Name: _____

Date: _____

Hour:_____

Worksheet:

Topic # 2045

Intro to Pest Management
Aaron Gearhart

This worksheet contains math problems designed to help you calculate the economic feasibility of IPM strategies. You may get into groups of two in order to work on this assignment. Please show your work for full credit. It is important that you understand how to do each of these questions as you will likely see one on the test for this unit. And you thought you'd never find real world applications for mathematics.

1. 1 gallon of a chemical named Kill-em-all contains enough to treat 160 acres of field. The chemical costs $40/gallon.
   - How much does it cost per acre to treat your field if you only apply it once?
   - How much would it cost to treat 1000 acres?

2. You are farming 320 acres. Throughout the growing season you must apply Kill-em-all 18 times.
   - What is your total cost for one application for your entire acreage? This is how much money you put in your pocket for every application you don't make. (assuming no increase in pest damage).
   - What is the total cost per acre for the entire growing season?
   - What is the total cost for all your acreage for the entire growing season?

3. You hire an IPM scout at $2.00 per acre. He has you apply your pesticide 13 times throughout the growing season instead of the normal 18. Do you save money? Or do you lose money? How much total?

4. For this problem use the information from question number two (you are applying kill-em-all 18 times). Your total cost per acre, without chemicals factored in, is $15.50. You obtain 20 bushels of super wheat per acre, valued at $1.50 per bushel.
   - How much per acre does it cost for super wheat with chemicals?
   - How much money do you receive per acre from your super wheat?

- How much do you make per acre after paying for costs?

- How much do you make for your entire farm for the growing season (assuming the same 320 acres)?

- You need $30,000 per year to support your family, how many acres do you have to add onto your farm in order to have 100% of your family support to come from farming?

5. You have to treat 2360 acres of super wheat 15 times throughout a growing season. How many gallons of Kill-em-all should you order? (use information from question one to answer this)

6. In question four it cost you $15.50 for your total cost per acre without chemicals. What would be some of the other things that would factor into you cost per acre?

7. A chemical costs $40/gallon and can only treat 120 acres of wheat. Go through questions 1 through 5 substituting this information for kill-em-all. Assume the same acreage associated with the questions.