PPP-161

COMPENDIUM OF HERBICIDE ADJUVANTS

2026 • 14th Edition

PURDUE UNIVERSITY | Extension

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COMMENTS ON THE 2026 COMPENDIUM

The 2026 *Compendium of Herbicide Adjuvants* is the 14th edition of the publication and contains 843 entries from 36 companies. The 1st Edition of this *Compendium* was assembled in 1992 with 76 products from 22 companies. Over the last three decades the number of commercial adjuvant products in the U.S. market has grown with the proliferation and diversity of pesticide active ingredients for foliar applications, the scientific advancements and innovations pertaining to adjuvants chemistry and formulations, and combining basic adjuvant ingredients into a multi-functional adjuvant products.

By definition, adjuvants are chemicals added to the pesticide formulation or to the final spray solution to aid or modify the action of an agrichemical, or the physical characteristics of the mixture. Spray adjuvants are not pesticides, but can improve the effectiveness of the pesticide application. With the extent of disease and herbicide resistance that has evolved in agriculture, the opportunity to optimize pesticide activity with proper use of spray adjuvants has never been more critical. For more information on the function and use of spray adjuvants, please refer to Purdue Pesticide Programs publication PPP-107 (Adjuvants and the Power of the Spray Droplet at *https://ag.purdue.edu/department/extension/ppp/resources/ppp-publications/mobile/ppp-1071.html*).

The products in this *Compendium* are organized by type of adjuvant such as nonionic surfactants, crop oil concentrates, etc. Product name, principal functioning agents, use rate, any special comments, and manufacturer, distributor or retailer are provided. Percent "active ingredient" is not included for all products since it is of questionable value in many instances as there is not yet an industry-wide standard as to what materials qualify as active ingredients. However, the Chemical Producers and Distributors Association (CPDA) has developed a voluntary Certification Program which requires adjuvants products to meet 17 separate benchmarks for adjuvant composition. At the date of this publication, 244 adjuvant products were certified by CPDA (*https://cpda.com/cpda-certified-product/*). Products listed within this *Compendium* that are CPDA certified are noted using the CPDA certification logo starting on page 39 (Adjuvants for Each Manufacturer, Distributor, or Retailer).

The information in the 2026 *Compendium* was assembled for educational purposes only and is believed to be accurate since the products and their descriptions were provided by the manufacturer, distributor, or retailer. All commercial adjuvant products are considered for inclusion in the *Compendium* and any omission of products used commercially is not intentional. The listing of products in this *Compendium* does not constitute an endorsement nor is the omission of products in any way an intention to discriminate against them.

Publication Credits

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ADJUVANT CATEGORIES

A Brief Explanation

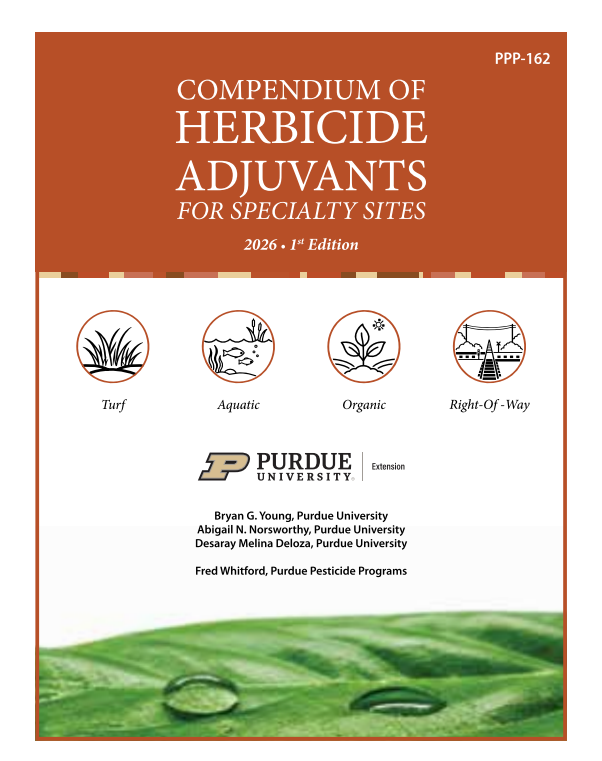
The adjuvant products listed in this *Compendium* have been grouped into different categories by the manufacturer, distributor, or retailer. Herbicide labels will recommend the use of adjuvant products by using terminology that is similar to the adjuvant categories provided in this *Compendium*. If a product serves multiple functions, or includes extra ingredients such as a defoamer, the product may be included in more than one category. Products with multiple functions may be listed in up to three adjuvant categories in the space limitations of this booklet.

Two significant changes from previous editions can be found in this *Compendium*. The High Surfactant Oil Concentrates have been categorized into subcategories to indicate the type of oil in the product: high surfactant crop oil concentrate (HSCOC), high surfactant modified vegetable oil concentrate (HSMVOC), and high surfactant vegetable oil concentrate (HSVOC). Definitions of these three HSOC types can be found in the glossary at the back of the *Compendium*. Furthermore, each product within the HSOC table has been further classified into these three subcategories.

The Soil Adjuvant category is new for this edition of the *Compendium* since the number of products has grown in recent years. These adjuvants gained popularity in the specialty markets such as turfgrass management and perhaps some additional irrigated sites. Although, the use of soil adjuvant products in major agronomic crops remains limited.

Consistent with all previous editions of this *Compendium*, this 14th edition encompasses adjuvant products used across all sectors of pesticide and adjuvant use. We have frequently been asked by readers if certain products can specifically be used in specialty sites such turf, aquatics, organic plant production, and rights-of-way. Of course, all users should reference the product label to determine approved sites for application. However, we have also collected information from the adjuvant companies that specifically indicated the use of their products in these specialty sites.

Information provided by the companies on adjuvants used in turf, aquatics, organic plant production and rights-of-way are published in a supplemental version of the *Compendium*.



Compendium of Herbicide Adjuvants for Specialty Sites (PPP-162)

Learn More: *https://ag.purdue.edu/department/extension/ppp/resources/ppp-publications/active-publications-index.html*

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Nonionic Surfactants (NIS)				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
90% NONIONIC SURFACTANT	KALO, Inc.	1,2,3-propanetriol, diethylene glycol, alkylphenol ethoxylate	1-4 pt/100 gal	Fungicides, insecticides, acaricides, as well as post-emergent herbicides
AD-SPRAY 101	Helena Agri-Enterprises	Alky aryl ethoxylates	0.125-0.5%	
AD-SPRAY 80	Helena Agri-Enterprises	Alkylarylpolyalkoxylated glycols and derivatives	0.125-0.5%	
AD-SPRAY 90	Helena Agri-Enterprises	Proprietary blend of alkylarylpolyalkoxylated glycols and derivatives	0.125-0.5%	
ADVERSARY	Innvictis Crop Care, LLC	Ethoxylated fatty acid methyl ester, ethoxylated seed oil, copolymer of alpha- and beta-pinene	0.25-0.5%	
AERO DYNE-AMIC	Helena Agri-Enterprises	Proprietary blend of ethoxylated alkyl phosphate esters, polyalkylene modified polydimethylsiloxane, nonionic emulsifiers and methylated vegetable oils	0.25-1%	pH reduction and buffering, NIS and MSO blend
APSA-80	Amway	80% Nonionic sufactant (alkylaryl alkoxylate) free fatty acids	0.02-0.4%	Low foam
AQUA-BOOST+	Brewer International	Blend of alcohol ethoxylates, limonene, glycols, and dimethyl siloxanes	0.125-0.5%	Spreader, humectant and water conditioner
AQUA-KING PLUS	Heritage Landscape Supply	Nonylphenol polyethylene glycol ether, free fatty acids, organic phosphatic acids, dimethylpolysilxane	1-4 pt/100 gal	
ARVON	Wilbur-Ellis Company	Sorbitan fatty acid ester and citric acid	0.25-4 pt/100 gal	NIS which reduces pH, contains defoamer
ARVUM	Titan Pro SCI	Sorbitan monolaurate poly(oxyethylene) ether, and 1,2 propanediol	0.5-4 pt/100 gal	
ARVUM ULTRA	Titan Pro SCI	Sorbitian monolaurate poly(oxyethylene) ether, mon- and diglycerides of C8-C18 fatty acids	1-4 pt/100 gal	
ASSIST	GarrCo Products Inc.	Nonionic surfactant blend, water conditioner and compatibility agent	0.5-2 qt/100 gal	Convenient combination
ASTUTE	MFA, Inc.	Alkylphenol ethoxylate, propylene glycol, tall oil fatty acids	1-3 pt/100 gal	Contains antifoam
ASTUTE LITE	MFA, Inc.	1,2,3-trihydroxypropane, diethylene glycol, alkylphenol ethoxylate	See label	For certain post emergence herbicides
ASTUTE XTRA	MFA, Inc.	Vegetable oil ethoxylate, tall oil fatty acids	1-3 pt/100 gal	COC replacement
AVOR	Precision Laboratories, LLC	Polyoxyethylene sorbitan fatty acid ester, mono- and diglycerides of C8-C18 fatty acids	1-4 pt/100 gal	
AVOR LT	Precision Laboratories, LLC	Polyoxyethylene sorbitan fatty acid ester	1-4 pt/100 gal	
BIO-90	KALO, Inc.	Branched alkyl phenol ethoxylate, propylene glycol, tall oil	1-3 pt/100 gal	Premium 90% NIS, humectant with antifoam
BLAZE	GarrCo Products Inc.	Nonionic surfactant blend	0.5-2 qt/100 gal	
BRANDT 719 SPREADER	Brandt Consolidated, Inc.	Polyoxyethlyene-polyoxypropylene polymer, methylated silicones	6-12 fl oz/100 gal	Ultra-low use-rate NIS without the concerns of excess runoff of typical OSS surfactants
BRANDT A+	Brandt Consolidated, Inc.	Ethoxylated sorbitan fatty acid ester, mono and diglycerides of C8-C18 fatty acids	8-16 fl oz/A	Can be used in place of a NIS, COC, MSO
BRANDT INDICATE 5	Brandt Consolidated, Inc.	Blend of alkyl aryl ethoxylates and water conditioning agents	5-32 fl oz/100 gal	Contains color indicator showing pH of spray tank solution

BRANDT MAGNIFY	Brandt Consolidated, Inc.	Alkyl polyglycoside, ammonium sulfate and ammonium nitrate	1-4 qt/100 gal	2 lb AMS & 1 lb ammonium nitrate/gal, contains antifoam. Replaces need for both an NIS and Water Conditioner
BRANDT ORGANICS AG AIDE	Brandt Consolidated, Inc.	Yucca schidigera extract	4-16 fl oz/100 gal	Has soil wetting properties
BRANDT SUPER 7	Brandt Consolidated, Inc.	Alcohol ethoxylate, lecithin and propanoic acid	12-16 fl oz/A	Can be used in place of a NIS, COC, MSO
BRANDT TORPEDO	Brandt Consolidated, Inc.	Modified vegetable (seed) oil, lecithin and alcohol ethoxylate	12-16 fl oz/A	Can be used in place of a NIS, COC, MSO
BRANDT ULTRA 90	Brandt Consolidated, Inc.	Alkyl phenol ethoxylate, polyethylene glycol, isopropanol, and polydimethylsiloxane	0.5-2 pt/100 gal	Contains 75% nonionic surfactant and a humectant for slow dry time
BRIMSTONE	Wilbur-Ellis Company	Monocarbamide dihydrogen sulfate, alkoxylated amine ethoxylate, propane-1,2,3-triol, alkyl glycol polyoxyethylene	2-8 pt/A	AMADS with 28% surfactant
CERIUM ELITE	CHS	Ethoxylated soybean oil, oleic acid, alcohol ethoxylate	0.25%	Oil emulsion based drift control
CHEMPRO APF 80	Chemorse, Ltd.	Blend of humectants and surfactants	0.25-0.75%	
CHEMPRO APF 90	Chemorse, Ltd.	Blend of humectants and surfactants	0.0675-0.5%	
CHEMPRO NIS 80	Chemorse, Ltd.	Blend of humectants and surfactants	0.25-0.75%	
CHEMPRO NIS 90	Chemorse, Ltd.	Blend of humectants and surfactants	0.0675-0.5%	
CHEMPRO S-820	Chemorse, Ltd.	Blend of nonionic surfactants	0.125-0.25%	
CHEMPRO S-910	Chemorse, Ltd.	Blend of nonionic surfactants	0.125-0.25%	
CHEMPRO S-95	Chemorse, Ltd.	Vegetable oil ethoxylates and free fatty acids	0.125-0.5%	
CHEMPRO US-90	Chemorse, Ltd.	Blend of nonionic surfactant, humectants, and free fatty acids	0.0675-0.5%	
CHEM-SURF 90	Winfield United	1,2,3 Propanetriol, polyethylene glycol mono(branched p-nonylphenyl) ether, and sodium xylene sulfonate	0.063-0.5%	Spreader, sticker, 90% active
CHEMWETT PLUS	Coastal Agrobusiness, Inc.	Alkylaryl polyoxyethylene glycols	0.25-0.5%	
CHS DEPPEX	CHS	Ethoxylated soybean oil, oleic acid, alcohol ethoxylate	0.5%	
CHS FIXATE PRO	CHS	Ethoxylated soybean oil, oleic acid, alcohol ethoxylate	0.25%	Oil emulsion based drift control
CHS HYPERTONIC	CHS	Alcohol ethoxylate, alkylphenol ethoxylate, glycol	0.25-0.5%	
CHS LEVEL BEST PRO	CHS	N-methyl-alkyl glucamide, polyethylene glycol monolaurate, polyethylene glycol undecyl ether, tallow alkyl amines ethoxylated	0.25-0.75%	Contains tallow amine - a high end, highly active surfactant
CHS TRAPLINE	CHS	Water conditioners, surfactants, drift control agents, and constituents ineffective as a spray adjuvant	0.75%	All-in-one for general acre
CIDE-KICK	Brewer International	D'limonene, related isomers, and emulsifiers	0.25-0.5%	Wetter, sticker, activator, penetrant with orange fraganced oil
CIDE-KICK II	Brewer International	D'limonene, related isomers, and emulsifiers	0.25-0.5%	Wetter, sticker, activator, penetrant with pine fragranced oil
CIDE-KICK II+	Brewer International	D'limonene, related isomers, and emulsifiers	0.25-0.5%	APE-free wetter, sticker, activator, penetrant with pine fragranced oil
CIDE-KICK+	Brewer International	D'limonene, related isomers, and emulsifiers	0.25-0.5%	APE-free wetter, sticker, activator, penetrant with orange fraganced oil
CITRI-AMP	CHS	Alcohol alkoxylate, sodium laureth sulfate	0.1875-0.5%	
CITRIX	KALO, Inc.	Alcohol alkoxylate, sodium laureth sulfate	25-64 oz/100 gal	Penetrant. Wetting Agent. Spreader. Enhanced alcohol ethoxylate chemistry

Nonionic Surfactants (NIS)				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
CLEARSURF 90	CNI	Proprietary blend of alkylpolyoxethylene, glycol derivatives, humectant and formulation aids	0.5-4 pt/100 gal	
CNI 80-20	CNI	Alcohols, C10-16 ethoxylated; polyethylene glycol nonylphenyl and constituents ineffective as spray adjuvant	1-2 pt/100 gal	
CNI 90-10	CNI	Polyethylene glycol nonylphenyl ether; alcohols, C10-C16, ethoxylated and constituents ineffective as spray adjuvant	1-2 pt/100 gal	
COHERE	Helena Agri-Enterprises	Alkanolamide surfactants and alkylaryl polyethoxyethanol sulfates	0.5-1 pt/100 gal	DO NOT USE alone or in combination with other nutritional or pesticide spray mixture applications to blueberries
COMBUST	AgXplore International, LLC	Phosphate ester of polyglycols, diols, defoamers, and blend of ammonium sulfates	1-2 qt/100 gal	Includes defoamers and antidrift
COMPLEX	Winfield United	Alkylphenol ethoxylate, alkylphenol polymerized resin, triethanalomine	0.125-0.375%	Spreader-sticker. Turf not listed
CONTROL DUO	GarrCo Products Inc.	Nonionic surfactant blend and drift mitigation/deposition aid (polymer based)	1-6 qt/100 gal	Convenient combination
CONTROL DUO LS	GarrCo Products Inc.	NIS blend and drift mitigation/deposition aid (polymer based) with less surfactant than Control Duo	1-6 qt/100 gal	Convenient combination
COVERALL	Coastal Agrobusiness, Inc.	Alkylpolyethoxy ethers	0.125-0.5%	
DRAKON	CNI	Oxirane, 2-methyl-, polymer with oxirane, mono(2 ethylhexyl) ether; alcohol ethoxylate phosphate ester; soybean oil, ethoxylated and constituents ineffective as spray adjuvant	2-3 qt/100 gal	
DROPLEX XTRA	Heritage Landscape Supply	Modified vegetable oil, alkyl phenol ethoxylate, vegetable oil	16-32 oz/100 gal	
DYNE-AMIC	Helena Agri-Enterprises	Proprietary blend of polyethoxlated dimethyl siloxanes, alkylaryl ethoxylates and methylated seed oils	See label	Functions as both NIS and MSO
EMBRECE-EA	Wilbur-Ellis Company	Polyoxyalkylene polyol fatty acid ester, alcohol ethoxylate, dimethyl siloxane polymer with silica	1-2 pt/100 gal	NIS with spreader
ENERPREX	CHS	Ethoxylated soybean oil, oleic acid, alcohol ethoxylate	0.5%	
FACTOR 80 LR	Meherrin Ag & Chemical Company	Alkyl polyethoxy ethers, ethoxylated, glycols and soybean oil derivatives	0.125-0.5%	
FIREBALL	AgXplore International, LLC	Polyalkyleneoxide modified heptamethyltrisiloxane, dimethypolysiloxane and non-ionic co-polymers	4-6 oz/A	
FIREBALL PLUS	AgXplore International, LLC	1,2,3-Propanetricarboxylic acid, 2-hydroxy-tripotassium salt, dehydrate, D-glucopyranose, oligomeric, decyloctyl glycosides, monocarbamide dihydrogen sulfate	2-4 qt/100 gal	
FLAME	Loveland Products, Inc.	Blend of alkyl polyglucoside, paraffinic oil, and ammonium sulfate	See label	Water conditioning, NIS
FRANCHISE	Loveland Products, Inc.	Lecithin, methylesters of fatty acids and alcohol ethoxylate	See label	Penetrant, wetter

FS AQUALIGHT	GROWMARK, Inc.	Alkyl polyethoxy ethers, ethoxylated, glycols and soybean oil derivatives	0.125-0.5%	Low foam, nonionic activator
FS AQUAPRIME	GROWMARK, Inc.	1,2,3 propanetriol, alkylbenzensulphonic acid sodium salt, alkyl phenol alkoxylate and dimethylpolysiloxane	8-64 fl oz/100 gal	Low foaming
FS AQUASUPREME 2.0	GROWMARK, Inc.	Alkyl polyethoxy ethers, ethoxylated and soybean oil derivatives	0.125-0.5%	
GULFSTREAM FREE	Heritage Landscape Supply	Alcohol alkoxylate, methylated seed oil, and sodium salts of fatty acids	4-32 oz/100 gal	
HAF-PYNT	Drexel Chemical Co.	Alkyl polyethoxyethanol	0.5 pt/100 gal	Very low use rates
HOOK	Atlantic-Pacific Agricultural Co., Inc.	Alkyl polyoxyethylene ethers, polymerized resins and fatty acid	1-4 pt/100 gal	Approved for use with auxin herbicides, see label
HOOK-ZERO	Atlantic-Pacific Agricultural Co., Inc.	Proprietary blend of polyalkyloxy ethers, polymerized resins and fatty acids	1-4 pt/100 gal	Approved for use with auxin herbicides, see label
HOWITZER	Rovensa Next	Alcohol ethoxylate, sodium lauryl ether sulfate	24-96 fl oz/100 gal	Penetrant, spreader, wetting agent (Wintergreen)
HUM-AC 820	Drexel Chemical Co.	Proprietary blend of alkylpolyoxyethanol and humectants	1-2 pt/100 gal	
IMPROVE	GarrCo Products Inc.	Premium nonionic surfactant blend with antifoam/defoamer	0.5-3 qt/100 gal	Contains antifoam
INDUCE	Helena Agri-Enterprises	Alkylarylpolyoxyalkane ether and free fatty acids	0.125-0.5%	Non-flammable. Evaporation reduction aids
INDUCE PH	Helena Agri-Enterprises	Proprietary blend of alkylarylpolyoxylkane ethers, alkylarylpolyethoxyethanol phosphates, free fatty acids plus buffering agents and other components	0.25-0.5%	pH reduction, buffering
INFOLIUM-EA	Wilbur-Ellis Company	Polyoxyethylene polyol fatty acid ester, butyl lactate and alcohol ethoxylate phosphate ester	See label	OMRI Certified
INSIST 90 PLUS II	Wilbur-Ellis Company	Glycerol, alkyl phenol ethoxylate, dimethylbenzenessulfonic acid, sodium salt	0.25-4 pt/100 gal	Not for aquatic use
IN-ZORB 90	Farm Business Network	Glycerol and alkyl phenol ethoxylate	0.125-0.5%	
IN-ZORB ADV	Farm Business Network	Sorbitan monolaurate poly (oxyethylene) ether, propylene glycol	1-4 pt/100 gal	
IVC 5150	Innvictis Crop Care, LLC	Phosphatidycholine, methylacetic acid and alkyl polyoxyethylene ether	4-64 oz/100 gal	
JETTE 80/20	AgXplore International, LLC	Alkyl polyethoxy alkylene esters and other derivatives	32-64 fl oz/100 gal	Low foam
JOINT VENTURE	Helena Agri-Enterprises	Proprietary blend of polyalkyleneoxide, modified organosilicones, akylpolyoxylkane ether, and aliphatic ester of C9-C12 fatty acids	0.125-0.25%	For use with conventional and biological pesticides
K-SURF	KALO, Inc.	Alcohol ethoxylate, alkylphenol ethoxylate, glycol	1-4 pt/100 gal	Impoves effectiveness of certain post-emergent herbicides, desiccants, defoliants, insecticide, fungicides, acaricides and miticides
LANDLOCK	AgXplore International, LLC	Proprietary blend of ethoxylates, fatty acids, and paraffins	See label	Soil surfactant
LAST CHANCE-PRO	CHS	N-methyl-alkyl glucamide, polyethylene glycol monolaurate, polyethylene glycol undecyl ether, tallow alkyl amines ethoxylated	0.25-0.75%	Contains tallow amine - a high end, highly active surfactant
LEGION	Rosen's, Inc.	Proprietary surfactant blend	10-12 oz/A	
LI-700	Loveland Products, Inc.	Phosphatidylcholine, methylacetic acid, and alkylpolyoxyethylene ether	0.25-4 pt/100 gal	Acidifier, penetrant, drift reduction
LIBERATE	Loveland Products, Inc.	Lecithin, methyl esters of fatty acids, and alcohol ethoxylate	0.125-1%	Penetrant, depostition, drift reduction
LINE-UP+	Brewer International	Polyethylene-polypropylene glycol, alkyl hydroxypoly oxyethylene, isopropanol	0.063-0.5%	Low foam, wetter and spreader
MASTERLOCK	Winfield United	Methylated seed oil, soybean oil, ethoxylated, tall oil	6.4 oz/A ground or 1% aerial	NIS, deposition, drift reduction, 6.4 oz/a ground, 1% air, not less than 4 oz/A

