



To view additional contest details, see the contest clarification sheet on the Michigan FFA Website

GREENHOUSE CROP PRODUCTION

Career Development Event

Purpose:

To stimulate Interest In greenhouse production and management of major greenhouse plants through the career - technical agriscience curriculum.

OBJECTIVES

1. To apply principles of plant science to the planning and management of a commercial greenhouse and production of floricultural plants.
2. Identify annual and perennial bedding plants, flowering and foliage potted plants, and cut flowers produced in greenhouses and sold in the U.S.
3. Identify plant problems due to pest, nutritional, mechanical, or chemical injury. Understand the source of problems and controls.
4. Understand the principles, and develop skills, in propagation and culture of commercial greenhouse crops.

Equipment

Students are to **bring their own** pencils and clipboards.

Contest Rules

1. The contest has four phases each worth 100 points: general knowledge exam, plant identification exam, problem identification, and solving, and greenhouse crop production practicum. All answers

- will be provided on a scantron sheet.
2. No contestant is permitted to touch or handle plant material during the contest, except in the practicum.
 3. Observers are not permitted in the contest area while that contest is in progress.
 4. No contestant is permitted to communicate to another contestant while competing, or assistance from any other source.
 5. Contestants are assigned to group leaders who will escort them to various contest staging sites. Stay with your group leader throughout the contest.
 6. Contestants are assigned to groups and given an identification number. Write this number on the score sheet for each phase of the contest.

CONTEST PERSONNEL

Judges

Judges will be selected by the contest superintendent.

Superintendent

The superintendent will monitor the contest room and assist the judges as they compile their final placing.

The superintendent will adequately prepare the judges before the event competition.

PROCEDURE

Contest Procedures

- Phase 1A - General Knowledge Exam
 - Forty multiple choice questions will cover the area of the greenhouse industry reflected in the contest objectives. The Exam will test the students' knowledge and understanding of basic plant science, the greenhouse structure and environment, the plant root zone, and basic principles of producing bedding plants, flowering and foliage potted plants, hydroponics vegetable and herb production. A question bank is available down below.
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- Phase 1B - Greenhouse tool and Equipment Identification
 - Contestants will have to be able to Identify 10 tools from the attached list.
 - 30 minutes will be allowed for the phase of the contest.
- Phase 2 - Identification of Plant Material
 - Specimens from a list of plant species will be displayed for contestants to Identify by scientific and common name. A master list will be provided so the students can match the correct scientific and common name to the specimen. For each of the 25 specimens' contestants will have to place on the scoresheet both the common and scientific name.
 - 30 minutes will be allowed for this phase of the contest.
- Phase 3 - Greenhouse Problem Solving
 - Each contestant will Identify problems related to the various aspects of the greenhouse/plant production Industry. the student must Identify the problem and the best solution to the problem from a list provided.
 - 30 minutes will be allowed for this phase of the contest.
- Phase 4 - Greenhouse Crop Production Practicum
 - Contestants will demonstrate basic skills in typical greenhouse production techniques. Possible activities might Include: sowing seeds, vegetative propagation, or plant of major greenhouse crops. Study Information Is provided. Five (5) multiple choice questions will be asked regarding this practicum.
 - 30 minutes will be allowed for this phase of the contest.

SCORES

Individual scores will be the sum of the scores on the 4 phases of the contest, each of which Is worth 100 points. Team awards will also be determined, based on total points acquired by team members.

Phase 1A - General Knowledge Exam (80 points)

Phase 1B - Greenhouse Tool and equipment Identification (20 points)

Phase 2 - Identification of Plant Material (100 points)

Phase 3 - Greenhouse Problem Solving (100 points)

Phase 4 - Greenhouse Crop Production Practicum (100 points)

Determining Awards

Team scores will be an aggregate of all members' quizzes and individual practicum scores.

Gold and Silver awards will be determined by the Michigan FFA Association Executive Secretary.

Tie Breaker

1. General Knowledge Exam
2. Identification of Plant Material

ADDITIONAL MATERIALS

References and Textbooks (Library SB 414 to SB 416)

Equipment, Plant Material, Problem Solving, and Practicum Study Sheet References Link:

[Equipment, Plant Material, Problem Solving, and Practicum Study Sheet
References.docx](#)

Primary Recommended Student Textbook

[An Introduction to Greenhouse Production](#). 1992. Robert W. McMahon. Ohio Agricultural Education Curriculum Materials Service. ISBN 1-56502-002-2

Recommended for Instructors and as References

Introductory level, include both greenhouse management and crop production information.

[The Commercial Greenhouse Handbook](#). 1981. James W. Boodley, Litton Educational Publishing, Inc., 135 W. 50th Street, New York, NY 10020 (SB 415.B66) (Currently being updated by the author.)

[Ball Red Book](#) (15th edition). 1991. George J. Ball, Inc., PO Box 335, W. Chicago, IL 61085 (SB 405, B25) ****New Edition****

Upper level or for Instructors (These two are used as texts at MSU.)

[*Greenhouse Operation and Management](#) (4th Edition). 1991. Paul V. Nelson, Reston Publishing Co., Inc., Reston VA 22090 (SB 415.N44)

Introduction to Floriculture (2nd edition). 1992. Roy A. Larson, Editor. Academic Press, Inc., San Diego, CA 92101 (SB 405.155) **New Edition**

Periodicals

Greenhouse Manager. Branch-Smith Publishing, 120 St. Louis Avenue, Fort Worth TX 76104, (SB 414.67). Phone 800-433-5612, Fax 817-877-1862

Greenhouse Grower. Meister Publishing Company, 37733 Euclid Avenue, Willoughby, OH 44094, (SB 415.A1). Phone 216-942-2000, Fax 216-942-0662

Grower Talks. PO Box 532, 1 North River Lane, Suite 206, Geneva, IL 60134. Phone 708-208-9080, Fax 708-208-9350

MSU Extension Bulletins

E 1382	Poinsettia Production
E 2069	Chrysanthemum Pot Plant Production
NCR 340	Diagnosis Greenhouse Plant Diseases II: Botrytis/Spp/Powdery Mildew
NCR 341	Diagnosis Greenhouse Plant Diseases III: Phys Dis, Leafspots & Viruses