

Greenhouse Operation and Management

Curriculum Guide: *Greenhouse Operation and Management*

Unit: VII. Greenhouse Business Management

Unit Objective:

Students will apply principles of greenhouse business management by generating a cost analysis and marketing plan for a greenhouse.

Show-Me Standards: 1.8, MA1

References:

Ball Seed Company. Accessed February 18, 2004, from <http://www.ballseed.com/>.

Commercial seed and plant catalogs

"Economics and Marketing." *The Texas Poinsettia Producers Guide*. Accessed February 19, 2004, from <http://aggie-horticulture.tamu.edu/greenhouse/nursery/guides/poinsettia/econ.html>.

Greenhouse Operation and Management. University of Missouri-Columbia, Instructional Materials Laboratory, 2002.

Hummert International. Accessed December 3, 2003, from <http://www.hummert.com/>.

Poinsettias. UK Cooperative Extension Service, University of Kentucky College of Agriculture. Accessed February 19, 2004, from <http://www.uky.edu/Ag/NewCrops/introsheets/poinsettiaintro.pdf>.

Stuppy, Inc. Accessed December 3, 2003, from <http://www.stuppy.com/>.

Students will use additional outside sources to complete this activity.

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Instructional Strategies/Activities:

- Students will engage in study questions in lessons 1 and 2.
- Students will complete AS 7.1, Selecting Commercial Crops and Devising a Growing Schedule; AS 7.2, Cost Analysis of a Commercial Crop; AS 7.3, Plant Care After Harvest and During Marketing; and AS 7.4, Creating a Marketing Plan.
- Additional activities that relate to the unit objective can be found under the headings “Other Activities and Strategies” and “Unit VII Activity” in the following locations: p. 400 (1) and pp. 425–427.

Performance-Based Assessment:

Each student will generate a cost analysis and marketing plan for a greenhouse. The student handout includes a scenario, or the instructor may change the activity to reflect the facts and figures from the school’s greenhouse, if desired.

Assessment will be based on the overall thoroughness and accuracy of the cost analysis and marketing plan.

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The instructor should assign the performance-based assessment activity at the beginning of the unit. Students will work toward completing the activity as they progress through the unit lessons. The assessment activity will be due at the completion of the unit.

1. Have each student devise a cost analysis and marketing plan for a greenhouse.
2. The student handout includes a scenario that can be used for the performance-based assessment activity, or it can be adapted, if preferred. In the scenario, students will grow poinsettias to sell during the Christmas season. They must decide on a spring season plan to alternate with their poinsettia crop.
3. For the cost analysis portion of the activity, students must calculate the fixed costs related to the greenhouse, determine variable/operating costs, and answer key questions about overall cost and profit.
4. For the marketing plan portion, they must devise a yearlong marketing plan for the greenhouse based on their cost analysis. The plan must address the following topics.
 - Market timing based on growing season
 - Target customers
 - Advertising and display costs that stay within their budget
 - Spring season crops to provide efficient year-round bench use
 - Seasonal or holiday promotions to increase sales
5. Students may use material found in the unit or discussed in class as well as additional outside material to complete this activity. Students must provide a complete list of their sources along with their completed handout.
6. Have students turn in their completed handout.
 - a. For the activity as it is currently written, the average cost per week per square foot is \$.023.
 - b. Answers to parts B, C, and D will vary.
7. The final assessment score will be based on the overall thoroughness and accuracy of the cost analysis and marketing plan.

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8. **ADDITIONAL ACTIVITY:** For further review, an additional unit-level activity, *Designing a Garden*, is included on pp. 425–427 of the *Instructor Guide*. For this activity, students must design a garden, create a cost analysis and growth schedule for the project, and present their plan to the class. See the activity for additional directions and details. Answers will vary.

Unit VII—Greenhouse Business Management
Student Handout

Name _____

Cost Analysis and Marketing Plan

Objective: Generate a cost analysis and marketing plan for a greenhouse.

