assignments

Reading Assignments

1. Read textbooks on spring propagation principles and techniques.
2. Read current research articles on various propagation methods appropriate for spring application.

Writing, Problem Solving or Performance

1. Write and maintain propagation data sheets for each species propagated describing techniques, media and hormone selection, timing and weekly progress tracking of callus formation to root initiation. 2. Read labels of various plant growth regulators used for propagation, and make selections for appropriate use on each species propagated.

Other (Term projects, research papers, portfolios, etc.)

Students will maintain a propagation journal including descriptions of daily lab activities, and a compilation of propagation data and tracking sheets for each species propagated describing techniques, media and hormone selection, timing and weekly progress of callus formation to root initiation, growth care and maintenance, and transplant activities.

Required Materials

- The Reference Manual of Woody Plant Propagation: From Seed to Tissue Culture
  - Author: Dirr, Michael A.
  - Publisher: Timber Press
  - Publication Date: 2006
  - Text Edition: 2nd
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Plant Propagation; Concepts & Lab Exercises
  - Author: Beyl, C. & Trigiano
  - Publisher: CRC Press
  - Publication Date: 2008
  - Text Edition: 1st
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Plant Propagation
  - Author: Hartmann & Kester
  - Publisher: Pearson
  - Publication Date: 2010
  - Text Edition: 8th
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Making More Plants: The Science, Art and Joys of Propagation
  - Author: Kenneth Drues
  - Publisher: Stewart, Tabori & Chang, Inc.
  - Publication Date: 2012
  - Text Edition: 1st
  - Classic Textbook?: No
  - OER Link:
  - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.

Required materials fee covers 1 - seeding/transplanting tool and 1 - small Corona propagation secateur.