Chapter 9

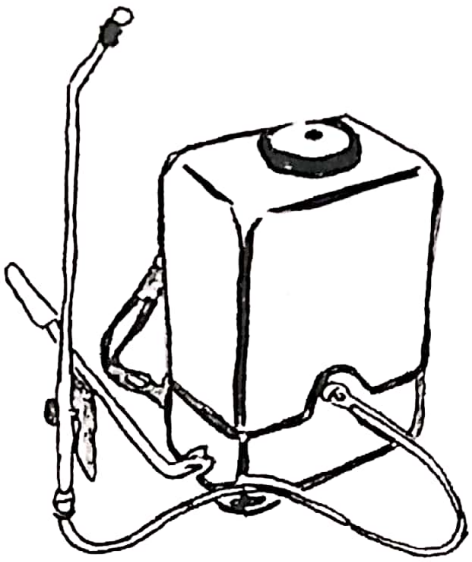
INSECTICIDES APPLICATION

The insecticides application equipments are divided into following categories.

9.1 Types of Equipments for Insecticide Application:

9.1.1 Sprayers: These are the machines by which the liquid insecticides are applied in the form of thin coating on the surface of subjects. These are of following types.

a. Hand atomizers (e.g. lady hand sprayer)
b. Knapsack sprayers
c. Wheelbarrow sprayers
d. Power sprayers
e. Hydraulic sprayers



(Knapsack sprayer)

9.1.2 Dusters: These are the machines which apply the power insecticides in the form of thin coating on the surface of objects. These are of following types:

a. Hand operated dusters

i. Shaker type dusters
ii. Crank or rotary dusters

b. Power operated dusters

i. Viller's power duster.

9.1.3 Granule applicators: These are the machines which scatter the granular insecticides in the field. These are of two types:

a. Hand operated granule applicators
b. Power operated granule applicators

9.1.4 Soil applicators: These are the machines which apply the insecticides into the soil e.g. soil injector.

9.2 Numerical Calculations of Insecticide Doses:

1. Calculate the poison quantity of given formulation of Aldrin 20% active material and total quantity of spray material to be used in an acre field when the recommended dose is 0.5 lbs active material/acre to be applied at a concentration of 0.01%.

Data:

Formulation of Aldrin = 20%
T.Q.S.M = 7
Dose = 0.5 lbs
Concentration = 0.01 %
T.Q.P = ?

Solution:

According to formula: $T.Q.P = \frac{Dose}{Formulation} \times 100$

$T.Q.P = \frac{0.5}{20} \times 100 = 2.5$ lbs.

2. Calculate the T.Q.P and T.Q.S.M of the ABC 2.5 WP poison against the insect pest of vegetable. The recommended dose is 200 ml active material at a concentration of 0.07%.

Data:

Formulation = 2.5%
Dose = 200 ml
Concentration = 0.07%
T.Q.P = ?
T.Q.S.M = ?

Solution:

According to formula: $T.Q.P = \frac{Dose}{Formulation} \times 100$

$T.Q.P = \frac{200}{2.5} \times 100 = 8000$ ml $= 8$ L

$T.Q.S.M = \frac{Dose}{Concentration} \times 100 = \frac{200}{0.07} \times 100 = 285717$ ml $= 285.7$ L

(Aqueel et al., 2015)