



Name: _____

School: _____

2014 Area IV & VIII
Agricultural Mechanics CDE

Team Activity

Points are based on your performance of proper procedures as well as skill activities. Please practice safe methods while completing these activities. If you need any clarifications please ask for assistance.

Scenario 1: A hydraulic cylinder mount has broken on a boom type sprayer and is in need of repair. A drawing of the original hydraulic cylinder mount has been obtained from the manufacture (see attached document). You will need to construct a new mount according to the drawing. Oxy-Fuel torches are provided and pre-set. Welding will be completed with a 6010 electrode. Welding machines are pre-set as well. If you have questions please ask. The hydraulic cylinder mount constructed will be evaluated on the criteria below.

<u>Criteria</u>	<u>Points Possible</u>	<u>Points Earned</u>
Mounting ear placement	8	_____
Correct pin hole dimension achieved	8	_____
Correct pin hole alignment	8	_____
Correct Weld Placement	8	_____
Correct base plate dimension	8	_____
Cut Quality	10	_____
Weld Appearance	10	_____
Safety	-62	_____
	Total Points	_____



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Use the above information from **scenario 2** respond to the following questions.

1. How many GPA will you be applying using the above nozzle parameters?

GPA= _____

2. How many times will you need to fill the spray tank? (only half or full loads)

#of fills _____

3. How many acres per hour will you be covering?

Acres Per Hour: _____

4. How long will it take you to load the spray tank 1 time from the nurse tank?

Time to load 1 tank (minutes): _____

5. How much time will you spend driving?

Minutes Driving? _____

6. How much time will you spend spraying?

Spraying Time Hours: _____

7. How much chemical will you need?

Gallons of chemical: _____



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Scenario 2: You are managing a row crop production farm and have 950 acres across four various fields to apply pesticide on. There is a window of good weather coming and you need to determine if there is sufficient time to apply pesticide on each of the fields you are managing, and how much pesticide will be needed. You are trying to control a severe infestation of chickweed on “spike” corn less than 1”.

You will need to consult the TeeJet manual to help answer the questions regarding scenario 2.

Assumptions:

- Each field is 9 miles apart and you must “road” your equipment @ 25MPH from field to field.
- The ground is rough so you can only spray at 10MPH
- Your sprayer is equipped with XR TeeJet 8004 tips @ 20” spacing
- Spray pressure will be at 60 psi.
- Your sprayer has a 90’ boom and a 750 gallon tank
- The nurse tank you will load chemical with has a 25gpm pump
- You will use the maximum allowable application rate for your scenario