

### WINNERS CIRCLE ADJUVANTS





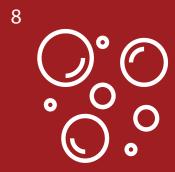




OIL ADJUVANTS



NONIONIC SURFACTANTS



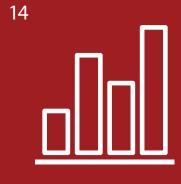
AMS ADJUVANTS



UTILITY ADJUVANTS



ADDITIONAL OPTIONS



PRODUCT RESOURCES

### OIL ADJUVANTS





### **Defining the Difference**

What's the Difference Between Crop Oil, MSO, HSOC and NIS?

WHEN TO CHOOSE:	LABEL REQUIRES	LABEL GIVES AN OPTION	LARGE, WAXY, RESISTANT WEEDS	ARID OR DROUGHT	LOW HERBICIDE USE RATE	SEED OIL OR PARAFFINIC	COMMENTS
MSO 84 – Methylated Seed Oil	√	√	√	<b>√</b>		Methylated Seed Oil	<ul><li>Can 'Heat Up' the Herbicide</li><li>Less Expensive per Gallon, but Higher Use Rate</li></ul>
MSO XL – High Surfactant/ High Load Methylated Seed Oil 6040 Type	√	√	√	<b>√</b>	√	Methylated Seed Oil	Higher Emulsifier Percentage     Lower Use Rate
COC XL – High Surfactant/ High Load Crop Oil Concentrate 6040 Type	√	√	<b>√</b>	<b>√</b>	<b>√</b>	Seed or Paraffinic Oil Based	Higher Emulsifier Percentage     Better with Glyphosate
COC 17% – Crop Oil Concentrate 8317 Type	√	√	√	√		Paraffinic Oil Based	Less Expensive per Gallon, but Higher Use Rate
NIS – Nonionic Surfactant	√	√	Average Effectiveness	Average Conditions	<b>√</b>	N/A	<ul><li>Good with Glyphosate, Water Based Herbicides</li><li>Less Chance of Crop Response</li></ul>

### MSO XL High Surfactant Oil Concentrate

MSO XL is a methylated seed oil (MSO) and emulsifier blend made from Americangrown soybeans. With each jug containing approximately 1.5 bushels of soybeans, MSO XL works to soften the cuticle wax and speed up the penetration process of active ingredients into the plant leaf. Designed to improve uniform coverage throughout the canopy, MSO XL is an excellent spreader and wetting adjuvant that is compatible

MSO XL meets the label requirements of many active ingredients including: Topramezone (Armezon®/Impact®), Clethodim, Atrazine, Flumioxasin, Gramoxone, Status®, DiFlexx®, and Tembotrione (Laudis®).

with most herbicides.



**USE RATE:** 1/2 gal per 100 gal of

spray solution

**TIMING:** Post-emerge application on

all corn and soybean traits.

Not for use on fungicides.

MSO XL is one of the most aggressive/ hottest oil adjuvants. If using one of the following residuals (Warrant®, Outlook®, Dual Magnum®) in your post-emerge application, cut the use rate in half by applying 1 qt per 100 gal of spray solution.

### MSO 84 Modified Vegetable Oil Concentrate

Penetrating into the leaf surface, MSO 84 improves uniform coverage. MSO 84 combines 84% methylated seed oil (MSO) and emulsifiers to enhance wetting of the target and diffusion of the active ingredient through the weather-hardened cuticle of grasses and broadleaf plants. MSO 84 meets the standards of active ingredient labels that recommend or require the use of MSO or crop oil when tank mixing.



**USE RATE:** 1 gal per 100 gal of

spray solution

**TIMING:** Post-emerge application on

all corn and soybean traits.

Not for use on fungicides.

MSO 84 is one of the most aggressive/hottest oil adjuvants. If using one of the following residuals (Warrant®, Outlook®, Dual Magnum®) in your post-emerge application, cut the use rate in half by applying 1/2 gal per 100 gal of spray solution.





### **OIL ADJUVANTS**

### **Common Oil Adjuvant Keywords:**

**MODIFIED VEGETABLE OIL (MVO):** 

Any seed oil (sunflower, castor, soy, corn, canola, cotton, etc.) that has been chemically modified.

**METHYLATED SEED OIL (MSO):** 

Any seed oil that has been chemically modified. Often, but not always, refers to soybean oil.

