

Clearing-up Questions Regarding Spray Adjuvants

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To increase the effectiveness of pesticides, materials, called adjuvants, which have no pesticidal activity are sometimes added to spray mixtures. Because adjuvants effect factors such as spray particle size, spray pattern, and drift, these materials aid in increasing pesticide activity which through improved control can reduce environmental exposure.

Adjuvant Type	Description
Spreaders	By decreasing the surface tension of a spray droplet, spreaders increase the area a volume of spray will cover and improves the contact between the pesticide and the plant surface. All types of pesticides (fungicides, herbicides, and insecticides) generally benefit from the addition of a spreader, which is usually included in the formulation by the manufacturer.
Stickers	The oily consistency of stickers increases the adhesive properties of the spray solution. This improves pest control by prolonging the time the spray remains in contact with the leaf. The formulation of many contact fungicides and insecticides are sold with a spray sticker included.
Spreader-stickers	These adjuvants are combinations of spreaders and stickers. These are important additives for materials that serve as plant protectants, such as fungicides and insecticides.
Wetting Agent	They work by relieving the surface tension between the spray droplet and the waxy surface of a leaf. There are three types of wetting agents; anionic, cationic, and nonionic. Anionic and cationic agents are seldom used to control turfgrass pests. Nonionic wetting agents are more commonly used, especially with systemic herbicides, where the nonionic agent assists the herbicide to penetrate a weeds waxy leaf surface.
Crop Oils	These are light oils combined with another adjuvant which increase pesticide adsorption into leaves. An additional benefit of crop oils is that they slow down drying time which also increases plant adsorption of the pesticide. These oils are generally nontoxic to the plant.
Buffering / Acidifying Agent	These materials are added to spray mixtures to adjust the pH of the spray solution. A pH above 7.5 can reduce the efficacy of many pesticides. A buffering or acidifying agent is added to prolong a pesticide's activity by maintaining the spray solution within a pH range of 5 to 7.
Drift Control Agent	These adjuvants are added to spray mixtures to coagulate spray droplets into larger droplets which are less likely to drift. These agents are of particular use when a pesticide must be applied during windy conditions.

When deciding to use an adjuvant, always consult the pesticide label.