### USEFUL FORMULAS for Spraying in AGRICULTURE

**Abbreviations**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Rs</td>
<td>Row spacing, metres</td>
</tr>
<tr>
<td>600</td>
<td>Constant</td>
</tr>
<tr>
<td>P</td>
<td>Trees Pitch, metres</td>
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<tr>
<td>Ha</td>
<td>Hectare (100x100 = 10,000 sq/m)</td>
</tr>
<tr>
<td>L/Ha</td>
<td>Litres/Hectare (Volume per Ha)</td>
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<tr>
<td>L/min</td>
<td>Litres per minute</td>
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<tr>
<td>min.</td>
<td>minute</td>
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<tr>
<td>sec.</td>
<td>second</td>
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<tr>
<td>m.</td>
<td>metre</td>
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<tr>
<td>Km/h</td>
<td>Kilometres/hour</td>
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</table>

**The following Formula gives the Litres/min. to adjust the sprayer to distribute a given Volume / Hectare = Litres / Hectare.**

\[
\text{Litres/min. required to distribute a given Volume / Hectare:} \\
L/Ha \times \frac{Rs \text{ m} \times \text{Km/h}}{600} = \text{Litres / min.}
\]

**Ex:** To distribute 500 L/Ha (Litres/Hectare)

\[
\frac{500 \times 4 \text{ m} \times 6 \text{ Km/h}}{600} = 20 \text{ Litres / min.}
\]

**The following Formula gives the Litres/Hectare corresponding to Litres / min. sprayed.**

\[
\text{Litres/Hectare corresponding to Litres/min. sprayed:} \\
\frac{l/min \times 600}{\text{Row spacing m} \times \text{Km/h}} = \text{Litres / Hectare}
\]

**Ex:** If we are spraying 20 L/min

\[
\frac{20 \times 600}{4 \text{ m} \times 6 \text{ Km/h}} = 500 \text{ Litres / Hectare}
\]

**The following Formula gives the Km/h (tractor speed) from the seconds taken by the tractor to cover 100 m.**

\[
\frac{360}{\text{seconds}} = \text{Km/h}
\]

**Ex:** If the tractor takes 60 sec. to cover 100 m:

\[
\frac{360}{60} = 6 \text{ Km/h}
\]

**The following Formula gives the n. of Trees in Hectare**

\[
\text{n. of Trees in one Hectare:} \\
\frac{10,000}{Rs \text{ m} \times \text{Trees Pitch m.}} = \text{n. Trees/Hectare}
\]

**Ex:** If Rs is 4 m. and Trees Pitch is 3 m.:

\[
\frac{10,000}{4 \times 3} = 833 \text{ Trees per Hectare}
\]