**VEGETABLE OIL CONCENTRATE (VOC):** 

Any vegetable or seed oil that is 80% of the formulation.

### CROP OIL, MSO, HSOC & NIS REDUCE SURFACE TENSION & INCREASE:

- **√** Speed
- √ Herbicide Absorption
- √ Herbicide Retention
- √ Uniform Coverage
- $\checkmark$  Spreading & Wetting
- √ Tank-Mix Compatibility

### **COC XL** High Load Crop Oil Concentrate

With its economical paraffinic oil formulation, COC XL permeates waxy, weather-hardened plant cuticles and allows active ingredients to penetrate into the mode of action site. COC XL is a high load crop oil concentrate (COC) and emulsifier blend for use when labels recommend or require a high surfactant oil concentrate adjuvant (HSOC). COC XL delivers a uniform application that improves the wetting agents in broadcast applications.

COC XL meets the label requirements of many active ingredients including: Glufosinate (Liberty®), Status®, Diflexx®, Clethodim, Atrazine, Flumioxasin, Enlist One®, Enlist Duo®, and Gramoxone.



**USE RATE:** 1/2 gal per 100 gal of

spray solution

**TIMING:** Post-emerge application on

all corn and soybean traits.

COC XL is hotter/more reactant than nonionic surfactants, but not as hot as MSO XL. When compared to COC 17%, COC XL is more affordable and is applied at a lower use rate.

### COC 17% Crop Oil Concentrate

COC 17% is formulated to deliver an industry-standard crop oil concentrate (COC) and emulsifying system that increases wetting and uniform distribution

of active ingredients throughout the canopy. By softening the leaf surface wax and improving penetration of active ingredients through weather-hardened leaves, COC 17% works to facilitate transportation to the mode of action site. COC 17% is recommended for use when the label recommends or requires an "8317" type crop oil concentrate.

COC 17% is a standard 83% crop oil concentrate that can be used on any application, and is hotter and more reactant than nonionic surfactants.



**USE RATE:** 1 gal per 100 gal of

spray solution

**TIMING:** Post-emerge application on

all corn and soybean traits.

Approved with Enlist One®, Enlist Duo®, and Liberty®.

If using one of the following residuals (Warrant®, Outlook®, Dual Magnum®) in your post-emerge application, cut the use rate in half by applying 1/2 gal per 100 gal of spray solution.

### **NONIONIC SURFACTANTS**







### **Benefits of Using Nonionic Surfactants:**

With decades of analysis, nonionic surfactants (NIS) have been formulated to work with pesticide applications and are foam-controlled to stabilize the mixing and use rates. NIS products are a required additive of most active ingredient labels. They soften hard-to-wet cuticles, which allows the active ingredient to penetrate completely into the targeted area.

NIS products are not included in every adjuvant simply because there is not enough chemical space in every mixture. Research has shown that NIS products help the active ingredient get through the waxy cuticle when plants have shut down due to hot or dry conditions. NIS products work to develop a uniform coverage once they are tank-mixed with other solutions.

### **NIS 90**

### Nonionic Surfactant • Humectant

NIS 90 meets the requirements of active ingredient manufacturers for a NIS 90:10. NIS 90 was developed to effectively break water surface tension and provide superior wetting ability necessary to spread crop protection products uniformly throughout the canopy. This increases the target contact time and improves herbicide uptake. NIS 90 includes a defoamer for easy mixing, and is recommended for use on both agricultural crops and non-crops.



**USE RATE:** HERBICIDES: 1-2 qts per

100 gal of spray solution

**DEFOLIANTS & DESICCANTS: 1-2** oz

per 100 gal of spray solution

**TIMING:** Post-emerge herbicide

application on corn and soybeans.

Post-emerge fungicide or insecticide application

on soybeans.

NIS 90 is compatible with most crop protection products including Callisto®, Callisto Extra®, Resicore®, Acuron®, Acuron GT®, Halex GT®, Mes-O-Sate® and Realm® Q.

### COMPLETE

Nonionic Surfactant • Water Conditioner Deposition Aid • Defoamer

COMPLETE is an all-in-one water conditioning drift nonionic surfactant (NIS) that is an NPE-free multifunctional adjuvant. Developed to condition mixing water, COMPLETE ensures uniform coverage and prevents application drift by improving the spray application pattern. COMPLETE contains ammonium sulfate (AMS) which promotes the uptake of herbicides such as glyphosate in foliar applications. COMPLETE is recommended for use with herbicides compatible with low-pH tank mixes.



