Pesticide Equipment Calibration

Calibration is determining the amount of pesticide mix applied to a unit of area. It is usually expressed in gallons per acre since most pesticide is diluted with water and sprayed with an agricultural sprayer. But dry pesticide application requires calibration of equipment, too. Sprayer calibration is determined by:

1. nozzle opening or orifice size;
2. pressure (expressed as p.s.i., pounds per square inch);
3. ground speed (expressed as m.p.h., or miles per hour); and
4. nozzle spacing, whether band or broadcast applications.

BEFORE YOU CALIBRATE

G Make certain your equipment is clean; rinse water goes in the tank.
G Review the operator’s manuals for application equipment
G Check hoses, pumps, PTO fittings, strainers and filters for soundness and good repair.
G Set the regulator pressure for the job to be done and for drift control.
G Select nozzles for the job and to control spray volume.
G Clean screens, nozzles and strainer - use a soft-bristle brush, do not use your mouth!

WHEN YOU CALIBRATE

G Use clean water; never calibrate with pesticide mix in the tank!
G Protect yourself with proper PPE, particularly hands and eyes.
G Check for nozzle flow pattern; replace if there is a bad pattern.
G Check for nozzle flow uniformity; replace if there is more than ±10% variation.
G Calibrate under the same field conditions, at the same speed and same rpms as you will be operating during spraying.

G You may need the following items:
   • a tape measure or traverse wheel to measure distance.
• a stop watch or a watch which measures seconds.
• a collection vessel that measures ounces, at least 150% of your expected application rate (don't use it for any other purpose).
• clean-up items - water, soap, paper towels, eye-wash.
• the 1/128th of an acre nozzle output calibration guide, UF/IFAS AE-5 or the UF/IFAS Farm Pocket Notebook.

WHILE YOU APPLY

G Monitor flow to make certain your calibration was accurate.

G Make adjustments in ground speed to "fine tune" the application rate:
   faster for lower application rate, slower for greater application.

G Whenever conditions change, recalibrate.