Nonionic Surfactants (NIS)				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
MAX FACTOR 90 LR	Meherrin Ag & Chemical Company	Alkyl polyethoxy ethers, ethoxylated, glycols and soybean oil derivatives	0.125-0.5%	
METEM	Heartland Ag, Inc.	Tallow amine ethoxylate & humectants	2-8 pt/100 gal	
MOR-ACT ADJUVANT	Wilbur-Ellis Company	Petroleum oil, tall oil, and alkyl phenol ethoxylate	1-4 pt/A	Do not exceed 5%
MOR-ACT CROP OIL CONCENTRATE	Wilbur-Ellis Company	Petroleum oil, tall oil, and alkyl phenol ethoxylate	1-4 pt/A	
NIS 80-20	Precision Laboratories, LLC	Alkyl, polyethoxy ethers, ethoxylated, glycols and soybean derivatives	0.125-0.5%	Economy NIS
NIS 90-10 CA	Precision Laboratories, LLC	1,2,3 propanetriol & alkyl phenol ethoxylate	0.125-0.5%	Economy NIS
OROBOOST	Rovensa Next	Alcohol ethoxylate	20-100 fl oz/100 gal	Contains: Orange oil. Organic certified penetrant, spreader, wetting agent
PACIFIC PREMIUM CAPSIZE	CNI	Oxirane, 2-methyl-, polymer with oxirane, mono(2 ethylhexyl) ether; alcohol ethoxylate phosphate ester; soybean oil, ethoxylated and constituents ineffective as spray adjuvants	2-3 qt/100 gal	
PACIFIC PREMIUM CLEARSURF 90	CNI	Proprietary blend of alkylpolyoxethylene, glycol derivatives, humectant and formulation aids	0.5-4 pt/100 gal	
PACIFIC PREMIUM NIS	CNI	Glycerol, polyethylene glycol mono (branched p-nonylphenyl) ether,sodium xylene sulfonate and constituents ineffective as spray adjuvant	0.0675-0.5%	
PAS-800	Drexel Chemical Co.	Phosphatidylcholine, methylacetic acid and alkyl polyoxyethylene ether	0.25-4 pt/100 gal	Penetrant, acidifier, surfactant
PERMEATE	Winfield United	Alkoxylated fatty acid, sodium salts of soya fatty acid, diethylene glycol	0.25-1%	NIS including NPE-free and UV protection
POWERLOCK	Winfield United	Modified vegetable oil, alkylphenol ethoxylate, vegetable oil	5-8 oz/A	NIS, deposition, drift reduction
PRECISIVE	Precision Laboratories, LLC	Ethoxylated sorbitan fatty acid ester, mono- and diglycerides of C8-C18 fatty acids	1-4 pt/100 gal	
PREFER 90	CHS	Alcohol ethoxylate, alkylphenol ethoxylate, glycol	0.25-0.5%	
PREFERENCE	Winfield United	Alkylphenol ethoxylate, sodium salts of soya fatty acids, isopropyl alcohol	0.063-1%	
PROMOTE PLUS	Meherrin Ag & Chemical Company	Polyoxyethylene sorbitan fatty acid ester, mono- and diglycerides of C8-C18 fatty acids	1-4 pt/100 gal	
PURE & SIMPLE 90%	KALO, Inc.	1,2,3-propanetriol, diethylene glycol, branched alkylphenol ethoxylate	1-4 pt/100 gal	Humectant. Fungicides, insecticides, acaricides, as well as post-emergent herbicides
PURE & SIMPLE NIS	KALO, Inc.	Alochol ehtoxylate, alkylphenol ethoxylate, glycol	1-4 pt/100 gal	NPE nonionic
R-11	Wilbur-Ellis Company	Polyethylene glycol mono(branched p-nonylphenyl) ether, butyl alcohol, dimethylpolysiloxane	6-48 oz/100 gal	Spreader, activator
RAINIER-EA	Wilbur-Ellis Company	Polyoxyethylene polyol fatty acid ester, butyl lactate and alcohol ethoxylate phosphate ester	6-48 fl oz/100 gal	NPE free, aquatic approved, low foam
REGULAID	KALO, Inc.	2-butoxyethanol, poloxalene, monopropylene glycol	0.5-3 pt/100 gal	NPE-free NIS activator adjuvant. For use with growth regulators

RIVET 90	EGE Products	Nonionic surfactant and organosilicone	1-2 qt/100 gal	
SCANNER	Loveland Products, Inc.	1,2-propanediol, alkylphenol ethoxylate, polydimethylsiloxane	See label	NIS
SHRAPNEL	Rovensa Next	Alcohol ethoxylate, sodium lauryl ether sulfate	24-96 fl oz/100 gal	Spreader, wetting agent
SKYHAWK	Rovensa Next	Alcohol ethoxlate, sodium lauryl ether sulfate	16-96 fl oz/100 gal	Organic certified penetrant, spreader, wetting agent
SPREADER 90	Loveland Products, Inc.	Alkylpolyethoxy ethers and ethoxylated derivatives	See label	90/10 surfactant with defoamer
SPREDDE 90/10	AgXplore International, LLC	Alkylaryl polyoxyethylene glycols, free fatty acids and IPA, constituents ineffective as an adjuvant	0.5-4 pt/100 gal	Low foam
SURF-AC 820	Drexel Chemical Co.	Alkyl and alkylaryl polyoxyethylene glycol 80-20	1-2 pt/100 gal	Low foaming
SURF-AC 910	Drexel Chemical Co.	Alkyl and alkylaryl polyoxyethylene glycol 90-10	1-2 pt/100 gal	Low foaming
SURSIL	AgXplore International, LLC	Polyalkyleneoxide modified heptamethyltrisiloxane and nonionic surfactants	12-64 oz/100 gal	
SYNTACT	Coastal Agrobusiness, Inc.	Modified turpene polymers and emulsifiers plus organo-silicone surfactants	0.125-0.25%	
TRADITION 93	Rosen's, Inc.	Alkylarylpolyethoxyethanol, free fatty acids, 2-buthoxy-ethanol, propylene glycol and dimethylpolysiloxane	0.125-0.5%	Contains antifoam
TRIPLE PLAY	AgXplore International, LLC	Blend of soy methyl esters and UAN, non-ionic surfactants, heptamethyltrisiloxane	1-4 qt/100 gal	
TRI-PLEX	GarrCo Products Inc.	Nonionic surfactant blend, drift mitigation/deposition aid (polymer based), and non-AMS water conditioner	1-6 qt/100 gal	Convenient combination
TRONIC	KALO, Inc.	Vegetable oil ethoxylate, tall oil fatty acids	1-3 pt/100 gal	Vegetable derived NIS and oil adjuvant replacement
VADER	Loveland Products, Inc.	Phosphatidylcholine, methylated vegetable oil, alcohol ethoxylate	See label	Penetrant, acidifier, deposition
VALCHECK 80/20	Winfield United	Alcohol ethoxylate and alkyl phenol ethoxylate	1-2 pt/100 gal	Contains antifoam
VERACITY	CHS	Water conditioners, surfactants, drift control agents, and constituents ineffective as a spray adjuvant	0.75%	All-in-one for general acre
VINCITRO	Innvictis Crop Care, LLC	Alchohol ethoxylate and sodium lauryl ether sulfate	24-96 oz/100 gal	
VINTRE	Rovensa Next	Alcohol ethoxylate	16-64 fl oz (do not exceed 0.3%)	Contains: Orange oil. Penetrant, spreader, wetting aid for trees, vines, berries and small fruits
VOYAGER 90/10	Innvictis Crop Care, LLC	Alkyl phenol ethoxylate, propylene glycol, free fatty acids	1-4 pt/100 gal	Low foam
WATER-RITE	KALO, Inc.	Poloxalene, alkylpolyglucoside, vegetable oil ethoxylate	1-8 pt/A	NPE-free. NIS
WATER-RITE FC	KALO, Inc.	Alkylglucoside, 1,2,3-trihydroypropane, polydimethylsiloxane	1-4 pt/A	NPE-free. NIS fertilizer tolerant
WETCIT	Rovensa Next	Alcohol ethoxylate, sodium lauryl ether sulfate	25-100 fl oz/100 gal	Contains: Orange oil. Penetrant, spreader, wetting aid
WEX	Conklin Co., Inc.	Alcohol ethoxylates, propylene glycol, dimethylpolysiloxane	0.08-0.5%	Also reduces chemical foaming
WHITE WATER 90	CHS	Glycerol, diethylene glycol and alkyl polyglucoside	0.25-0.5%	
WHITE WATER NIS	CHS	Branched alkyl phenol ethoxylate, glycerol, diethylene glycol	0.25-0.5%	
WINDSURF PRO	Heritage Landscape Supply	1,2,3-propanetriol, polyethylene glycol mono (branched p-nonylphenyl) ether, sodium xylene sulfonate	0.5-4 pt/100 gal	
X-99 NIS 80	Heartland Ag, Inc.	Alkyphenol ethoxylates & glycols	3-32 oz/100 gal	
XION ACTIVEGEL	SpeedAgro	Linear alcohol ethoxylate, phosphoric acid	10-25 ml/ A	
XION SILICONGEL	SpeedAgro	Linear alcohol ethoxylate	10-25 ml/ A	

Surfactants plus Nitrogen Source				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
ADIUM	CHS	Ammonium sulfate, glycerol, dodecyl dimethyl betaine	2.5%	1 gal contains 3.4 lbs of AMS + polyacrylamide DRA
AG-BALANCE+	Brewer International	Blend of nonionic surfactant, phosphoric acid, sequestering agent, and nitrogen	0.25-0.5%	Absorption, spreader and water conditioner
AMSURF XTRA	Winfield United	Proprietary blend of ammonium salts, polyol, alkylpolyoxyethylene sulfate, aryl sulfonate, polyacrylamide	1.25-5%	Multifunctioning adjuvant with AMS, deposition, surfactant
AQUA-BALANCE+	Brewer International	Blend of nonionic surfactant, phosphoric acid, sequestering agent, and AMS	0.25-0.5%	pH modifier, enhanced spreader and water conditioner
BRONC PLUS DRY	Wilbur-Ellis Company	Ammonium sulfate, carbonyldiamine, polyoxyethylene-polyoxypropylene, beta-hydroxy-tricarboxylic acid, dimethylsiloxane	10-20 lb/100 gal	12 lb/100 gal = 8.5 lb AMS + 2 qt 80% NIS, contains antifoam
CAYUSE PLUS	Wilbur-Ellis Company	Ammonium sulfate, alcohol ethoxylate, phosphate ester	2-6 qt/100 gal	NIS with AMS
CHS WHEELHOUSE 2	CHS	Ammonium sulfate, sodium xylene sulfonate, and alkyl polyglucoside	2.5%	1 gal contains 3.4 lbs of AMS
CLASS ACT FLEX	Winfield United	Ammonium sulfate, high fructose corn syrup, substituted fatty alkylammonium alkylcarboxylate, alkyl poly glucoside	1-4%	20% surfactant. Not listed for aquatic applications
CLASS ACT NG	Winfield United	Ammonium sulfate, corn syrup, alkyl polyglucoside	2.5-5%	AMS+NIS with CornSorb technology
CONDITION MAX	GarrCo Products Inc.	Concentrated water conditioner, ammonium sulfate with nonionic surfactant blend	2-4 qt/100 gal	
CONDITION PLUS	GarrCo Products Inc.	Ammonium sulfate, nonionic surfactant blend, and drift mitigation/ deposition aid (polymer based)	1-4 qt/100 gal	Provides 1 lb AMS/qt, contains antifoam/defoamer
CONDITION PLUS WD	GarrCo Products Inc.	Ammonium sulfate, nonionic surfactant blend, and drift mitigation/ deposition aid (polymer based)	1-4 qt/100 gal	Provides 1 lb AMS/qt, does not contain any antifoam/defoamer
DELIVER+	Precision Laboratories, LLC	Ammonium sulfate & alkyl (C8,C10) polyglucoside	1.25-2.5%	
DYNE-A-PAK	Helena Agri-Enterprises	Alkanoates, nonionic surfactants, and carbamide salts	0.5-0.75%	Substitute for methylated or ethylated seed oils
ENCLOAX	CHS	Ammonium sulfate, D-Glucitol, 1-deoxy-1- (methyl-amino)-, N-C8-10 acyl derivatives, propylene glycol	2.5%	1 gal contains 3.4 lbs of AMS
EVENT	Rosen's, Inc.	A liquid proprietary blend of diammonium sulfate, surfactants, dimethylpolysiloxane, modified elasto polymer and antifoaming agents	1-1.25%	Crop (guar) based polymer, use when AMS and/or AMS+surfactants are needed
IMPRESSIVE DB	Rosen's, Inc.	Proprietary blend of surfactants plus ammoniated carrier and antifoaming agents	2.25 lb/A	
INTERACTIVE	Helena Agri-Enterprises	Surfactants, ammoninated nitrogen salts, polydimethylsiloxane, polyacrylates	0.25-1%	Use rate dependent on glyphosate surfactant content
INVADE X-TRA	Innvictis Crop Care, LLC	Nonionic and anionic surfactant, trisiloxane, nitrogen, dimethylpolysiloxane	1%	
NITRO-SURF	Drexel Chemical Co.	NIS plus 28% UAN	2.25-3 pt/A	Contains antifoam

PATROL	Helena Agri-Enterprises	NIS plus 28% UAN	See label	Nonionic surfactant combined with UAN fertilizer
POWERHOUSE	Rosen's, Inc.	Diammonium sulfate, surfactants and dimethylpolysiloxane	1.25-2.5%	Use when AMS and/or AMS+surfactants are needed
PRECINT 2	CHS	Ammonium sulfate, sodium xylene sulfonate, and alkyl polyglucoside	2.5%	1 gal contains 3.4 lbs of AMS
QUAD 7	Loveland Products, Inc.	Proprietary blend of ammonium salt, nonionic surfactant, and buffering agent	1%	May be utilized for micro-rate herbicide application on sugar beets, basic blend
REDUCE	Helena Agri-Enterprises	Ammonium sulfate, nonionic surfactants, and water conditioners	1-2.5%	Provides 8.5 lb AMS and NIS at 2.5%
REVEL	Rosen's, Inc.	Diammonium sulfate, surfactants and dimethylpolysiloxane	0.25-0.5%	Use when AMS and/or AMS+surfactants are needed
SEQUESTER 3	Hefty Seed Company	Ammonium sulfate & alkyl (C8,C10) polyglucoside	1.25-2.5%	
SURFATE	Loveland Products, Inc.	Nonionic surfactant and ammonium sulfate	1%	1.25 gal/100 gal = 0.25% NIS and 4.25 lb AMS

Organo-Silicone Surfactants

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
AIRCOVER	Heritage Landscape Supply	Alkyl phenol ethoxylate, polyether modified heptamethyltrisiloxane, and polyhydric acid	6-32 oz/100 gal	
BRANDT SUPER WETTER	Brandt Consolidated, Inc.	Polyether-polymethylpolysiloxane-copolymer, polyether	3-6 fl oz/100 gal	100% organosilicone surfactant with greater compatibility compared to older OSS chemistries
CADENCE	KALO, Inc.	Diethylene glycol, polyether-polymethylsiloxane-copolymer, alkylphenol ethoxylate, dimethylpolysiloxane	6-16 oz/100 gal	Wetting agent. Approved for use with Regiment and Regiment CA herbicide
CHEMPRO S-163	Chemorse, Ltd.	Surfactant blend with organosilicone	0.03125-0.5%	
CHEMPRO S-172	Chemorse, Ltd.	Methylated seed oil/surfactant blend with organosilicone	0.125-0.75%	
EXCEL 2000	Coastal Agrobusiness, Inc.	Polyether polymethylsiloxane copolymer	0.5-1 pt/100 gal	
FREEWAY	Loveland Products, Inc.	Silicone polyether co-polymer and alcohol ethoxylates	6-64 oz/100 gal	Surfactant blend, organosilicones
HI-WETT	Loveland Products, Inc.	Polysiloxane polyether copolymer, alcohol ethoxylate, polyoxyethylene-polyoxypropylene copolymer	See label	High coverage with low spray volume
INERGY	Winfield United	Methylated vegetable oil, polyether modified polysiloxane, alkylphenol ethoxylate	0.25-0.75%	Blend of MSO and organosilicone
INVADE RST	Innvictis Crop Care, LLC	Methyl esters of fatty acids, nonylphenol ethoxylate and ethoxylated heptamethyltrisiloxane	4-32 oz/A	
KINETIC	Helena Agri-Enterprises	Proprietary blend of polyalkyleneoxide modified polydimethylsiloxane and polyoxpropylene-polyoxyethylene block copolymers	0.13%	Co-surfactant blend contains evaporation reducing agents

Organo-Silicone Surfactants				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
MATRIXX	Coastal Agrobusiness, Inc.	Polymethylsiloxane copolymer and polyethoxy ethers	0.125-0.25%	
PHASE	Loveland Products, Inc.	Methylated seed oil plus organosilicone surfactant	0.125-0.5%	50/50 MSO/organosilicone blend
RAINFAST	Conklin Co., Inc.	Polyether-polymethylsiloxane-copolymer, organic surfactants, anti-foam agent	6-12 oz/100 gal	Rain fastness, wetter, spreader, penetrant
REVISTA	Innvictis Crop Care, LLC	Siloxane polyalkyleneoxide copolymer and polyalkyleneoxide	3.2-19 oz/100 gal	
SILENERGY	Brewer International	Polyalkyleneoxide modified polydimethylsiloxane and nonionic surfactants	6-12 oz/100 gal	Superwetter
SILENERGY+	Brewer International	Polyalkyleneoxide modified polydimethylsiloxane and nonionic surfactants	6-12 oz/100 gal	APE-free, superwetter
SIL-FACT	Drexel Chemical Co.	Blend of organosilicone surfactant and alcohol ethoxylates	6-64 fl oz/100 gal	Wetter, spreader
SILKIN	Winfield United	Alkylphenol ethoxylate, polyether-modified polysiloxane and propylene glycol	4-64 oz/100 gal	Organosilicone adjuvant with NIS
SIL-MES 100	Drexel Chemical Co.	Blend of organosilicone, methylated seed oil, alcohol ethoxylate and NIS	1-5 pt/A	100% active, wetter, spreader
SILNET+	Brewer International	Polyalkyleneoxide modified polydimethylsiloxane and nonionic surfactants	8-26 oz/100 gal	APE-free, superwetter, low foam and humectant
SILTRATE ADVANCED	Meherrin Ag & Chemical Company	Polyether polydimethyl siloxane copolymers	6-16 oz/100 gal	
SILWET L-77	Helena Agri-Enterprises	Polyalkyleneoxide modified heptamethylsiloxane	0.025-0.25%	
SPEED	Precision Laboratories, LLC	Polyether polydimethyl siloxane copolymers	6-16 oz/100 gal	
SWIFT	CNI	Proprietary blend of polyether polydimethyl siloxane coploymers and formulation aids considered ineffective as adjuvants	2-4 oz/A	
SYL-COAT	Wilbur-Ellis Company	Polyether-polymethylsiloxane-copolymer and polyether	4-16 floz/100 gal	100% organosilicone, NPE-free, OMRI listed
SYL-TAC-EA	Wilbur-Ellis Company	Ethylated seed oil, polyether-polymethylsiloxane-copolymer, and polyoxyalkylene fatty ester	See label	NPE-free, aquatic approved
VESTIS	Precision Laboratories, LLC	Heptamethyltrisiloxane-1,3 propanediol ether, ethoxylated propoxylated and alcohol alkoxylate	3.2-19 oz/100 gal	OMRI listed
WIDESPREAD MAX	Loveland Products, Inc.	Polyether-polymethylsiloxane-copolymer, polyether	See label	Silicone surfactant

High Surfactant Oil Concentrates (HSOC)					
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**	**HSOC Type**
60/40 CANOLA SPRAY OIL	Chemorse, Ltd.	Canola oil/surfactant blend	0.25-0.5%		HS-VOC
60/40 COTTONSEED SPRAY OIL	Chemorse, Ltd.	Cottonseed oil/surfactant blend	0.25-0.5%		HS-VOC
60/40 CROP OIL	Chemorse, Ltd.	Paraffinic oil/surfactant blend	0.25-0.5%		HS-COC
60/40 MSO	Chemorse, Ltd.	Methylated vegetable oil and nonionic surfactant blend	4-8 oz/A		HS-MVOC
60/40 SOYBEAN SPRAY OIL	Chemorse, Ltd.	Soybean oil/surfactant blend	0.25-0.5%		HS-VOC
ACCERO	Titan Pro SCI	Phytobland paraffinic oil, sorbitan monolaurate poly(oxyethylene) ether and dodecylbenzenesulfonate isopropylamine salt	10-12 oz/A		HS-COC
ACCERO ULTRA	Titan Pro SCI	Phytobland paraffinic oil, sorbitan ethoxylate fatty acid ester and polyoxymethylene modified alkyl amine	8-12 oz/A		HS-COC
ADVATROL	CHS	Methylated soybean oil, soybean oil, branched alkyl phenol ethoxylate	0.5-1 pt/A	MSO based HSOC	HS-MVOC
ATMOS	Heritage Landscape Supply	Methylated soybean oil, sorbitan fatty acid esters, high fructose corn syrup	0.5-4 qt/100 gal		HS-MVOC
BARROLA HL	Heartland Ag, Inc.	Phytobland paraffinic oil and surfactant blend	10-12 oz/100 gal		HS-COC
BEANOIL	Drexel Chemical Co.	Soybean oil 60% and alkyl and alkylaryl polyoxyethylene glycol 40%	0.25-4 pt/A	Contains antifoam	HS-VOC
CENTERPOINT	KALO, Inc.	Methylated soybean oil, ethoxylated sorbitan fatty acid ester, branched alkyl phenol ethoxylate	2-4 qt/100 gal	High surfactant MSO, DRA, penetrant	HS-MVOC
CHEM SPRAY HSCOC	Chemorse, Ltd.	Paraffinic oil/surfactant blend	1-2 pt/A		HS-COC
CHS AGGRESTROL	CHS	Methylated soybean oil, soybean oil, branched alkyl phenol ethoxylate	0.5-1 pt/A	MSO based HSOC	HS-MVOC
CHS PENETREC	CHS	Soybean oil, branched alkyl phenol ethoxylate, and alkyl phenol ethoxylate	0.5-1 pt/A	VOC (soybean oil) based HSOC	HS-VOC
CHS SITKA	CHS	Lubricating oils (petroleum), hydrotreated spent; polyethylene glycol mono (branched p-nonylphenyl) ether; oleic acid	0.5-1 pt/A	COC (petroleum) based HSOC	HS-COC
CHS WOODSIDE	CHS	Methylated seed oil, branched alkyl phenol ethoxylate, tall oil fatty acid	0.5-1 pt/A	MSO based HSOC	HS-MVOC
CIDE WINDER	Helena Agri-Enterprises	Proprietary blend of ethoxylated alkyl phosphate esters, nonionic surfactants, and C16-C28 alkanoates	0.5-1%		HS-COC
CLARION	KALO, Inc.	Methyl soyate, methylated silicones, ethoxylated castor oil	3-16 pt/100 gal	MSO-organosiloxane blend. Replaces high-load oil adjuvants	HS-MVOC