**USE RATE:** 2 qts per 100 gal of

spray solution

**TIMING:** Post-emerge application

on corn.

Best results are shown used in addition to glyphosate.





### **NONIONIC SURFACTANTS**

### **INFILTRATOR**

Nonionic Surfactant • Water Conditioner • Deposition Aid • Drift Reduction

INFILTRATOR is the next-generation multifunctional adjuvant that delivers increased efficacy where needed. INFILTRATOR contains a patent-pending, NPE-free surfactant emulsion technology which improves application coverage while conditioning water without interfering with droplet formation. The included water conditioner helps to ensure prolonged pesticide activity. INFILTRATOR has thorough penetration capabilities that improves active

ingredient efficacy without the use of ammonium sulfate (AMS). The surfactant system in INFILTRATOR increases the activity and effectiveness of herbicides, fungicides and insecticides by breaking down the waxy cuticle on the leaf surface while improving adhesion between the active ingredient and plant surface.

INFILTRATOR is recommended for use on all agricultural crops and non-crops, and is compatible with most active ingredients such as glyphosate, 2,4-D and dicamba.



**USE RATE:** 2 qts per 100 gal of

spray solution

**TIMING:** Use with Enlist® pre

and post applications.

Pair INFILTRATOR with

Pair INFILTRATOR with COC XL at 1 qt per 100 gal of spray solution OR with COC 17% at 2 qts per 100 gal of spray solution.

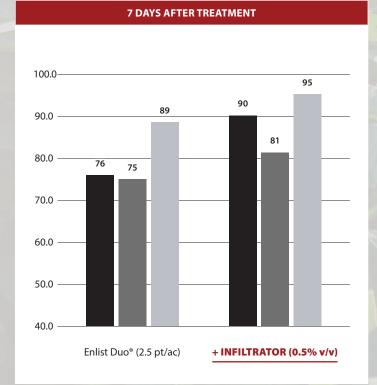
INFILTRATOR is approved for use with Enlist One®and Enlist Duo® in place of an ammonium sulfate (AMS) and is compatible with a broad range of active ingredients.

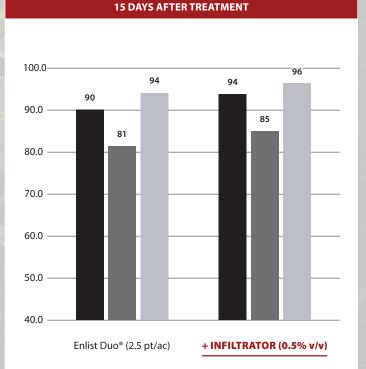
### Efficacy of INFILTRATOR + Enlist Duo®

Treatment Trial in Winamac, IN | TTI 110002 @ 25 psi, 15 gal/acre

KEY FOR BOTH CHARTS:

■ Barnyardgrass 
■ Velvetleaf 
■ Common Lambsquarters





### **AMS ADJUVANTS**





IPS FOR ADDING AMS TO REBICIDE APPLICATIONS:

Plan to avoid sub-optimum applications such as early morning or late evening timing, hot and dusty conditions or less than the label dosage recommendation.

Evaluate and understand the carrier water quality, local hardness measurements and pH. Make choices that fit regionally as this is not a "one-size-fits-all" application.

### **Enhance Herbicide Activity** with Ammonium Sulfate (AMS)

Built to perform as a complexing agent, ammonium sulfate has the ability to hold hard water minerals that have been isolated from the carrier water. Increased glyphosate efficacy is seen even when the solution is prepared in distilled water where no calcium or iron is present and AMS is used. AMS prevents glyphosate from binding to calcium or dirt on the surface of the leaf.

### 34% LIQUID AMS

Ammonium Sulfate Defoamer

Formulated with liquid ammonium sulfate solution, 34% Liquid AMS improves herbicide performance by modifying solution pH and reducing active ingredient interaction with hard water ions. The ammoniacal nitrogen 34% Liquid AMS has been proven to promote

the uptake of herbicides like glyphosate in foliar applications. 34% Liquid AMS works as a water conditioner that prevents cold water sedimentation and nozzle plugging that is commonly found with dry AMS. 34% Liquid AMS contains a pH-stable antifoaming agent that reduces foaming when tank mixing.

34% Liquid AMS is recommended for use on a broad range of crop and non-crop uses including agriculture, turf, ornamental, industrial vegetation management (IVM); and specialty crops.



