

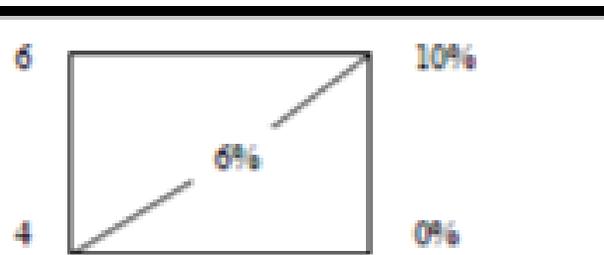
Calculation of Insecticidal Dosages

Dilution of dusts:

- The dilution of dusts requires a certain quantity of talc to be mixed
- rectangular method is generally used
- At the center of the rectangle, the percentage of required concentration of chemical
- on the right hand side top corner, highest concentration of the dust available
- and on the right side corner bottom, lower concentration to be given
- The values are diagonally subtracted and represented on left hand side top and bottom corners

Example:

A chickpea farmer has advised to dust 6% Malathion dust for control of gram pod borer in his 3 acres of field at the rate of 10kg/acre. Calculate the quantity of talc he has to purchase from the market for diluting the 10% malathion dust available with him.



Dilution of spray formulation:

1) To find out the quantity of insecticide required for treating an area at a required

$$\text{Quantity of insecticide} = \frac{\text{Total quantity of spray solution required} \times \text{Concentration of the spray solution desired}}{\text{Strength of the formulation}}$$

Example:

C. A paddy farmer was advised to spray 0.05% chlorpyrifos (20% EC) for the control of rice leaf roller in his 4 acres of cropped area. Calculate the cost of the chemical when the spray fluid required is 300lt/acre and the cost of the chemical is Rs. 500/lt.

2) To obtain the strength/concentration of a finished spray solution, when a known quantity of chemical is added to a known quantity of water, the following formula may be adopted:

$$\text{Concentration of spray fluid} = \frac{\text{Quantity of formulation used} \times \text{Strength in percentage of the formulation}}{\text{Quantity of finished spray solution required}}$$

Example: For the control of groundnut leafminer, farmer has mixed 300ml of chlorpyrifos 20 EC in 300lt of water and sprayed in his field. Find out the concentration of spray fluid he has applied in his field.

c. Calculation of Granular formulations:

Example: Carbofuran 3G at the rate of 1kg a.i/ha was recommended for the control of root grub in groundnut. Calculate the cost of the granules for applying in 4 ha of cropped area, when cost of the chemical is Rs.30/kg

1. A Farmer was recommended to use 20% Sulphur dust to control the mites on cotton of 5 acres @ 20 kg/acre. The formulation available is 80% Dust. How much talc is needed to dilute the Formulation for 5 acres
2. A farmer was advised to spray 0.02% Dimethoate (30% EC) for the control of aphids in his 2 acres of chillies. Calculate the cost of the chemical when the spray fluid required is 200lt/acre and the cost of the chemical is Rs. 800/lt.
3. For the control of sugarcane leafhopper, farmer has mixed 500ml of Methyl demeton 25 EC in 300lt of water and sprayed in his field. Find out the concentration of spray fluid he has applied in his field
4. Phorate 10G at the rate of 0.5 kg a.i/ha was recommended for the control of stemborer in rice. Calculate the cost of the granules for applying in 6 ha of cropped area, when cost of the chemical is Rs.50/kg