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Packaged Premix Ratios

HERBICIDE	IF YOU APPLY PER ACRE	YOU HAVE APPLIED	Domain	10 oz	Define 60DF = 4 oz Sencor 75DF = 4.8 oz	Lightning	1.28 oz	Pursuit 70DG = 0.96 oz Arsenal 2AS = 0.896 oz
Authority First /Sonic	3.0 oz	FirstRate = 0.28 oz Authority 75DF = 2.5 oz	Extreme	3 pt	Pursuit 2AS = 4 oz Roundup 3L = 1.47 pt	Lumax	3 qt	Dual II Magnum 7.64EC = 2.1 pt Callisto 4SC = 6.4 oz Aatrex 4L = .75 qt
Authority MTZ	10 oz	Authority 75DF = 2.43 oz Sencor 75DF = 3.65 oz	Field Master	4 qt	Harness 7E = 2.29 pt Aatrex 4L = 1.5 qt Roundup Ultra 3L = 1.5 pt	Northstar	5 oz	Beacon 75WDG = 0.50 oz Banvel 4S = 4 oz
Basis	0.33 oz	Rimsulfuron = 0.01 lb ai Harmony GT 75DF = 0.11 oz	ForeFront	2 pt	Milestone = 5.28 oz 2,4-D Amine = 1.35 pt	Prefix	1 qt	Reflex = 1 pt Dual Magnum = 1 pt
Bicep II Mag	2.6 qt	Dual II magnum 7.64E = 1.67 pt Aatrex 4L = 2 qt	FulTime	4 qt	TopNotch 3.2CS = 3 qt Aatrex 4L = 1.6 qt	Radius	19 oz	Balance Pro = 1.9 oz Define SC = 17 oz
Boundary	1.5 pt	Dual Magnum 7.62E = 1.02 pt Sencor 75DF = 5 oz	Fusion	8 oz	Fusilade DX 2E = 8 oz Puma 1 EC = 4.48 oz	Spirit	1 oz	Peak 57WDG = 0.25 oz Beacon 75WDG = 0.57 oz
Bullet/Lariat	4 qt	Micro-Tech 4CS = 2.5 qt Aatrex 4L = 1.5 qt	Gangster	3 oz (V) & 0.6 oz (FR)	Valor 51WDG = 3 oz FirstRate 84WDG = 0.6 oz	Status	5 oz	Difufenzopyr = 0.05 lb ae Clarity 4S = 4 fluid oz
Canopy EX	1.65 oz	Classic = 1.5 oz Express = 0.15 oz	Grazon P+D	2 pt	Tordon 22K = 8.6 oz 2, 4-D Amine = 1 pt	Stout	0.75 oz	Accent = 0.675 oz Harmony GT = 0.05 oz
Corvus	5.5 oz	Balance Flexx = 5 oz Thien carbazono = 36 g ai/A	Guardman Max	4 pt	Outlook 6EC = 18.1 fluid oz Aatrex 4L = 1.65 qt	Steadfast	0.75 oz	Accent 75DF = 0.5 oz Rimsulfuron = 0.012 lb ai
Degree Xtra	3 qt	Degree 3.8CS = 2.13 qt Aatrex 4L = 1 qt	Halex GT	3.6 pt	Dual Magnum 7.62E = 1.0 pt Touchdown Hi-Tech = 24 oz Callisto = 3 oz	Storm	1.5 pt	Basagran 4S = 1 pt Blazer 2S = 1 pt
Enlite	2.8 oz	Valor = 2 oz Synchrony XP = 0.8 oz	Harness Xtra 5.6L	2.5 qt	Harness 7E = 2.21 pt Aatrex 4L = 1.57 qt	Surmount	3 pt	Tordon 22K = 28.56 oz Starane = 1.9 pt
Envive	3.5 oz	Valor = 2 oz Synchrony XP = 1.5 oz	Hornet WDG	3 oz	Stinger 3S = 4 fluid oz Python 80WDG = 0.69 oz	Synchrony XP	0.75 oz	Classic 25DF = 0.64 oz Harmony GT 75DF = 0.068 oz
Expert	3.75 qt	Dual II Magnum = 1.7 pt Aatrex 4L = 2.0 qt TouchdownTotal Equiv. = 22.5 oz	Keystone	3 qt	Surpass 6.4EC = 2.81 pt Aatrex 4L = 1.69 qt	Valor XLT	3 oz	Valor 51WDG = 1.76 oz Classic 25DF = 1.24 oz
Distinct	4 oz	Difufenzopyr = 0.05 lb ae Clarity 4S = 4 fluid oz	Lexar	3.5 qt	Aatrex = 1.5 qt Dual II Magnum = 1.59 pt Callisto = 6.2 oz	Yukon	4 oz	Permit 75WSG = 0.67 oz Banvel 4S = 4 oz

