

# 2025 NCWSS Weed Contest

## Field Sprayer Calibration / Judges Form

Name: \_\_\_\_\_ CELL #: \_\_\_\_\_

University \_\_\_\_\_ TEAM \_\_\_\_\_

Time: \_\_\_\_\_ min. \_\_\_\_\_ sec. [only differentiates any top scoring tied teams.]

SCORE \_\_\_\_\_

**PROBLEM:** You have 20 minutes to complete the entire exercise. You are calibrating a 4-nozzle boom as though you will be spraying 4" tall weeds. Use the best tip in your toolbox to reduce drift. All tips should spray properly, contact a judge if they do not. Someone on your team will walk a course spraying, delivering a volume of 19.3 gallons per acre at 4mph. Assume the nozzle spacing is 20 inches for all calculations, spraying and tip height. Fill in the blanks to questions on your form. During the actual spraying of the "Spray run/output", **start with 1.5 liter of water in the 3liter bottle.**

1. There is an additional application math problem to work out pertaining to the main problem.
2. Also, Your team is done when the application is completed on the course/s. Notify a judge when your person chosen for the application is ready, more information will be provided to the applicator at that time.

**DO NOT** set the low pressure of the regulator at over **38 PSI**

**Tie Breaker (no need to mention):** **When two or more top scoring teams tie.** If any two or more teams tie, the slower team/s will be deducted 1 point, but not lower than a lower scoring team (with no time reductions). The higher scoring team might need a point or two added, to not interfere with a lower teams score. There will only be one first place winner of the field calibration and possibly many ties among the other teams.

**APPLICATOR INFORMATION (To be shared at the time of application) -**

The first course is a circle. Start spraying at the Start Line, if you spray the entire circle, stop at the point where you began, then proceed to the next line segment course/s. Applicator: Do not make quick adjustments in your walking speed. **When the last nozzle tip begins to spray CO2, the JUDGE Says "STOP". The student and judge will determine the distance sprayed** (halfway between first tip spraying CO2 and last), make sure it is recorded to one decimal point in feet. The team's event stops (**time is recorded**) when your boom is out of water and the **Judge has indicated STOP**, the judge writes down the time to complete the entire team's exercise.

### Judges Responsibility –

1. Ask the applicator their **tip height** before walking the course, and check to be within 2".
2. Judges will watch the applicator closely to determine a constant speed.
3. Judges and students agree to where the boom sprayed (to the nearest 0.1 ft. (the judge and student will avg./agree to where the 1.5 liters were applied).
1. **The judge writes down the distance.** **The judge writes down the elapsed time.**

**SPRAYER CALIBRATION / Judges Sheet (200 points total)**

1. **Correct Tip Choice (30pts)** SCORE \_\_\_\_\_  
11003 TTI is the only correct choice

2. **What is the pressure setting according to catalog (10pts)** SCORE \_\_\_\_\_  
30 psi according to the catalog

3. **What is your walking speed (15pts)** SCORE \_\_\_\_\_  
4mph  
**<3.8 or > 4.2 is 0 points**

4. **Uniform spray pattern and speed (15pts)** SCORE \_\_\_\_\_  
a. Height is not varying  
b. Speed is not varying

5. **Boom/Tip Height (15pts)** SCORE \_\_\_\_\_  
**20" is correct 18-20" 15 pts \_\_\_\_\_**  
**16-17.9" or 20.1 to 22" 8 pts \_\_\_\_\_**  
**All other heights 0 pts \_\_\_\_\_**

6. **Correct Screen Choice (20 or 5pts/screen)** SCORE \_\_\_\_\_  
50 mesh is the only choice

7. **Problem Answer 2 (35 points)** SCORE \_\_\_\_\_  
1118mls 1115-1121 is acceptable  
<1115 or > 1121 is 0 points

8. **Sprayer Output (60pts, see chart below)** SCORE \_\_\_\_\_  
Distance sprayed: 134.17ft is correct:

<b>Pts</b>	<b>Ft</b>	<b>Ft</b>	<b>% deviation</b>
<b>60pts</b>	128.6 to	139.4	<4
<b>56pts</b>	127.3 to	140.7	5
<b>52pts</b>	126.0 to	142.0	6
<b>48pts</b>	124.6 to	143.4	7
<b>44pts</b>	123.3 to	144.7	8
<b>40pts</b>	121.9 to	146.1	9

<b>36pts</b>	<b>120.6 to</b>	<b>147.4</b>	<b>10</b>
<b>32pts</b>	<b>119.3 to</b>	<b>148.7</b>	<b>11</b>
<b>28pts</b>	<b>117.9 to</b>	<b>150.1</b>	<b>12</b>
<b>24pts</b>	<b>116.6 to</b>	<b>151.4</b>	<b>13</b>
<b>20pts</b>	<b>115.2 to</b>	<b>152.8</b>	<b>14</b>
<b>16pts</b>	<b>112.6 to</b>	<b>154.1</b>	<b>15</b>
<b>12pts</b>	<b>111.2 to</b>	<b>155.4</b>	<b>16</b>
<b>8 pts</b>	<b>109.9 to</b>	<b>156.8</b>	<b>17</b>
<b>4 pts</b>	<b>107.2 to</b>	<b>158.1</b>	<b>18</b>
<b>0pts:</b>	<b>&lt;107.2ft or &gt; 159.5</b>		<b>19</b>

JUDGES to TOTAL SCORE and list at the top of the page