USE RATE: 3-5 gal per 100 gal

of spray solution

1 quart contains 0.85 lbs of

**AMS** 

**TIMING:** Not for use on

dicamba soybeans.

34% Liquid AMS is a true substitute for granular AMS.

34% Liquid AMS is an alternative to 51 lb AMS bags. Use 34% Liquid AMS when you need an ammonium sulfate (AMS) application including Flexstar®, Cobra® and Enlist®. This adjuvant is not for use on dicamba soybeans.

### **N CLASS 34%**

AMS Water Conditioner • Nonionic Surfactant

N CLASS 34% is a low-foaming formulation that contains the proper ammonium sulfate (AMS) and surfactant level to optimize efficacy from glyphosate, glufosinate and many other pesticides. N CLASS 34% provides uniform coverage and active ingredient uptake. N CLASS 34% conditions tank-mixing water by preventing hard water minerals and dust particles from interacting with the active ingredient.

N CLASS 34% is compatible with most active ingredients and is recommended for use on all crops and non-crops.



**USE RATE:** 2.5 gal per 100 gal of spray

solution contains 2 qts of NIS and 8.5 lbs of AMS.

**TIMING:** Post-emerge applications

on corn and soybeans.

N CLASS 34% is a combination of AMS 34% plus a surfactant.

### **Tank Mixing Protocol:**

- $\sqrt{}$  Always read labels carefully first.
- √ Shake liquids and containers before adding.
- √ Agitate when the tank is half full and before adding the first product.
- √ Continue agitation through mixing sequence or process.
- Ensure dry formulations have fully dissolved before adding other products.

### Tank Cleaning Procedure:

Successfully clean your tank after application by following these steps:

- Train your spray tank to prevent any cross-contamination from applications.
- Rinse the sprayer tank out thoroughly. Begin by rinsing the inside of the tank, move to the outside and finish up by rinsing all screens and other equipment that may be filled with the previous application.
- Fill the spray tank with clean water and circulate the fluid throughout the tank, hoses, nozzles, etc. to ensure a thorough cleaning.
- Add any additional tank cleaning products (ex:
  Premium TANK Cleaner) and mix thoroughly.
- Empty the spray tank completely.
- Fill the spray tank again with enough clean water to run through the tank, hoses, and nozzles for up to two minutes to ensure a thorough cleaning.
- Rinse all nozzles and screens again in clean water.
- STEP 8 Let all parts dry.
- Reassemble sprayer nozzles and screens.
- STEP 10 You're prepared for the next application.

### **Guide to Successful Tank Mixing:**

Successfully tank mix adjuvants for application by following the steps listed below in order. Do allow time for dispersion and complete mixing after adding each product:

- 1 WATER SOLUBLE PACKETS
  Ensure packets are fully dissolved
- 2 DRY FORMULATIONS
  Wettable Powders, Granules
- AMMONIUM SULFATE
  34% Liquid AMS, N CLASS 34%
- 4 LIQUID ANTI-DRIFT AGENTS
  WIND DRIFT, Bullseye + DRA, VAPOR Drift DRA + VRA
- 5 COMPATIBILITY AGENTS & ANTI-FOAMERS
  Prevent FOAM, ALL Comp
- 6 LIQUID FORMULATIONS
  COMPLETE
- 7 EMULSIFIABLE CONCENTRATES
  Effect GC, INFILTRATOR
- 8 OIL-BASED SUSPENSION CONCENTRATES MSO XL, MSO 84, COC XL, COC 17%
- 9 OTHER SOLUTIONS & SOLUBLE LIQUIDS ZOOM

\*\*\*Do not add emulsifiable concentrates, oils or surfactants to dry mixtures as this will decrease the accuracy of the dry products' ability to wet and disperse application solution.

### UTILITY ADJUVANTS





Determining Your <u>DRA</u> Always check with Bayer XtendiMax®, BASF Engenia®, Dupont™ FeXapan™ and Syngenta® Tavium® websites for drift reduction products permitted for use with dicamba and diglycolamine salts.

### WIND DRIFT

Deposition Aid • Drift Reduction Agent

WIND DRIFT is an NPE-free next-generation oil and emulsion drift control agent that improves deposition and reduces active ingredient drift from the target surface in spray applications. WIND DRIFT is engineered to improve the deposition of pesticide applications by maximizing the number of spray droplets within the ideal size range for drift reduction and canopy penetration. WIND DRIFT does not produce large spray droplets like polymer drift products. The internal cohesion of the components helps to deter droplet shearing into fines which move off-target into sensitive areas.

