

## USEFUL FORMULAS for Spraying in AGRICULTURE

### Abbreviations

**Rs** = Row spacing, metres  
**600** = Constant  
**P** = Trees Pitch, metres  
**Ha** = Hectare (100x100 = 10.000 sq/m)  
**L/Ha** = Litres/Hectare (Volume per Ha)

**L/min** = Litres per minute  
**min.** = minute  
**sec.** = second  
**m.** = metre  
**Km/h** = Kilometres/hour

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

Litres/min. required to distribute a given Volume / Hectare:

$$\frac{\text{L/Ha} \times \text{Rs m} \times \text{Km/h}}{600} = \text{Litres / min.}$$

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.**

Litres/Hectare corresponding to Litres/min. sprayed

$$\frac{\text{l/min} \times 600}{\text{Row spacing m} \times \text{Km/h}} = \text{Litres / Hectare}$$

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.**

Km/h according to how many **seconds** taken 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

n. of Trees in one Hectare :

$$\frac{10.000}{\text{Rs m} \times \text{Trees Pitch m.}} = \text{n. Trees/Hectare}$$

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

$$\frac{10.000}{4 \times 3} = \text{n. 833 Trees per Hectare}$$