COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT, LEXINGTON, KY 40546

Calibrating a Boomless Sprayer: Pints to Gallons Method

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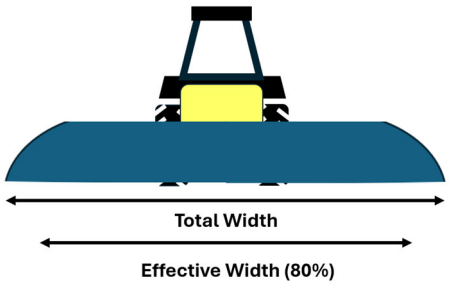
Entfact-805

Supplies needed: PPE, *measuring tape and/or wheel, stopwatch, 5-gallon buckets, 1" hose 4 ft in length (one for each nozzle), and measuring pitcher.*

- **Fill the clean sprayer 1/4 full of water** and find a location with terrain similar to what you will be spraying

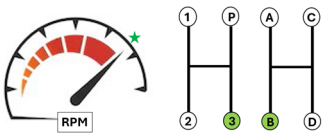
- **Determine the width covered by the sprayer in feet.** Operate the stationary sprayer at desired pressure and engine/PTO RPM. Measure the total width of the spray swath (ft), calculate the ***effective width*** of the spray swath as 80% of the total width (this accounts for needed overlap to provide uniform coverage). The nozzles must be at the same height and orientation used during spraying.



- Using the effective spray width, **select the travel distance from Table 1** needed to cover 1/8th acre. If your spray width is not shown, simply divide 5445 (1/8th of an acre) by the effective spray width.

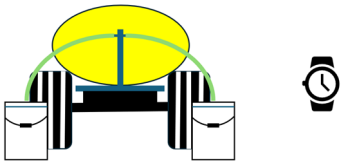
- **Measure and mark the course length.**

- **Determine the tractor speed to be used during spraying (RPM & gear)**. Remember, the RPM must remain the same as it was when the spray swath was measured. This may take some trial and error.



- Drive the course, using the predetermined gear/RPM. **Record the amount of time (seconds) it takes to cover the distance**. Use a rolling start to be sure the tractor is at operating speed for the entire course. Drive the course and record the time at least twice and determine the average time.

- With the tractor engine/PTO at the predetermined RPM, engage the sprayer and **catch/collect the entire spray output for the number of seconds it took to travel the course**. Catching all of the spray output can be challenging. Place a 1" hose over each nozzle so the output can be directed into a collection bucket. The technique may vary depending on your sprayer's nozzle configuration, as a collection bucket may be needed for each nozzle due to the output volume. There will be several gallons of spray to be collected.



- **Measure the amount of water collected**. The number of pints (16 ounces) collected equals the sprayers output in gallons per acre (GPA).

Pints collected = Gallons per acre (GPA)

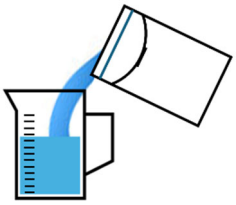


Table 1. Set course length based on effective spray width to equal 1/8th of an acre.

Spray Width (ft)	Course Length (ft)
20	272
25	218
30	182
35	156
40	136
45	121
50	109
55	99

Of course, ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR SAFE USE OF ANY PESTICIDE!

Issued 4/2025