WIND DRIFT is recommended for use on all crops and non-crops and is compatible with most active ingredients such as glyphosate, 2,4-D and dicamba.

**USE RATE:** 1-2 qts per 100 gal

of spray solution

**TIMING:** For use in conjunction

with fungicide applications.

Pollination-friendly NPE-free formulation.



WIND DRIFT will not thicken the spray application in the sprayer.

### Increase Spray Droplet Size & Reduce Driftable Fines with WIND DRIFT

Treatment Trial at University of Nebraska Wind Tunnel | XR11003, 15 mph

VOL	UME MEAN DIAME	TER (VMD) IN MICE	RONS
+ WIND DRIFT	Roundup PowerMax® Only	+ Competitor 1	+ Competitor 2
265.96 microns	227 microns	248.09 microns	259.08 microns

	% <150 M	ICRONS	
+ WIND DRIFT	Roundup PowerMax® Only	+ Competitor 1	+ Competitor 2
-53%	-28%	-32%	-46%

### **BULLSEYE + DRA**

AMS-Free Water Conditioner • Surfactant Drift Control Adjuvant • Deposition Aid

Bullseye + DRA is an all-in-one adjuvant that has been approved for use as a drift reduction agent (DRA) with Bayer XtendiMax®, BASF Engenia® and DuPont™ FeXapan™. Bullseye + DRA optimizes spray droplet size to create uniform control and accurate delivery of your pesticide. It improves the adhesion of the active ingredient to the target and increases coverage throughout the canopy. Bullseye + DRA is formulated with an AMS-free water conditioner that helps prevent the loss of active ingredient efficacy that can occur when the mixing water is mineral-saturated or of unknown quality. Built for easy mixing, Bullseye + DRA includes a defoamer.

Bullseye + DRA is recommended for use on all agricultural crops and non-crops and is compatible with most active ingredients such as glyphosate, 2,4-D and dicamba.

**USE RATE:** 1/2 gal per 100 gal of

spray solution

TIMING: Tank mix with dicamba

applications on postemerge soybeans.







### **UTILITY ADJUVANTS**

### **PREVENT FOAM**

Antifoaming Agent • Defoaming Agent

Prevent FOAM is an efficient silicone-based antifoaming agent that quickly dissipates foam structures and helps prevent further formation of tank-mix foam. Prevent FOAM eliminates foam formation with application that can result in loss of accurate pesticide rates through spillover during mix agitation, and eliminate the regeneration of foam during field applications.



USE RATE: 1-2 oz per 100 gal

of spray solution

TIMING: Any time a defoaming

agent is needed.

Please note that foam can create inaccurate pesticide applications, loss of product, extra costs for cleanup and loss of time.

### **MAKE FOAM**

Foam Marker

MAKE Foam is a tough, dense and flexible foam marker with excellent stability, designed to tolerate a variety of weather conditions including adverse weather.

MAKE Foam includes components that allow the spray solution to perform in practically any water, hard or soft; hot or cold. Once applied, MAKE Foam creates a firm, dense foam with outstanding stability, and can be tinted to increase visibility in low light situations. Ensure the foam water tank is completely cleansed of other foam markers and products before adding MAKE Foam.



USE RATE: 2 pts per 25 gal of

spray solution

**TIMING:** Foam marker during

spray applications.

MAKE Foam is only for use in sprayers with a foam marking system - never tank mix.

### **PREMIUM TANK CLEANER**

Premium TANK Cleaner rinses your tank and spray equipment efficiently between applications to help prevent active ingredient contamination. Premium TANK Cleaner is a high pH tank and equipment cleaner that thoroughly penetrates, solubilizes and removes both pesticide residue and hard water deposits from sprayer tank walls, hoses, end caps, screens and nozzles. Premium TANK Cleaner is recommended for use in equipment used to apply active ingredients and is registered for agricultural, aquatic, IVM and turf applications.



USE RATE: 1-2 qts per 100 gal of

spray solution

**TIMING:** Anytime you need to

sterilize your sprayer and

equipment.

### UTILITY ADJUVANTS





### **NEUTRAL pH Color Scale**

The solution will turn pink once a pH of 4.5 to 5.5 is met.