FORMULATION CONVERSION TABLE

Present Formula	... to this new formulation					4L pts.	4L qts.
	90%	80%	75%	65%	50%		
90%	1.00	1.13	1.20	1.38	1.80	1.80	0.90
80%	0.89	1.00	1.07	1.23	1.60	1.60	0.80
75%	0.83	0.94	1.00	1.15	1.50	1.50	0.75
65%	0.72	0.81	0.87	1.00	1.30	1.30	0.65
50%	0.56	0.63	0.67	0.77	1.00	1.00	0.50
4L pt.	0.56	0.63	0.67	0.77	1.00	1.00	0.50
4L qt.	1.11	1.25	1.33	1.54	2.00	2.00	1.00

GLYPHOSATE RATE COMPARISON IN OUNCES

Roundup PowerMax Max/WeatherMax	Gly-4 Plus	Touchdown Total	Touchdown Hi-Tech	Duramax	Durango DMA
11	16	12	10	12	12
16	24	17	14	16	16
22	32	24	20	24	24
32	48	35	30	36	36
44	64	—	—	48	48

SMALL QUANTITIES CONVERSION TABLE

POWDER

Amounts per 100 gallons	Amount per 1 gallon
½ lb.	½ tsp.
1 lb.	1 tsp.
5 lb.	1½ tbs.
10 lb.	3½ tbs.

LIQUIDS

Amount per 100 gallons	Amount per 1 gallon
¼ pt.	¼ tsp.
1 pts.	1 tsp.
1 qt.	2 tsp.
2 qt.	4 tsp.
1 gal.	2½ tbs.

VOLUMES

3 teaspoons	1 tablespoon
2 tablespoons	1 fluid ounce
8 fluid ounces	1 cup
2 cups	1 pint
2 pints	1 quart
4 quarts	1 gallon