High Surfactant Oil Concentrates (HSOC)					
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**	**HSOC Type**
CONQUER HSMSO	Chemorse, Ltd.	Methylated seed oil and surfactant blend	8-16 fl oz/A		HS-MVOC
CORPORAL HSOC	EGE Products	Modified vegetable oil, free fatty acids	8-32 oz/A or 0.25-1%		HS-MVOC
COVREX	CHS	Soybean oil, branched alkyl phenol ethoxylate, and alkyl phenol ethoxylate	0.5-1 pt/A	VOC (soybean oil) based HSOC	HS-VOC
DESTINY HC	Winfield United	Methylated soybean oil, high fructose corn syrup, sorbitan fatty acid esters	0.75-2 qt/A	Seed oil based ingredients	HS-MVOC
DIPLOMAT	Rosen's, Inc.	Paraffinic petroleum oil and surfactant/emulsifier blend 60-40	0.375-0.5%		HS-COC
EXCHANGE	Precision Laboratories, LLC	Paraffin oil and surfactant blend	10-12 oz/100 gal		HS-COC
FERVUS	Titan Pro SCI	Methyl soyate, sorbitan monolaurate poly(oxyethylene) ether and dodecylbenzenesulfonate isopropylamine salt	10-12 oz/A	High surfactant modified vegetable oil	HS-MVOC
FERVUS ULTRA	Titan Pro SCI	Methyl soyate, sorbitan monolaurate poly(oxyethylene) ether, mono-and diglycerides of C8-C18 fatty acids and dodecylbenzenesulfonate isopropylamine salt	8-12 oz/A	High surfactant modified vegetable oil	HS-MVOC
FINAN HL	Heartland Ag, Inc.	Methyl soyate, alkylphenol derivatives, fatty acid derivative and glycol ether	10-12 oz/100 gal		HS-MVOC
FS COC SUPREME	GROWMARK, Inc.	Paraffin oil, C11-15 alcohol ethoxylates	0.375-0.5%	Replaces ordinary COC at 50% normal use rate	HS-COC
FS COGENT	GROWMARK, Inc.	Paraffinic oil, sorbitol ethoxylate fatty acid ester and polyoxymethylene modified alkyl amine	3-4 pt/100 gal		HS-COC
FS INTERFACE	GROWMARK, Inc.	Proprietary blend of surfactants, water conditioning agents and phytobland base oil	1-6 pt/100 gal	Acidic activator adjuvant blend, oil plus surfactant	HS-COC
GLACIER-EA	Wilbur-Ellis Company	Methylated seed oil, polyoxyethylene polyol fatty acid ester and butyl lactate	4-32 oz/A	NPE-free, aquatic approved; seed oil based	HS-MVOC
HIGH LOAD	Wilbur-Ellis Company	Paraffin base oil, sorbitol fatty acid alkoxylates, alkyl ethoxylates	0.25-1%	High surfactant, petroleum oil-based	HS-COC
HILO COC	CNI	Paraffin oil and surfactant blend	0.375-0.5%		HS-COC
HILO MSO	CNI	Methylated Soyate, alkylphenol and fatty acid derivatives and glycol ether and constituents ineffective as adjuvant	2 qt/100 gal		HS-MVOC
HOT MES	Drexel Chemical Co.	Methylated seed oil 60%, surfactant emulsifier blend 40%	0.25-4 pt/A	Use a minimum of 4-8 oz/A or 50% of the rate of either standard methylated seed oil or crop oil	HS-MVOC
HYBRID	Miller Chemical Co.	Methyl esters of fatty acids, N, N-Bis 2-(omega-hydroxypolyoxyethylene) ethyl) alkylamine, tall oil fatty acids	See label	Rates are less than or equal to MSO rates. Agitation should begin prior to addition of product and continue until product is fully incorporated	HS-MVOC
IN-CERT HIGHSURF MSO	Farm Business Network	Methyl seed oil, alkylphenol ethoxylates, fatty acids	2-3 qt/100 gal or 10-12 oz/A		HS-MVOC
INVADE HC	Innvictis Crop Care, LLC	Methylated vegetable oil and surfactant blend	4-8 oz/A		HS-MVOC

KIXYT	Precision Laboratories, LLC	Methyl canolate, alkylphenol derivatives, fatty acid derivative and glycol ether	10-12 oz/100 gal	CPDA certified	HS-MVOC
LUFTECH	Heartland Ag, Inc.	Surfactants, water conditioning agents and phytobland base-oil	1-6 pt/100 gal		HS-COC
NAVIGATOR HC	Innvictis Crop Care, LLC	Paraffinic petroleum oil, selected emulsifier	0.25-0.5%	Use where COC is recommended	HS-COC
OPTIFY HSCOC	Winfield United	Paraffin oils, alcohols, C11-C15-secondary, ethoxylated	0.5%	High Surfactant Crop Oil Concentrate	HS-COC
OPTIFY HSMSO	Winfield United	Methyl soyate, alkylphenol ethoxylates, fatty acids	0.25-0.75%	High Surfactant Methylated Seed oil	HS-MVOC
ORO-HSMOC	Rovensa Next	Soybean oil methyl esters, oxirane, methyl-, polymer w/oxirane, monoether w/2-ethylhexanol	8-64 fl oz/100 gal	Contains: orange oil. For use with pesticides that require Methylated Seed Oils or Crop Oil Concetrates	HS-MVOC
PENATROL	Wilbur-Ellis Company	Methylated vegetable oil and surfactant blend	4-32 fl oz/A	HSOC, MSO based	HS-MVOC
QUADFIRE	Meherrin Ag & Chemical Company	Surfactants, water conditioning agents and phytobland base-oil	0.5-6 pt/100 gal		HS-COC
ROVER	Innvictis Crop Care, LLC	Methylated seed oil, branched alkyl phenol ethoxylate, ethoxylated seed oil	0.125-0.5%		HS-MVOC
SAVVY	CHS	Methylated seed oil, branched alkyl phenol ethoxylate, tall oil fatty acid	0.5-1 pt/A	MSO based HSOC	HS-MVOC
SHOCKER	Rovensa Next	Methylated seed oil, alcohol alkoxylate	8-64 fl oz/100 gal	High Surfactant Methylated Oil Concentrate	HS-MVOC
SIMPLYX	Precision Laboratories, LLC	Surfactants, water conditioning agents and phytobland base-oil	1-6 pt/100 gal		HS-COC
SIZZLE	Farm Business Network	Monocarbamide dihydrogen sulfate, distillates (petroleum), solvent-dewaxed light paraffinic, alcohol ethoxylate	0.5-3 qt/100 gal		HS-COC
SOY PLUS HD	MFA, Inc.	Methylated soybean oil, nonionic surfactant, copolymer of alpha- and beta-pinene	2-4 qt/100 gal	Refer to pesticide label for crops/rates	HS-MVOC
STAKE	CHS	Lubricating oils (petroleum), hydrotreated spent; polyethylene glycol mono (branched p-nonylphenyl) ether; oleic acid	0.5-1 pt/A	COC (petroleum) based HSOC	HS-COC
STRIKELOCK	Winfield United	Coconut fatty acid, glycerol phthalic anhydride resin; methyl esters (C16-18) of fatty acids; soybean oil fatty acids, methyl esters	8 oz/A or 0.5%	Seed oil based. Replacement for traditional MSO or COC	HS-MVOC
SUPERB HC	Winfield United	Phytobland paraffinic oil, high fructose corn syrup, polyoxyethylene sorbitan fatty esters	4 pints or 0.5%	COC replacement, compatible with glyphosate	HS-COC
SUPERLOCK	Winfield United	Proprietary surfactant mixed with phytobland oil	8-16 oz/A	High surfactant (25%) crop oil with oil emulsion drift control	HS-COC
TAPRAN	CHS	Methyl soyate; isodecanol, ethyoxylated, phosphate ester; tallow alkyl amines ethoxylated	0.5-1 pt/A	MSO based HSOC with tallow amine + water conditioner	HS-MVOC
TWISTER HL	Meherrin Ag & Chemical Company	Paraffin oil and surfactant blend	3-4 pt/100 gal		HS-COC
TYRANT CSOC	AgXplore International, LLC	Refined, bleached and deodorized seed oil and alkylpolyoxyalkylene esters	8-16 oz/A		HS-VOC
XPOND	MFA, Inc.	Paraffin base petroleum oil, surfactant blend	1-2 qt/100 gal	Refer to pesticide label for crops/rates	HS-COC

Crop Oil Concentrates (COC)				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
AGRI-DEX	Helena Agri-Enterprises	Proprietary blend of heavy range paraffin base petroleum oil polyol fatty acid esters polyethoxylated derivatives	See label	Corn oil derived emulsifiers
AGRI-OIL	CNI	Paraffin base petroleum oil and alkylphenol ethoxylate, alcohol ethoxylate	1-2 pt/A	
AGRI-OIL W	CNI	Proprietary blend of paraffinic petroleum oil and poly fatty acid esters and polyethoxylated derivatives thereof	1-4 pt/A	
BRANDT CROP OIL CONCENTRATE	Brandt Consolidated, Inc.	Paraffinic petroleum oil, alchohol ethoxylate	2 pt/A	Premium 83%/17% COC
CHEM SPRAY CROP OIL CONCENTRATE	Chemorse, Ltd.	Paraffinic oil/surfactant blend	1-2 qt/A or 0.5-1%	
CHEM-OIL 83	Coastal Agrobusiness, Inc.	Paraffinic oil plus emulsifiers	1-2 pt/A	
CHEMPRO S-205	Chemorse, Ltd.	Paraffinic oil, surfactant blend, and proprietary sticker	0.5-1%	
CITRUFILM	Helena Agri-Enterprises	Light to mid-range paraffin base petroleum oil, polyol fatty acid esters, and polyethoxylated derivatives	0.5-1%	Optimized for citrus applications
CITRU-SHIELD	Drexel Chemical Co.	Proprietary blend of agricultural paraffinic oil and nonionic emulsifying surfactants	0.5-10 pt/A	2 pt is intended to replace 1 gal of conventional spray oil
CONTRIVER	Innvictis Crop Care, LLC	Paraffinic oils, sorbitan fatty acid ester, tall oil	1%	
CROP OIL	CHS	Lubricating oils (petroleum), hydrotreated spent, tall oil fatty acids, alkyl phenol ethoxylate	1-2 pt/A	
CROP OIL CONCENTRATE	Helena Agri-Enterprises	Paraffin base petroleum oil plus polyoxyethylated polyol fatty acid esters, and polyol fatty acid esters 83-17	0.5-1%	
CROP OIL CONCENTRATE	KALO, Inc.	Paraffinic petroleum oil, tall oil fatty acids, alkylphenol ethoxylates	1-8 pt/100 gal	Fertilizer tolerant. Paraffinic oil with emulsifier. Approved for use with Engenia
CROP-KICK+	Brewer International	Blend of petroleum oils and nonionic surfactants	0.063-0.5%	Penetrant, wetter, spreader and deposition aid
HERBIMAX	Loveland Products, Inc.	Petroleum hydrocarbons (light paraffinic distillate and odorless aliphatic petroleum solvent) alkylphenol ethoxylate, tall oil fatty acid	1-4 pt/A	High performance, multi-component crop oil/surfactant blend
IN-PLANT	Farm Business Network	Mineral oil & secondary alcohol ethoxylate	1-2 pt/A or 1-2%	
JAGGE	AgXplore International, LLC	Paraffin based petroleum oil, poly fatty acid esters and polyethoxylated derivatives 83-17	8-64 fl oz/100 gal	
KAMMO PLUS	Helena Agri-Enterprises	D-Limonene and natural plant oils	See label	Odor masking
KROP KARE COC	Heartland Ag, Inc.	Mineral oil and secondary alcohol ethoxylates	1-2 pt/A or 1%	
MAXIMIZER	Loveland Products, Inc.	Paraffinic oil plus emulsifying surfactants	0.5-4 pt/A	COC with surfactant
NAVIGATOR	Innvictis Crop Care, LLC	Paraffin base petroleum oil, free fatty acids and alkyl phenol ethoxylate	1-4 pt/A	
PACIFIC PREMIUM COC	CNI	Mineral oil, C11-15-secondary alcohols ethoxylated	1-2 pt/A	

PENETRATOR	Helena Agri-Enterprises	Light range paraffin based petroleum oil and polyol fatty acid esters, and polyethoxylated derivatives	See label	
PENETRATOR PLUS	Helena Agri-Enterprises	Mid-range mineral oil, polyol fatty acid esters, polyethoxylated ester thereof, ethoxylated alkyl phosphate esters	0.5-1%	Buffering
PEPTOIL	Drexel Chemical Co.	Paraffinic base petroleum oil plus blend of linear ethoxylated alcohol	1-4 pt/A	Low foam
PRIMARY	Drexel Chemical Co.	Paraffinic base petroleum oil plus blend of linear ethoxylated alcohol	0.25-4 pt/A	Wetter, spreader
PURE & SIMPLE CROP OIL	KALO, Inc.	Paraffinic oil, tall oil fatty acids, branched alkyl phenol ethoxylates	4-8 pt/100 gal	Paraffinic oil and emulsifier
R.O.C.	Wilbur-Ellis Company	Paraffin base petroleum oil, surfactant blend	See label	Standard petroleum-base COC
R-WAY	Rosen's, Inc.	Paraffinic petroleum oil plus surfactant/emulsifier 83-17	1-2 pt/A	Contains antifoam
VALCHECK COC	Winfield United	Mineral oil, secondary alcohol ethoxylate	1-4 pt/A	
VENTURI	Innvictis Crop Care, LLC	Paraffinic oil, castor oil ethoxylate, fatty acids, α, β pinene copolymer	0.5-1%	Add to the tank last
VERIFACT	Innvictis Crop Care, LLC	Fatty acid complex alkoxylate, free fatty acids	0.25-0.5%	Soybean derived, low foaming
VIGOR	Precision Laboratories, LLC	Mineral oil and secondary alcohol ethoxylates	1-2 pt/A or 1%	

Vegetable Oil Concentrates (VOC)

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
AMIGO	Loveland Products, Inc.	Vegetable oil and emulsifiers	See label	93/7 vegetable oil concentrate
BRANDT M.S.O.	Brandt Consolidated, Inc.	Modified seed oil, alkyl phenol ethoxylate and free fatty acids	0.5-2 pt/A	Modified vegetable oil concentrate with high load surfactant
BRANDT SIDEKICK	Brandt Consolidated, Inc.	Cottonseed oil, alkyl phenol ethoxylate	2 pt/A	Cottonseed oil provides for high margin of crop safety
CONTINGENT	Helena Agri-Enterprises	Methylated seed oil (MSO), C10-C12 aromatic hydrocarbons, alkyl amine ethoxylate, alcohol ethoxylate phosphate ester	1%	Add to the tank last
DLZ	Helena Agri-Enterprises	Methylated seed and paraffin oil, nonionic surfactants	0.5-1%	Optimized for use as a deposition agent
EXIT	Miller Chemical Co.	Poly (methylene-p-nonyl phenoxy) poly (oxypropylene) propanol, modified resin, esterfied oil	0.5-1%	Nonionic activator-enhancer
FIRE ZONE	Helena Agri-Enterprises	Methylated seed oil, polyethoxylated aliphatics, phosphorated polyethoxlated alkanoates	1%	
FULLTEC OIL	Spraytec	Diethanolamine from coconut oil, vegetable oils, emulsifier, non-ionic surfactant, acidifier, and water	1-2 pt/100 gal	
HOME RUN	Conklin Co., Inc.	Methylated soybean oil plus emulsifier package	1-2 pt/A	Easily dispersed for trouble-free mixing
LANDOIL	Soil Service, Inc.	Soybean oil with emulsifiers	1 pt/A	Mix with water prior to chemicals
LANDOIL EXTREME	Soil Service, Inc.	Soybean oil with emulsifiers	1 qt/100 gal	Mix with water prior to chemicals
MES-100	Drexel Chemical Co.	Methylated seed oil plus emulsifiers	1-10 pt/A	
METHSOYOIL	AgXplore International, LLC	Methylated seed oil, nonylphenol ethoxylates	1-2 pt/A	
MISSILE	Loveland Products, Inc.	Methylated seed oil, ethoxylated alkyl phosphate esters, and lecithin	1-2 pt/A	Methylated seed soil with a compatability agent
MSO CONCENTRATE WITH LECITECH	Loveland Products, Inc.	Methylated seed oils plus emulsifying surfactants	1-2 pt/A	
NOBLE	Winfield United	Methyl soyate, polyethylene glycol mono (branched p-nonylphenol) ether	1-2 pt/A	

Vegetable Oil Concentrates (VOC)

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
PHASE II	Loveland Products, Inc.	Carbamides, alcohol ethoxylates, methyl esters and polyether modified polysiloxane	1%	Improves uptake, spreading, coverage, penetration
PREMIUM MSO	Helena Agri-Enterprises	Proprietary blend of methylated oils and nonionic surfactant	1-2 pt/A	
RECOIL	KALO, Inc.	Vegetable oil ethoxylate, tall oil fatty acids, and emulsifiers	1-4 pt/100 gal	Nonionic seed oil concentrate. Oil replacement adjuvant
SPECTRUM	Coastal Agrobusiness, Inc.	Methylated seed oils plus nonionic surfactant	0.25-0.75%	Contains organosilicone surfactant
SUNDANCE II	Rosen's, Inc.	Methylated soyoil plus surfactants and emulsifiers 90-10	1.5-2 pt/A	Contains antifoam
SYNERGY	Coastal Agrobusiness, Inc.	Methylated seed oils, surfactants and emulsifiers	0.5-1%	
VEGETABLE OIL CONCENTRATE	Helena Agri-Enterprises	Vegetable oil plus nonionic blend of alkyloxylated alkylphenols and fatty acids 85-15	0.5-1%	
VEGETOIL	Drexel Chemical Co.	Soybean oil plus nonionic emulsifiers	1-3 qt/A	ULV, LV, and CDA application
ZAAR	Helena Agri-Enterprises	Proprietary blend of methylated oils and nonionic surfactant	1%	Compatiblity agent

Modified Vegetable Oils (MVO or MSO)

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
85/15 MSO	Chemorse, Ltd.	Methylated vegetable oil and nonionic surfactant blend	1-4 pt/A	
ABSIL	EGE Products	Methyl polyoxyethylene silioxane copolymer, modified seed oil	1-4 qt/100 gal	
ABSORB 100	EGE Products	Methylated seed oil adjuvant, surfactant	1-8 qt/100 gal	
ALLEVIATE	Wilbur-Ellis Company	Methylated seed oil, ethoxylated sorbitan fatty acid ester and seed oil	1-2 qt/100 gal	Penetrant, deep deposition into canopy, decreased drift, spreading and coverage, NPE-free
BARROLA HL ULTRA	Heartland Ag, Inc.	Phytobland paraffinic oil, sorbitol ethoxylate fatty acid ester and polyoxymethylene alkyl amine	6-12 oz/A	
BRACER	KALO, Inc.	Methylated seed oil, alcohol ethoxylate phosphate ester, alkyl amine alkoxylate	1 gal/100 gal	Wetting agent and penetrant
CALDROM	EGE Products	MSO, UAN, surfactants, water conditioners, and other components	2-8 qt/100 gal	
CALDUS	Titan Pro SCI	Methyl soyate, sorbitan monolaurate poly(oxyethylene) ether and dodecylbenzenesulfonate isopropylamine salt	20-24 oz/A	
CHEMPRO S-210	Chemorse, Ltd.	Methylated seed oil and surfactant blend	1 pt/A or 0.5-1%	
CHS EMULATE	CHS	Methyl soyate, branched alkyl phenol ethoxylate	0.5-1.5 pt/A	
CNI MSO	CNI	Methylated seed oil and alkyarylpolyoxyalkane ethers	1.25-1.5 pt/A	

CNI TRIO	CNI	Proprietary blend of methylated seed oil and organosilicone surfactant and constituents ineffective as a spray adjuvant	16-48 oz/100 gal	
CNI TRIO-W	CNI	Organosilicone, methylated vegetable oil, poly fatty acid esters, polyethyloxylated esters, non ionic surfactants and constituents ineffective as adjuvant	4-8 oz/10 gal	
COMPETITOR	Wilbur-Ellis Company	Ethyl oleate, sorbitan alkylpolyethoxylate ester, dialkyl polyoxyethylene glycol	1-2 pt/A	Enhances wetting and spreading, 100% biodegradeable for aquatic use, NPE-free
CONQUER	Chemorse, Ltd.	Methylated vegetable oil/surfactant blend	1-2 pt/A	
CONQUER STR	Chemorse, Ltd.	Methylated seed oil, surfactant blend, and proprietary sticker	1-4 pt/A	
ENKLOZE	Heartland Ag, Inc.	Methyl esters of canola oil, alkyl phenol ethoxylate	1.25-2 pt/A or 1%	
EXURO	Winfield United	Soybean oil, methyl ester, alkylphenol ethoxylate blend	1-2 pt/A or 1%	Higher rates on hard-to-control / stressed weeds
FASTSTRIKE ADVANCED	Meherrin Ag & Chemical Company	Methylated seed oils, polyalkyleneoxide modified heptamethyltrisiloxane, nonionic surfactants & emulsifiers	1-2 pt/100 gal	
FINAN HL ULTRA	Heartland Ag, Inc.	Methyl soyate, sorbitol ethoxylate fatty acid ester, alcohol derivatives and poloxyethylene modified alkyl amine	6-12 oz/A	
FS ARGENT	GROWMARK, Inc.	Methyl canolate, sorbitol ethoxylate fatty acid ester alcohol derivatives and polyoxyethylene modified alkyl amine	3-4 pt/100 gal	
FS OPTIVIX	GROWMARK, Inc.	Methyl canolate, alkylphenol ethoxylates, fatty acid derivative and glycol ether	10-12 oz/A	
HASTEN-EA	Wilbur-Ellis Company	Ethylated seed oil, polyoxyalkylene fatty ester	1-4 pt/A	NPE-free, aquatic approved
HI-SURF MSO	KALO, Inc.	Methylated seed oil and surfactant blend	4-8 pt/100 gal	Low use-rate MSO with NPE free surfactant 60/40
HUMVEE	Innvictis Crop Care, LLC	Methylated seed oil, branched alkyl phenol ethoxylate, ethoxylated fatty acid methyl ester	1%	
IN-CERT MSO	Farm Business Network	Modified vegetable oil, alkyl phenol ethoxylates	1.25-1.5 pt/A or 1%	
IN-CERT ORGANSIL MSO	Farm Business Network	Methyl esters of fatty acids, polyether modified heptamethyltrisiloxane & poloxalene	1-6 pt/100 gal	
INVADE	Innvictis Crop Care, LLC	Methyl esters of fatty acids, nonylphenol ethoxylate	1.5-2 pt/A	
METHYLATED SEED OIL	KALO, Inc.	Methyl soyate, branched alkyl phenol ethoxylate, dimethylsiloxane polymer	1.5-2 pt/A	NPE-Free vegetable oil, NIS
MODIFIED VEGETABLE OIL	KALO, Inc.	Methyl soyate, polyethylene glycol nonylphenyl ether, methylated silicones	1.5-2 pt/A	Approved for use with Xtendimax and Engenia. Contains anifoaming agent
MOMENTA	KALO, Inc.	UAN fertilizer, methylated vegetable oil, alkyl phenol ethoxylate, tallow amine ethoxylate, polydimethylsiloxane / 32% UAN	2.5 gal/100 gal	UAN fertilizer, MSO blend. Single additive for full compliance with Kixor instructions
MSO ULTRA	Precision Laboratories, LLC	Modified vegetable oil and alkyl phenol ethoxylates	1.25-2 pt/A or 1%	Economy MSO
MSO XTREME	Meherrin Ag & Chemical Company	Methyl esters of canola oil, alkyl phenol ethoxylate	16-24 oz/A or 0.5-1%	
PACIFIC PREMIUM MSO	CNI	Methyl soyate, polyethylene glycol mono (branched p-nonylphenyl) ether	1-2 pt/A	
PACIFIC PREMIUM NITRO MSO	CNI	Methylated vegetable oil, alkyl phenol ethoxylate, tallow amine ethoxylate, polydimethylsiloxane	1-2.5 gal/100 gal	
PACIFIC PREMIUM TRIO	CNI	Proprietary blend of methylated seed oil and organosilicone surfactant and constituents ineffective as a spray adjuvant	16-48 oz/100 gal	
PEERLESS	AgXplore International, LLC	Methyl esters of C16-C18 fatty acids, polyalkyleneoxide modified polydimethysiloxane, alkylphenol ethoxylate, phospholipids	3-6 pt/100 gal	
PERSIST ADVANCED	Precision Laboratories, LLC	Methylated canola oil, polyether modified heptamethyltrisiloxane and poloxalene	1 - 6 pt/100 gl	

