The ABC's of Pesticide Formulations

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Pesticides are not sold as pure chemical or active ingredient; it is the active ingredient which is responsible for controlling the unwanted pest. Instead, active ingredients are combined or mixed with other materials such as solvents, diluents, or adjuvants. The final product containing the active ingredient and the added materials is called a **formulation**. It is the one, two, and sometimes three capital letters in a pesticide's name that indicates the type of formulation. For example, Barricade 65**WG**, the WG indicates the product is formulated as a water dispersible granule.

Pesticides can be formulated in many ways, but the purposes for formulations are to increase pesticide activity, improve uniform application, extend the stability of the active ingredient, provide a longer shelf-life, convenient packaging, and improve user safety. Some pesticides may be sold as different formulations, so it is important to understand the formulation of the pesticide you are using and mix it correctly. There have been cases where pesticides were misapplied because the applicator did not understand the differences in formulation, a lack of pest control and an increased cost of application was the result. There are many formulations which you may encounter but the most common are described below, notice they are listed in proper mixing order from first to last.

Code	Term	Description
WP	**W**ettable **P**owder	A powder formulation to be applied after mixing with water. Wettable powders do not dissolve in water; instead they form a suspension and require constant agitation to prevent settling.
WG or **WDG**	**W**ater **D**ispersible **G**ranules	A formulation to be applied after mixing with water. Water Dispersible Granules do not dissolve in water; instead they form a suspension and require constant agitation to prevent settling.
F, AS, or **L**	**F**lowable, **A**queous **S**uspension, or **L**iquid	A formulation to be applied after mixing with water. These formulations are commonly very thick (not easily poured) and do not dissolve in water. Instead they form a suspension and require constant agitation to prevent settling.
E or **EC**	**E**mulsifiable **C**oncentrate	A liquid formulation to be applied after mixing in water. Emulsifiable Concentrates form emulsions in water and require mild agitation to keep the pesticide uniformly mixed.
SP or **WSP**	**W**ater-**s**oluble **P**owder	A powder formulation which dissolves in water to form a solution. Once mixed, a solution of water and water-soluble powder does not require agitation.
S or **SL**	**W**ater-**s**oluble **L**iquid	A liquid formulation to be applied after mixing in water. Once mixed, a solution of water and water-soluble liquid does not require agitation.
G	**G**ranular	A formulation applied as a dry material (**not mixed in water**). Granulars can be applied with rotary or drop spreaders.