



2006 State Competition
FFA Agricultural Mechanics Contest
University of Missouri
50 points

Contestant # _____
Contestant Name _____
Chapter _____

Agriculture Machinery

Hay Accumulator (3 pts each)

1. What is the weight of this accumulator? _____
2. Feed chain tension should be adjusted so that the chain sags:
 - a. 2 inches below level
 - b. 4 inches below level
 - c. 3 inches below level
 - d. doesn't need to be adjusted
3. Push bar front and rear pivots should be greased every:
 - a. 50 hours
 - b. 100 hours
 - c. 2000 bales
 - d. 5000 bales
4. What happens when the rubber cords are missing on the throat?
 - a. Bales get cut in half by push bar
 - b. Push arm does not extend
 - c. Bales get caught in throat when turning
 - d. Feed conveyor doesn't rotate
5. What are the maximum dimensions of a bale acceptable for this machine?
_____ x _____
6. What is the part tagged #6?
 - a. Dump Bar
 - b. Push Arm
 - c. Tie Bar
 - d. Solid Roller Arm
7. What is the part tagged #7?
 - a. Electric Clutch
 - b. Dump Stop Switch
 - c. Pressure Switch
 - d. Hydraulic Valve

8. What is the part tagged #8?

- a. Control Chain
- b. Idler Chain
- c. Feed Chain
- d. Drive Chain

9. Which wire would you disconnect to disable the tie feature on the baler? (Tagged #9)

- a. black
- b. blue
- c. green
- d. yellow

Patriot Sprayer – SPX 3185

10. What is the part tagged #10?

- a. Vane Axial Spray Solution Pump
- b. Diaphragm Spray Solution Pump
- c. Piston Spray Solution Pump
- d. Centrifugal Spray Solution Pump

11. What is the part tagged #11?

- a. Hand Wash Station
- b. Hydraulic Reservoir
- c. Solution Tank
- d. Tool Box

12. What is the part tagged #12?

- a. Foam Marker Tank
- b. Spray Tank
- c. Chemical Tank
- d. Clean Water Tank

13. What is the part tagged #13?

- a. Differential Lock
- b. Dimmer Switch
- c. Boom Switch
- d. Four Wheel Drive Switch

14. On the Case Patriot we are using spray tip #14. What is the gallons per minute (GPM) of this nozzle at 40 psi? (5 pts) (Show your work for partial credit.)

15. In front of you is a sprayer calibration jug with a sample from the Case Patriot. We are still using tip #14 and the spray pressure is still at 40 psi. The sample was taken over a 30 second interval. Is this tip putting out the correct flow rate? **(5 pts)** 128 ounces = 1 gallon **(Show your work for partial credit.)**

Circle YES or NO

16. If the recommended application rate is 15 gallons per acre (GPA), the sprayer is traveling at 8 mph, and tip spacing is 20 inches, what is the calculated required nozzle output in gallons per minute (GPM)? Please use tip #14 again for this calculation. **(5pts)** **(Show your work for partial credit.)**

_____ **GPM**