Modified Vegetable Oils (MVO or MSO)				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
PERSIST ULTRA	Precision Laboratories, LLC	Methyl esters of canola oil, alkyl phenol ethoxylate	1.25-2 pt/A or 1%	
PIM MSO ULTRA	Heartland Ag, Inc.	Methylated seed oil and alkylarylpolyoxyalkane ethers	1.5-2 pt/A	Economy MSO
RENEGADE-EA	Wilbur-Ellis Company	Methyl soyate, ammonium nitrate, urea and other components	1-3 gal/100 gal	NPE-free, aquatic approved, unique blend
RESPONSE	CNI	Methyl esters of fatty acids, N, N-Bis 2-(omega-hydroxypolyoxyethylene) ethyl) alkylamine, tall oil fatty acids	1-4 qt/100 gal	
RIPARA	Precision Laboratories, LLC	Methylated canola oil, alkyl amine polyalkoxylates and alcohol ethoxylate	6-12 oz/A	
SALIA	Precision Laboratories, LLC	Paraffinic oil, alkyl amine polyalkoxylates and alcohol ethoxylate	6-12 oz/A	
SUN CONTROL+	Brewer International	Blend of methylated seed oil, wetter, organosilicone, and humectant	See label	Buffering, deposition, sticker, wetting
SUN WET	Brewer International	Blend of methylated seed oil and emulsifiers	0.25-0.5%	Pentetrant, deposition aid and emulsifier
SUN WET+	Brewer International	Blend of methylated seed oil and emulsifiers	0.25-0.5%	APE-free pentetrant, deposition aid and emulsifier
SUNENERGY	Brewer International	Blend of methylated vegetable oil, and organosilicone surfactants	0.125-0.5%	
SUNENERGY+	Brewer International	Blend of methylated vegetable oil, and organosilicone surfactants	0.125-0.5%	Superwetter, pentetrant, deposition aid and emulsifier
SUPER SPREAD MSO	Wilbur-Ellis Company	Methyl soyate nonylphenol ethoxylate	1-4 pt/A	100% active
TURBULANCE	Heritage Landscape Supply	Methylated vegetable oil, polyether modified polysiloxane, alkyl phenol ethoxylate	2-16 pt/100 gal	
UPLAND MSO	CHS	Methyl soyate, Branched alkyl phenol ethoxylate	0.5-1.5 pt/A	
VALKARIE	Innvictis Crop Care, LLC	Ethoxylated fatty acid methyl ester, ethoxylated seed oil, methylated seed oil	0.25%	

Nitrogen Sources				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
BRONC MAX	Wilbur-Ellis Company	Ammonium sulfate, sodium alkyl sulfobenzene salt and 2-hydroxy-1,2,3-propanetricarboxylic acid	0.125-1%	AMS replacement
CONDITION ND	GarrCo Products Inc.	Concentrated ammonium sulfate, blend of water conditioning agents	0.5-2 qt/100 gal	Contains almost 1 lb AMS/qt
IMPERIAL AMS	Rosen's, Inc.	Spray grade ammonium sulfate	8.5-17 lb/100 gal	Highly soluble granule
LIQUID AMS	CHS	Ammonium sulfate	2.5%	1 gal contains 3.4 lbs of AMS
MEDIATE PLUS	CHS	Ammonium sulfate, sodium acrylate acrylamide polymer, dimethylsiloxane polymer	2.5%	1 gal contains 3.4 lbs of AMS + polyacrylamide DRA
QUEST	Helena Agri-Enterprises	Proprietary blend of hydroxycarboxylic acid, phosphoric acids, ammonium sulfate, and polyacrylic acid	0.125-0.5%	Water conditioner, AMS replacement, buffer
REQUEST	Helena Agri-Enterprises	Proprietary blend of ammonium acrylates, hydroxycarbonoxylates, and sulfates	0.125-0.5%	Water conditioner, AMS replacement
TRIFORCE	CNI	Ammonium nitrate, urea, alkoxylated triglyceride, methyl soyate, amine salt of alkyl ethoxylate phosphate, trisiloxane and constituents ineffective as an adjuvant	4 qt/100 gal	

Deposition (Drift Control) and/or Retention Agents with and without Ammonium Sulfate and/or Defoamer

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments		
				Comments	AMS	Defoamer
38-F	Brandt Consolidated, Inc.	Polyacrylamide polymer	2-4 oz/100 gal	Liquid 32% active drift retardant		
41-A	Brandt Consolidated, Inc.	Polyacrylamide, polysaccharid polymers	1-7 oz/100 gal	Dry 30% active drift retardant		
ACCELERATOR 2	Rosen's, Inc.	Proprietary blend of water conditioners, drift reducing polymers, surfactants, humectants, crop enhancement components and antifoam	10 oz/A	Crop (guar) based polymer, water conditioning, surfactant and yield enhancement technologies		✓
ACCUDROP	Winfield United	Blend of high content of unsaturated fatty acid and low content rosin acids, mixture of glycerol polyethylene glycol ricinolate with fatty acid esters of polyethylene glycol and alcohol ethoxylate	3 fl oz/A	Aquatic not allowed in CA and WA		
ACCUQUEST WM	Helena Agri-Enterprises	Proprietary blend of polyhydroxycarboxylic acids, sulfates, and polymeric deposition agents	0.5-1%	Deposition	✓	✓
ACCUZONE DC	Helena Agri-Enterprises	Ammonium and potassium salts plus organic polymers	1-2.5 lb/A		✓	✓
AD-HERE SP	Innvictis Crop Care, LLC	Pinene (terpene) polymers, petrolatum, alyl amine ethoxylate	4-16 oz/100 gal			
ALLOWANCE-EA	Wilbur-Ellis Company	Modified vegetable fatty acid, vinyl ester, polyoxyethylene-polyoxypropylene copolymer, and sodium dioctylsulfosuccinate	10-16 fl oz/100 gal	Labeled for air blast spray use		
AMAZE GOLD	Loveland Products, Inc.	Ammonium sulfate, polyacrylamide, and dimethylpolysiloxane	See label	Water conditioning, deposition	✓	✓
AMS 2000	Winfield United	Ammonium salts, polyacrylamide polymer, siloxane	17 lb/100 gal	AMS, deposition	✓	✓
AMS PLUS	Coastal Agrobusiness, Inc.	AMS plus propietary blend of polyacrylamides and dimethylpolysiloxanes	2.5%		✓	✓
AMS-ALL	Drexel Chemical Co.	Ammonium sulfate, proprietary drift reduction solution, defoamer and surfactant	1-5 gal/100 gal	3.4 lb AMS per gallon	✓	✓
AMS-SUPREME	Drexel Chemical Co.	Ammonium sulfate, polymeric viscosity modifier and dimethylpolysiloxane	2.5 gal/100 gal	Contains antifoam	✓	✓
ANCHOR 30	CNI	Polyacrylamide and constituents ineffective as spray adjuvant	1-5 oz/100 gal			
ANCHOR ONE	CNI	Polyacrylamide and constituents ineffective as spray adjuvant	1-3 qt/100 gal			
ANNECTO	Titan Pro SCI	Drift reduction polymers and water conditioning salts	2-3 qt/100 gal			
ARRAY	Rosen's, Inc.	Proprietary blend of milled ammonium sulfate, organic polymers and antifoam	9 lb/100 gal	Crop (guar) based, micro-homogenized	✓	✓
ARRAY LINK	Rosen's, Inc.	Proprietary blend of milled ammonium sulfate, organic polymers and antifoam	2.2 lb/A	Crop (guar) based polymer and micro-homogenized	✓	
ASTONISH	Rosen's, Inc.	Proprietary blend of water conditioners, drift reducing polymers, surfactants and humectants	54 oz/100 gal	Crop (guar) based polymer		
AVANT XTRA	KALO, Inc.	Polyoxyethylene sorbitan fatty acid ester, soybean oil ethoxylate, copolymer of alpha- and beta-pinene	1-2 qt/100 gal	Deposition/DRA, NIS, Penetrant		
BACKDROP	Meherrin Ag & Chemical Company	Ammonium sulfate, N-methyl-N-oleoyltaurine sodium salt, & 2-hydroxypropyl guar gum	2.5%			
BACKDROP+	Meherrin Ag & Chemical Company	Ammonium sulfate, polyethylene glycol & 2-hydroxypropyl guar gum	1.25-2.5%		✓	

Deposition (Drift Control) and/or Retention Agents with and without Ammonium Sulfate and/or Defoamer

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments		
				Comments	AMS	Defoamer
BOAST	KALO, Inc.	Sorbitan ethoxylate, seed oil ethoxylate, polyterpene resins	2-3 oz/A in 5-25 GPA	For use with herbicides, desiccants, insecticides, fungicides and PGRs		
BORDER XTRA 8L	Precision Laboratories, LLC	Ammonium sulfate, N-methyl-N-oleoyltaurine sodium salt, & 2-hydroxypropyl guar gum	2.5%		✓	
BORDER XTRA 8L+	Precision Laboratories, LLC	Ammonium sulfate, polyethylene glycol & 2-hydroxypropyl guar gum	1.25-2.5%		✓	
BOWER	CNI	Sorbitan ethoxylate, seed oil ethoxylate, polyterpene resin	0.25-0.5%			
BRANDT ONSITE	Brandt Consolidated, Inc.	Polyvinyl polymer	1-5 qt/100 gal	Easy to mix 1% polyvinyl polymer, deposition aid and drift retardant		
BRONC PLUS DRY EDT	Wilbur-Ellis Company	AMS, carbonyl diamine, polyoxyethylene, polyoxypropylene, beta-hydroxy-tricarboxylic acid, polyacrylamide, dimethylsiloxane	10-20 lb/100 gal	Milled and screened for increased solubility	✓	✓
BRONC TRIPLE	Wilbur-Ellis Company	Ammonium sulfate, 1,2,3-propanetriol, alkyl polyglycoside, phosphoric acid, citric acid and polyacrylamide	2-4 qt/100 gal	For hard water >500 ppm use higher rates	✓	✓
BULL'S EYE	Conklin Co., Inc.	Polyvinyl polymer (polyacrylamide)	1-8 oz/100 gal	Aerial and high pressure rates		
CAPSULE	Rosen's, Inc.	Polyethylene glycol, choline chloride, guar gum extract	2-4 qt/100 gal	Crop (guar) based polymer		
CHEMPRO S-220	Chemorse, Ltd.	Methylated seed oil, paraffinic oil, and surfactant blend	2-4 fl oz/A			
CHEMPRO S-225	Chemorse, Ltd.	Methylated seed oil, ethoxylated vegetable oil, and tall oil fatty acid	6-10 fl oz/A			
CHEM-TROL	Chemorse, Ltd.	Polyacrylamide	0.25-2.5%			
CHS ACUVANT	CHS	Modified vegetable oil, refined soybean oil	3 fl oz/A	Oil emulsion based drift control		
CHS TRAPLINE PRO 2	CHS	Trisodium citrate dihydrate, alkylpolyglucoside C9-11, diethylene glycol	0.625%	All-in-one DRA (polyacrylamide) for dicamba applications without VRA		✓
CHS TRAPLOCK	CHS	Acetic acid, potassium hydroxide, 2-hydroxy1,2,3-propane tricarboxylic acid	1%	All-in-one DRA (polyacrylamide) for dicamba applications with VRA		
CLASP	Helena Agri-Enterprises	Polyvinyl polymer	0.25-0.75%	Pre-dispersed polymer that is ready to use		
COGNITIVE 1	CHS	Polyethylene glycol, choline chloride, guar gum	0.5%	Guar gum DRA		
COMPADRE	Loveland Products, Inc.	Lecithin, emulsifiers, glycols and defoamer	0.13%	Contains shear stable drift reduction agent & defoam		✓
COMPLETE	Conklin Co., Inc.	Spray grade ammonium sulfate and drift retardant (polyvinyl polymer) blend	2.5-5%	3.4 lb AMS/gal, deposition, drift reduction	✓	
CONCORD	KALO, Inc.	Ammonium nitrate, urea, alkoxylated triglyceride, methyl soyate, amine salt of alkyl ethoxylate phosphate, trisiloxane	4 qt/100 gal	Approved for use with Regiment		
CONTRAST	Rosen's, Inc.	Proprietary blend of water conditioning agents and drift reduction polymers	2.5 lb/100 gal	Crop (guar) based polymer		
CONTROL	GarrCo Products Inc.	Proprietary drift mitigation/deposition aid (concentrated polymer blend)	1-6 oz/100 gal	Low use rates		
CONTROL AMS	GarrCo Products Inc.	Drift mitigation/deposition aid (polymer blend), ammonium sulfate, and antifoam/defoamer	2.5-5 gal/100 gal		✓	✓
CONTROL WM	GarrCo Products Inc.	Drift mitigation/deposition aid (concentrated polymer blend)	1-6 oz/100 gal	No AMS		

CORRAL POLY	Winfield United	Polyvinyl polymer (polyacrylamide)	1-8 oz/100 gal			
COVERT	Innvictis Crop Care, LLC	Trisodium citrate dihydrate, alkyl ploy glucoside, diethylene glycol	0.5%			
CROSSHAIR	Wilbur-Ellis Company	Amine salts of organic acids and modified seed oils	4 oz/A	In the tank last		
DC-4	CNI	Proprietary combination of oils and emulsifiers and constituents ineffective as a spray adjuvant	See label			
DGUARD	Wilbur-Ellis Company	Polyvinyl polymer (polyacrylamide)	1-3 qt/100 gal	Polymer-based Drift Reduction Agent (DRA)		
DILIGENCE-EA	Wilbur-Ellis Company	Vinyl ester polymer, polyethylene glycol-polypropylene glycol and sodium dioctylsulfosuccinate	1-4 fl oz/A	Drift control agent (ground only), solid state dispersion		
DIRECT RS	Precision Laboratories, LLC	Polyvinyl polymer (polyacrylamide)	1-4 oz/100 gal			
DOWNDRAFT	Winfield United	Phytobland paraffinic oil, modified vegetable oil, fatty acids, alkyl and alkylaryl ethoxylates	4-6 oz/A			
DRIFTBUSTER	AgXplore International, LLC	Polyvinyl polymer	2-10 qt/100 gal	Can reduce, but not eliminate drift		
DRIFT-X	Coastal Agrobusiness, Inc.	Modified vegetable oil, amine salts of organic acids and organic acid	4-6 fl oz/A	Add to the tank last		
DRIFT-X	KALO, Inc.	Soybean oil, octadecanoic acid, 12-hydroxy-homopolymer, ester with alpha,alpha',alpha''- 1,2,3-propanetriyltris[omega-hydroxypoly(oxy-1,2-ethanediyl)], poly(oxy-1,2-ethanediyl), alpha-(1-oxo-9-octadeceyl)-omega-hydroxy-(Z)-	2-4 oz/acre	Oil emulsion, drift reduction agent, deposition agent for spray canopy coverage		
DROPLEX	Heritage Landscape Supply	Methyl ester of fatty acids, polyoxyethylene sorbitan fatty acid ester, vegetable oil	4-16 oz/100 gal			
ENLIVEN	Rosen's, Inc.	Proprietary blend of ammonium sulfate, surfactants, polymers, crop enhancement components and antifoam	16 oz/A	Crop (guar) based polymer, water conditioning, surfactant and yield enhancement technologies	✓	✓
ENSCRIBE	Hefty Seed Company	Trisodium citrate dihydrate, d-glucopyranose, oligomeric, C9-11 alkyl glycosides & propylene glycol	1-2 qt/100 gal	Tank mixes that include 2,4-D choline salt		
EVEN L PRO	Farm Business Network	Ammonium sulfate, nonionic surfactant and drift reduction polymers	1-2.5%		✓	
FIREFLY	AgXplore International, LLC	Soy methyl esters, paraffinic oil, nonylphenol ethoxylate, ethoxylated fatty alcohol, heptamethyltrisiloxane	4-6 oz/A			
FS INTENTION	GROWMARK, Inc.	Polyethylene glycol, choline chloride, guar gum	0.5%			
FS INTENTION DVA	GROWMARK, Inc.	Proprietary blend of potassium acetate, guar, beta-hydroxy tricarballylate, alkyl ethanaminium salt and water conditioning salt	1.25%	Tank mixes that include dicamba		
FS LAYOUT 2.0	GROWMARK, Inc.	Soybean oil, castor oil derivative, oleate	4-8 oz/A	Deposition and retention, reduce driftable fines		
FS MAXSUPREME	GROWMARK, Inc.	Ammonium sulfate, N-methyl-N-oleoyltaurine sodium salt, 2-hydroxypropyl gurar gum	2.5%	Guar based adjuvant, provides 8.5 lb AMS and optimum level of HPG polymer	✓	
FS TALENT	GROWMARK, Inc.	Polyoxyethylene sorbitan fatty acid ester, mono-and diglycerides of C8-C18 fatty acides	0.125-0.5%			
FS TRANSFORM PLUS	GROWMARK, Inc.	Proprietary blend of drift reduction polymers, ammoniated ions, water conditioning agents and antifoam	0.25-1%			✓
GATEWAY PLUS	Hefty Seed Company	Ammonium sulfate,N-Methyl-N-oleoyltaurine sodium salt, & 2-hydroxypropyl guar gum	2.5%		✓	
GAUNTLET	Innvictis Crop Care, LLC	Polyoxyethylene sorbitan monooleate, ethoxylated seed oil, copolymer of alpha- and beta-pinene	0.25-0.5%			

Deposition (Drift Control) and/or Retention Agents with and without Ammonium Sulfate and/or Defoamer

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments		
				Comments	AMS	Defoamer
GRANUM	Titan Pro SCI	Proprietary blend of water conditioning agent, drift reduction agent, humectant and nonionic surfactant	1-2 qt/100 gal			
GROUNDED	Helena Agri-Enterprises	Proprietary blend of aliphatic hydrocarbons, hexahydric alcohol ethoxylated and fatty acids	See label			
GUIDANCE-EA	Wilbur-Ellis Company	Solid state vinyl ester suspension and vegetable fatty acids	0.5-2 fl oz/A	For aerial drift control applications		
HEL-FIRE	Helena Agri-Enterprises	Aminated phosphoric, carboxylic acids, sulphurated amides, depostion aids	0.25-1%	Contains corrosion inhibitors		
HENO D	Heartland Ag, Inc.	Drift reduction polymers, ammoniated ions, water conditioning agents and antifoam	0.25-1%			✓
HOLZIT	Drexel Chemical Co.	Proprietary blend of ammonium sulfate, drift reduction polymers, humectant, and antifoam agent	9 lb/100 gal		✓	✓
IN-PLACE	Wilbur-Ellis Company	Amine salts of organic acids, aromatic acid, aromatic and petroleum distillate	See label			
INTACT	Precision Laboratories, LLC	Polyethylene glycol, choline chloride, guar gum	4 pt/100 gal			
INTACT ADVANCED	Precision Laboratories, LLC	Drift reduction polymers and water conditioning salts	4-6 pt/100 gal	Tank mixes that include dicamba		
INTACT MAXX	Precision Laboratories, LLC	Potassium acetate, guar, beta-hydroxy tricarballylate, alkyl ethanaminium salt and water conditioning salt	1.75-1.875%	Tank mixes that include dicamba		
INTACT PRO	Precision Laboratories, LLC	Guar gum	1-3 pt/100 gal			
INTERLOCK	Winfield United	Methylated seed oil, polyoxyethylene sorbitan fatty acid ester vegetable oil	4-6 oz/A	See label for additional rates		
IVC QUINTAIN XTRA 8L	Innvictis Crop Care, LLC	Ammonium sulfate, N-methyl-N-oleoyturine sodium salt, 2-hydroxypropyl guar gum	1.25-2.5 gal/100 gal		✓	
JUSTIFIED	Helena Agri-Enterprises	Modified seed oils, C15 – C40 alkanes, glucitol octadecenoate, polyethoxylated glucitol, derivatives and polydimethylsiloxane	1 qt/100 gal	Add to the tank last		
KABAK MAX	Heartland Ag, Inc.	Trisodium citrate dihydrate, alkyl polyglucoside, 1,2,3 propanetriol and polyacrylamide	1-2 qt/100 gal	Tank mixes that include 2,4-D choline salt		
KABAK ULTRAMATE	Heartland Ag, Inc.	Potassium acetate, pyranose ether-carboxylate complex, sorbitan monolaurate, poly dimethyl siloxane	26 oz/A	Tank mixes that include dicamba		✓
KICKER PLUS	Innvictis Crop Care, LLC	Ammonium sulfate, polyacrylamide, dimethylpolysiloxane	2.5-5 gal/100 gal		✓	✓
LATCH NG	Hefty Seed Company	Soybean oil, castor oil derivative, oleate	4-8 oz/A			
LOCKAMBA 2.0	Hefty Seed Company	Drift reduction polymers and glycerine gluco-citric water conditioner complex	4-6 pt/100 gal	Tank mixes that include dicamba		✓
LOCKAMBA MAXX	Hefty Seed Company	Potassium acetate, pyranose ether-carboxylate complex, sorbitan monolaurate, poly dimethyl siloxane	26 oz/A	Tank mixes that include dicamba		✓
LOX	Drexel Chemical Co.	Amine salts of organic acid, aromatic acid, aromatic petroleum distillate and aliphatic petroleum distillate	4-8 fl oz/A			