Directions: You are planning to sell poinsettias for the Christmas season. Use the following scenario. Show all of your work.

Your greenhouse has 4,000 sq ft of bench space. Assume your crop consists of 750 poinsettia plugs grown in 6-inch pots. The production time for the crop is 15 weeks. Your utilities for the year are \$1,800 and labor costs are \$1,200 for the year.

Part A – Fixed Costs*

| | |
|-------------------------|---|
| Depreciation: | \$1,500 |
| Interest on Investment: | \$30,000 X 6% opportunity cost = _____ |
| Repairs & Maintenance: | \$550 |
| Taxes: | \$30,000 X 32% (commercial rate) X \$5.20/\$100 assessed value = _____ |
| Insurance: | \$500 |
| Total fixed costs: | \$ _____ |

Average cost per week per square foot = total fixed costs/52 weeks per year/square foot bench space

Average cost per week per square foot = _____

*Estimates for the purpose of this exercise only

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Directions: Once you have determined your fixed costs, determine the variable/operating costs for your crop. Use the Internet, commercial catalogs, and other sources to fill in the blanks below and then answer the key questions that follow. List all of the sources you used to locate your information in the space provided.

Part B – Variable/Operating Costs

| | |
|---|--|
| Plugs: | |
| Royalty/Plug: | |
| Transportation/Plug: | |
| Soiless Media: | |
| Containers: | |
| Fertilizer: | |
| Care Tags: | |
| Commission: | |
| Advertising/Mailing/Paper/Copying: | |
| Subtotals: | |
| Death Loss or Unsalable (5% of subtotal): | |
| Totals: | |

Part C – Key Questions

1. What are the total costs for the crop?
2. What is the total cost per plant?

3. What is the net profit for the plant?
4. At what sale price could you sell the plants and still make a profit?

Sources:

Part D – Marketing Plan

Directions: On separate paper, describe a yearlong marketing plan for your greenhouse based on your cost analysis. Be sure to address the following topics.

- Indicate when you will start your poinsettia crop, when you will have plants ready to sell, and how long you expect your selling period to be.
- Who are the target customers for your poinsettias?
- How do you plan to attract customers? Your advertising and display expenses must stay within the budget you established in your cost analysis.
- Describe a spring season plan to alternate with your poinsettia crop. For your spring season plan, choose 15 plants you will grow, determine their growing season, and indicate when you would start your spring plants.
- What seasonal or holiday promotions will you use to increase sales?

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Name _____

| Assessment Area | Criteria | 0 Points | 1 Point | 2 Points | 3 Points | 4 Points | Weight | Total |
|---|---|----------|---------|----------|----------|-----------|--------|-------|
| Fixed Costs | <ul style="list-style-type: none"> <input type="checkbox"/> Calculations are accurate for interest, taxes, fixed costs, and cost per week per square foot <input type="checkbox"/> Shows all work | Failed | Poor | Fair | Good | Excellent | X 2.5 | |
| Variable/ Operating Costs and Key Questions | <ul style="list-style-type: none"> <input type="checkbox"/> Includes all necessary operating costs <input type="checkbox"/> Costs are reasonable for the crop and scenario <input type="checkbox"/> Correctly answers key questions <input type="checkbox"/> Includes sources | Failed | Poor | Fair | Good | Excellent | X 10 | |
| Marketing Plan | <ul style="list-style-type: none"> <input type="checkbox"/> Includes a workable marketing plan for poinsettia crop <input type="checkbox"/> Identifies target customers <input type="checkbox"/> Includes a workable spring season plan and identifies 15 spring plants <input type="checkbox"/> Includes an advertising plan and special promotions <input type="checkbox"/> Spelling, grammar, and punctuation are correct | Failed | Poor | Fair | Good | Excellent | X 12.5 | |
| TOTAL | | | | | | | | |

Final Assessment Total _____/100 pts.

Comments:

