

Sprayer Guidelines

OxiDate 5.0 is a strong oxidizing agent with a low pH (<1.5) that reacts negatively with pesticides/fertilizers that have a metal ion in their formulation. It is important to thoroughly rinse out spray tanks prior to using OxiDate 5.0 to prevent any reaction with residues in the tank.

Tank-Mixing Instructions

1. Fill the tank $\frac{1}{2}$ full of the required water volume.
2. Start agitation when the tank is $\frac{1}{2}$ full before adding OxiDate 5.0 and continue agitation through the entire mixing process.
3. Add the needed amount (recommended % v/v) of OxiDate 5.0 for total tank-mix volume.
4. Add additional water to bring the tank to $\frac{3}{4}$ full of the total desired solution volume.
5. Add any compatibility agents and anti-foamers, as necessary.
6. Begin adding the remaining needed compatible pesticides to the tank in the following order based on formulation type: water-soluble packets (WSP); dry formulations (DF, WDG, WG, WP, SG), dry or solid anti-drift agents; dispersed liquid formulations (SC, F, FL, SE, EW, CS), liquid drift retardants; remaining liquid formulations (EC, OD, S, SL), then add any additional necessary adjuvants and compatible fertilizers last.
7. Be sure to wait 3–5 minutes before adding each formulation type to ensure proper mixing.
8. Add the remaining water needed to fill the tank to the total desired solution volume.

Tank-Mixing Notes

1. Wait at least 48–72 hours after a metal-based foliar application has been made before applying OxiDate 5.0. It is recommended that no more than 2–3 additional products are added to a tank-mix solution for ground applications and only 1–2 additional products in low water volume for aerial or electrostatic applications.
2. Metal-based pesticides/fertilizers can be applied following an application of OxiDate 5.0 once the leaf surface has fully dried.
3. Do not tank-mix with biological-based biopesticides such as, *Gliocladium* species, *Beauveria* species, and *Bt* species.
4. Coverage is critical, so it is recommended to use appropriate nozzles and solution volume (GPA) based on crop and canopy density. For best performance, thoroughly apply solution to ensure full coverage of plant tissue. The use of a non-ionic surfactant is recommended to improve results. Do not use any surfactant/adjuvant, other than non-ionic surfactants, without consulting the OxiDate 5.0 Compatibility Guide or contacting BioSafe Systems.

Caution: Never add OxiDate 5.0 to a super concentrated solution containing other pesticides. OxiDate 5.0 must be 80% diluted prior to adding any other pesticides to the tank-mix, especially in low water volume mixtures like aerial applications.

Fungicides & Bactericides

Active Ingredient	Brand Name(s)	Compatibility	Notes
Acibenzolar-S-methyl	Actigard 50WG	●	
Azoxystrobin	Quadris, Abound	●	
Azoxystrobin + difenconazole	Qaudris Top	●	
Azoxystrobin + propiconazole	Avaris, Avaris 2XS	●	
Benzovindiflupyr + azoxystrobin + propiconazole	Trivapro	●	
Boscalid	Endura	●	
Boscalid + pyraclostrobin	Pristine	●	
Captan	Captan	●	
Chlorothalonil	Bravo Weather Stik	●	
Cyazofamid	Ranman	●	Need to spray solution within 4-6 hrs.
Cyprodinil + fludioxonil	Palladium	●	Need to spray solution within 4-6 hrs.
Famoxadone	Tanos	●	
Fenhexamid	Elevate, Decree	●	
Fenamidone	Reason 500 Sc	●	
Fluoxastrobin	Evito, Tepera	●	
Fluxapyroxad + pyraclostrobin	Priaxor Xemium	●	
Fludioxonil	Emblem, Maxim, Medallion, Scholar, Stadium	●	
Flutalonil	ProStar	●	
Fluopicolide	Presidio	●	
Fluopyram	Propulse, Velum	●	
Fluopyram + difenoconazole	Luna Flex	●	
Fluopyram + trifloxystrobin	Luna Sensation	●	
Flutriafol	Topguard, Lucento	●	
Fosetyl-aluminum	Aliette	✗	
Iprodione	Metor, Rovarl	●	
Mancozeb	Manzate, Penncozebe, Dithane	✗	
Mancozeb & copper	Mankocide	✗	
Mandipropamid	Revus	●	
Mefenoxam	Ridomil Gold SL, Ultra Flourish	●	Need to spray solution within 4-6 hrs.
Metconazole	Caramba, Quash	●	

Fungicides & Bactericides

Active Ingredient	Brand Name(s)	Compatibility	Notes
Myclobutanil	Rally, Sonoma	●	
Oxathiapiprolin + mandipropamid	Orondis Ultra	●	
Paraffinic oil	JMS Stylet Oil	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Salts of phosphorus acid	OxiPhos , Kphite, Phostrol	●	
Potassium phosphite + tebuconazole	Viathon	●	
Picoxystrobin	Aproach	●	
Propamocarb hydrochloride	Previcur FLEX	●	
Propiconazole	Tilt, Bumper, Banner, Quilt, Trivapro, Stratego	●	
Prothioconazole	Proline, Propulse, Prosaro, Delaro	●	
Prothioconazole + trifloxystrobin	Stratego YLD	●	
Pydiflumetofen + azoxystrobin + propiconazole	Miravis Neo	●	Need to spray solution within 4-6 hrs.
Pyraclostrobin + metconazole	Headline Amp	●	
Pyrimethanil	Scala	●	
Pyrimethanil + fluopyram	Luna Tranquility	●	
Quinoxifen	Quintec	●	
Sulfur	Microthiol Disperss	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0
Sulfur, dusting	Misc. brands	✖✖	Apply OxiDate 5.0 before or 72 hours after dusting sulfur application
Tebuconazole	Velum, Folicur	●	
Tebuconazole + fluopyram	Luna Experience	●	
Tetraconazole	Domark, Eminent, Minerva, Priaxor	●	
Thiophanate-methyl	Incognito, Topsin	●	
Thiram	Thiram SC	●	Need to spray solution within 4-6 hrs.
Triphenyltin hydroxide	Super Tin, Agri Tin	●	
Trifloxystrobin	Flint, Gem, Stratego	●	
Triflumizole	Procure, Trionic	●	
Triticonazole	Trinity	●	

Copper Fungicides & Bactericides

Active Ingredient	Brand Name(s)	Compatibility	Notes
Copper octanoate	Cueva	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0. Spray the mixture within an hour after mixing.
Copper sulfate pentahydrate	Maga-Bon CS 2005	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0. Spray the mixture within an hour after mixing.
Cuprous oxide	Nordox 30-30, Nordox 75 WG	✗	Wait 48-72 hours after copper application before applying OxiDate 5.0
Copper hydroxide	Nu-Cop 50 WP	✗	Wait 48-72 hours after copper application before applying OxiDate 5.0
Copper hydroxide	Champ DP, ChampION++, Kocide 3000-O	✗	
Copper hydroxide + copper oxychloride	Badge SC, Badge X2	✗	Wait 48-72 hours after copper application before applying OxiDate 5.0
Copper Sulfate	Agri Star Basic Copper 53, Cuprofix Ultra	✗	Wait 48-72 hours after copper application before applying OxiDate 5.0

