

AGRP 1126 Workbook

Section 3

Exercises on Spray Equipment and Systems

1. List the four basic components of a sprayer system
 - a.
 - b.
 - c.
 - d.
2. Any positive-displacement spray pump requires what kind of pressure regulator?
3. What kind of pattern do regular flat fan type nozzles produce? (remember the patterns are designed to overlap in a standard boom configuration).
4. Spray tanks are often made from aluminum, plastic, fiberglass or stainless steel, because these materials are resistant to two things:
 - a.
 - b.
5. Name one type of spray pump that has positive displacement.
6. Name one type of spray pump that is non-positive displacement.
7. A flat-fan nozzle designed to be used in a sprayer set up to produce bands will need to have what shape pattern?
8. Higher spray pressure has two effects in a spray system, as compared to lower pressure in the same system:
 - a.
 - b.
9. Name the types of agitators commonly used in spray tanks
 - a.
 - b.
 - c.

10. A sprayer system with a spray solution agitator requires the spray pump to deliver more volume than a system with a mechanical agitator. Why?

11. Decode the following spray nozzle designations:

Example:

XR Teejet 8006VS

Size = 0.6 GPM

Spray Angle = 80 degrees

Nozzle pattern = flat fan, tapered pattern

Material = Stainless Steel

a. XR Teejet 8002VH
Size =
Spray Angle =
Nozzle pattern =
Material =

b. TT VP 11004
Size =
Spray Angle =
Nozzle pattern =
Material =

c. Teejet 6004E
Size =
Spray Angle =
Nozzle pattern =
Material =

12. Why would a hand sprayer be a better choice for use around ornamental plantings than a boom sprayer?

13. Diagram the flow of spray solution in a standard spray system. Indicate flow by drawing arrows between components.

Spray Solution Agitator

Tank

Spray Pump

Pressure Regulator

Spray Control Valves

Boom Sections & Nozzles

14. In order to reduce drift, should a spray nozzle be placed closer to its target, or further away?

15. Match the following nozzle types with their targets:

- a. Standard tapered flat fan
 - b. 'Even' (square edged) flat fan
 - c. Hollow cone
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- 1. Thick dense crop canopy
 - 2. Band spray between crop rows
 - 3. Broadcast spray on tilled soil