Herbicide Mode of Action

Trade Name	Common Names	Herbicide Families	Mode Of Actions
AAtrex /Atrazine	Atrazine	Triazines	Photosynthetic Inhibitors
Accent	Nicosulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
Aim	Carfentrazone-ethyl	Aryltriazolinone	Protoporphoryn IX Inhibitor
Amine, 2,4-D	2,4-D	Phenoxy Acetic Acid	Growth Regulator
Aquathol	Endothall	Dicarboxylic Acid	Amino Acid Inhibitor
Arsenal	Imazapyr	ALS (Imidaziliones)	Amino Acid Inhibitors
Assure II	Quizalofop	Aryloxyphenoxypropionates	Lipid Inhibitors
Authority Assist	Sulfentrazone and Imazethapyr	Aryltriazolinone & ALS	Cell membrane disrupter & Amino Acid Inhibitor
Authority First	Sulfentrazone and Cloransulam methyl	Aryltriazolinone & ALS	Cell membrane disrupter & Amino Acid Inhibitor
Authority MTZ	Sulfentrazone and Metribuzin	Aryloxyphenoxypropionates and Acetanilide	Cell Membrane Disrupter and Shoot Inhibitors
Autumn	Idosulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
Balance Flex	Isoxaflutole and Safener	Isoxazole	HPPD, Amino Acid Inhibitor
Balance Pro	Isoxaflutole	Isoxazole	HPPD, Amino Acid Inhibitor
Basagran	Bentazon	Diazinones	Photosynthetic Inhibitors
Basis	Rimsulfuron and Thifensulfuron	ALS (Sulfonylureas) and ALS (Sulfonylureas)	Amino Acid Inhibitors
Beacon	Primisulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
Beyond	Imazomox	ALS (Imidaziliones)	Amino Acid Inhibitors
Bicep II Magnum	Metalachlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
Bolero	Thiobencarb	Thiocarbamates	Root and Shoot Inhibitors
Boundary	S-Metalachlor and Metribuzin	Acetanilides and Triazines	Shoot Inhibitors and Photosynthesis Inhibitors
Buctril	Bromoxynil	Benzonitriles	Photosynthetic Inhibitors
Bullet	Alachlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
Butyrac 200	2,4-DB	Phenoxy Acetic Acid	Growth Regulator
Cadet	Fluthiacet-Methyl	Aryltriazolinone	Protoporphoryn IX Inhibitor
Callisto	Mestriane	Callistimone	HPPD
Canopy	Chlorimuron and Metribuzin	ALS (Sulfonylureas) and Triazines	Amino Acid Inhibitor and Photosynthetic Inhibitor
Canopy EX	Chlorimuron, Tribenuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
Caparol	Prometryn	Triazines	Photosynthetic Inhibitors
Cimarron Plus	Metsulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
Cimarron Max	Metsulfuron, 2,4-D, Dicamba	ALS (Sulfonylureas), Benzoid Acid, Phenoxy Acetic Acid	Amino Acid inhibitor and Growth Regulator
Cinch	S Metalachlor	Acetanilides	Shoot Inhibitors
Cinch ATZ	S Metalachlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
Clarity	Dicamba	Benzoic Acid	Growth Regulator
Classic	Chlorimuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
Clincher	Cyhalofop	Aryloxyphenoxypropionates	Lipid Inhibitor
Cobra/Phoenix	Lactofen	Diphenylethers	Cell Membrane Disrupters
Command	Clomazone	Isoxazolidinones	Pigment Inhibitors
Corvus	Isoxaflutole, thien carbazono-methyl, safener	Isoxazole, ALS Sufonylaminocarbonyl-triazolinone	HPPD, Amino Acid Inhibitor
Cotoran 4L	Fluometuron	Phenylureas	Photosynthetic Inhibitor
Crossbow	Triclopyr and 2,4-D	Pyridines and Phenoxy Acetic Acid	Growth Regulator
Degree Xtra	Acetochlor and Atrazine	Acetanilides and Triazines	Shoot and Photosynthetic inhibitor
Distinct	Diflufenzopyr and Dicamba	PGB and Benzoic Acid	Auxin transport inhibition and Growth Regulator
Dual II Magnum	S Metalachlor	Acetanilides	Shoot Inhibitors
Duet	Propanil and Bensulfuron	Amide and ALS (Sulfonylureas)	Photosynthetic Inhibitor and Amino Acid Inhibitor
Durango DMA	Glyphosate	EPSPS (Amino Acid Derivative)	Amino Acid Inhibitor