MACH 5	Rosen's, Inc.	Proprietary blend of surfactants, polymers, crop enhancement components, ammonium sulfate, and antifoam	8 oz/A	Crop (guar) based polymer, water conditioning, surfactant and yield enhancement technologies	✓	✓
MIST-CONTROL	Miller Chemical Co.	Polyvinyl polymer	0.25-1%			
NEXUM NG	Precision Laboratories, LLC	Soybean oil, castor oil derivative, oleate	4-8 oz/A			
OCULUS MAXX	Helena Agri-Enterprises	Proprietary water conditioning agents, alkyl ethoxylates, dimethylpolysiloxane and deposition polymers	1%	Does not contain ammonium nitrogen or acidifers		✓
ONTARGET	Winfield United	Proprietary surfactant blend	0.5%	DRA, drift and deposition agent with surfactant		
PACIFIC PREMIUM DC-4	CNI	Proprietary combination of oils and emulsifiers and constituents ineffective as a spray adjuvant	See label			
PACIFIC PREMIUM DRA	CNI	Soybean oil; castor oil, ethoxylate, oleate	See label			
PACIFIC PREMIUM RESPONSE X	CNI	Polyoxyethylene sorbitan fatty acid ester, soybean oil ethoxylate, copolymer of alpha- and beta-pinene	1-2 qt/100 gal			
PACIFIC PREMIUM TRANSCEND	CNI	Polyoxyethylene sorbitan fatty acid ester, mono- and diglycerides of C8-C18 fatty acids and constituents ineffective as spray adjuvant	0.125-0.5%			
PADLOCK	EGE Products	Polyvinyl polymer (polyacrylamide, non-reactive)	1-4 qt/100 gal			
PADLOCK DRA	EGE Products	Polyvinyl polymer (polyacrylamide)	1-4 qt/100 gal			
PARACHUTE II	CHS	Methylated seed oil, copolymer of alpha- and beta-pinene, 2-ethylhexanol, ethoxylated, propoxylated	0.0625-0.125%	Oil emulsion and resin based drift control		
PETRICHOR	CHS	Modified vegetable oil, refined soybean oil	3 fl oz/A	Oil emulsion based drift control		
PLEXUS II	Rosen's, Inc.	Proprietary blend of Methylated Seed Oil, polymers and surfactants	10-12 oz/A	Crop (guar) based polymer		
POINTBLANK WM	Helena Agri-Enterprises	Proprietary polyvinyl polymer emulsion	1-2 oz/100 gal	Drift reduction polymer concentrate		
POLY CONTROL 2	Brewer International	Polyacrylamide, emulsifiers and other ingredients	3-8 oz/100 gal	Drift control, penetrator, sticker and water sinker		
POWERSHOT!	MFA, Inc.	Polyoxyethylene sorbitan fatty acid ester, soybean oil ethoxylate, copolymer of alpha- and beta-pinene	See label	Powershot! will not eliminate all drift		
REIGN	Loveland Products, Inc.	Polyvinyl polymer (polyacrylamide)	0.25-2.5%	Polyacrylamide drift control/DRA		
REIGN LC	Loveland Products, Inc.	Polyvinyl polymer (polyacrylamide)	1-4 oz/100 gal	Polyacrylamide drift control/DRA concentrate		
RESPONSE DX	CNI	A proprietary blend of polyalkoxy ethers of phospho (-azoethyl and -inosityl), oleic acid and alcohol ethoxylate	1-4 pt/100 gal			
SEQUESTER PLUS	Hefty Seed Company	Ammonium sulfate, glycerin, phosphoric acid, polyacrylamide and silicone emulsion	1-4 qt/100 gal		✓	✓
STALLION	Rosen's, Inc.	Proprietary blend of Methylated Seed Oil, polymers, surfactants and crop enhancement components	16 oz/A	Crop (guar) based polymer, MSO, surfactant and yield enhancement technologies		
STRIKE FORCE	Loveland Products, Inc.	Lecithin, lactic acid and derivatives, polyethoxylated esters and alcohols	2 qt/100 gal	Non-AMS water conditioning		✓
STRIKE ZONE DF	Helena Agri-Enterprises	Saccharide and polysaccharide ethers and alkyl polyethoxylated alcohols	See label	Dry concentrate		
STRIKE ZONE MXD	Helena Agri-Enterprises	Ammonium and potassium salts and organic polymers	9 lb/100 gal	AMS replacement	✓	

Deposition (Drift Control) and/or Retention Agents with and without Ammonium Sulfate and/or Defoamer

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments		
				Comments	AMS	Defoamer
SYNDETIC	Chemorse, Ltd.	Polyacrylamide 30%	1-4 oz/100 gal			
TACKLE-DRA	Atlantic-Pacific Agricultural Co., Inc.	Trisodium citrate dihydrate, alkyl polyglucoside C9-11, diethylene glycol	1-4 qt/100 gal	Approved for use with auxin herbicides, see label. Contains no AMS		
TACTIC	Loveland Products, Inc.	Synthetic latex plus organosilicone surfactant fluid	See label	Sticker with organosilicone		
TARAGON ELITE	Precision Laboratories, LLC	Pyranose ether-carboxylate complex, 1,2,3 propanetriol, polyhydric alcohols and poly dimethyl siloxane	4-6 pt/100 gal	Tank mixes that include dicamba		
TARAGON MAX	Precision Laboratories, LLC	Potassium acetate, pyranose ether-carboxylate complex, sorbitan monolaurate, poly dimethyl siloxane	26 oz/A	Tank mixes that include dicamba		✓
TARAGON XTRA	Precision Laboratories, LLC	Trisodium citrate dihydrate, d-glucopyranose, oligomeric, C9-11 alkyl glycosides and propylene glycol	1-2 qt/100 gal	Tank mixes that include 2,4-D choline salt		
THRUST	Loveland Products, Inc.	Proprietary blend of milled ammonium sulfate, drift reduction/deposition polymers and antifoaming agents	9-17 lb/100 gal	AMS with deposition	✓	✓
TRACKER	Rosen's, Inc.	Proprietary blend of vegetable oils, modified oils, fatty acids, alkoxylated triglycerides, alkoxylated alcohols, and ionic emulsifiers	4 oz/A			
TRANSCEND	CNI	Polyoxyethylene sorbitan fatty acid ester, mono- and diglycerides of C8-C18 fatty acids and constituents ineffective as spray adjuvant	0.125-0.5%			
TRANSPORT PLUS	Precision Laboratories, LLC	Ammonium sulfate, glycerin, phosphoric acid, polyacrylamide and silicone emulsion	0.25-1%		✓	✓
TRAVERSE D	Innvictis Crop Care, LLC	Sodium hydroxy-tricarboxylate, C8-C10 D-glucopyranose, hydroxy alcohols	0.25-1%			
ULTRALOCK	Winfield United	Methylated soybean oil, acrylic polymer, and ethoxylated sorbitan fatty acid ester	4-6 oz/A	DRT + high quality DRA with deposition aid		
VALCHECK AMS + DRT	Winfield United	Ammonium sulfate, acrylamide sodium acrylate linear copolymer blend	2.5-5%	2.5% = 8.5 lb AMS/100 gal	✓	
V-DRIFT	Innvictis Crop Care, LLC	Polyacrylamide polymer	1-5 qt/100 gal	Compatible with K salt glyphosate formulations		
VECTOR	Rosen's, Inc.	Proprietary blend of milled ammonium sulfate, organic polymers and antifoam	2 lb/100 gal	Crop (guar) based polymer and micro-homogenized	✓	✓
VERACITY ELITE II	CHS	Trisodium citrate dihydrate, alkylpolyglucoside C9-11, diethylene glycol	0.625%	All-in-one DRA (polyacrylamide) for dicamba applications without VRA		✓
VERASURE	CHS	Acetic acid, potassium hydroxide, 2-hydroxy1,2,3-propane tricarboxylic acid	1%	All-in-one DRA (polyacrylamide) for dicamba applications with VRA		
VERIMAX AMS	Innvictis Crop Care, LLC	Ammonium sulfate, glycerol acid complex, acrylamide sodium acrylate linear copolymer and siloxane	0.25-0.75%	AMS replacement for glufosinate, antifoam	✓	✓
VERIMAX DRY	Innvictis Crop Care, LLC	Ammonium sulfate, polyacrylamide, dimethylpolysiloxane	10-20 lb/100 gal	10 lb = 1% AMS, aerial: 18 to 20 lb/100 gal	✓	✓
WEATHER GARD COMPLETE	Loveland Products, Inc.	Lecithin, phosphate ester, methyl esters of fatty acid and polydimethylsiloxane	0.25-0.5%	Contains shear stable drift reduction agent		✓
WITHSTAND NG	Heartland Ag, Inc.	Soybean oil, castor oil derivative, oleate	4-8 oz/A			

Compatibility Agents				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
BLENDEX VHC	Helena Agri-Enterprises	Proprietary blend of alkylarylpolyethanol phosphate esters and other ethoxylated derivatives	0.5-5 pt/100 gal	Provides wetting/spreading + compatibility functionality
BRANDT INSURE	Brandt Consolidated, Inc.	Alkylaryl polyether phosphate and organophosphates and proprietary water conditioning agents	1-4 pt/100 gal	Extremely alkaline and/or hard water may require higher rates
CHEMPRO S-286	Chemorse, Ltd.	Alcohol ethoxylate phosphate ester	0.125-0.25%	
CO-MIX	Coastal Agrobusiness, Inc.	Alkylaryl polyoxyethylene glycol phosphate esters	0.125-0.375%	Includes buffers
COMPEX EXTRA	KALO, Inc.	Alkyl polyglycoside, 2-ethylhexyl sulfate sodium salt	1-3 pt/100 gal	For pesticides, liquid fertilizer, curative, preventative
COMPLETE COMPATIBILITY	Winfield United	Alcohol ethoxylate phosphate ester, isopropanol, dipropylene glycol monomethyl ether	0.125-0.375%	Anionic formulation that aids in compatibilty of liquid fertilizer and pesticide tank mixes
CONVERT	MFA, Inc.	Polyethylene glycol tridecyl ether phosphate, ethylene glycol monobutyl ether	1-6 pt/100 gal	
CONVERT	Precision Laboratories, LLC	Polyethylene glycol tridecyl ether phosphate, ethylene glycol monobutyl ether	1-4 pt/100 gal	
ENVELOP	Innvictis Crop Care, LLC	Aliphatic phosphate ester, isopropanol and glycol ethers	0.0625-0.5%	
E-Z MIX	Loveland Products, Inc.	Esters of alkylpolyoxyethylene ethers	0.125-0.25%	Compatability agent
FIT-2G	Farm Business Network	Alcohol ethoxylate phosphate ester, 2-butoxyethanol	1-6 pt/100 gal	
FS TANKMAX	GROWMARK, Inc.	Polyoxyethylene glycol tridecyl ether phosphate, ethylene glycol monobutyl ether	1-6 pt/100 gal	
KOMBIND	Conklin Co., Inc.	Isopropyl alcohol, phosphate esters	1-24 oz/100 gal	Buffering, acidifier, compatibility
LINKE	AgXplore International, LLC	Phosphate esters of alkylaryl polyoxyethanol and alcohol	See label	Rate depends on water hardness
MIX	Drexel Chemical Co.	Alkylaryl polyoxyethylene glycol phosphate ester surfactants	1-5 pt/100 gal	Use with chemical mixtures in liquid fertilizer or water
MIX-ALL ELITE COMPATIBILITY AGENT	Rosen's, Inc.	Proprietary blend of emulsifiers, phosphate ester surfactants and wetting agents	0.125-0.5%	Use to ensure thorough mixing and dispersibility of pesticides with cold water, hard water and fertilizers
PROTERIS COMPATIBILITY AGENT	Titan Pro SCI	Polyethylene glycol tridecyl ether phosphate, ethylene glycol monobutyl ether	1-4 pt/100 gal	
RECON	Meherrin Ag & Chemical Company	Alcohol ethoxylate phosphate ester, 2-butoxyethanol	1-6 pt/100 gl	
SPRAY AIDE	Miller Chemical Co.	Polyethylene glycol alkyl phosphate ester	4-16 oz/100 gal	
TOP MIX	Spraytec	Emusilifer agent	2-4 oz/A	

Buffering Agents and/or Acidifiers				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
800 PLUS	CNI	A proprietary blend of acidifier, surfactants and drift reduction technologies	1-4 pt/100 gal	
ALPHA SHOT	Rosen's, Inc.	Proprietary blend of spray solution acidifiers	4-16 oz/100 gal	Acidifier and buffering adjuvant
ATTITUDE	Rovensa Next	Citric acid	1-8 pt/100 gal	Water conditioning agent and acidifier
BRANDT NO FOAM B	Brandt Consolidated, Inc.	Octyl phenoxy polyethoxy ethanol, linear alkyl sulfonates, ethanolamine	0.5-3 pt/100 gal	Phyto-bland safe for sensitive crop use
BRANDT PH ADJUST	Brandt Consolidated, Inc.	Citric acid, potassium hydroxide and potassium nitrate	0.5-1 pt/100 gal	Citric acid based acidifier and buffering agents
BUFFER PS	Helena Agri-Enterprises	Alkylarylpolyethoxyethanol phosphates and organic phosphatic acids	0.063-0.5%	Compatibility functionality
CHS FIXATE	CHS	Diethylene glycol, propylene glycol, monocarbamide dihydrogen sulfate	0.5-0.75%	Contains AMADS (provides nitrogren and sulfate groups)
CHS WHEELHOUSE PRO	CHS	Trisodium citrate dihydrate, alkyl polyglucoside, carbamide	0.5%	
CITRIPHASE	Coastal Agrobusiness, Inc.	Aliphatic polycarboxylate	0.25-0.5%	Liquid formulation
CLIMB	Wilbur-Ellis Company	Carbonic acid, dipotassium salt	See label	Alkalinity agent, raises pH
COMBO 7	EGE Products	Phosphatidylcholine, organic and inorganic acids, and alcohol alkoxylate	1-8 pt/100 gal	
CONDENSE COMPLETE 1.6	EGE Products	Potassium hydroxide, ethanoic acid, and polyhydric alchohol	1-1.6%	
DENALI-EA	Wilbur-Ellis Company	Polyoxyalkylene polyol fatty acid ester, alcohol ethoxylate and 2-hydroxy-1,2,3-propanetricarboxylic acid	1-4 pt/100 gal	NPE free, reduces pH, aquatic approved
FASTRATE+	CNI	Diethylene glycol, propylene glycol, and urea sulphate	1-2 qt/100 gal	
FORGE	CHS	Propanoic acid, lecithins, alcohol ethoxylate	0.25-0.5%	
GUNSMOKE	Loveland Products, Inc.	Glycerol urea-acid complex, alkyl amine phosphate, alkyl polyoxyethylene glycol	See label	Water conditioning, pH adjustment
JACKHAMMER	CHS	Diethylene glycol, propylene glycol, monocarbamide dihydrogen sulfate	0.5-0.75%	Contains AMADS (provides nitrogen and sulfate groups)
JACKHAMMER ELITE	CHS	Trisodium citrate dihydrate, alkyl polyglucoside, carbamide	0.5%	
LEEWAY	KALO, Inc.	Trisodium citrate dihydrate, d-glucopyranose, oligomeric, C9-11-alkyl glycosides, monocarbamide dihydrogen sulfate	2-4 qt/100 gal	AMS-free water conditioner, buffering agent, humectant
LOAD UP	Innvictis Crop Care, LLC	Alkyl phenol ethoxylate, propylene glycol, polyoxyethylene tallow amine and sulfuric acid	1-4 qt/100 gal	
NEW BALANCE	Precision Laboratories, LLC	Alkyl polyethoxy ether, 2-hydroxy-l, 2,3-propane-tricarboxylic acid and dimethylpolysiloxane antifoam	8-40 oz/100 gal	
OPTIMA	Helena Agri-Enterprises	Proprietary blend of polyethoxylated alkyl amines, alkyl polyoxyethylene glycols and organic acids	0.25-1%	Absorption, surfactants, buffering
PHUSE	AgXplore International, LLC	Alkyl polyethoxy esters and derivatives, carboxylic acids and phospholipids	See label	Nonionic, multi-functional adjuvant to prevent alkaline hydrolysis by lowering pH
SEQUEL	Helena Agri-Enterprises	Blend of hydroxy carboxylic and phosphoric acids, and ammonium sulfate	0.125-0.75%	AMS replacement, proprietary blend
SOIL BOOST EXTREME	Soil Service, Inc.	Proprietary blend of penetration, translocation, water buffering, and chelating agents, along with liquid AMS	1 qt/100 gal	Water conditioning
SOIL BOOST PLUS	Soil Service, Inc.	Proprietary blend of penetration, translocation, water buffering, and chelating agents, along with liquid AMS	1-3 pt/A	Water conditioning, AMS, liquid
SPEEDWAY	Winfield United	Citric acid, alkylamine glycolethers and phosphate ester	0.25-1%	
SURALTA	CHS	Potassium hydroxide/ethanoic acid	20 fl oz/A	Volatility reducing agent (VRA) for dicamba applications

TRAVERSE	Innvictis Crop Care, LLC	Monocarbamide dihydrogen sulfate, nonionic surfactants, humectants, chelating agents, antifoaming agent	0.25-1%	AMS replacement for glyphosate tank-mixes, antifoam
TRI-FOL	Wilbur-Ellis Company	2-Hydroxy-1,2,3-propanetricarboxylic acid, calcium chloride	0.063-0.5%	Increases pH with buffering
VOLT-EDGE, A VAPORGRIP XTRA AGENT	Winfield United	Potassium hydroxide/ethanoic acid	20-32 oz/A	Voltality reducing agent
WATER FX	KALO, Inc.	Ammonium sulfate, 2-hydroxy-1,2,3-propanetricarboxylic acid	0.5-4 lb/100 gal	Dry, low use rate water conditioner, acidifier. Contains AMS
ZANDAR	Helena Agri-Enterprises	Phosphatidylcholine, methylacetic acid and alkyl polyoxyethylene ether	1-4 pt/100 gal	

Water Conditioning Agents

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
AMS 3.4	CNI	A proprietary blend of ammonium sulfate, polydimethylsiloxane and constituents ineffective as adjuvants	0.25-5%	
AMS 4.0	CNI	Liquid ammonium sulfate, dimethylpolysiloxane and constituents ineffective as a spray adjuvant	0.25-5%	
AMS 4XL	CNI	Ammonium sulfate; D-Glucopyranose, oligomeric, C10-16-alkyl glycosides; N,N-Dimethyl-n-decylamine oxide and constituents ineffective as spray adjuvant	1-5 gal/100 gal	
AMS ADVANTAGE	MFA, Inc.	Ammonium sulfate, glycerol, phosphoric acid, polyacrylamide	1-3 qt/100 gal	2 lb AMS per gallon
AMS EZ	MFA, Inc.	Ammonium sulfate solution	See label	3.4 lb AMS per gallon
AMS STANDARD	KALO, Inc.	Ammonium sulfate	Up to 34% w/w	Dry AMS, milled and screened for enhanced solubility
AMS/NIS	KALO, Inc.	Ammonium sulfate, alkyl polyglycoside, polydimethylsiloxane	1.25-5 gal/100 gal	2.5 gallons delivers 8.5 pounds AMS/100
AMS-BREW	Brewer International	Blend of polyphosphates, diols, defoamer and AMS	0.25-0.5%	Ammonium sulfate based water conditioner
AMS-DEP	MFA, Inc.	Ammonium sulfate, polyacrylamide polymer, dimethylpolysiloxane	9-12 lb/100 gal	9 lb AMS-DEP = 8.5 lb AMS
AMSOL DRY	Winfield United	Ammonium sulfate, polydimethylsiloxane	8.5-17 lb/100 gal	Includes antifoam
AMSPREAD	CNI	Proprietary blend of nonionic surfactants and formulation aids and ammonium sulfate	1-2.5%	
AMSTRIKE	CNI	Ammonium sulfate, 2-hydroxy-1,2,3-propanetricarboxylic acid, sodium tripolyphosphate and constituents ineffective as a spray adjuvant	1-4 pt/100 gal	
AMS-XTRA	Drexel Chemical Co.	Ammonium sulfate solution	1-5 gal/100 gal	
ASCENSION	Wilbur-Ellis Company	Urea, ammonium nitrate, and alcohol ethoxylate	2-4 qt/100 gal	Raises pH, provides water conditioning and surfactant
AVIATOR	Innvictis Crop Care, LLC	Ethoxylated fatty acid methyl ester, branched alcohol ethoxylate phosphate ester, ethoxylated sobitan fatty acid ester	0.25%	
BLAZIN'-FIRE	AgXplore International, LLC	Phosphoric and carboxylic acids, sulphurated amides, and spray-deposition aids, blend of ammoniated salts	1-2 qt/100 gal	
BRANDT ADJULOCK II	Brandt Consolidated, Inc.	Trisodium citrate dihydrate, alkyl polyglucoside, diethylene glycol, polyacrylamide	12 fl oz/A	Non-AMS water conditioner, DRT, and surfactant
BRANDT ADJULOCK PRIME	Brandt Consolidated, Inc.	Tripotassium citrate monohydrate, alkylpolyglucoside, ethonic acid, potassium hydroxide	19.2 fl oz/A	Non-AMS water conditioner, DRT, surfactant, and volatility agent
BREEZE XL	Heritage Landscape Supply	Ammonium sulfate, citric acid and sodium dimethyl benzene sulfonate	1-2 oz/1 gal	

Water Conditioning Agents				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
BRONC	Wilbur-Ellis Company	Ammonium sulfate	2.5-5%	Liquid AMS
CAPSTAR	KALO, Inc.	Oxirane, 2-methyl-, polymer with oxirane, mono(2 ethylhexyl) ether, alcohol ethoxylate phosphate ester, soybean oil, ethoxylated	2-3 qt/100 gal	AMS-free water conditioner. DRA. Surfactant. Contains antifoam
CHECK-POINT	KALO, Inc.	Trisodium citrate dihydrate, sodium hexametaphosphate, sodium tripolyphosphate, polyacrylamide, dimethylpolysiloxane	2 lb/100 gal	Dry AMS free water conditioner
CHEMPRO 34	Chemorse, Ltd.	Ammonium sulfate	2.5-5%	
CHEMPRO 34-PLUS	Chemorse, Ltd.	Ammonium sulfate, polyacrylamide	2.5-5%	
CHEMPRO CP-110	Chemorse, Ltd.	Citric acid, alkyl amine ethoxylate, and alcohol ethoxylate phosphate ester	0.25-1%	
CHEMPRO CP-20	Chemorse, Ltd.	Ammonium sulfate, hydroxy carboxylic and phosphoric acid	0.125-0.625%	
CHEMPRO CP-30	Chemorse, Ltd.	Ammonium sulfate, polyhydric alcohol, and polyacrylamide	0.25-0.75%	
CHEMPRO CP-35	Chemorse, Ltd.	Ammonium sulfate, specialized acid blend, and surfactant	0.75-2.5%	
CHEMPRO CP-45	Chemorse, Ltd.	Monocarbamide dihydrogen sulfate, nonionic surfactant, and humectant	0.125-1%	
CHEMPRO CP-50	Chemorse, Ltd.	Ammonium sulfate, specialized acid blend, surfactant, and polyacrylamide	0.5-1.5%	
CHEMPRO CP-65	Chemorse, Ltd.	Ammonium sulfate, surfactant blend	2.5-5%	
CHEMPRO CP-81	Chemorse, Ltd.	Citric acid, trisodium salt, dihydrate, humectant, surfactants, and polyacrylamide	0.25-1%	
CHOICE TRIO	Loveland Products, Inc.	Poly(oxy-1,2-ethanediyl), alpha-phenyl-omega-hydroxy-phosphate, tris(2-hydroxyethyl)amine, 2-hydroxy-1,2,3-propanetricarboxylic acid	1-2 qt/100 gal	AMS replacement
CHOICE WEATHER MASTER	Loveland Products, Inc.	Blend of salts of polyacrylic, hydroxy carboxylic, propionic acids, phosphate ester, ammonium sulfate	0.25-0.5%	AMS, water conditioner
CLASS ACT RIDION	Winfield United	1,2,3-Propanetricarboxyllic acid, 2-hydroxy, trisodium salt, dihydrate, high fructose corn syrup, alkyl polyglucoside, monocarbamide dihydrogen sulfate	0.5-2%	Non-AMS WC with 1qt AMS per 2.5 gal
COHORT	Helena Agri-Enterprises	Ammonium sulfate, phosphoric acid, monocarbamide dihydrogen sulfate	1-2 qt/A	
CONDITION	GarrCo Products Inc.	Concentrated ammonium sulfate, blend of water conditioning agents, and defoamer/antifoam system	0.5-2 qt/100 gal	Contains 1 lb AMS/qt and antifoam
CORREX WC	Hefty Seed Company	Ethylenediamineacetic acid (EDTA) and casustic potash (potassium hydroxide)	0.5-1%	
CRUZADO	KALO, Inc.	Monocarbamide dihydrogen sulfate, glycerin, polyoxyethylene tallow amine	1-4 qt/100 gal	pH modifier, humectant, water conditioner
CUT-RATE	Wilbur-Ellis Company	Ammonium sulfate, 2-hydroxy-1,2,3-propanetricarboxylic acid	3-4 lb/100 gal	AMS, reduces pH
CYNDER	Wilbur-Ellis Company	2-hydroxypropane-1,2,3-tricarboxylic acid; amines, tallow alkyl ethoxylated; alcohols, C11-C14, C13 rich, ethoxylated, phosphate	1-4 qt/100 gal	Water Conditioning with some AMADS
DIVERSIFY	Helena Agri-Enterprises	Aminocarboxylates, 2-hydroxypropane 1,2,3 tricarboxylates, and polyaliphatic carboxylates	1-5 pt/100 gal	Compatible with pesticides which are sensitive to reduced pH or prohibit acidifiers - ammonium nitrogen free
EMINENCE	Meherrin Ag & Chemical Company	Ethylenediaminetetraacetic acid (EDTA), potassium hydroxide	2-4 qt/100 gl	

