

2021 SMBSC Adjuvant Use Quicksheet

Adjuvants are generally accepted as any additive that is used with a pesticide to increase its performance or to modify specific spray solution properties (physical and chemical). They are used in an attempt to alter environmental or physical conditions and/or address any limitations involved in the spray process to increase the likelihood of the pesticide adequately performing the function for which it is being applied. Adjuvants manipulate pesticide spray solution stability, solubility, compatibility, volatilization, surface tension, off target movement, coverage, adherence and penetration. Several multifunction adjuvants have been formulated in an attempt to perform more than one of these tasks at one time. However, it should be noted that whenever an adjuvant is attempting to perform more than one function from a single formulated product that the potential exists for sacrificing a relative level of effectiveness of one or more of the multi-functions it is being asked to perform.

Herbicide Adjuvants:

Adjuvants can assist herbicide activity in several ways and utilize specific ingredients to perform each task. Most adjuvants increase herbicide activity when applied to crop or weed foliage but not all of them. Herbicide enhancements attributable to adjuvants are too numerous to cover but below you can find a few examples.

Glyphosate has been the basis of many POST spray programs. It prefers non-oil based surfactants (SURFace ACTive agENTS), modest acidification, and water conditioners (such as dry or liquid AMS) to incapacitate hard water ions.

Water Conditioner Examples

AMS - Various
Class Act Products - Winfield
Precinct - West Central
Re-Duce - Helena
Surfate - Loveland
Wheelhouse - CHS

Acidic AMS Replacements

Aduro - Winfield
Brimstone - Wilbur Ellis
Fixate - CHS
Gunsmoke - Loveland
Hel-Fire - Helena
Jackhammer - West Central

Non-Ionic Surfactant Examples

Activator 90 - Loveland
Hypertonic - CHS
Induce - Helena
Prefer 90 - West Central
Preference - Winfield
R-11 - Wilbur Ellis

- * Glyphosate is generally antagonized by oil adjuvants. If tank-mixing with an oil-loving tankmix partner, consider maintaining the use of a surfactant based adjuvant or consider using a High Surfactant Oil Concentrate or HSOC to satisfy the partner's needs.
- ** Products provided as common examples only and in no way constitutes a particular adjuvant class in its entirety.
- *** Always consult the herbicide label for proper adjuvant choice when tank mixing with glyphosate.

Fungicide Adjuvants:

Adjuvant utility with fungicide applications are not as well defined and therefore not as well accepted as their use with herbicides. This may be due to the vast differences in the functionality that they are being asked to perform with fungicides versus herbicides relative to placement, timing, and activity. Further, the influence of adjuvants on weed control is more easily measured than is the evaluation of relative level of disease control thus lending itself to increased difficulty with recognizing the benefit of adjuvants with fungicides. Additionally, the stage at which many foliar fungicides are applied lends itself to greater risk of crop injury thus also playing a role in overall concern over the use of adjuvants in spray applications.

Cercospora Leafspot fungicide recommendations for adjuvants are as diverse as the products available. Fungicide adjuvant recommendations focus on increasing the spray penetration of the canopy, deposition to the leaves, and resiliency or longevity of the product on the leaves. The production risk of crop injury falls upon the producer in many cases and thus, risk of leaf speckling from use of an adjuvant must be weighed against potential for additional efficacy. A general rule of thumb is Dep-Aids influence droplet size and generally provide less driftable fines to increase the amount of product reaching the target whereas extenders prolong leaf coverage by reducing washoff.

General Deposition Aids and Canopy Penetrants

Cerium Elite - West Central
Fixate Pro - CHS
Liberate - Loveland
MasterLock - Winfield
Diligence - Wilbur Ellis

AI Extenders & Retention / Wash-Off Resistance

Attach - Loveland
Reguard - Wilbur Ellis
Transfix - Winfield

- * Wind tunnel droplet spectra data suggest that deposition and extender adjuvants can be used in combination but extenders should not be used without a deposition aid since getting the droplet to the leaf is of greater importance.
- ** The lists above are provided only as examples and do not constitute the entire list of a particular adjuvant class.
- *** Always consult the fungicide label for the proper adjuvant choice and the adjuvant label for correct mixing order when choosing to use an adjuvant in your CLS fungicide spray program.

Note: Not all adjuvants, deposition aids, or extenders are created equal. Make adjuvant choices based upon specific needs, reputable data, and/or personal experience.