

2008 National FFA Floriculture CDE
Problem Solving
Problem One

In today's society, more and more people think of pesticides in a negative connotation. However, humans have been using these pesticides for centuries, and in the late 1940s, many new kinds of chemicals were discovered that allowed us to significantly increase crops and improve the quality of grains, fruits and vegetables. During the 1960s, we became more aware that pesticide use also carried a significant range of costs to society. Much research and development has occurred in the past 25 to 30 years, and we have seen the widespread use of biological, cultural and physical pest controls combined with judicious pesticide use. The goal is to combine these resources in a way that minimizes economic, health and environmental risks while maximizing effectiveness in a growing number of needs.

As horticulturists, it important for us to understand pesticides and the other options available to us so we can practice good stewardship and defend the responsible use of pesticides to those who wish to take such tools away from us.

After reviewing the following group of questions, select the answer that most closely aligns with the information in the handout before you:

- * What agency is chiefly responsible for regulating pesticides?
- * What famine was responsible for the deaths of one third of a country's population, but can now be controlled by pesticides?
- * This product is not a pesticide.
- * There are four ways of being exposed to a chemical including orally, getting it on your skin and inhaling it. Which method is missing?
- * This is not a symptom of pesticide poisoning as identified on the chart in handout.

A. Texas Department of Agriculture
British Tea Blight
Ethanol
Handshake
Nervousness

B. Department of Health Services
Ireland's Potato Famine
Diesel
Kissing
Swelling

C. Environmental Protection Agency
Ireland's Potato Famine
Ethanol
Ocular
Fatigue

D. Structural Pest Control Board
Britain's Mad Cow Disease
Dial Soap
Dermal
Stress

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Problem Two

It is approximately 2:00 PM on a Thursday afternoon. You are in the florist shop working on an order when your supervisor, who is currently treating for whiteflies, calls you on the intercom and ask you to bring his folder with the MSDS information to the greenhouse across the alley from the shop. As you walk out the back door of the shop and start across the alley, you see a bolt of lightning strike a tree between the pole where the breaker box is located and the greenhouse. As the tree falls, it gets tangled in the wiring going into the greenhouse from the breaker box and sparks fly. The tree lands across the frame of the greenhouse. You call out for your supervisor, but do not get a response.

How do you proceed to handle this situation?

- A. Open the door of the greenhouse and get your supervisor to safe ground and fresh air. Then refer to the Monsanto MSDS for instructions on how to treat for Roundup poisoning.
- B. Call 911 and then immediately go in and take your supervisor to safety. Begin giving him CPR until the paramedics arrive. Then give them the Olympic MSDS related to Marathon.
- C. Call 911 and describe the problem including fact that a hazardous material was in use. Tell them supervisor was spraying with Marathon. Have MSDS available when they arrive. While waiting, check area for fallen wires and throw breaker if safe.
- D. Call 911 and let them know a hazardous material is involved. With caution, gently turn handle of greenhouse door to make sure it won't shock you. Then go in and determine your supervisor's condition and refer to Monsanto MSDS for correct manner of treatment. As soon as paramedics arrive, let them take charge.

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Problem Three

Situation:

Your employer has received a shipment of 24 bundles of standard carnations in assorted colors (25 carnations per bundle) for sale in your shop. The wholesaler billed your employer \$216 for the 24 bundles of carnations. Your employer operates on a 3.5 to 1 markup on all merchandise you sell in your shop. Using the Retailers' Markup Chart, your employer asks you to determine how much to charge your customers for the carnations per dozen and each bloom. How much will you determine to price the carnations per dozen and per bloom?

- A. 18.24 per dozen; \$1.52 per bloom
- B. 18.48 per dozen; \$1.54 per bloom
- C. 20.52 per dozen; \$1.71 per bloom
- D. 19.44 per dozen; \$1.62 per bloom

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Problem Four

Situation:

You are the production manager in a floral greenhouse operation. You are planning the next crop of 7500 6 inch pots of Chrysanthemums. It has been your experience in the past that Rhizoctonia and Pythium stem and root rots can affect your crop. You plan to try a new biological fungicide called RootShield to control these disorders before they start. In this greenhouse operation you decide RootShield is best applied by mixing thoroughly into the artificial potting medium, before planting, at a rate of 1.0 – 1.5 lbs. per cubic yard of soil mix.