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Herbicide Mode of Action

	Trade Name	Common Names	Herbicide Families	Mode Of Actions
CORN	Enlite	Chlorimuron, Thifensulfuron, Flumioxazin	ALS (Sulfonylureas), PPO	Amino Acid Inhibitor, Cell Membrane Disrupters
	Envive	Chlorimuron, Thifensulfuron, Flumioxazin	ALS (Sulfonylureas), PPO	Amino Acid Inhibitor, Cell Membrane Disrupters
	Envoke	Trifloxysulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitor
SORGHUM	ET	Pyraflufen Ethyl	Pyrazole	Cell Membrane Disrupter
	Expert	Metolachlor Atrazine and Glyphosate	EPSP (Amino Acid Derivative) Acetanilides and Triazine	Amino Acid Inhibitors, Shoot Inhibitors and Photosynthetic Inhibitors
	Extreme	Imazethapyr and Glyphosate	ALS (Imidaziliones) and EPSPS (Amino Acid Derivative)	Amino Acid Inhibitors
SOYBEANS	Facet	Quinclorac	Pyridines	Growth Regulator
	FirstRate	Chloransulam methyl	ALS (Sulfonamides)	Amino Acid Inhibitors
	Flexstar	Fomesafen	Diphenylethers	Cell Membrane Disrupters
	ForeFront	Amionopyralid and 2,4-D	Pyridine and Phenoxy Acetic Acid	Growth Regulators
	FulTime	Acetochlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
COTTON	Fusilade DX	Fluazifop and Fenoxaprop	Aryloxyphenoxypropionates	Lipid Inhibitors
	Fusion	Fluazifop and Fenoxaprop	Aryloxyphenoxypropionates	Lipid Inhibitors
	Gangster	Flumioxazin/Cloransulam methyl	PPO Inhibitor and ALS	Cell Membrane Disrupter and Amino Acid Inhibitor
	Gly-4 Plus	Glyphosate	EPSPS (Amino Acid Derivative)	Amino Acid Inhibitors
	Goal 2XL	Oxyfluorfen	Diphenylethers	Cell Membrane Disrupters
	Gramoxone Inteon	Paraquat	Bipyridilium	Cell Membrane Disrupters
RICE	Grandstand R	Triclopyr	Pyridines	Growth Regulator
	Grasp	Penoxsulam	ALS (Sulfonamides)	Amino Acid Inhibitors
	Grazon P+D	Picloram and 2,4-D	Pyridine and Phenoxy Acetic Acid	Growth Regulator
	Guardsman Max	Dimethenamid-P and Atrazine	Acetanilides and Triazines	Shoot Inhibitor and Photosynthetic inhibitor
	Harmony Extra w/TotalSol	Tribenuron and Thifensulfuron	ALS (Sulfonylureas) and ALS (Sulfonylureas)	Amino Acid Inhibitors and Amino Acid Inhibitors
FORAGES	Harmony GT	Thifensulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
	Harness Xtra 5.6L	Acetochlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
	Hoelon	Diclofop	Acetyl Coenzyme A Carboxylase	Lipid Inhibitor
	Hornet WDG	Flumetsulam and Clopyralid	ALS (Sulfonamides) and Pyridines	Amino Acid Inhibitors and Growth Regulator
	Huskie	Pyrasulfotole and Bromoxynil	Triketone and Benzonitriles	HPPD + PS II Inhibitor
SMALL GRAINS	Hyvar XL	Bromacil	Uracils	Photosynthetic Inhibitors
	Ignite	Glufosinate-ammonium	Glutamine Synthetase Inhibitor	Glutamine Synthetase Inhibitor
	Impact	Topramezone	Triketone	HPPD
	Intro	Alachlor	Acetanilides	Shoot Inhibitors
	Karmex XP	Diuron	Phenylureas	Photosynthetic Inhibitors
LAWN & GARDEN	Keystone	Acetochlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
	Lariat	Alachlor and Atrazine	Acetanilides and Triazines	Shoot Inhibitors and Photosynthetic Inhibitors
	Lasso MT	Alachlor	Acetanilides	Shoot Inhibitors
	Laudis	Tembotrione and Safener	Triketone	HPPD
	Layby Pro	Linuron and Diuron	Phenylureas	Photosynthetic Inhibitors
SEED	Liberty	Glufosinate-ammonium	Glutamine Synthetase Inhibitor	Glutamine Synthetase Inhibitor
	Lightning	Imazethapyr and Imazapyr	ALS (Imidaziliones)	Amino Acid Inhibitors
	Londax	Bensulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
	Lorox DF/Linex	Linuron	Phenylureas	Photosynthetic Inhibitors
	Lov 2,4-D Ester	2,4-D	Phenoxy Acetic Acid	Growth Regulator
FERTILIZER	Lumax/Lexar	S-Metalachlor, Atrazine, and Mesotrione	Acetanilides, Trazine, Callistimone	Shoot inhibitor, Photosynthetic Inhibitor, HPPD
	Milestone	Amionopyralid	Pyridine	Growth Regulator
	Newpath	Imazethapyr	ALS (Imadaziliones)	Amino Acid Inhibitors

Herbicide Mode of Action

Trade Name	Common Names	Herbicide Families	Mode Of Actions	
NorthStar	Primisulfuron and Dicamba	ALS Sulfonylureas and Benzoic Acid	Amino Acid Inhibitors and Growth Regulator	CORN
Olympus	Propoxycarbazone	ALS Sufonylaminocarbonyl-triazoline	Amino Acid Inhibitors	
Olympus Flex	Propoxycarbazone + mesosulfuron	ALS(Sufonylaminocarbonyl-triazoline and ALS(Sulfonylureas)	Amino Acid Inhibitor + Amino Acid Inhibitor	
Option	Foramsulfuron + Isoxadifen (Safener)	ALS (Sulfonylureas)	Amino Acid Inhibitors	SORGHUM
Ordram	Molinate	Thiocarbamates	Root and Shoot Inhibitors	
Osprey	Mesosulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors	
Outlook	Dimethenamid	Acetanilides	Shoot Inhibitors	SOYBEANS
Paramount	Quinclorac	Plant growth regulator	Growth Regulator	
PastureGard	Triclopyr and Fluroxypyr	Pyridines	Growth Regulator	
Peak	Prosulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors	COTTON
Pendimax	Pendimethalin	Dinitroanilines	Root Inhibitors	
Permit	Halosulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors	
Poast Plus	Sethoxydim	Cyclohexanediones	Lipid Inhibitors	RICE
Prefix	Fomesafen and S-metalachlor	Diphenylethers and Acetanilides	Cell Membrane Disrubter and Shoot Inhibitors	
Princep	Simazine	Triazines	Photosynthetic Inhibitors	
Propanil (Stam)	Propanil	Amide	Photosynthetic Inhibitors	FORAGES
Prowl	Pendimethalin	Dinitroanilines	Root Inhibitors	
Pursuit	Imazethapyr	ALS (Imidaziliones)	Amino Acid Inhibitors	
Python	Flumetsulam	ALS (Sulfonamides)	Amino Acid Inhibitor	SMALL GRAINS
Radius	Flufenacet, Isoxaflutole	Oxyacetamide and Isoxazole	Shoot Inhibitor and Pigment Inhibitor	
Rage-Dtech	Carfentrazone-ethyl and 2,4-D	Aryltriazolinone and Phenoxy Acetic	Growth Regulator and Protoporphora Inhibitor	
Raptor	Imazamox	ALS (Imidaziliones)	Amino Acid Inhibitors	LAWN & GARDEN
Reflex	Fomesafen	Diphenylethers	Cell Membrane Disrupters	
Regiment	Bispyribac	ALS (Pyrimidinylthio-Benzoate)	Amino Acid Inhibitor	
Rely 200	Glufosinate-ammonium	Glutamine Synthetase Inhibitor	Glutamine Synthetase Inhibitor	SEED
Remedy Ultra	Triclopyr	Pyridines	Growth Regulator	
Resolve	Rimsulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors	
Resolve Q	Rimsulfuron and Isoxafin (Safener)	ALS (Sulfonylureas)	Amino Acid Inhibitors	FERTILIZER
Resource	Flumiclorac Pentyl	N-phenylphalimide (PPO)	Cell Membrane Disrupters	
Ricestar HT	Fenoxaprop	Aryloxyphenoxypropionatess	Lipid Inhibitor	
Roundup PowerMax	Glyphosate	EPSPS (Amino Acid Derivative)	Amino Acid Inhibitors	
Roundup WeatherMAX	Glyphosate	EPSPS (Amino Acid Derivative)	Amino Acid Inhibitors	
Sahara DG	Imazapyr and Diuron	ALS (Imidaziliones) and Phenylureas	Amino Acid Inhibitors and Photosynthetic Inhibitors	
Scepter DG	Imazaquin	ALS (Imidaziliones)	Amino Acid Inhibitors	
Select/SelectMax/Arrow	Clethodim	Cyclohexanediones	Lipid Inhibitors	
Sencor	Metribuzin	Triazines	Photosynthetic Inhibitors	
Sequence	Glyphosate and S Metalochlor	EPSPS (Amino Acid Derivative) and Acetanilide	Amino Acid Inhibitor and Shoot Inhibitor	
Sonic	Sulfentrazone and Cloransulam methyl	Aryltriazolinone & ALS	Cell membrane disrupter & Amino Acid Inhibitor	
Spartan 4F	Sulfentrazone	Aryltriazolinones	Cell Membrane Disrupter	
Spike 20P	Tebuthiuron	Phenylureas	Photosynthetic Inhibitors	
Spirit	Prosulfuron and Primisulfuron	ALS (Sulfonylureas) and ALS (Sulfonylureas)	Amino Acid Inhibitor and Amino Acid Inhibitor	
Staple	Pyriithiobac-sodium	ALS (Pyrimidinylthio-benzoate)	Amino Acid Inhibitors	
Starane	Fluroxypyr	Pyridines	Growth Regulator	
Status	Diffenzopyr and Dicamba	PGB and Benzoic Acid	Auxin transport inhibition and Growth Regulator	
Steadfast	Nicosulfuron and rimsulfuron	ALS (sulfonylureas)	Amino Acid Inhibitor	
Steadfast Q	Nicosulfuron, rimsulfuron, Isoxadifen (safener)	ALS (sulfonylureas)	Amino Acid Inhibitor	

