Section 5
Exercises on Calibration by the Flow-Rate Method

[NOTE – Formulas for these calculations are in the Appendix, and will be provided on quizzes and exams]

Problem One

Your sprayer is set to run at 40PSI. There are 12 nozzles on a boom with a pattern 24ft wide. A measuring container under one nozzle caught 5.5 ounces in 30 seconds. The sprayer was driven in the field, and covered 100ft in 12.5 seconds.

1. What is the width sprayed by one nozzle (in inches)? Show your calculations.

2. What is the sprayer speed in MPH? Show your calculations.

3. What is the nozzle delivery in Gallons per minute? Show your calculations.

4. What is the sprayer delivery in Gallons per acre? Show your calculations

Problem Two

Your sprayer is set to run at 45PSI. There are 18 nozzles on a boom with a pattern 48ft wide. A measuring container under one nozzle caught 16.0 ounces in 60 seconds. The sprayer was driven in the field, and covered 88ft in 14.5 seconds.

1. What is the width sprayed by one nozzle (in inches)? Show your calculations.

2. What is the sprayer speed in MPH? Show your calculations.

3. What is the nozzle delivery in Gallons per minute? Show your calculations.

4. What is the sprayer delivery in Gallons per acre? Show your calculations

Problem Three

Your sprayer is set to run at 50PSI. There are 16 nozzles on a boom with a pattern 28ft wide. A measuring container under one nozzle caught 6.25 ounces in 30 seconds. The sprayer was driven in the field, and covered 100ft in 14.5 seconds.

1. What is the width sprayed by one nozzle (in inches)? Show your calculations.

2. What is the sprayer speed in MPH? Show your calculations.

3. What is the nozzle delivery in Gallons per minute? Show your calculations.

4. What is the sprayer delivery in Gallons per acre? Show your calculations

Problem Four

Your sprayer is set to run at 30PSI. There are 12 nozzles on a boom with a pattern 22ft wide. A measuring container under one nozzle caught 7.75 ounces in 60 seconds. The sprayer was driven in the field, and covered 125ft in 18.5 seconds.

1. What is the width sprayed by one nozzle (in inches)? Show your calculations.

2. What is the sprayer speed in MPH? Show your calculations.

3. What is the nozzle delivery in Gallons per minute? Show your calculations.

4. What is the sprayer delivery in Gallons per acre? Show your calculations