### **NEUTRAL pH**

pH Indicator • Acidifier Water Conditioner • Wetter/Spreader

NEUTRAL pH is a pH-indicating and conditioning adjuvant. Adding NEUTRAL pH prevents the adverse effects of alkaline water on pHsensitive pesticides. It changes the color of spray water to pink once the optimal range of 4.5 - 5.5 is attained, eliminating the need for separate pH testing equipment.

Additionally, the premium surfactants in NEUTRAL pH spread active ingredients thoroughly across the target area. NEUTRAL pH increases application wetting and penetration through waxy or weather-hardened surfaces.

**USE RATE:** The amount of NEUTRAL pH needed will depend on the hardness of the water source which can vary widely. 5 to 32 oz of NEUTRAL pH per 100 gallons of spray solution can be used as a reference.

> NEUTRAL pH conditions alkaline water. The solution will start out milky white in color and will turn pink once the pH levels drop to 4.5 - 5.5.



### WINNERS VRA

Volatility Reducing Agent

A stand-alone volatility reduction aid (VRA), WINNERS VRA is an approved VaporGrip® Xtra Agent for use with herbicides containing dicamba such as Tavium®, Engenia®, and XtendiMax®. The EPA requires use of an approved pH buffering adjuvant such as WINNERS VRA with each tank-mix solution containing dicamba to reduce the volatility potential. WINNERS VRA is for use on all dicamba sprays.



**USE RATE:** 22 oz per acre

**TIMING:** Pair with Bullseye + DRA for dicamba applications.

A volatility reduction aid (VRA) is required when mixing with all dicamba solutions.

### VAPOR DRIFT DRA + VRA

*Volatility Reducing Agent • Drift Control Adjuvant • Water Conditioner* 

VAPOR Drift DRA + VRA is a multi-functional adjuvant that includes water conditioning, water softening, drift control and volatility reduction needed when applying certain forms of dicamba. VAPOR Drift DRA + VRA helps to form consistent droplet sizes within the optimum range for uniform control and accurate delivery of the application. VAPOR Drift DRA + VRA is formulated with an AMS-free water conditioner that helps prevent the loss of active ingredient efficacy that can occur when the mixing water is mineral-saturated or of unknown quality.

VAPOR Drift DRA + VRA is approved for use as a DRA and VRA application with Bayer XtendiMax®, BASF Engenia®, and Syngenta Tavium®. VAPOR Drift DRA + VRA is recommended for use on all agricultural crops and is compatible with most active ingredients such as glyphosate, 2,4-D and dicamba.

**USE RATE:** 11 pts per 100 gal of spray solution

TIMING: For use as a DRA and VRA on post-emerge

soybean applications.



VAPOR Drift DRA + VRA combines Bullseve + DRA with WINNERS VRA to create one powerful drift and variability control agent.



### +

### **ADDITIONAL OPTIONS**

### **ZOOM**

Methylated Seed Oil • Concentrate • Water Conditioner • Activator

ZOOM is an NPE-free multifunctional adjuvant that softens plant wetting-resistant cuticles for fast penetration and uptake of herbicides. With its dual water conditioning and optimized droplet size, ZOOM optimizes herbicide efficacy. This premium high surfactant oil concentrate (HSOC) is compatible with many active ingredient tank mixes. ZOOM meets the requirements of pesticide labels that require a methylated seed oil (MSO) or a high surfactant oil concentrate (HSOC).



**USE RATE:** 1 gal per 100 gal of

spray solution

**TIMING:** Pre or post-application on

both corn and soybeans.

Consider applying ZOOM when you need a more aggressive adjuvant than nonionic surfactants (NIS) on post-emerge corn. Use in conjunction with glyphosate applications such as Enlist One®.

### **EFFECT GC**

Deposition Aid • Drift Control Agent

Effect GC is an anti-drift, easy-to-use adjuvant used to improve deposition and reduce application drift at an ultra-low use rate. Effect GC is an industry-standard polymer emulsion compatible with most spray equipment and nozzle types including specialized drift-reduction nozzles. Effect GC is recommended for use with most crop protection products including glyphosate and dicamba.



**USE RATE:** 2 oz per gal of

spray solution

**TIMING:** Use when DRA application

is needed.

Be sure to apply the appropriate amount of Effect GC as it can thicken your spray mixture and plug your sprayer.

### **ALL COMP**

Compatibility Agent

ALL Comp ensures both fertilizers and pesticides can work together in a stable tank-mix solution. This useful compatibility agent provides a solution when multiple actives are tank-mixed to help ensure a successful application without problems.