Biological and Biorational Fungicides & Bactericides

<i>Bacillus</i> species	DoubleNickel, Triathlon, Cease, Rhapsody, Companion, Serenade, Sonata	●	Compatible for foliar sprays but not for soil applications
<i>Bacillus Mycooides</i> isolate J (BmJ)	LifeGard WG	?	Jar test and phytotoxicity evaluation recommended
Banda de Lupinus albus doce (BLAD)	ProBlad Verde	●	
Garlic + cinnamon oil	Gargoil	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0. Recommended phytotoxicity test for sensitive plants before widespread use.
<i>Gliocladium</i> species	Prestop, SoilGard	✗	
Lime sulfur	Multiple brands	✗	
Oxytetracycline	Mycoshield, Fireline	●	Continuous agitation; need to spray within 4-6 hrs.
Paraffinic oil	JMS Stylet Oil	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Potassium bicarbonate	Kaligreen, Carb-O-Nator	✗	
Potassium silicate	Sil-Matrix	●	
Polyoxin D zinc salt	Oso, Ph-D	●	
<i>Pseudomonas chlororaphis</i>	Howler	●	
<i>Reynoutria sachalinensis</i>	Regalia	●	
Streptomycin / streptomyces	AgriMycin, Harbour, Firewall, Actinovate, MycoStop	●	
Sodium carbonate peroxyhydrate	PerCarb	✗	
Tea tree oil	Timorex Gold	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0. Spray solution within 4-6 hrs.
Thyme oil	Guarda	●	Other thyme oil products have not been evaluated

Insecticides & Miticides

Active Ingredient	Brand Name(s)	Compatibility	Notes
Abamectin	Abacus, Abamex, Agri-Mek SC	●	
Abamectin + cyantraniliprole	MinectoPro	●	
Acephate	Orthene97, Acephate 90	●	
Acetamiprid	Assail 30SG	●	
Beta-Cyfluthrin	Baythroid XL	●	
Bifenazate	Floramite SC	✘	
Bifenthrin	Athena, Brigade, Hero	●	
Carbaryl	Carbaryl 4L, Sevin XLR Plus	●	
Chlorantraniliprole	Altacor, Coragen	●	
Cyclaniliprole	Harvanta 50 SL	●	Need to spray solution within 4-6 hrs.
Diflubenzuron	Cavalier, Dimilin, Micromite 2L	●	
Dimethoate	Dimethoate LV-4	●	Need to spray solution within 4-6 hrs.
Dinotefuran	Venom	●	
Emamectin benzoate	Proclaim	●	
Esfenvalerate	Asana XL	?	Jar test and phytotoxicity evaluation recommended
Flupyradifurone	Sivanto	●	
Horticultural oils	Dormant Oil 435	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0 when mixing with oils
Imidacloprid	Admire, Merit	●	
Indoxacarb	Avaunt eVo, Steward EC	●	Need to spray solution within 4-6 hrs.
Lambda-cyhalothrin	Warrior II, Silencer, Lambda T-2	●	Need to spray solution within 4-6 hrs.
Malathion	Malathion 57EC, Fyfanon ULV AG	●	
Methomyl	Lannate LV	●	
Methoxyfenozide	Intrepid 2F	●	
Spiromesifen	Oberon 2 SC	●	
Spirotetramat	Movento	●	
Thiamethoxam	Actara	●	
Tolfenpyrad	Apta	●	
Zeta-cypermethrin	Mustang	●	

Biological and Biorational Insecticides & Miticides

Active Ingredient	Brand Name(s)	Compatibility	Notes
Azadirachtin	AzaGuard , Aza-Direct, Neemix 4.5	●	
Azadirachtin/pyrethins	Azera	●	
<i>Bacillus thuringiensis</i> species	BT NOW , Agree, Javelin, Dipel, XenTari	✘	
<i>Beauveria bassiana</i>	BioCeres WP , BotaniGard, BoteGHA ES	✘	
<i>Burkholderia</i> species	Venerate	✘	
Chromobacterium subtsugae	Grandevo	✘	
Geraniol/peppermint oil/rosemary oil	Ecotec Plus	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
<i>Isaria fumosorosea</i>	PFR-97	✘	
Metarhizium anisopliae	Met 52 EC	✘	
Mineral oil	TriTek, Sol-oil 97, BioCover MLT, PureSpray Green	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Neem oil	Triology, Triact 70	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Paraffinic oil	JMS Stylet Oil	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Potassium salts of fatty acids	Des-X, M-Pede	✘	
Pyrethrins	Pyganic EC	●	
Spinetoram	Radiant SC	●	
Spinosad	Entrust	●	
Sulfur	Microthiol Dispress, Crusade DF, Kumulus DF	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Sulfur, dusting	Misc. brands	✘	Apply OxiDate 5.0 before or 72 hours after dusting sulfur application
Virus based	AgriPhage, CYD-X HP, GemStar, Madex HP, Virosoft CP4	✘	