Herbicide Mode of Action

	Trade Name	Common Names	Herbicide Families	Mode Of Actions
CORN	Stinger	Clopyralid	Pyridines	Growth Regulator
	Storm	Acifluorfen and Bentazon	Diphenylethers and Diazinones	Cell Membrane Disrupters and Photosynthetic Inhibitors
	Stout	Nicosulfuron and Thifensulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitor
	Suprend	Prometryn and Trifloxysulfuron	Triazine and ALS (Sulfonylureas)	Photosynthetic Inhibitor and Amino Acid Inhibitor
SORGHUM	SureStart	Acethochlor, Flumetsulam, and Clopyralid	Acetanilide, ALS, PGR/Shoot Inhibitor	Amino Acid inhibitor and Growth Regulator
	Surflan AS	Oryzalin	Dinitroanilines	Root Inhibitors
	Synchrony XP	Chlorimuron and Thifensulfuron	ALS (Sulfonylureas)	Amino Acid Inhibitors
	Tordon 22K	Picloram	Pyridines	Growth Regulator
SOYBEANS	Touchdown Total / Hi-Tech	Glyphosate	EPSP (Amino Acid Derivative)	Amino Acid Inhibitors
	Trifluralin	Trifluralin	Dinitroanilines	Root Inhibitors
	Ultra Blazer	Acifluorfen	Diphenylether	Cell Membrane Disrupters
	Valor	Flumioxazin	PPO Inhibitor	Cell Membrane Disrupters
COTTON	Valor XLT	Flumioxazin and chlorimuron ethyl	PPO Inhibitor and ALS	Cell Membrane Disrupters + Amino Acid Inhibitor
	Velpar	Hexazinone	Triazines	Photosynthetic Inhibitors
	Weedmaster	Dicamba and 2,4-D	Benzoic Acid and Phenoxy Acetic Acid	Growth Regulator
	Weedtrine-D	Diquat	Bipyridilium	Cell Membrane Disrupters
	Yukon	Halosulfuron + Dicamba	ALS (Sulfonylureas) and Benzoic Acid	Amino Acid Inhibitors and Growth Regulator

Rotational Restrictions

	Alfalfa	Corn	Milo	Soybeans	Wheat	
RICE	Accent	12 months	No waiting period	10-18 months	15 days	4 months
	Aim	30 days	No waiting period	No waiting period	No waiting period	No waiting period
	Arrosolo	Following Spring	Following Spring	Following Spring	Following Spring	Fall
	Arrow	No restrictions	30 days	30 days	No restrictions	30 days
FORAGES	Assure II	120 days	120 days	120 days	No waiting period	120 days
	Authority Assist	12 months	10 months	18 months	No waiting period	4 months
	Authority First	12 months	10 months	10 months	No waiting period	4 months
	Authority MTZ	12 months	10 months	12 months(20 oz or Less)	No waiting period	4 months
SMALL GRAINS	Atrazine	18 months	No waiting period	No waiting period	Following spring**	12 months
	Autumn	18 months	1 month	9 months	3 months	4 months
	Axiom	12 months	No restrictions	9 months	No restrictions	12 months
	Balance Flex/Balance Pro	10 months	No waiting period	10 months	6 months	4 months
LAWN & GARDEN	Basagran	No restrictions	No restrictions	No restrictions	No restrictions	No restrictions
	Basis	10 months	No waiting period	10 months	15 days	4 months
	Beacon	8 months	14 days	8 months	8 months	3 months
	Beyond	3 months	8.5 months	9 months	No waiting period	3 months
	Bicep II Magnum	18 months	No waiting period	No waiting period	Following spring**	15 months
	Buctril	30 days	30 days	30 days	30 days	30 days
	Bullet	18 months	No waiting period	No waiting period	Following Spring	12 months
	Bolero	6 months	6 months	6 months	6 months	6 months
	Cadet	30 days	No waiting period	30 days	No waiting period	30 days
	Callisto	10 months	No waiting period	10 months	10 months	120 days
SEED	Canopy EX	10-12 months	9-10 months	9-12 months	14 days before planting	3-4 months
	Canopy	10 months	10 months	10 months	No waiting period	4 months
	Caparol 4L	Following Year	Following Year	Following Year	Following Year	Following Year
	Cinch ATZ	18 months	No waiting period	No waiting period	Following Spring	15 months
FERTILIZER	Clarity	After harvest	No waiting period	After harvest	After harvest	After harvest