From the table provided, calculate how much soil mix you need to pre-treat with the biological material to grow this crop and the minimum amount of RootShield you will need to order, using the minimum rate of treatment.

- A. 20 cubic yards and 20 pounds of RootShield
- B. 178 cubic yards and 267 pounds of RootShield
- C. 20 cubic yards and 30 pounds of RootShield
- D. 25.2 cubic yards and 45 pounds of RootShield

**Number of Standard Pots that can be filled from 1 Cubic Foot of Artificial
Potting Soil**

Pot Size (inches)	Number/ cubic foot of mix
2.25	296
2.50	176
3.00	120
4.00	44
5.00	24
6.00	14
7.00	9
8.00	5.6
12.00	1.6

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Problem Five**

Situation:

Your landscape design firm has been hired to design and install a garden in Springfield, New Jersey. The homeowner states that attracting birds, particularly robins, would be desirable because that provides more interest for their housebound niece who lives with them. Using the materials at your place, make appropriate plant recommendations for the shrubs that will provide the perennial borders to this garden room.

Which group below provides appropriate plants for the specified garden?

- A. Coralberry, Fragrant Sumac, Nannyberry, Winterberry
- B. Beauty Bush, Hybrid Weigela, Orange-eyed Butterfly Bush, Siberian Pea Tree
- C. Blue Elder, Snowberry, Red Osier Dogwood, Staghorn Sumac
- D. Amur Honeysuckle, Arrowwood, High-Bush Blueberry, Nannyberry, Sargent Crab Apple

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Problem Six

Situation:

As greenhouse production supervisor for Mid States Nursery, you plan to grow poinsettias in 8 inch standard pots, 3 plants per pot. Available bench space is limited to 20 benches, 10 measuring 4 by 10 feet, and 10 measuring 4 by 15 feet. You decide to use commercial growing media in 4 cubic foot bales at \$18.00 per bale.

Based on the information provided at your station, answer the following:

- 1) How many pots can you produce?
- 2) How many cuttings should you order?
- 3) How many bales of growing media are required?
- 4) What is the total cost of the media?
- 5) What is the per pot cost of the media?

- A.
- 1) 1,000
 - 2) 3,000
 - 3) 17
 - 4) \$ 306
 - 5) \$.31

- B.
- 1) 400
 - 2) 1,200
 - 3) 18
 - 4) \$ 324
 - 5) \$.81

- C.
- 1) 410
 - 2) 1,230
 - 3) 18
 - 4) \$ 350
 - 5) \$.85

- D.
- 1) 1,000
 - 2) 3,000
 - 3) 18
 - 4) \$ 324
 - 5) \$.81

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Problem Seven**

Situation:

You are a sales clerk at In Bloom Again. The shop is known for handling an extensive line of gift items as well as the normal floral items. There is currently a 35% discount being offered on all brass and ceramic merchandise. As the door opens, you recognize Harriette Miller, a long time friend and loyal customer of the shop owner. You recognize the box she is carrying because you had sold her a beautiful crystal vase for \$89.00 plus tax about two weeks ago and it was the last one in stock and the box had never been opened. Mrs. Miller tells you that when she opened the box at home, a small piece of glass fell on the floor and she realized the vase had been chipped in shipment from the wholesaler. Since you don't have a replacement vase, Mrs. Miller suggests that you simply deduct the price of the vase from her bill after she finishes shopping. As Mrs. Miller begins to shop she picks up two pairs of brass candle holders that list for \$35.00/pair. She also asks you to help her find a ceramic bird for her niece's birthday. You show her a beautifully painted Robin which list for \$39.50. She decides that while she is at the shop she will get a Thanksgiving wreath priced at \$42.00 and a dozen roses at \$35.00 for the dining room table. As you are writing up the ticket, she asks you what the current sales tax rate is and you reply that it is 8.25%. Before you can finish the ticket, Mrs. Miller mentions to you that she would like to get an extra \$25.00 when she pays with her Debit card so she can stop at the grocery store for a couple of items. What amount did you charge to her card?

