

## Selecting the Right Package: Pesticide Formulations and Quantity

The formulation describes the physical state of a pesticide and determines how it will be applied. The chemical in the pesticide formulation that actually kills the pest(s) is termed the active ingredient. Inert ingredients are added to make the product easy and safe to mix or apply.

**Formulations that require mixing and special equipment** are concentrates that require mixing with water to form a dilute spray which is applied to the plants. They are less expensive if a large area is to be treated. But due to their concentrated form and mixing requirements, they require more handling and escalate the risk of spray drift. If left unused, they may also increase environmental risk due to storage and disposal problems. These formulations include:

*Emulsifiable concentrates* (EC or E): active ingredient mixed with an oil base

*Flowables* (F or L): active ingredients in a liquid

*Wettable powders* (WP or W): active ingredient attached to a fine powder that requires continuous agitation to remain mixed with water

*Soluble powders* (SP): active ingredient in powder form that dissolves in water

**Formulations that are ready to use** (proper dilution) as they are purchased include:

*Solutions* (S): in spray bottles

*Aerosols* (A): for a fine spray or mist

*Dusts* (D): active ingredients attached to a fine inert powder, used dry

*Granules* (G): active ingredient attached to coarse particles of inert material

*Baits* (B): active ingredient attached to an edible substance attractive to pests

Use pesticides that are packaged specifically for home garden and landscape. These products are packaged in small quantities, i.e., pints, quarts, ounces, or pounds; are seldom highly toxic; and are usually in low concentrations. The label rate is given in spoonfuls per gallon or pounds per 1000 square feet.

Products packaged for the commercial grower may be less expensive per unit of active ingredient, but homeowners should not attempt to use them. They are generally more toxic than those for home use, require special protective clothing and equipment for application, are more concentrated, and come in larger containers than the homeowner could expect to use or safely store. They are more difficult to mix since rates are usually based on a per-acre application.

Try to buy only the amount of pesticide you can use in one season. If you do buy more than you can use in a season, store chemicals in a cool (60 to 70 F), dry, secure location. The location should be fireproofed; well ventilated; well lighted for use, dark when not being used; away from feed, seed, and fertilizers; and maintained at a temperature between 32 and 90 F. Store herbicides separately. All pesticides should be stored away from sinks or floor drains that allow access to the water system

because accidental breakage of a bottle containing pesticides can seriously affect water quality. These chemicals should be locked up and out of reach of children, pets, and unauthorized persons to avoid possible poisoning!

Source:

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