Calibration Guide

Q: How long will it take to spray 1 hectare?

Assuming the row spacing is 3 meters and the tractor speed is 5 km/h…

First, find the total length of the rows you have to cover.

\[
1 \text{ hectare} = 10,000 \text{ m}^2
\]

\[
\frac{10,000 \text{ m}^2}{3 \text{ m}} = \frac{10,000 \text{ m} \times \text{ m}}{3 \pi \text{ m}} = 3333.33 \text{ m}
\]

If the tractor goes 5 km/h, how many minutes will it take to travel 3333.33 meters?

Set up the ratio:

\[
\frac{5000}{60} = \frac{3333.33}{x}
\]

\[
(5000)x = (3333.33)(60)
\]

\[
x = 40
\]

It will take 40 minutes to spray 1 hectare at 5 km/h.

Q: How much can I spray in 8 hours?

In 8 hours of uninterrupted spraying, you could spray 12 hectares.

\[
\frac{8 \text{ hours} \times 60 \text{ minutes}}{40 \text{ minutes}} = 12 \text{ hectares}
\]

Q: How many hectares can I spray with one tank?

Your sprayer’s main tank is 150 gallons (or 567.75 L) and it takes 69 liters to spray 1 hectare.

\[
\frac{567.75 \text{ L}}{69 \text{ L/ha}} = 8.23
\]

You can spray 8.23 hectares per tank.

Q: How many liters will it take to spray 1 hectare?

Determine your sprayer’s rate of liquid flow by measuring the output of all 14 nozzles.

\[
\begin{align*}
120 \text{ mL/min.} \\
125 \text{ mL/min.} \\
120 \text{ mL/min.} \\
130 \text{ mL/min.} \\
125 \text{ mL/min.} \\
120 \text{ mL/min.} \\
125 \text{ mL/min.} \\
120 \text{ mL/min.} \\
125 \text{ mL/min.} \\
120 \text{ mL/min.} \\
120 \text{ mL/min.} \\
125 \text{ mL/min.} \\
130 \text{ mL/min.} \\
120 \text{ mL/min.} \\
125 \text{ mL/min.}
\end{align*}
\]

Your sprayer’s total output is 1725 mL/min.

If it takes 40 minutes to spray 1 hectare, then

\[
40 \text{ min.} \times 1725 \text{ mL} = 69,000 \text{ milliliters}
\]

\[
= 69 \text{ liters}
\]

It will take 69 liters to spray 1 hectare.

Q: How long can I spray with one tank?

If it takes 40 minutes to spray 1 hectare, then

\[
8.23 \text{ ha} \times 40 \text{ min.} = 329.2 \text{ minutes}
\]

or, in hours

\[
\frac{329.2}{60} = 5.49
\]

five hours and 30 minutes

Conversion Table

<table>
<thead>
<tr>
<th>Conversion</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Gal</td>
<td>3.785 L</td>
</tr>
<tr>
<td>1 Acre</td>
<td>43560 ft²</td>
</tr>
<tr>
<td>1 mph</td>
<td>1.61 km/h</td>
</tr>
<tr>
<td>1000 mL</td>
<td>1 L</td>
</tr>
</tbody>
</table>