Adjuvants

Alkyl aryl polyoxyalkane ethers, alkanolamides, dimethyl siloxane, free fatty acids	Induce	●	
Alkyl phenol ethoxylate	Activator 90	●	
Alcohol ethoxylate	Wetcit, Oroboost, Vintre	●	
Ammonium polyacrylates, hydroxy carboxylates and sulphates	Request	●	

Adjuvants

Active Ingredient	Brand Name(s)	Compatibility	Notes
Cationic siloxane polymer	Aqua-Sil	●	
Modified vegetable oil, polyoxyethylene sorbitan fatty acid ester, vegetable oil, and soybean oil, ethoxylated	Masterlock	●	
Non-ionic surfactants	Attach, Dyne-Amic, LI-700, Liberate, Leaf Life Widespread Organic, Induce	●	
Spreader/stickers	Cohere	●	
Oil based surfactant	Cide Winder	●	Do not exceed 0.5% v/v (1:200) rate of OxiDate 5.0.
Organosilicone	Kinetic, Silwet L-77, Widespread Max, Tactic	●	
Polymers	Argosy RF, AquaBoost AG 30-NWS	●	
Polyether modified heptamthyltrisloxane	Stik-Kote	●	
Yucca (Saponin)	Yucca Agaide, ThermX-70	●	

Plant Growth Regulators (PGRs)

Indolebutyric acid + cytokinin as kinetin	Radiate	●	
Gibberellic acid	ProGibb LV Plus	●	

Biostimulants and Fertilizers

AGRO-MOS Copper	●	
Black Label 6-22-0	●	
Black Label Zn (6-20-0 + 0.77Zn)	✘	
Calcium nitrate	●	
Calcium sulfate	✘	
Calcium metalosate (CML)	●	
CalOx FT	●	
Keyplex 120	●	
Potassium acetate (K-ACE 29)	●	Needs to be sprayed within 4 hrs.
Kamin	●	
LOKOMOTIVE (2-0-25)	✘	
Maritime (sea kelp)	✘	
Miller Nutrileaf 20-20-20	●	Medium to high rates of fertilizer require solution to be sprayed within 4 hrs.
Mg sulfate 9.8%	●	
Mn sulfate 32%	●	Needs to be sprayed within 4 hrs.

Biostimulants and Fertilizers

Active Ingredient/Brand Name	Compatibility	Notes
Nutrient Express 11-41-8 + kelp	✘	
NutriSync	●	
NutriSync 3D	✘	
Parka	●	
UAN (28-32)-0-0	●	
Urea	●	
Zn Sulfate 35.5%	●	

OxiDate 5.0 has been shown to be tank-mix compatible with the following elemental materials; N,P,K, Ca, & B. When tank-mixing with unknown nutritional based products, it is recommended to conduct jar test for compatibility, plus a phytotoxicity evaluation on a small number of plants before wide spread use. Ask your local BioSafe Systems representative for further guidance on specific tank mixes with nutritional elements not listed.

Herbicides

Active Ingredient	Brand Name(s)	Compatibility	Notes
Dicamba	Engenia	●	
2,4-dichlorophenoxyacetic acid, butoxyethyl ester + triclopyr BEE: 3,5,6-trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester	Crossbow	●	
2,4-D, choline salt	Enlist One	●	
Cloransulam-methyl	First Rate	●	
Clopyralid	Spur	●	
Fomesafen	Sinister	●	Needs to be spray within 4hrs
Sodium salt of acifluorfen	Ultra Blazer	●	
2-Ethylhexyl ester of 2, 4-Dichlorophenoxyacetic acid	Barrage HF	●	
Lactofen	Cobra	●	Needs to be spray within 4hrs
Caprylic acid + capric acid	Homeplate	●	
Pelargonic acid	Scythe	●	
Atrazine	Atrazine	●	Needs to be spray within 4hrs
Indaziflam	Alion	●	
Saflufenacil	Treevix	●	

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