Rotational Restrictions

	Alfalfa	Corn	Milo	Soybeans	Wheat
Classic	12 months	9 months	9 months	No waiting period	3 months
Clincher	3 months	3 months	3 months	3 months	3 months
Cobra	30 days	30 days	30 days	No restrictions	30 days
Command 3ME	16 months	9 months	9 months	No waiting period	12 months
Corvus	17 months	No waiting period	9 months	9 months	4 months
Cotoran	6 months	6 months	6 months	6 months	6 months
Degree	Do not rotate	No waiting period	Following Spring	Following Spring	4 months
Degree Xtra	Do not rotate	No waiting period	Following Spring	Following Spring	Following Spring
Direx	12 months	Following year	Following year	Following year	12 months
Distinct	30 days	7 days	30 days	30 days	30 days
Domain	12 months	1 month	12 months	No waiting period	12 months
Dual II Magnum/Cinch	4 months	No waiting period	No waiting period	No waiting period	4.5 months
Duet	120 days	120 days	120 days	120 days	120 days
Enlite	12 months	9 months	9 months	No waiting period	4 months
Envive	12 months	10 months	10 months	No waiting period	4 months
Envoke	18 months	7 months	7 months	7 months	3 months
Epic	12 months	No waiting period	12 months	6 months	12 months
ET	30 days	No restrictions	30 days	30 days	30 days
Expert	18 months	No waiting period	No waiting period	Following Spring	15 months
Extreme	4 months	8.5 months	18 months	No waiting period	4 months
Facet	10 months	10 months	10 months	10 months	10 months
FirstRate	9 months	9 months	9 months	No waiting period	3 months
Flexstar	18 months	10 months	18 months	No waiting period	4 months
Fortress	30 days	No restrictions	30 days	30 days	30 days
FulTime	15 months	No waiting period	Following Spring	Following Spring	15 months
Fusilade DX	60 days	60 days	60 days	No waiting period	60 days
Fusion	60 days	60 days	60 days	No waiting period	60 days
Gangster	9 months	9 months	9 months	No waiting period	3 months
Glyphosate	No restrictions	No restrictions	No restrictions	No restrictions	No restrictions
Gramoxone Inteon	No restrictions	No restrictions	No restrictions	No restrictions	No restrictions
Grandstand R	4 months	4 months	4 months	4 months	4 months
Grasp	3 months	3 months	3 months	3 months	3 months
Guardman Max	18 months	No waiting period	No waiting period	Following year	18 months
Harmony Extra W/TotalSol	45 days	45 days	45 days	45 days	No waiting period
Harmony GT	45 days	No waiting period	45 days	No waiting period	No waiting period
Harness Xtra 5.6L	Do not rotate	No waiting period	Following Spring	Following Spring	Following Spring
Hornet WDG	10.5 months	No waiting period	12 months	10.5 months	4 months
Huskie	9 months	9 months	4 months	4 months	7 days
Ignite	180 days	No waiting period	180 days	No waiting period	70 days
Impact	9 months	No waiting period	9 months	9 months	3 months
Intrro	18 months	No waiting period	No waiting period	No waiting period	18 months
Karmex XP	12 months	Following year	Following year	Following year	12 months
Keystone	15 months	No waiting period	Following Spring	Following Spring	15 months
Lariat	18 months	No waiting period	No waiting period	12 months	12 months
Lasso MT	Fall	No waiting period	No waiting period	No waiting period	Fall
Laudis	10 months	No waiting period	10 months	8 months	3 months
Layby Pro	12 months	Following year	Following year	Following year	12 months
Lightning	9.5 months	8.5 months	18 months	9 months	4 months
Londax	120 days	120 days	120 days	120 days	120 days
Lorox DF	4 months	No waiting period	No waiting period	No waiting period	4 months
Lumax/Lexar	18 months	No waiting period	Following Spring	Following Spring	4.5 months
Newpath	4 months	8.5 months	18 months	No waiting period	4 months
NorthStar (see label)	8 months	14 days	8 months	8 months	3 months
Olympus	24 months	18 months	12 months	12 months	No waiting period

