Are Your Pesticides Measuring Up

Non Crop Vegetation Management Course
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## Small Mistakes Can Be Costly

<table>
<thead>
<tr>
<th>Herb</th>
<th>$/ Ounce</th>
<th>Per Acre</th>
<th>Over (%)</th>
<th>Over 600 acre day</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
<td>3</td>
<td>Cost</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$12</td>
<td>$1.2</td>
</tr>
<tr>
<td>B</td>
<td>35</td>
<td>1/3</td>
<td>11.60</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>2</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>4.5</td>
<td>3.5</td>
<td>15.75</td>
<td>1.6</td>
</tr>
</tbody>
</table>

I Hope the Take-Home Message is Obvious!
800 Gallon Tank

10 gallons per acre, now many acres will tank do?
800 Gallon Tank

10 gallons per acre, now many acres will tank do? 80
800 Gallon Tank

10 gallons per acre, now many acres will tank do? 80

20 gallons per acre, how many acres will tank do?
10 gallons per acre, now many acres will tank do? 80

20 gallons per acre, how many acres will tank do? 40
800 Gallon Tank

10 gallons per acre, how many acres will tank do? 80

20 gallons per acre, how many acres will tank do? 40

15 gallons per acre, how many acres will tank do?
800 Gallon Tank

10 gallons per acre, how many acres will tank do? 80

20 gallons per acre, how many acres will tank do? 40

15 gallons per acre, how many acres will tank do? 53
1000 gallon tank
10 gallons of water
20 gallons of chemical

Fill up first, then add product?
1000 gallon tank
10 gallons of water
20 gallons of chemical

Fill up first, then add product?

1020 gallons so do 102 acres
980 + 20 = 1000 so would do 100
Measure By The Pound
Measure By The Gallon
Measure By The Ounce
First Conclusion

More precision required when measuring products by the ounce
A = not; proximate = closeness; Approximate means ‘aint even close’
237 milliliters = 8 ounces
Calibrate Before Use
(refer to Owner's Manual for complete instructions)

- To calibrate (1) Press 'ON' button to power-up meter. (2) Press CAL-1 button. (3) Dispense five units. (4) Press CAL-1 button to finish calibration.
- This unit for use only with liquids compatible with stainless steel, Ryton and polypropylene and Viton.
- Unit should be flushed out with water after use, especially if the chemical will leave a residue upon drying.
- This unit is not intended for resale use.
Second Conclusion

- Make sure device is accurate
FLUID OUNCE VS. DRY OUNCE

- 3-oz table salt measured by volume
- 3-oz table salt measured by weight
128 liquid ounces = 1 gallon

16 ounces = 1 pound
Third Conclusion
Dry Ounces and Liquid Ounces Are Different
A pound of feathers or a pound of lead?
DRY OUNCE
What are the consequences of using the wrong measuring tube?
Fourth Conclusion

Use the measuring device that comes with dry materials.
Do You Want Convenience or Accuracy?
- Measuring guide to be used with DuPont™ Harmony® Extra XP herbicide
- Dispose of guide after use; not to be used for other products.
- Measurements in 0.20, 0.25, and 0.33 ounce increments.
- Volumetric accuracy ± 7.5% – Weighing required for more precise measurement.
This volumetric device provides reasonably accurate measurement of weight (+/-10%). Where a high degree of accuracy is needed, the material should be weighed.
Clipper Herbicide

Measuring guide for Clipper™ Herbicide.

Volumetric accuracy ±15%.

Weigh scales required for more precise measurement.

Dispose of after use.

Not for use with other products.
Use only for measuring SCEPTER® herbicide.
Level off at desired weight, rinse thoroughly after use. This volumetric device provides a reasonably accurate measurement of weight (+/- 20%). Where a high degree of accuracy is needed a scale should be used.
Don’t remark tubes!
Don’t weigh liquids!
500 gallon tank

100 gallon of water per acre

Pack of herbicide does 4 acres
Fifth Conclusion

Devices not very accurate. Weighing out material will get you the most accurate measurement.
Sixth Conclusion

• Throw away the measuring device after your supply has run out.
Tank Agitation And Premixing
Seventh Conclusion

Keep the dry product agitated in the spray tank.

You might have to premix if water is really cold.
VERIFYING TANK MEASUREMENTS
VERIFYING TANK MEASUREMENTS

Bring up evenly spaced marks with tanks
300 gallon mark from flow meter water.

300 gallon mark on poly tank
More precision for ounce measurement. Dry and liquid ounces are different. Single liquid ounce units on measuring devices are made for dry products. Use specific tubes for dry products. Weigh dry products for accuracy. Accurate Measurement Starts the Chain of Events to Success or Failure.
A Little Inaccuracy, Perhaps a Ton of Explanation

- Throw away dry measuring tubes
- Ask retailer for dry tube that came with product
- Keep dry products well agitated
- Make sure spray tank is accurately marked