ENACT	Rosen's, Inc.	Proprietary blend of sequestrants, chelating agents, ammonium sulfate and polysiloxane	0.125-0.5%	2 pt/100 gal <300 ppm water hardness, 4 pt/100 gal >300 ppm
ENYA	Heartland Ag, Inc.	Nitrogen, sulfur & dimethylpolysiloxane antifoam	1-5%	1 gallon = 3.4 lb dry AMS
EVEN LR	Farm Business Network	Carboxylic acids, phosphoric acids, ammoniated ions and formulation aids	1-2 qt/100 gal	
FRACTION	KALO, Inc.	Ammonium sulfate, 2-hydroxy-1,2,3-propanetricarboxylic acid	3-4 lb/100 gal	Dry, low use rate water conditioner, acidifier. Contains AMS
FS AMS LDF	GROWMARK, Inc.	Nitrogen and sulfur	2.5-5%	3.4 lb AMS/gal plus antifoam
FS AMS MAX 2.0	GROWMARK, Inc.	Ammonium sulfate, alkyl polyglycoside and polyoxyethylene undecyl ether	1.25-5%	
FS AMS MAX DR	GROWMARK, Inc.	Proprietary blend of ammonium sulfate, nonionic surfactant and drift reduction polymers, dimethylpolysiloxane antifoam	1-2.5%	
FS CERTIN	GROWMARK, Inc.	Ethylendiamtetraacetic acid, potassium hydroxide	2-4 qt/100 gal	
HYDROMEND	Atlantic-Pacific Agricultural Co., Inc.	Propietary blend of ingredients	8-32 oz/100 gal	Contains no AMS
IMPETRO VAP	MFA, Inc.	Alkali metal salts of carboxylic acid, alkylpolyglucoside, acrylamide polymer	30 oz/A	
IVC KICKER	Innvictis Crop Care, LLC	Ammonium sulfate and dimethylpolydiloxane	1-20 qt/100 gal	
LEEWAY II	KALO, Inc.	Trisodium citrate dihydrate, alkyl polyglucoside C9-11, diethylene glycol	1-4 qt/100 gal	Humectant. AMS-free water conditioner
LEEWAY ULTRA	KALO, Inc.	Tripotassium citrate, amine alkoxylates, alcohol phosphates	2-8 pt/100 gal	AMS-free water conditioner, penetrant
MAC AMS 3.4L	Meherrin Ag & Chemical Company	Ammonium sulfate and anitifoam solution	1-3 qt/A or 2.5-5%	1 gallon = 3.4 lb dry AMS
MAXWAY II	KALO, Inc.	Alkali metal salts of carboxylic acid, alkylpolyglucoside, acrylamide polymer	26 oz/15 gal/A	Volatility reducing agent
OMNIX LDF	Precision Laboratories, LLC	Ammonium sulfate solution	1-5%	1 gallon = 3.4 lb dry AMS
ONE-AP XL	KALO, Inc.	Ammonium sulfate, urea, polyoxyethylene polyoxypropylene polymer	10-20 lb/100 gal	AMS with 0.25% v/v NPE-free NIS, deposition aid, contains antifoaming agent
OPTIFY 4X	Winfield United	Proprietary blend of potassium acetate, guar, beta-hydroxy tricarballylate, alkyl ethanaminium salt, alcohol alkoxylate	1.75-1.85%	Chelating water conditioner with NIS
OPTIFY A	Winfield United	Ammonium sulfate, D-arabino-hex-2-ulo-pyranose	2.5-5%	Liquid AMS and NIS combination
OPTIFY D30	Winfield United	Ammonium sulfate, D-glucopyranose, oligomeric, C10-16-alkyl glycosides, N,N-dimethyl-n declyamine oxide	1.25-5%	Liquid AMS, NIS, and drift reduction
OPTIFY L27	Winfield United	Alkyl polyglucoside, ammonium sulfate, 1,2,3-propanetricarboxylic acid, 2-hydroxy-, trisodium salt, dihydrate	1-3 qt/100 gal	Water conditioning acidifier with AMS and NIS
OPTIFY Z37	Winfield United	Methylated seed oil, alcohol ethoxylate phosphate ester, and branched alkyl phenol ethoxylate	2-4 qt/100 gal	Water conditioning acidifier with Methylated Seed Oil
PACIFIC PREMIUM AMSPREAD	CNI	proprietary blend of nonionic surfactant and formulation aids and ammonium sulfate	1-2.5%	
PACIFIC PREMIUM AMSTRIKE	CNI	Ammonium sulfate, 2-hydroxy-1,2,3-propanetricarboxylic acid, sodium tripolyphosphate and constituents ineffective as a spray adjuvant	1-4 pt/100 gal	
PADLOCK PLUS	EGE Products	Polyvinyl polymer (polyacrylamide, non-reactive), ammonium sulfate, emulsifiers, nonionic surfactant	1-8 qt/100 gal	
PADLOCK PLUS ULTRA	EGE Products	Proprietary blend of water conditioners, drift control, surfactants, and oil mixture	1.25-2.5%	
RESTORE	KALO, Inc.	AMS, 1,2,3-trihydroxy propane, phosphoric acid	2-3 qt/100 gal	Water conditioner and acidifier. Contains ammonium sulfate

Water Conditioning Agents				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
RETRIBUTION	Wilbur-Ellis Company	Ammonium sulfate, citric acid and sodium alkyl sulfobenzene salt	See label	Excellent partner for glufosinate, alleviates antagonistic effect of hard water, excellent wetting and spreading, buffers pH
SEQUESTER ULTRA	Hefty Seed Company	Monocarbamide dihydrogen sulfate, polyethylene glycol mono (branched p-nonylphenyl) ether, and 1,2,3-propanetriol	1-2 qt/100 gal	
SERENITY CUBED	Wilbur-Ellis Company	Trisodium citrate, alkylpolyglucoside, diethylene glycol, polyacrylamide	2-4 qt/100 gal	Water conditioning + Drift Reduction Agent (DRA) + surfactant
SERENITY PLUS	Wilbur-Ellis Company	Sodium polycarboxylate, propane triols, glucose-palm oil conjugate	2-4 qt/100 gal	Water conditioning with Drift Reduction Agent (DRA)
SHACKLE	EGE Products	Water conditioning agents	1-4 qt/100 gal	
SHACKLE EXT	EGE Products	Polyvinyl polymer encapsulation blend (polyacrylamide, non-reactive) and water conditioning agents	2-8 qt/100 gal	
SHACKLOCK	EGE Products	Polyvinyl polymer encapsulation blend (polyacrylamide, non-reactive) and water conditioning agents	2-8 qt/100 gal	
SMOKE	Helena Agri-Enterprises	Trihydroxy carboxylic acid, alkyl amine alkoxylate, alkyl alkoxylated phosphate amine, urea sulfuric acid complex	0.25-0.5%	Does not contain ammonium nitrogen
SPECTRA AMS	KALO, Inc.	Ammonium sulfate, ammonium nitrate, phosphoric acid, polyacrylamide & dimethylpolysiloxane	2.5-5 gal/100 gal	Range of full-load AMS with drift suppression, enhanced deposition
SPECTRA MAX TANK MIX	KALO, Inc.	Ammonium sulfate, glycerol, phosphoric acid	2-3 qt/100 gal	Low use-rate water conditioning agent, humectant, DRA. Contains ammonium sulfate
SPRAY-START	KALO, Inc.	Ammonium sulfate, polyacrylamide polymer, dimethylpolysiloxane	9-12 lb/100 gal	Dry water conditioning agent, DRA, deposition aid, antifoaming agent. Contains ammonium sulfate
SUMMIT	KALO, Inc.	Ammonium sulfate, drift reduction/deposition enhancing polymers and antifoam agent	9-17 lb/100 gal	Contains ammonium sulfate. Contains anifoaming agent
SYNURGIZE	AgXplore International, LLC	Alkyl poly glycosides, defoamers, nonionic coupling agents and a blend of ammonium salts	1-2 qt/100 gal	AMS replacement
TETHER	Farm Business Network	Trisodium citrate dihydrate, polyhydric alcohols and 1,2,3 propanetriol	1-6 pt/100 gal	Tank mixes that include dicamba
TETHER 24	Farm Business Network	Citric acid trisodium salt dihydrate, alkyl polyglucoside and 1,2-propanediol	1-2 qt/100 gal	Tank mixes that include 2,4-D choline salt
TETHER DRA	Farm Business Network	Trisodium citrate dihydrate, polyhydric alcohols and glycerol	4-6 pt/100 gal	Tank mixes that include dicamba
THRESHOLD	KALO, Inc.	Sodium tricarbalylate, alkyl polyglucoside, 1,2,3-propanetriol, polyacrylamide, polydimethylsiloxane	1-2 qt/100 gal	AMS free
TRANSPORT LPH	Precision Laboratories, LLC	Carboxylic acids, phosphoric acid and ammoniated ions	1-2 qt/100 gal	
TRANSPORT ULTRA	Precision Laboratories, LLC	Monocarbamide dihydrogen sulfate, polyethylene glycol mono(branched p-nonylphenyl) ether, and 1,2,3-propanetriol	1-2 qt/100 gal	
U-SURP	Drexel Chemical Co.	Blend of polyacrylates, polyhydroxy-tricarboxylic acid, dipotassium phosphate and formulation aids	1-5 pt/100 gal	AMS replacement
VALCHECK AMS	Winfield United	34% liquid ammonium sulfate	2.5-5%	2.5% = 8.5 lb AMS/100 gal
VALCHECK III	Winfield United	Proprietary blend of volatility reducing agent, water conditioning agent and drift reduction polymer	1.4%	Non-AMS water conditioner + VRA + DRA

VIXEN AC-L	Innvictis Crop Care, LLC	Ammonium salt of sulfuric acid, 2-hydroxy-1,2,3-tricarboxylic acid, triphosphoric acid, pentasodium salt	0.5-2.5 qt/100 gal	1-4 pt/A if volume exceeds 15 gal/A
VIXEN D	Innvictis Crop Care, LLC	Sodium and ammonium salts of sulfuric acid, 2-hydroxy-1,2,3-tricarboxylic acid	2-4 lb/100 gal	pH reduction for insecticides, 0.25-1.0 lb/100 gal
VOLIMINATE	Precision Laboratories, LLC	Potassium hydroxide/ethanoic acid	20-32 oz/A	
WAYPOINT	MFA, Inc.	Ammonium sulfate, hydroxy carboxylic acid, phosphoric acid, alkyl polyoxyethylene glycol blend, and dispersing agents	1-4 qt/100 gal	Refer to pesticide label for crops/rates

Basic Blends

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
CHEMPRO BASIC BLEND	Chemorse, Ltd.	Urea, ammonium nitrate, and alcohol ethoxylate	0.5-2.0%	
CHS AXON	CHS	Ammonium nitrate, alcohol ethoxylate, ammonium hydroxide	0.5-1%	
LINKAGE	CHS	Ammonium nitrate, alcohol ethoxylate, ammonium hydroxide	0.5-1%	
TRANSACTIVE HC	Helena Agri-Enterprises	Ammonium salts, 1,2,3 propanetriol, polyalkoxylates, and alkaline buffering agents	0.75-2%	Do not use with ASSERT

Spreader-Stickers and/or Extenders

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
AIRSTICK	Heritage Landscape Supply	Pinene (diterpene) polymer, mineral oil, and secondary alcohol ethoxylate	4-16 oz/100 gal	Needs sunlight to form protective film
ANTERO-EA	Wilbur-Ellis Company	4-Nonylphenol, formaldehyde resin, propoxylated; castor oil, ethoxylated	2-32 fl oz/100 gal	Resists wash off, improves spreading for more coverage
BINDE	AgXplore International, LLC	Polymeric terpenes	1 pt/A	Extender nonionic sticker-spreader
BIO-FILM EXTRA	KALO, Inc.	Alkylphenyl, hydroxyl-polyoxyethylene, polymerized resins and fatty acids, paraffin base petroleum oil	4-16 oz/100 gal	Spreader-sticker, for fungicides and insecticides
BOND MAX	Loveland Products, Inc.	Synthetic latex and alcohol ethoxylate	See label	Spreader-sticker, deposition aid
BRANDT ORGANICS SKH STICKER	Brandt Consolidated, Inc.	Bentonite, lactose, casein	1-2 lb/100 gal	Premium dry sticker/extender
BRANDT ORGANICS UMBRELLA	Brandt Consolidated, Inc.	Terpene resins. Tall oil fatty acids and alkyl phenol ethoxylate	4-8 fl oz/100 gal	Premium low-rate sticker/extender OMRI certified
CHEMPRO S-196	Chemorse, Ltd.	Polymeric terpenes	4-6 oz/A	
CHEMPRO S-230	Chemorse, Ltd.	Pinene polymer, mineral oil, and secondary alcohol ethoxylate	4-16 fl oz/A	
CHEM-STIK	Precision Laboratories, LLC	Emulsifiable polyethylene and alkyl phenoxy polyethoxy ethanol	4-16 oz/100 gal	

Spreader-Stickers and/or Extenders				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
CHEM-STIK LPH	Precision Laboratories, LLC	Alkylaryl polyoxyethanol glycol ether, alkyphenolic resin, alkylaryl polyoxyethanol phosphate esters, tricarboxylic acid	8-48 oz/100 gal	Nonionic spreader-sticker, pH buffer
COFILM	Coastal Agrobusiness, Inc.	di-1-p-menthene	See label	Low molecular weight terpenic polymer
ENTRY	Innvictis Crop Care, LLC	Methyl esters of fatty acids; N, N-Bis 2-(omega-hydroxypolyoxyethylene) ethyl) alkylamine, tall oil fatty acids	4-128 oz/100 gal	
FORTIFY	Innvictis Crop Care, LLC	Alkyl polyoxyethylene ethers, polymerized resins and triethanol amine salts of oleic acid (TOFA derived), petroleum distillates	0.5-1 pt/100 gal	
FS CROPSTIK	GROWMARK, Inc.	Emulsifiable polyethylene and alkyl phenoxy polyethoxy ethanol	4-8 oz/100 gal	Nonionic spreader-sticker
HYDROVANT	Corbet	Polyvinyl alcohol	12.8 oz/100 gal or 0.1%	Mixing order is critical, see label. Can use with pre and post emerge herbicides
I'VOD	Brewer International	100% Oil blend including D-Limonene plus emulsifier	See label	Drift control, penetrator, sticker with pine fraganced oil
I'VOD C	Brewer International	100% Oil blend including D-Limonene plus emulsifier	See label	Drift control, penetrator, sticker with orange fraganced oil
LATRON B-1956	Innvictis Crop Care, LLC	Modified phthalic glycerol alkyd resin	1-8 oz/100 gal	
LENGTH EXT	EGE Products	Polyvinyl polymer encapsulation blend (polyacrylamide, non-reactive)	1-2 qt/100 gal	
LENGTH EXT NANO	EGE Products	Silicone dioxide, polyvinyl polymer encapsulation blend	2-6 oz/A	Encapsulation technology with silica nanoparticles
LOVERT	Brewer International	100% Hydrocarbon constituents, and emulsifiers	See label	Drift control, penetrator, sticker
MAINSTAY	KALO, Inc.	Alkyl polyoxyethylene ethers, polymerized resins, and triethanol amine salts of oleic acid (TOFA derived), petroleum distillates	1-4 pt/100 gal	Spreader-sticker. Deposition Aid. Surfactant
NU FILM 17	Miller Chemical Co.	Pinene (diterpenes) polymers, hydrocarbon resin, petrolatum a-(p-dodecylphenyl)-omega-hydroxpoly (oxyethylene)	1 pt/A	Sticker, extender, add Nu Film 17 last
NU FILM P	Miller Chemical Co.	Pinene (polyterpenes) polymers, a-(p-dodecylphenyl)-omega-hydroxypoly (oxyethylene)	4-16 oz/A	Spreader-sticker, add Nu Film P last
NU-FILM-IR	Miller Chemical Co.	Poly-1-p-menthene	4-16 oz/A	Nonionic sticker-spreader, premix Nu Film IR with water before adding to tank mix
OCTANE 90	KALO, Inc.	Ethoxylated fatty acid methyl esters, hexylene glycol, tall oil	1-2 qt/100 gal	Unique spreader-acitvator, humectant. Formulated for use and improvement of phenoxy herbicides. Contains antifoaming agent
PINENE II	Drexel Chemical Co.	Polymeric terpenes	0.25-2 pt/A	Extender and sticker
PINENE II (OMRI)	Drexel Chemical Co.	Pinene (diterpene) polymer, alcohol ethoxylate, methylated seed oil	1-4 pt/A	Extender and sticker
POLY FILM-R+	Brewer International	Proprietary blend of polymers,terpenes, methylated seed oil and other ingredients	0.5-1 pt/100 gal	Spreader-sticker
REGUARD	Wilbur-Ellis Company	Polymeric terpenes	8-16 fl oz/A	Non foaming, may be applied aerial, ground or concentrate sprayer
REMAIN	CNI	Pinene polymers and related derivatives and constituents ineffective as spray adjuvant	4-16 oz/100 gal	
SURFIX-P	Helena Agri-Enterprises	Pinene polymers	0.5-2 pt/100/gal	Polymer based on pine resin
TRANSFIX	Winfield United	Pinene polymer, alkylphenol ethoxylate	4-6 oz/A	Spreader-sticker

Adjuvants plus Foliar Fertilizer				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
ENCOURAGE CLASSIC	Rovensa Next	Alcohol ethoxylate, humic acid	1-8 pt/A	2-1-2 fertilizer. Derived from urea, monopotassium phosphate, potassium nitrate, iron DTPA, manganese EDTA
FULLTEC ADJUVANT	Spraytec	Carboxylic acids, ethylenediaminetetraacetic acid (EDTA) and fatty alcohol ethoxylate (11.05% active)	2-3 oz/A	
FULLTEC X	Spraytec	Carboxylic acids, ethylenediaminetetraacetic acid (EDTA) and fatty alcohol ethoxylate (10% surfactant)	2-3 oz/A	

Soil Adjuvant				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
AD-SORB FC	Innvictis Crop Care, LLC	Alkylpolyglucoside; 1,2,3 tri-hydroxypropanetriol, polydimethylsiloxane	2%	
AD-SORB RST	Innvictis Crop Care, LLC	Poloxalene, alkyl polyglucoside, vegetable oil ethoxylate	0.25-1%	
ADVANTAGE SOIL PENETRANT	Wilbur-Ellis Company	Ammonium alkyl ether sulfate	4-32 fl oz/A	Increased water infiltration, NPE-free
AQUA EXPRESS	Loveland Products, Inc.	Ethylene oxide-propylene oxide copolymer	See label	Soil surfactant
AQUATE MAX	Wilbur-Ellis Company	Oxirane, methyl-, polymer with oxirane	1-2 pt/A	Improves water management, not water infiltration
AQUICARE	Heritage Landscape Supply	Ethylene oxide-propylene oxide copolymer, polyethylene glycol, ethoxylated, 2,4 Di-tert-amylphenol	2-14 oz/1,000 ft2	
AQUICARE GR	Heritage Landscape Supply	Ethylene oxide-propylene oxide copolymer, polyethylene glycol, ethoxylated, 2,4 Di-tert-amylphenol	100 lb/A	Granular form
AQUIFLO PLUS	Heritage Landscape Supply	Alcohols C12-14, ethoxylated	0.75-5 oz/1,000 ft2	
AQUISYNC	Heritage Landscape Supply	Ethylene oxide-propylene oxide copolymer, sodium bis(2-ethylhexyl) sulfosuccinate	0.5-6 oz/1,000 ft2	
ATTACH	Loveland Products, Inc.	Pinene (terpene) polymers, petrolatum, a-(p-dodecylphenyl)--omega-hydroxypoly (oxyethylene)	1-2 pt/A	For use with soil applied pesticides
EFFICAX	Wilbur-Ellis Company	Esterified seed oil	4-16 fl oz/A	Pre-emergent soil adjuvant
FS CAPTIS	GROWMARK, Inc.	Proprietary blend of solvents, ethoxylated nonionic and anionic surfactants	4-16 fl oz/A	Rate depends on soil texture
GRAVITATE	KALO, Inc.	Humectants, alkyl polyglucoside, oxirane, methyl, polymer with oxirane, castor oil, ethoxylated	2 qt/A	Humectant, hygroscopic, soil surfactant blend
H20 MAXIMIZER	KALO, Inc.	Alkylpolyglucoside, poloxalene, poly (2-propenamide)	16 oz/A	Soil surfactant and polymer resin blend

