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6-5-2019

To: Rains County Leader

From: Stephen Gowin
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The spring rains have been very beneficial for the summertime grass that is starting to really grow. But I suspect with all the rain that we will have a huge weed infestation again this year.

We must start thinking about spraying summer weeds very soon. I have already seen some goat weeds, ragweed, and horse nettle coming out. The first step in spraying pastures and meadows is to get your spray rig ready and get it calibrated. Calibrating sprayers will save you money in the long run and can ensure you good kill on your weeds.

Today I will share information on sprayer calibration and weights and measures in order to help you better understand not only calibration but mixing of the chemicals.

WEIGHTS & MEASURES

43,560 square feet = 1 acre

5,280 feet = 1 mile

1-acre measures 208.71 ft. on each side

LIQUID MEASURES:

1 gallon = 4 quarts = 8 pints = 128 fluid oz

1 pint = 16 fluid oz

1 quart = 2 pints = 32 fluid oz

1 cup = 1/2 pint = 8 fluid oz

2 cups = 1 pint = 16 fluid oz

2 tablespoons = 6 teaspoons = 1/8 cup = 1 fluid oz

1 pound = 16 oz

1 gallon of water = 8.345 pounds

DRY MEASURES:

- 4 oz = 1/4 pound**
- 16 oz = 1 pound**
- 8 quarts = 1 peck**
- 4 pecks = 1 bushel**

Boom Sprayer Calibration:

1. Determine nozzle spacing.
2. Refer to the following chart below to determine calibration course
3. Measure and stake off the appropriate calibration course based on nozzle spacing. The course should be on the same type of ground that will be sprayed. (Speeds may be faster on roads than on sod, changing the application rate.)
4. Drive the course in the gear and rpm that will use when actually spraying.
5. Record the time in seconds. Do this twice and average the time.
6. Park the tractor and maintain the same rpm.
7. Turn on the sprayer and catch the water from one nozzle for exactly the same number of seconds that took to drive the calibration course.
8. Ounces caught = gallons per acre.
9. Check all nozzles. Flow rate should not vary more than 10% among all nozzles. Replace any nozzles that do not fall into this range.

* To determine calibration course for a nozzle spacing not listed, divide 340 by the spacing expressed in feet. Example Calibration distance for 19-inch nozzle spacing = 340 divided by (19/12) = 215 feet.

Nozzle Spacing	Length of Calibration Course
18 inches	226 feet
19 inches	214 feet
20 inches	204 feet
24 inches	170 feet
30 inches	136 feet
40 inches	102 feet

Boomless Sprayer Calibration:

1. Measure effective swath width.
2. Refer to the following chart to determine calibration course:
3. Measure and stake off the appropriate calibration course based on nozzle spacing. The course should be on the same type of ground that will be sprayed. (Speeds may be faster on roads than on sod, changing the application rate.)
4. Drive the course in the gear and rpm you will use when actually spraying. Record the time in seconds. Do this twice and average the time.
5. Park the tractor and maintain the same rpm.
6. Turn on the sprayer and use a trash bag and bucket to catch the water for exactly the same

number of seconds that it took to drive the calibration course. (Note: You can also use a 2-liter soda bottle, cut a hole in the side of the bottle big enough to fit over the cluster nozzle, in place of a trash bag.)

7. Pints caught = gallons per acre.

8. Check all nozzles. Flow rate should not vary more than 10% among all nozzles. Replace any nozzles that do not all into this range.

* To determine calibration course for a swath width not listed, divide 5460 square feet (1/8 acre) by the swath width in feet. Example Calibration distance for 32-foot swath width = 5460 divided by 32 = 171 feet.

Again, it is time to start getting ready for the spray season and you must start by calibrating your sprayer.

Swath Width	Length of Calibration Course*
20 feet	272 feet
25 feet	218 feet
30 feet	182 feet
35 feet	157 feet
40 feet	136 feet
45 feet	121 feet
50 feet	109 feet