

Basic Air-Blast Orchard Sprayer Calibration

Introduction

This describes the basic part of spray application technology, that is determining the rate of application that is delivered from the tractor & sprayer unit.

There are many ways to calibrate a sprayer, but there are three main components:

Speed
Delivery Rate
Area Covered

Additional work can be done to achieve better or more accurate spray deposition within the tree, but that is beyond the scope a basic calibration.

These exercises demonstrate methods for determining forward speed and the delivery rate of the operators choice, which can be entered into a formula to calculate the output per acre or hectare.

Steps:

1. Record information about sprayer setup (nozzles)
2. determine forward speed of the tractor
3. determine rate of water that the sprayer is outputting
4. determine row spacing of the orchard to sprayer is to be calibrated for
5. enter values into formula and calculate

Some factors that must be recognized:

1. wheel slippage could occur which could have an influence on tractor ground speed
2. the tractor governor must be able to maintain the selected engine RPM
3. two or more forward speed checks and sprayer output determinations will provide more accurate information to calculate the calibration rate.
4. the resulting calibration will be for that particular tractor and sprayer unit combination
5. changing any factors such as speed, pressure, nozzles, etc. will change the calibration