USE RATE: 1-2 pts per 100 gal of

spray solution

**TIMING:** Use when incompatible tank

mixing issues are present.

Add to any tank mix with incompatible active ingredients or fertilizers.

# PRODUCT RESOURCES

### **Active Ingredient Pairing Chart**

	ADJUVANT	PRODUCT DESCRIPTION	FLEXSTAR®	LIBERTY®	COBRA®/ ULTRA BLAZER®	ARMEZON®/ IMPACT®/ LAUDIS®	XTENDIMAX®	ENGENIA®	TAVIUM®	ENLIST DUO®	ENLIST ONE®	HPPD+ GLYPHOSATE	FOLIAR/ FUNGICIDE
	MSO XL	High Surfactant Oil Concentrate	٨	1		٨	^	٨	٨				
OIL ADJUVANTS	MSO 84	Modified Vegetable Oil Concentrate (for use on dicamba)	٨	٨		٨	7	٨	^				
	COC XI	High Load Crop Oil Concentrate	٨	^	٨	٨				٨	٨		
	COC 17%	Crop Oil Concentrate	٨	^	٨	^				٨	٨		
	NIS 90	Nonionic Surfactant, Humectant								٨	٨		
NONIONIC SURFACTANTS	INFILTRATOR	Nonionic Surfactant, Water Conditioner, Drift Reduction, Deposition Aid								^	٨	7	
	COMPLETE	Nonionic Surfactant, Water Conditioning Agent, Deposition Aid, Defoamer										>	
AMS ADJUVANTS	34% Liquid AMS	Ammonium Sulfate Defoamer	٨	^	٨	٨				٨	٨		
	Bullseye + DRA	AMS-Free Water Conditioner, Surfactant, Drift Control Adjuvant, Deposition Aid					7	>	>				
	WIND DRIFT	Deposition Aid, Drift Reduction Agent	^	7	٨	^	^	٨	>	>	>	7	>
	Prevent FOAM	Antifoaming Agent, Defoaming Agent		^									
UTILITY ADJUVANTS	VAPOR Drift	Volatility Reducing Agent, Drift Control Adjuvant, Water Conditioner					>	>	>				
	WINNERS VRA	Volatility Reducing Agent					>	>	>				
	NEUTRAL pH	pH Indicator, Acidifier Water Conditioner, Wetter/Spreader											>
	хоом	Methylated Seed Oil, Concentrate, Water Conditioner, Activator								>	>	>	>
	Effect GC	Deposition Aid, Drift Control Agent											>
ADDITIONAL OPTIONS	N CLASS 34%	AMS Water Conditioner, Nonionic Surfactant										>	>

## Adjuvant Product Use Reference Guide

	ADJUVANT	USE RATE /PER 100 GAL	MULTI- FUNCTIONAL ADJUVANTS	WATER	UTILITY ADJUVANTS	OIL ADJUVANTS	DRIFT CONTROL/ DEPOSITION AIDS	NONIONIC SURFACTANTS
	MSO XL	2 qts				>		
STIMEN III CA III C	MSO 84	1 gal				^		
OIL ADJOVANIS	COC XI	1/2 gal				٨		
	COC 17%	1 gal				>		
	NIS 90	HERBICIDES: 1 - 2 qts DEFOLIANTS & DESICCANTS: 1 - 2 oz						7
NONIONIC SURFACTANTS	INFILTRATOR	2 qts	>					
	COMPLETE	2 qts	>					
AMS ADJUVANTS	34% Liquid AMS	3 - 5 gal		>				
	Bullseye + DRA	1/2 gal	>					
	WIND DRIFT	1 - 2 qts					7	
	MAKE Foam	2 pts per 25 gal			>			
UTILITY	Prevent FOAM	1-2 oz			>			
ADJUVANTS	Premium TANK Cleaner	1 - 2 qts			>			
	VAPOR Drift DRA + VRA	11 pts	7					
	WINNERS VRA	22 oz per acre		٨				
	NEUTRAL pH	1 - 2 gal		٨				
	ZOOM	1 gal	^					
ADDITIONAL	Effect GC	2 oz per gal					7	
OPTIONS	N CLASS 34%	2.5 gal	٨					
	ALL Comp	1 - 2 pts			>			

Store all adjuvants between 40° and 90°F. Do not let freeze.