Soil Adjuvant				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
H-45	CHS	Polyoxyethylene-polyoxypropylene copolymer, heptamethyltrisiloxane ethoxylated (8 EO), dimethylsiloxane polymer	1-2%	
HYDRO-WET INJECTABLE	KALO, Inc.	Poloxyalkylene glycol	12-24 oz/A	NPE-free soil surfactant
HYDRO-WET PELLETS	KALO, Inc.	Polyoxyethylenepolypropoxypropanol, glycol butyl ether	See label	NPE-free soil surfactant
INFUSE	Loveland Products, Inc.	Modified vegetable oil, esters, fatty acids and ethoxylated derivatives	1-4 pt/A	Soil penetration varies by soil type
MEDALIST	KALO, Inc.	Alkylpolyglucoside, poloxalene, polydimethylsiloxane	16-24 oz/A	NPE-Free soil surfactant for irrigation injection
MORTAR	Rovensa Next	Alcohol ethoxylate, sodium lauryl ether sulfate	1-4 pt/A	Spreader and Soil Wetting Agent
ORO-RZ	Rovensa Next	Alcohol ethoxylate, orange oil	1-4 pt/A	Contains: orange oil. Adjuvant for uniform distribution of soil-applied pesticides and nutrients
PK ASSIST	Rovensa Next	D-Glucopyranose, oligomeric, decyl octyl, glycoside	1-2 pt/A	Soil conditioner compatible for use with liquid fertilizer mixtures
RAIN-CHECK	KALO, Inc.	1,2,3-propanetriol, propylene glycol, alcohols, C12-14-secondary, ethoxylated, d-glucopyranose, oligomeric, C9-11 alkyl glycosides	1 qt/A	Irrigation soil surfactant
RAINSTORM	KALO, Inc.	Oxirane, methyl-, polymer with oxirane, d-glucopyranose, oligomeric, C9-11-alkyl glycosides	1 qt/A	Water management
SOIL FORCE	Meherrin Ag & Chemical Company	Petroleum oil, ethoxylated soybean oil, tall oil fatty acids	4-16 oz/A	Rate depends on soil texture
SOILTRATE	CHS	Lubricating oils (petroleum), hydrotreated spent; oleic acid, polyethylene glycol undecyl ether	1 pt/A	
SORBYX	Precision Laboratories, LLC	Petroleum oil, ethoxylated soybean oil, tall oil fatty acids	4-16 oz/A	Rate depends on soil texture
STRATUM	KALO, Inc.	1,2,3-propanetriol, salt of alkyl ether sulfate	6-12 oz/15-20 gal	Soil penetrant and conditioner. Enhances soil tilth
SUSTAIN	Miller Chemical Co.	Pinene (terpene) polymers, petrolatum, a-(p-dodecylphenyl-omega-hydroxypoly (oxyethylene)	4-16 oz/100 gal	Spreader-sticker, Ideal for use with soil applied chemistries
TOURNAMENT-READY	KALO, Inc.	Alkylpolyglycoside and siloxane solution, polyalkoxylate blend	16-24 oz/A	NPE-free soil surfactant, penetrant
TOURNAMENT-READY PELLETS	KALO, Inc.	Alkylpolyglycoside, siloxane, poloxalene, inert binders	1 pellet/12,000 sqft	NPE-free soil surfactnat, penetrant
TRANSFER	CNI	A proprietary blend of aliphatic hydrocarbons, fatty acids and alkyl ethoxylates	1-4 pt/A	
VARIANT	KALO, Inc.	Ethoxylated triglyceride, copolymer of alpha- and beta-pinene	8-32 oz/A	NPE-free. Soil retention agent. Soil surfactant. Contains Quantum technology. Extends the range of residual herbicides

Antifoam Agents				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
ANTIFOAM	Rosen's, Inc.	Dimethylpolysiloxane	1-2 oz/100 gal	Use prior to foam
ANTI-FOAM	KALO, Inc.	Polydimethylsiloxane, silicon dioxide	1-2 oz/100 gal	Curative and preventative foam suppression
BRANDT ORGANICS DEFOAMER	Brandt Consolidated, Inc.	Silica filled polydimethylsiloxane	0.5-2 fl oz/100 gal	OMRI Listed spray tank antifoam/defoaming agent
BRANDT TRIPLELINE DEFOAMER	Brandt Consolidated, Inc.	Polydimethylsiloxane	0.5-2 oz/100 gal	Efficient spray tank antifoam agent
BREWER DEFOAMER	Brewer International	Dimethyl-polysiloxane	1-2 oz/100 gal	Foam control
CHEMPRO A-10	Chemorse, Ltd.	Dimethylpolysiloxane	1-2 oz/100 gal	
CNI DEFOAMER	CNI	Dimethylpolysiloxane and constituents ineffective as spray adjuvant	1 oz/100 gal	
DEFOAMER	Rosen's, Inc.	Silicone fluid	1-2 oz/100 gal	
ELIMINO	Precision Laboratories, LLC	Polydimethylsiloxane	1-10 oz/100 gal	OMRI listed
FAST BREAK	Winfield United	Dimethylpolysiloxane, methylated silicon	1-4 oz/100 gal	Antifoam Defoamer
FOAM BUSTER MAX	Helena Agri-Enterprises	Polydimethylsiloxanes	1-2 oz/100 gal	
FOAM EATER	Coastal Agrobusiness, Inc.	Dimethylpolysiloxane	1-4 oz/100 gal	Squeeze container and 2.5 gal jug
FOAM FIGHTER	Miller Chemical Co.	Dimethyl silicone fluid emulsion	See label	
FOAM FIGHTER TURBO	Miller Chemical Co.	Dimethylpolysiloxane, silicon dioxide	1-3 squirt/100 gal	30% active
FOAM FREE	AgXplore International, LLC	Dimethylpolysiloxane	1-4 oz/100 gal	Add to tank before or after foam
FOAMBUSTER 10	Helena Agri-Enterprises	Dimethylpolysiloxane	1 oz/100 gal	
FOAMFORCE	Heritage Landscape Supply	Dimethylpolysiloxane, dimethylsiloxane polymer	1 oz/100 gal	
FOAMINATOR DRY	Winfield United	Dimethylpolysiloxane, polypropylene glycol and silicon dioxide	See label	Antifoam Defoamer
FOME-KIL	Drexel Chemical Co.	Dimethylpolysiloxane	1 fl oz/100 gal	Defoams NIS and fertilizer solutions
FS ELIMINATOR	GROWMARK, Inc.	Polydimethylpolysiloxane and silica gel	0.5-4 oz/100 gal	
FTF DEFOAMER	Wilbur-Ellis Company	Silica filled polydimethylsiloxane, polypropylene glycol and siloxane polyalkyleneoxide copolymer	See label	Highly concentrated, very low use rate
GUNDOWN ELITE	Precision Laboratories, LLC	Polydimethylsiloxane and silica gel	0.5-4 oz/100 gal	
HEADHUNTER ELITE	Meherrin Ag & Chemical Company	Dimethylpolysiloxane and other antifoaming agents	0.5-4 oz/100 gal	
HEAD-OUT	Farm Business Network	Polydimethylsiloxane and silica gel	0.5-4 oz/100 gal	
IVC DEFOAMER	Innvictis Crop Care, LLC	Dimethylpolysiloxane, silicon dioxide	2 oz/100 gal	
IVC FOAM MARKER	Innvictis Crop Care, LLC	Foam concentrate	80 oz/100 gal	100:1 dilution or 12-13 oz/10 gal
KNOCK-OUT	Conklin Co., Inc.	Polydimethylsiloxane	1-2 oz/100 gal	Highly effective with high-foaming chemicals
PREVENT	GarrCo Products Inc.	Concentrated silicone antifoam/defoamer	0.5-2 oz/100 gal	Add before foam
PROTERIS DEFOAMER	Titan Pro SCI	Polydimethylsiloxane and silica gel	0.5-4 oz/100 gal	
REGULATOR	Rosen's, Inc.	Proprietary blend of silicone fluids	1-2 oz/100 gal	Use prior to foam or after foam has occurred
UNFOAMER	Loveland Products, Inc.	Dimethylpolysiloxane, polypropylene glycol, and methylated silicone	See label	Anti-foam/defoam system

Foam Markers				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
ALIGN	Helena Agri-Enterprises	Nonionic and anionic surfactants, fatty alcohol, and butoxy ethanol	1%	
BENCHMARK	KALO, Inc.	Proprietary blend of active foam agents	1:160 use ratio	1:160 highly visible foam, long-lasting
BENCHMARK HT	KALO, Inc.	Proprietary blend of active foam agents and formulation aids	1:100 use ratio	1:100 Heat and humidity resistant, long-lasting
ENDURON PSI	Precision Laboratories, LLC	Blend of nonionic and anionic surfactants	100:1 use ratio	Long-lasting marking foam
EVERLAST - ALL WEATHER FOAM MARKER	Rosen's, Inc.	Proprietary surfactant blend	0.63-1%	Concentrated, high expansion foam with wind and heat resistance
F.M.-160	Drexel Chemical Co.	Concentrate blend of foaming agents	1 gal/160 gal	Foam marker concentrate
FOAM MARKER	Coastal Agrobusiness, Inc.	Nonionic and anionic surfactants, fatty alcohol and butoxyethanol	See label	Performs in hard water and bad weather
FOAMER	Helena Agri-Enterprises	Sodium alpha-olefin sulfonate	1-2%	
FPS	Heritage Landscape Supply	Sodium alkyl ethoxy sulfate	3 oz/2 gal	
IMPRINT	Chemorse, Ltd.	Alkyl sulfates, alkyl ether sulfates, and alkyl sulfonates	1%	
PROMARK	Winfield United	Blend of sodium alkyl polyoxyethylene sulfate and sodium alkyl sulfate	1%	Foam marker
TREKKER TRAX	Loveland Products, Inc.	Anionic and nonionic surfactant and alcohols	0.83%	Foam marker
TUFF TRAX	Loveland Products, Inc.	Alkyl sulfonate 4-methyl-2, 4 penthane-diol	1.25%	Foam marker
VALCHECK FOAM MARKER	Winfield United	Sulfoesters of alkenols, oligomeric pyranoside ethers of fatty alcohols, 2-hydroxy sec-butyl alcohol	1 qt/20 gal	Contains blend of high foaming sufactants and foam stabilizing agents

Scents				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
PREFLIGHT	Heritage Landscape Supply	Methyl salicylate, proprietary blend of emulsifiers and defoaming agent	1-4 oz/100 gal	Also a defoaming product in small tanks, like backpack sprayers

Tank Cleaners and/or Neutralizers				
Product Name	**Company**	**Principle Functioning Agents**	**Use Rate**	**Technical Comments**
ALL CLEAR	Loveland Products, Inc.	Surfactants, sequestrants, degradants	0.25-0.5%	Cleans and decontaminates
BRANDT PESTICIDE EQUIPMENT CLEANER	Brandt Consolidated, Inc.	Potassium hydroxide, anticorrosion compounds, sequestering agents,nonionic and lonic surfactants,polydimethylsiloxane	1-2 pt/50 gal	Tank cleaner for hard to remove pesticides
CHEMPRO TN-610	Chemorse, Ltd.	Surfactants, dispersants and emulsifiers	1 qt/100 gal	
CHEMPRO TN-620	Chemorse, Ltd.	Surfactants, dispersants and emulsifiers	1-2 qt/100 gal	
CLEAR-UP	Farm Business Network	Nonionic and anionic surfactants, alkaline salts and formulation aids	1-2 qt/100 gal	Elevates rinsate pH to degrade vulnerable crop protection products
DELETE-IT	Innvictis Crop Care, LLC	Alkalinity builders, emulsifiers, surfactants, formulation aids	2 qt/100 gal	
ERASE	Precision Laboratories, LLC	Alkalinity builders, emulsifiers, surfactants and formulation aids	1-2 qt/100 gal clean water	Elevates rinsate pH to degrade vulnerable crop protection products
F-239	Brewer International	Concentrated all-purpose solvent/degreaser	See label	Biodegradable, non-corrosive, water soluble
FLUSH CONDITIONER	Brewer International	Long chain complex liquid phosphate and oxidizing agents	See label	Sequestrant and pH modifier
FS RINSEOUT	GROWMARK, Inc.	Proprietary blend of alkalinity builders, emulsifiers, surfactants and formulation aids	1-2 qt/100 gal	May require anti-foam
K-KLEAN	KALO, Inc.	Cleaning agents in a proprietary transparent emulsion	1 qt/100 gal	Economical liquid tank cleaner
KLEEN-UP ELITE LIQUID TANK CLEANER	Rosen's, Inc.	Proprietary blend of detergents, emulsifiers, alkalinity agents, dispersants, solvents, chelators, and antiscalant chemicals	0.25%	Approved for cleaning all pesticides and pesticide residues
OMEGA	Spraytec	Tank cleaner	1 gal/200 gal	
OUTRIGHT	CNI	Organic amine, inorganic hydroxides, surfactants and formulation aids	1-4 qt/100 gal	
POSTFLIGHT	Heritage Landscape Supply	Proprietary blend of potassium hydroxide, branched alcohol ethoxylate and solvents	32 oz/100 gal	At full strength, removes colorant and other stains from hard surfaces
PROTANK LIQUID CLEANER	Winfield United	Proprietary blend of phosphate and carbonate salts, sequestering agents, surfactants and solvents	See label	Tank cleaner
PROTERIS TANK CLEANER	Titan Pro SCI	Proprietary blend of formulation aids including alkalinity agents, emulsifiers, and surfactants	1-2 qt/100 gal	Elevates rinsate pH to degrade vulnerable crop protection products
PURGE	AgXplore International, LLC	Sodium metasilicate, inorganic hydroxides, surfactants, and formulation aids	1 pt/100 gal	
REMOVE	GarrCo Products Inc.	Superior tank cleaning system	1-2 qt/100 gal	Allow sufficient time for the cleaning solution to penetrate the residue
ROYAL CONDITIONER	Brewer International	Blend of inorganic phosphates, phosphoric acid	See label	Line flush for irrigation systems with sequestrants
ROYAL FLUSH	Brewer International	Phosphoric acid, blend of inorganic phosphates	See label	Line flush for irrigation systems with sequestrants
RUST REMOVER	Brewer International	An acid-based cleaner that dissolves rust and bonds paint	See label	Dissolves rust
TANK AND EQUIPMENT CLEANER	Loveland Products, Inc.	Detergent mixture	1 lb/100 gal	Cleans and neutralizes equipment
TANK AND EQUIPMENT CLEANER	Rosen's, Inc.	Complex phosphates, sodium silicate, sodium hydroxide, sodium carbonate, monocyclic terpenes, and nonionic surfactant	1-2 lb/100 gal	

Tank Cleaners and/or Neutralizers

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
TANK CLEANER	KALO, Inc.	Complex phosphates, sodium sulfate, sodium carbonate, sodium hydroxide, monocyclic terpenes and nonionic surfactant	1-2 lb/100 gal	Dry, tank and equipment cleaner. Dye indicates ingredients are still active in solution
WARSH-OUT	Drexel Chemical Co.	Alkalinity builders, surfactants, anti-redeposition aid, corrosion inhibitor, formulation aids	1-2 qt/100 gal	Low use rates
WIPEOUT XS	Helena Agri-Enterprises	Blend of detergent surfactants, sequesterants, and alkaline cleaners	0.125-0.25%	Effective for sulfonylurea and auxin herbicide tank cleaning
WORK-HORSE	Atlantic-Pacific Agricultural Co., Inc.	Concentrated commercial detergents, sequestrants and polymers	1 qt/100 gal	Meets EPA requirements for triple rinsing for auxin herbicides
XTRACT	Meherrin Ag & Chemical Company	Alkalinity builders, emulsifiers, surfactants and formulation aids	2 qt/100 gal clean water	Elevates rinsate pH to degrade vulnerable crop protection products

Other Products

Product Name	Company	Principle Functioning Agents	Use Rate	Technical Comments
AEROSTAR	KALO, Inc.	Modified vegetable oil, olgometric terpene resin, alcohol alkoxylate	1-2 qt/100 gal	Penetrant
BARK-BOOST TA	Brewer International	100% Ethoxylated tallow amine, glycols, plus inerts	0.25-1%	Cationic tallow-amine surfactant
BASAL BARK OIL	Brewer International	Proprietary blend of oils and emulsifiers	See label	Absorption and penetration
BASAL BARK OIL IMPROVED	Brewer International	Proprietary blend of oils, limonene and emulsifiers	See label	Absorption and penetration
BASAL BARK OIL LT	Brewer International	100% Blend of petroleum based basal oils	See label	Absorption and penetration for cold weather application
BASAL OIL WITH MYSTIC BLUE	Heritage Landscape Supply	Proprietary blend of paraffinic oil, emulsifiers, and colorant	See label	Vegetation management for cut trunk applications
BRANDT BIG FOOT	Brandt Consolidated, Inc.	Concentrated temporary colorant	16 fl oz/100 gal	Helps to indicate drift
BRANDT BIG FOOT SS	Brandt Consolidated, Inc.	Super concentrated temporary blue colorant	6-10 fl oz/100 gal	Helps to indicate drift
BRANDT MARK-IT-RED	Brandt Consolidated, Inc.	Concentrated red colorant	1 qt/100 gal	Helps to indicate drift
CHEMPRO S-200	Chemorse, Ltd.	Paraffinic oil, methylated seed oil, and surfactant blend	0.5-1%	
CNI BASAL OIL	CNI	A proprietary blend of paraffinic oil, emulsifiers	20-25%	Basal oil
CNI BASAL OIL RED	CNI	A proprietary blend of paraffinic oil, emulsifiers	20-25%	Basal oil with red dye
CNI SELECT BASAL OIL	CNI	A proprietary blend of paraffinic oil, emulsifiers	20-25%	Basal oil
DYNAMARK UV BLUE SPRAY INDICATOR	Winfield United	Blue spray indicator	12-30 oz/100 gal	Spray indicator
FS VIVID PINK	GROWMARK, Inc.	Pink dye	1-2 fl oz/10 gal	Rate depends on many factors

HYPER-ACTIVE	Helena Agri-Enterprises	Polyoxyethylene fatty acid ester and dialkyldimethyl ammonium polynaphthylmethylenesulfonate	0.125-0.25%	Active on surface of insects and fungi
JLB OIL PLUS	Brewer International	100% Blend of basal oils and natural oil derivatives	See label	Basal oil penetrant and emulsifier
JLB OIL PLUS IMPROVED	Brewer International	100% Blend of natural oils and natural oil derivatives	See label	Basal oil penetrant and emulsifier with orange fraganced oil
PREV-AM	Rovensa Next	Sodium tetraborohydrate decahydrate	50-100 fl oz/100 gal	Contains: orange oil. Combined control of listed disease, mite and insect infestations on listed agricultural crops, turf and ornamentals
SCREENIT	Coastal Agrobusiness, Inc.	Proprietary blend of long chain fatty alcohols and their ethoxylates	1%	AntiTranspirant/Sunscreen
TOPFILM	Biosorb, Inc.	Proprietary blend of patented BIOCAR biological carriers derived from grain materials that have coating and film forming properties as well as natural organic nitrogen	0.25-1 pt/A	Binder, film forming suspoemulsion derived from grain by-products
W.E.B OIL	Wilbur-Ellis Company	Mineral oil	See label	Basal applications

ADJUVANTS FOR EACH MANUFACTURER, DISTRIBUTOR, OR RETAILER

INDICATES A CPDA CERTIFIED PRODUCT .

AgXplore International, Inc.

BINDE
BLAZIN'-FIRE
COMBUST
DRIFTBUSTER
FIREBALL
FIREBALL PLUS
FIREFLY
FOAM FREE
JAGGE
JETTE 80/20
LANDLOCK
LINKE
METHSOYOIL
PEERLESS
PHUSE
PURGE
SPREDDE 90/10
SURSIL
SYNURGIZE
TRIPLE PLAY
TYRANT CSOC

Amway

APSA-80

Atlantic-Pacific Agricultural Co., Inc.

HOOK
HOOK-ZERO
HYDROMEND
TACKLE-DRA
WORK-HORSE

Biosorb, Inc.

TOPFILM

Brandt Consolidated, Inc.

38-F
41-A
BRANDT 719 SPREADER
BRANDT A+
BRANDT ADJULOCK II
BRANDT ADJULOCK PRIME
BRANDT BIG FOOT
BRANDT BIG FOOT SS
BRANDT CROP OIL CONCENTRATE
BRANDT INDICATE 5
BRANDT INSURE
BRANDT M.S.O.
BRANDT MAGNIFY
BRANDT MARK-IT-RED
BRANDT NO FOAM B
BRANDT ONSITE
BRANDT ORGANICS AG AIDE
BRANDT ORGANICS DEFOAMER
BRANDT ORGANICS SKH STICKER
BRANDT ORGANICS UMBRELLA
BRANDT PESTICIDE EQUIPMENT CLEANER
BRANDT PH ADJUST
BRANDT SIDEKICK
BRANDT SUPER 7
BRANDT SUPER WETTER
BRANDT TORPEDO
BRANDT TRIPLELINE DEFOAMER
BRANDT ULTRA 90

Brewer International

AG-BALANCE+
AMS-BREW
AQUA-BALANCE+
AQUA-BOOST+
BARK-BOOST TA
BASAL BARK OIL
BASAL BARK OIL IMPROVED
BASAL BARK OIL LT
BREWER DEFOAMER
CIDE-KICK
CIDE-KICK II
CIDE-KICK II+
CIDE-KICK+
CROP-KICK+
F-239
FLUSH CONDITIONER
I'VOD
I'VOD C
JLB OIL PLUS
JLB OIL PLUS IMPROVED
LINE-UP+
LOVERT
POLY CONTROL 2
POLY FILM-R+
ROYAL CONDITIONER
ROYAL FLUSH
RUST REMOVER
SILENERGY
SILENERGY+
SILNET+
SUN CONTROL+
SUN WET
SUN WET+
SUNENERGY
SUNENERGY+

Chemorse, Ltd.

60/40 CANOLA SPRAY OIL
60/40 COTTONSEED SPRAY OIL
60/40 CROP OIL
60/40 MSO
60/40 SOYBEAN SPRAY OIL
85/15 MSO
CHEM SPRAY CROP OIL CONCENTRATE
CHEM SPRAY HSCOC
CHEMPRO 34
CHEMPRO 34-PLUS
CHEMPRO A-10
CHEMPRO APF 80
CHEMPRO APF 90
CHEMPRO BASIC BLEND
CHEMPRO CP-110
CHEMPRO CP-20
CHEMPRO CP-30
CHEMPRO CP-35
CHEMPRO CP-45
CHEMPRO CP-50
CHEMPRO CP-65
CHEMPRO CP-81
CHEMPRO NIS 80
CHEMPRO NIS 90
CHEMPRO S-163
CHEMPRO S-172
CHEMPRO S-196
CHEMPRO S-200
CHEMPRO S-205
CHEMPRO S-210
CHEMPRO S-220
CHEMPRO S-225
CHEMPRO S-230
CHEMPRO S-286

CHEMPRO S-820
CHEMPRO S-910
CHEMPRO S-95
CHEMPRO TN-610
CHEMPRO TN-620
CHEMPRO US-90
CHEM-TROL
CONQUER
CONQUER HSMSO
CONQUER STR
IMPRINT
SYNDETIC

CHS

ADIUM
ADVATROL
CERIUM ELITE
CHS ACUVANT
CHS AGGRESTROL
CHS AXON
CHS DEPPEX
CHS EMULATE
CHS FIXATE
CHS FIXATE PRO
CHS HYPERTONIC
CHS LEVEL BEST PRO
CHS PENETREC
CHS SITKA
CHS TRAPLINE
CHS TRAPLINE PRO 2
CHS TRAPLOCK
CHS WHEELHOUSE 2
CHS WHEELHOUSE PRO
CHS WOODSIDE
CITRI-AMP
COGNITIVE 1
COVREX
CROP OIL
ENCLOAX
ENERPREX
FORGE
H-45
JACKHAMMER
JACKHAMMER ELITE
LAST CHANCE-PRO
LINKAGE
LIQUID AMS
MEDIATE PLUS
PARACHUTE II
PETRICHOR
PRECINT 2
PREFER 90
SAVVY
SOILTRATE
STAKE
SURALTA
TAPRAN
UPLAND MSO
VERACITY
VERACITY ELITE II
VERASURE
WHITE WATER 90
WHITE WATER NIS

CNI

800 PLUS
AGRI-OIL
AGRI-OIL W
AMS 3.4
AMS 4.0
AMS 4XL
AMSPREAD
AMSTRIKE
ANCHOR 30
ANCHOR ONE
BOWER
CLEARSURF 90
CNI 80-20
CNI 90-10
CNI BASAL OIL
CNI BASAL OIL RED
CNI DEFOAMER
CNI MSO
CNI SELECT BASAL OIL
CNI TRIO
CNI TRIO-W
DC-4
DRAKON
FASTRATE+
HILO COC
HILO MSO
OUTRIGHT
PACIFIC PREMIUM AMSPREAD
PACIFIC PREMIUM AMSTRIKE
PACIFIC PREMIUM CAPSIZE
PACIFIC PREMIUM CLEARSURF 90
PACIFIC PREMIUM COC
PACIFIC PREMIUM DC-4
PACIFIC PREMIUM DRA
PACIFIC PREMIUM MSO
PACIFIC PREMIUM NIS
PACIFIC PREMIUM NITRO MSO
PACIFIC PREMIUM RESPONSE X
PACIFIC PREMIUM TRANSCEND
PACIFIC PREMIUM TRIO
REMAIN
RESPONSE
RESPONSE DX
SWIFT
TRANSCEND
TRANSFER
TRIFORCE

Coastal Agrobusiness, Inc.

