

Calibration of Application Equipment

Rate of application, granular and sprays, may vary with materials used. Equipment must be calibrated for each material applied to obtain accurate delivery. Here are suggested steps to calibrating three types of applicators.

Boom Sprayer

1. Clean sprayer, and replace all worn or defective parts; fill tank with water.
2. Adjust spray pressure and speed of tractor for nozzle size and output using manufacturer's directions.
3. Spray 1/4 acre (10,890 sq. ft.). Distance of travel will vary with boom width.

For example, a 22 ft. boom must travel 495 ft. to cover 1/4 acre:

$$\frac{1/4 \text{ acre (10,890 sq. ft.)}}{\text{Boom width (22 ft.)}} = \text{distance of travel (495 ft.)}$$

4. Measure amount of water needed to refill the tank. This amount was applied to the 1/4 acre; thus, four times this amount is the gallonage per acre.
5. Adjustment in gallonage may be made either by varying tractor speed or by changing nozzle size. Recalibrate after making an adjustment.
6. Calculate acres covered by tank of spray solution, and add required amount of pesticide for total area sprayed.

Band Sprayer

1. Clean sprayer, and replace all worn or defective parts; fill tank with water.
2. Adjust spray pressure and speed of tractor for nozzle size and output using manufacturer's directions.
3. Spray 1/4 acre (10,890 sq. ft.). Distance traveled will vary with number of nozzles on the sprayer and width of the band sprayed by each nozzle.

For example, spraying a 20-inch band over 4 rows using 1 nozzle per row requires 1630 ft. to cover 1/4 acre:

$$\frac{1/4 \text{ acre (10,890 sq. ft.)}}{\text{Nozzles (4) x spray band width (1.67 ft.)}} = \frac{10,890 \text{ sq. ft.}}{6.68 \text{ ft.}} = \text{distance of travel (1630 ft.)}$$

4. Measure amount of water needed to refill the tank. This amount was applied to the 1/4 acre; thus, four times this amount is the gallonage per acre.
5. Adjustment in gallonage may be made either by varying tractor speed or by changing nozzle size. Recalibrate after making an adjustment.
6. Calculate acres covered by tank of spray solution, and add required amount of pesticide for total actual area to be band treated.

Granular Band Applicator

1. Set applicator dial or dials to give desired delivery rate of granules suggested for band treatment according to manufacturer's instructions.
2. Fill hoppers with granules to be used.
3. Travel across field at planting speed for the distance required to cover 1/16 acre (2,722 sq. ft.) per row. Collect granules for each row in a bag, bucket, or other container.

For example: granular band application for a 40-inch row requires 817 ft. to cover 1/16 acre:

$$\frac{1/16 \text{ acre (2,722 sq. ft.)}}{\text{Row width (3.33 ft.)}} = \text{distance to travel (817 ft.)}$$

4. Weigh granules from each row separately, and multiply by 16 to find delivery per acre for each row.
5. Adjust each setting, and recalibrate until the desired delivery rate is obtained.