- A. \$109.06
- B. \$59.18
- C. \$89.06
- D. \$64.18

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Problem Ten**

Situation:

You have decided to grow a spring crop of coleus and large flowered marigold this year. You seeded 1/2 oz of coleus and 1 oz of marigold. Each has an 80% yield of viable seedlings. Both were seeded the first week of January. The temperature of the germination media was maintained at 75 degrees F. It is now one month after seeding.

According to the information provided at your station, how many 18 count flats of coleus and marigolds would you expect to produce and what steps should now be taken?

- A.
 - 1. 2,000 flats of coleus and 500 flats of marigolds will be produced
 - 2. Increase soil temperature to raise coleus germination percent
 - 3. Reseed the marigold crop and raise soil temperature to 85 degrees F.
- B.
 - 1. 5,500 flats of coleus and 1 10 flats of marigolds will be produced
 - 2. Grow-on the coleus for another four days
 - 3. The marigolds are ready for hardening
- C.
 - 1. 2,444 flats of coleus and 400 flats of marigolds will be produced
 - 2. Harden the coleus for about a week
 - 3. Transplant the marigolds this week
- D.
 - 1. 44,000 flats of coleus and 444 flats of marigolds will be produced
 - 2. Prepare to sell the coleus in one month
 - 3. Continue to grow-on the marigolds for several days

Problem 8

Situation:

You have been asked to design a landscape for Mr. Pruitt, whose yard is large and hilly, with rock outcroppings and several existing mature trees. Mr. Pruitt favors a warm monochromatic color scheme of annuals for his beds and borders, all of which receive ample sunlight.

Select an appropriate design from the four at your station, as well as the bedding plant material for each of four areas indicated in the design.

Design A

Area 1 - 'Violet Flame' Salvia

Area 3 - 'Blue Mariner' Petunia and
Ageratum

Area 2 - Purple Zinnias and
'Snowflake' Dianthus

Area 4 - 'Blue Boy' Bachelor
Buttons

Design B

Area 1 - White Ageratum and
'Sunburst' Petunias

Area 3 - Goldenrod and
orange Cosmos

Area 2 - Iris and blue Salvia

Area 4 - 'Redsun' Zinnias and
'Violet Flame' Salvia

Design C

Area 1 - 'Raspberry Rose' Pansies

Area 3 - Orange Cosmos and
Strawberry Dianthus

Area 2 - 'Orange Lady' Marigolds

Area 4 - 'Wizard Mix' Coleus

Design D

Area 1 - 'Blaze' Verbena

Area 3 - Red Salvia and pink
Snapdragons

Area 2 - 'Pale Pink' Dianthus and
red Nicotiana

Area 4 - 'Red Sun' Zinnias

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Problem Nine

The picture on the left shows a series of insects, pests and diseases (labeled A through J) which we commonly find among our flowers and plants. Examine the picture closely and select the list below which matches the insects, pests and diseased in correct order A-J.

INSECTS, PESTS, AND DISEASES



A



B



C



D



E



F



G



H



I



J

A. Beetles, Caterpillars, Mites, Damping off, Whiteflies, Fungus diseases, Aphids, Virus diseases, Thrips, Botrytis blight.

B. Aphids, Thrips, Damping off, Fungus diseases, Mites, Beetles, Botrytis blight, Caterpillars, Virus diseases, Whiteflies.

C. Caterpillars, Aphids, Virus diseases, Whiteflies, Botrytis blight, Damping off, Fungus diseases, Mites, Beetles, Thrips.

D. Aphids, Beetles, Botrytis blight, Caterpillars, Damping off, Fungus diseases, Mites, Thrips, Virus diseases, Whiteflies.