AMS PLUS
CHEM-OIL 83
CHEMWETT PLUS
CITRIPHASE
COFILM
CO-MIX
COVERALL
DRIFT-X
EXCEL 2000
FOAM EATER
FOAM MARKER
MATRIXX
SCREENIT
SPECTRUM
SYNERGY
SYNTACT

Conklin Co., Inc.

BULL'S EYE
COMPLETE
HOME RUN
KNOCK-OUT
KOMBIND
RAINFAST
WEX

Corbet

HYDROVANT

Drexel Chemical Co.

AMS-ALL
AMS-SUPREME
AMS-XTRA
BEANOIL
CITRU-SHIELD
F.M.-160
FOME-KIL
HAF-PYNT
HOLZIT
HOT MES
HUM-AC 820
LOX

MES-100
MIX
NITRO-SURF
PAS-800
PEPTOIL
PINENE II
PINENE II (OMRI)
PRIMARY
SIL-FACT
SIL-MES 100
SURF-AC 820
SURF-AC 910
U-SURP
VEGETOIL
WARSH-OUT

EGE Products

ABSIL
ABSORB 100
CALDROM
COMBO 7
CONDENSE COMPLETE 1.6
CORPORAL HSOC
LENGTH EXT
LENGTH EXT NANO
PADLOCK
PADLOCK DRA
PADLOCK PLUS
PADLOCK PLUS ULTRA
RIVET 90
SHACKLE
SHACKLE EXT
SHACKLOCK

Farm Business Network

CLEAR-UP
EVEN L PRO
EVEN LR
FIT-2G
HEAD-OUT
IN-CERT HIGHSURF MSO
IN-CERT MSO
IN-CERT ORGANSIL MSO
IN-PLANT
IN-ZORB 90
IN-ZORB ADV
SIZZLE
TETHER
TETHER 24
TETHER DRA

GarrCo Products Inc.

ASSIST
BLAZE
CONDITION
CONDITION MAX
CONDITION ND
CONDITION PLUS
CONDITION PLUS WD
CONTROL
CONTROL AMS
CONTROL DUO
CONTROL DUO LS
CONTROL WM
IMPROVE
PREVENT
REMOVE
TRI-PLEX

GROWMARK, Inc.

FS AMS LDF
FS AMS MAX 2.0
FS AMS MAX DR
FS AQUALIGHT
FS AQUAPRIME
FS AQUASUPREME 2.0
FS ARGENT
FS CAPTIS
FS CERTIN
FS COC SUPREME
FS COGENT
FS CROPSTIK
FS ELIMINATOR
FS INTENTION
FS INTENTION DVA
FS INTERFACE
FS LAYOUT 2.0
FS MAXSUPREME
FS OPTIVIX
FS RINSEOUT
FS TALENT
FS TANKMAX
FS TRANSFORM PLUS
FS VIVID PINK

Heartland Ag, Inc.

BARROLA HL
BARROLA HL ULTRA
ENKLOZE
ENYA
FINAN HL
FINAN HL ULTRA
HENO D
KABAK MAX
KABAK ULTRAMATE
KROP KARE COC
LUFTECH
METEM
PIM MSO ULTRA
WITHSTAND NG
X-99 NIS 80

Hefty Seed Company

CORREX WC
ENSCRIBE
GATEWAY PLUS
LATCH NG
LOCKAMBA 2.0
LOCKAMBA MAXX
SEQUESTER 3
SEQUESTER PLUS
SEQUESTER ULTRA

Helena Agri-Enterprises

ACCUQUEST WM
ACCUZONE DC
AD-SPRAY 101
AD-SPRAY 80
AD-SPRAY 90
AERO DYNE-AMIC
AGRI-DEX
ALIGN
BLENDEX VHC
BUFFER PS
CIDE WINDER
CITRUFILM
CLASP
COHERE
COHORT
CONTINGENT
CROP OIL CONCENTRATE
DIVERSIFY
DLZ
DYNE-AMIC
DYNE-A-PAK
FIRE ZONE
FOAM BUSTER MAX
FOAMBUSTER 10
FOAMER
GROUNDED
HEL-FIRE
HYPER-ACTIVE
INDUCE
INDUCE PH
INTERACTIVE
JOINT VENTURE

JUSTIFIED
KAMMO PLUS
KINETIC
OCULUS MAXX
OPTIMA
PATROL
PENETRATOR
PENETRATOR PLUS
POINTBLANK WM
PREMIUM MSO
QUEST
REDUCE
REQUEST
SEQUEL
SILWET L-77
SMOKE
STRIKE ZONE DF
STRIKE ZONE MXD
SURFIX-P
TRANSACTIVE HC
VEGETABLE OIL CONCENTRATE
WIPEOUT XS
ZAAR
ZANDAR

Heritage Landscape Supply

AIRCOVER
AIRSTICK
AQUA-KING PLUS
AQUICARE
AQUICARE GR
AQUIFLO PLUS
AQUISYNC
ATMOS
BASAL OIL WITH MYSTIC BLUE
BREEZE XL
DROPLEX
DROPLEX XTRA
FOAMFORCE
FPS
GULFSTREAM FREE
POSTFLIGHT
PREFLIGHT
TURBULANCE
WINDSURF PRO

Innvictis Crop Care, LLC

AD-HERE SP
AD-SORB FC
AD-SORB RST
ADVERSARY
AVIATOR
CONTRIVER
COVERT
DELETE-IT
ENTRY
ENVELOP
FORTIFY
GAUNTLET
HUMVEE
INVADE
INVADE HC
INVADE RST
INVADE X-TRA
IVC 5150
IVC DEFOAMER
IVC FOAM MARKER
IVC KICKER
IVC QUINTAIN XTRA 8L
KICKER PLUS
LATRON B-1956
LOAD UP
NAVIGATOR
NAVIGATOR HC
REVISTA
ROVER
TRAVERSE
TRAVERSE D
VALKARIE
V-DRIFT
VENTURI
VERIFACT
VERIMAX AMS
VERIMAX DRY
VINCITRO
VIXEN AC-L
VIXEN D
VOYAGER 90/10

KALO, Inc.

90% NONIONIC SURFACTANT
AEROSTAR
AMS STANDARD
AMS/NIS
ANTI-FOAM
AVANT XTRA
BENCHMARK
BENCHMARK HT
BIO-90
BIO-FILM EXTRA
BOAST
BRACER
CADENCE
CAPSTAR
CENTERPOINT
CHECK-POINT
CITRIX
CLARION
COMPEX EXTRA
CONCORD
CROP OIL CONCENTRATE
CRUZADO
DRIFT-X
FRACTION
GRAVITATE
H20 MAXIMIZER
HI-SURF MSO
HYDRO-WET INJECTABLE
HYDRO-WET PELLETS
K-KLEAN
K-SURF
LEEWAY
LEEWAY II
LEEWAY ULTRA
MAINSTAY
MAXWAY II
MEDALIST
METHYLATED SEED OIL
MODIFIED VEGETABLE OIL
MOMENTA
OCTANE 90
ONE-AP XL
PURE & SIMPLE 90%
PURE & SIMPLE CROP OIL
PURE & SIMPLE NIS
RAIN-CHECK
RAINSTORM
RECOIL
REGULAID
RESTORE
SPECTRA AMS
SPECTRA MAX TANK MIX
SPRAY-START
STRATUM
SUMMIT
TANK CLEANER
THRESHOLD
TOURNAMENT-READY
TOURNAMENT-READY PELLETS
TRONIC
VARIANT
WATER FX
WATER-RITE
WATER-RITE FC

Loveland Products, Inc.

ALL CLEAR
AMAZE GOLD
AMIGO

AQUA EXPRESS
ATTACH
BOND MAX
CHOICE TRIO
CHOICE WEATHER MASTER
COMPADRE
E-Z MIX
FLAME
FRANCHISE
FREEWAY
GUNSMOKE
HERBIMAX
HI-WETT
INFUSE
LI-700
LIBERATE
MAXIMIZER
MISSILE
MSO CONCENTRATE WITH LECITECH
PHASE
PHASE II
QUAD 7
REIGN
REIGN LC
SCANNER
SPREADER 90
STRIKE FORCE
SURFATE
TACTIC
TANK AND EQUIPMENT CLEANER
THRUST
TREKKER TRAX
TUFF TRAX
UNFOAMER
VADER
WEATHER GARD COMPLETE
WIDESPREAD MAX

Meherrin Ag & Chemical Company

BACKDROP
BACKDROP+
EMINENCE
FACTOR 80 LR
FASTSTRIKE ADVANCED
HEADHUNTER ELITE
MAC AMS 3.4L
MAX FACTOR 90 LR
MSO XTREME
PROMOTE PLUS
QUADFIRE
RECON
SILTRATE ADVANCED
SOIL FORCE
TWISTER HL
XTRACT

MFA, Inc.

AMS ADVANTAGE
AMS EZ
AMS-DEP
ASTUTE
ASTUTE LITE
ASTUTE XTRA
CONVERT
IMPETRO VAP
POWERSHOT!
SOY PLUS HD
WAYPOINT
XPOND

Miller Chemical Co.

EXIT
FOAM FIGHTER
FOAM FIGHTER TURBO
HYBRID
MIST-CONTROL
NU FILM 17
NU FILM P
NU-FILM-IR
SPRAY AIDE
SUSTAIN

Precision Laboratories, LLC

AVOR
AVOR LT
BORDER XTRA 8L
BORDER XTRA 8L+
CHEM-STIK
CHEM-STIK LPH
CONVERT
DELIVER+
DIRECT RS
ELIMINO
ENDURON PSI
ERASE
EXCHANGE
GUNDOWN ELITE
INTACT
INTACT ADVANCED
INTACT MAXX
INTACT PRO
KIXYT
MSO ULTRA
NEW BALANCE
NEXUM NG
NIS 80-20
NIS 90-10 CA
OMNIX LDF
PERSIST ADVANCED
PERSIST ULTRA
PRECISIVE
RIPARA
SALIA
SIMPLYX
SORBYX
SPEED
TARAGON ELITE
TARAGON MAX
TARAGON XTRA
TRANSPORT LPH
TRANSPORT PLUS
TRANSPORT ULTRA
VESTIS
VIGOR
VOLIMINATE

Rosen's, Inc.

ACCELERATOR 2
ALPHA SHOT
ANTIFOAM
ARRAY
ARRAY LINK
ASTONISH
CAPSULE
CONTRAST
DEFOAMER
DIPLOMAT
ENACT
ENLIVEN
EVENT
EVERLAST - ALL WEATHER FOAM MARKER
IMPERIAL AMS
IMPRESSIVE DB
KLEEN-UP ELITE LIQUID TANK CLEANER
LEGION
MACH 5
MIX-ALL ELITE COMPATIBILITY AGENT
PLEXUS II
POWERHOUSE
REGULATOR
REVEL
R-WAY
STALLION
SUNDANCE II
TANK AND EQUIPMENT CLEANER
TRACKER
TRADITION 93
VECTOR

Rovensa Next

ATTITUDE
ENCOURAGE CLASSIC
HOWITZER
MORTAR
OROBOOST
ORO-HSMOC
ORO-RZ
PK ASSIST
PREV-AM
SHOCKER
SHRAPNEL
SKYHAWK
VINTRE
WETCIT

Soil Service, Inc.

LANDOIL
LANDOIL EXTREME
SOIL BOOST EXTREME
SOIL BOOST PLUS

SpeedAgro

XION ACTIVEGEL
XION SILICONGEL

Spraytec

FULLTEC ADJUVANT
FULLTEC OIL
FULLTEC X
OMEGA
TOP MIX

Titan Pro SCI

ACCERO
ACCERO ULTRA
ANNECTO
ARVUM
ARVUM ULTRA
CALDUS
FERVUS
FERVUS ULTRA
GRANUM
PROTERIS COMPATIBILITY AGENT
PROTERIS DEFOAMER
PROTERIS TANK CLEANER

Wilbur-Ellis Company

ADVANTAGE SOIL PENETRANT
ALLEVIATE
ALLOWANCE-EA
ANTERO-EA
AQUATE MAX
ARVON
ASCENSION
BRIMSTONE
BRONC
BRONC MAX
BRONC PLUS DRY
BRONC PLUS DRY EDT
BRONC TRIPLE
CAYUSE PLUS
CLIMB
COMPETITOR
CROSSHAIR
CUT-RATE
CYNDER
DENALI-EA
DGUARD
DILIGENCE-EA
EFFICAX
EMBRECE-EA
FTF DEFOAMER
GLACIER-EA
GUIDANCE-EA
HASTEN-EA
HIGH LOAD
INFOLIUM-EA
IN-PLACE
INSIST 90 PLUS II
MOR-ACT ADJUVANT
MOR-ACT CROP OIL CONCENTRATE
PENATROL
R.O.C.
R-11
RAINIER-EA
REGUARD
RENEGADE-EA
RETRIBUTION
SERENITY CUBED
SERENITY PLUS
SUPER SPREAD MSO
SYL-COAT
SYL-TAC-EA
TRI-FOL
W.E.B OIL

Winfield United

ACCUDROP
AMS 2000
AMSOL DRY
AMSURF XTRA
CHEM-SURF 90
CLASS ACT FLEX
CLASS ACT NG
CLASS ACT RIDION
COMPLETE COMPATIBILITY
COMPLEX
CORRAL POLY
DESTINY HC
DOWNDRAFT
DYNAMARK UV BLUE SPRAY INDICATOR
EXURO
FAST BREAK
FOAMINATOR DRY
INERGY
INTERLOCK
MASTERLOCK
NOBLE
ONTARGET
OPTIFY 4X
OPTIFY A
OPTIFY D30
OPTIFY HSCOC
OPTIFY HSMSO
OPTIFY L27
OPTIFY Z37
PERMEATE
POWERLOCK
PREFERENCE
PROMARK
PROTANK LIQUID CLEANER
SILKIN
SPEEDWAY
STRIKELOCK
SUPERB HC
SUPERLOCK
TRANSFIX
ULTRALOCK
VALCHECK 80/20
VALCHECK AMS
VALCHECK AMS + DRT
VALCHECK COC
VALCHECK FOAM MARKER
VALCHECK III
VOLT-EDGE, A VAPORGRIP XTRA AGENT

American Society for Testing and Materials (ASTM International)

STANDARD TERMS AND DEFINITIONS

Acidifier: A material that can be added to spray mixtures to lower the pH.

Activator: A material that increases the biological efficacy of agrichemicals.

Active Ingredient: A component of the formulation that produces a specific effect for which the formulation is designed.

Adjuvant: A material added to a tank mix to aid or modify the action of an agrichemical, or the physical characteristics of the mixture.

Anionic Surfactant: A surface-active agent in which the active portion of the molecule containing the lipophilic segment forms exclusively a negative ion (anion) when placed in aqueous solution.

Antifoaming Agent: A material used to inhibit or prevent the formation of foam.

Attractant: A material that attracts specific pests.

Basic Blend: (Definition from the Editor) An adjuvant that raises the pH of the solution and contains a nitrogen source.

Buffer or Buffering Agent: A compound or mixture that, when contained in solution, causes the solution to resist change in pH. Each buffer has a characteristic limited range of pH over which it is effective.

Canopy Penetrating Agent: An adjuvant that increases the penetration of the spray material into the crop canopy. See deposition aid.

Cationic Surfactant: A surface-active agent in which the active portion of the molecule containing the lipophilic segment forms exclusively a positive ion (cation) when placed in aqueous solution.

Colorant: A material used to alter the color of the tank mix.

Compatibility Agent: A surface-active agent that allows simultaneous application of liquid fertilizer and agrichemical, or two or more agrichemical formulations, as a uniform tank mix, or improves the homogeneity of the mixture and the uniformity of the application.

Crop Oil Concentrate: An emulsifiable, petroleum oil-based product containing 15% to 20% w/w surfactant and a minimum of 80% w/w phytobland oil.

Crop Oil (Emulsifiable): An emulsifiable, petroleum oil-based product containing up to 5% w/w surfactant and the remainder of a phytobland oil.

Crop Oil (Nonemulsifiable): See phytobland oil.

Defoaming Agent: A material that eliminates or suppresses foam in the spray tank.

Deposition Aid: A material that improves the ability of agrichemical sprays to deposit on target surfaces.

Dormant Oil: A horticultural spray oil applied during the dormant phase of the targeted plant.

Drift Control Agent: A material used in liquid spray mixtures to reduce spray drift.

Emulsifier: A surfactant that promotes the suspension of one immiscible liquid in another.

Esterification: The process of reacting fatty acids with an alcohol. Although methanol is the most commonly used alcohol (methylated), ethanol (ethylated), n-butanol and isopropyl alcohol could be used.

Evaporation Reduction Agent: A material that reduces the evaporation rate of a spray mix during, after, or both during and after, application.

Extender: A material that increases the effective life of an agrichemical after application.

Foam Suppressant: See defoaming agent.

Foaming Agent: A material that increases the volume or stability of the foam formed in a spray mixture.

High Surfactant Oil Concentrate: An emulsifiable oil based product containing 25-50% w/w surfactant and a minimum of 50% w/w oil.

> **High Surfactant Crop Oil Concentrate:** A high surfactant oil concentrate where the oil is a petroleum oil.
>
> **High Surfactant Modified Vegetable Oil Concentrate:** A high surfactant oil concentrate where the oil is a modified vegetable oil.
>
> **High Surfactant Vegetable Oil Concentrate:** A high surfactant oil concentrate where the oil is a vegetable oil.

Humectant: A material which increases the equilibrium water content and increases the drying time of an aqueous spray deposit.

Modified Vegetable Oil: An oil extracted from seeds that has been chemically modified (for example, methylated).

Modified Vegetable Oil Concentrate: An emulsifiable, chemically modified vegetable oil product containing 5% to 20% w/w surfactant and the remainder chemically modified vegetable oil.

Naphtha-Based Oil: A petroleum oil containing a majority of the naphtha fraction.

Nonionic Surfactant: A surface-active agent having no ionizable polar end groups but comprised of hydrophilic and lipophilic segments.

Oil: See petroleum, vegetable, paraffinic and so forth.

Paraffinic Oil: A petroleum oil (derived from paraffin crude oil) whose paraffinic-carbon type content is typically greater than 60%.

Penetrant: A material that enhances the ability of an agrichemical to enter a substrate or penetrate a surface.

Petroleum Oil: Oil derived from petroleum: contains a mixture of hydrocarbons that are broadly classified as paraffins, naphthenes, aromatics, or other unsaturates, or combinations thereof.

Phytobland Oil: A highly refined paraffinic material with minimum unsulfonated residue of 92% v/v.

Spreader: A material which increases the area that a droplet of a given volume of spray mixture will cover on a target.

Spreader-Sticker: A material that has the properties of both a spreader and a sticker.

Sticker: A material that assists the spray deposit to adhere or stick to the target and may be measured in terms of resistance to time, wind, water, mechanical action or chemical action.

Surface Agent: A material that when added to a liquid agent medium, modifies the properties of the medium at a surface or interface. This is a general term that includes soluble detergents in liquid medium, dispersing agents, emulsifying agents, foaming agents, penetrating agents and wetting agents.

Surfactant: See surface agent.

Vegetable Oil: Oil extracted from seeds; typically those of corn, cotton, peanut, rapeseed, sunflower, canola or soybean.

Vegetable Oil Concentrate: An emulsifiable vegetable oil product containing 5% to 20% w/w surfactant and a minimum of 80% w/w vegetable oil.

Wetting Agent: Wetting agents can be considered synonymous with spreading agents in function.

NAMES AND ADDRESSES OF COMPANIES

AgXplore International, LLC.
4753 Nash Rd, Scott City, MO 63780
www.agxplore.com

Amway Corporation
7575 E. Fulton Road, Ada, MI, 49355
https://www.amway.com/

Atlantic Pacific Agricultural Company, Inc.
525 Clubhouse Drive, Peachtree City,
GA 30269
Atlantic-pacificag.com

Biosorb, Inc.
St. Charles, MO 63304
https://www.biosorb-inc.com

Brandt Consolidated, Inc.
2935 South Koke Mill Road,
Springfield, IL 62711
www.brandt.co

Brewer International
605 90th Ave, Vero Beach, FL 32969
https://brewerint.com

Chemorse, Ltd.
1596 NE 58th Avenue, Des Moines, IA 50313
www.chemorse.com

Chem Nut Inc.
800 Business Park Drive, Highway 82
West Leesburg, GA 31763
https://cniag.com

CHS
5500 Cenex Drive Inver Grove Heights, MN 55077
http://www.chsinc.com/

Coastal Agrobusiness, Inc.
112 Staton Road, Greenville, NC 27835
www.coastalagro.com

Conklin Co, Inc.
3951 N Kimball Drive
Kansas City, MO 64161
www.conklin.com

Corbet Scientific
Jackson, Wyoming 83001, US
https://corbetscientific.com/

Drexel Chemical Co.
PO Box 13327, Memphis, TN 38113-0327
www.drexchem.com

EGE Products
PO Box 538, Minneola, KS 67865
https://egebio.com/

Farm Business Network
2261 Market Street STE 22124, San Francisco, CA
94114

GarrCo Products Inc.
PO Box 619, Converse, IN 46919-0619
www.garrco.com

Growmark
1701 Towanda Avenue,
Bloomington, IL 61701
www.growmark.com

Heartland Ag, Inc.
407 W. Depot Road, Farmer City,
IL 61842
www.ekova.com

Hefty Seed Company
47504 252nd Street Baltic, SD 57003
www.heftyseed.com

Helena Agri - Enterprises, LLC.
225 Schilling Blvd., Collierville, TN 38017
www.helenaagri.com

Heritage Landscape Supply
7440 State Highway 121, McKinney, TX 75070
www.heritagelandscapesupplygroup.com

Innvictis Crop Care, LLC
4850 Hahns Peak Drive #200,
Loveland, CO 80538
www.innvictis.com

KALO, Inc.
13200 Metcalf Ave. Ste. 250,
Overland Park, KS 62213
www.kalo.com

Loveland Products, Inc.
3005 Rocky Mountain Ave, Loveland, CO 80538
www.lovelandproducts.com

Meherrin Ag & Chemical Company
https://meherrinag.com/

MFA, Inc.
201 Ray Young Dr., Columbia, MO 65201
www.mfa-inc.com

Miller Chemical Co.
PO BOX 333 Hanover, PA 17331
www.millerchemical.com

Precision Laboratories, LLC
1429 S. Shields Drive, Waukegan, IL 60085
www.precisionlab.com

Rosen's, Inc.
700 S.W. 291 Hwy. Ste. 204,
Liberty, MO 64068
www.aginfotoday.com

Rovensa Next
2788 S. Maple Ave., Fresno CA 93725
www.rovensanext-na.com

Soil Service, Inc.
2576 N County Rd 1600, Niota, IL 62358
soilserviceinc.com

SpeedAgro
https://www.speedagro.com.ar/en/speedagro-usa/

Spraytec
3255 99th St. Urbandale, IA 50322
https://spraytec.com/en/

Titan Pro
1301 S 24th Street, Clear Lake, IA
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