GENERAL

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Rotational Restrictions

	Alfalfa	Corn	Milo	Soybeans	Wheat	
CORN	Olympus Flex	24 months	12 months	9 months	5 months	No waiting period
	Option	2 months	.5 months	2 months	.5 months	2 months
	Ordram	Following Spring	Following Spring	Following Spring	Following Spring	Fall
	Osprey	10 months	12 months	10 months	3 months	No waiting period
	Outlook	Following year	No waiting period	No waiting period	No waiting period	4 months
SORGHUM	Paramount	24 months	10 months	No restrictions	10 months	No restrictions
	Peak (see label)	15 months	4 weeks	4 weeks	10 months	No restrictions
	Permit	9 months	1 month	2 months	9 months	2 months
	Poast Plus	No restrictions	No restrictions	No restrictions	No restrictions	No restrictions
	Prefix	18 months	10 months	18 months	No waiting period	4.5 months
SOYBEANS	Princep	24 months	No restrictions	24 months	Next Cropping year	24 months
	Propanil (Stam)	60 days	60 days	60 days	60 days	60 days
	Prowl H2O	Following Year	Following Year	Following Year	No waiting period	120 days
	Pursuit	4 months	8.5 months	18 months	No waiting period	4 months
	Python	4 months	No waiting period	12 months	No waiting period	4 months
COTTON	Radius	12 months	No waiting period	12 months	6 months	12 months
	Rage DTech	12 months	7 days 9-16 oz	10 days 8-16 oz	7 days 8-16 oz	30 days 8-32 oz
	Raptor	3 months	8.5 months	9 months	No waiting period	3 months
	Reflex	18 months	10 months	18 months	No waiting period	4 months
	Regent	12 months	No restrictions	12 months	12 months	12 months
RICE	Resolve (1 oz rate)	10 months	No waiting period	10 months	10 months	4 months
	Resource	30 days	No restrictions	30 days	No restrictions	30 days
	Ricestar HT	Following year	Following year	Following year	9 months	Following year
	Scepter	18 months	9.5 months	11 months	No waiting period	3 months
	Select Max	No restrictions	6 oz or less 6 days	30 days	No restrictions	30 days
FORAGES	Sencor	4 months	4 months	12 months	No waiting period	4 months
	Sequence	4 months	No waiting period	No waiting period	No waiting period	4.5 months
	Sonic	12 months	10 months	12 months	No waiting period	4 months
	Spartan	12 months	10 months	10 months	No waiting period	4 months
	Spirit (see label)	18 months	4 weeks	10 months	10 months	3 months
SMALL GRAINS	Staple	Field Bioassay	10 months	Do Not Rotate	10 months	4 months
	Starane	4 months	No waiting	No waiting	4 months	No waiting
	Status	1 month	7 days	1 month	1 month	1 month
	Steadfast	12 months	No waiting period	10-18 months	15 days	4 months
	Storm	After harvest	After harvest	After harvest	No waiting period	After harvest
LAWN & GARDEN	Stout	10 months	No waiting period	10 months	15 days	4 months
	SureStart	Following Spring	No waiting period	Following Spring	Following Spring	4 months
	Suprend	18 months	7 months	7 months	7 months	3 months
	Synchrony XP	12 months	9 months	9 months	No waiting period	3 months
	Trifluralin	12 months	12 months	12 months	No waiting period	Fall
SEED	Ultra Blazer	After harvest	After harvest	After harvest	No waiting period	After harvest
	Valor	12 months	2 months	2 months	No waiting period	2 months
	Valor XLT	13 months	10 months	10 months	No waiting period	4 months
	Yukon	9 months	1 month	2 months	9 months	2 months

Restricted Chemicals

AAtrex	Baythroid XL	Counter	Expert	Grazon P+D	Keystone	Leverage 2.7	Pencap M	Temik
/Atrazine	Bicep II	Corvus	Firestorm	Guardsman Max	Lambda Star	Lorsban 4E	Permethrin	Tordon 22K
Amitrol	Magnum	Curacron	Force	Guthion 2L	Lannate	Lumax	Pilot	Vydate
Asana XL	Bidrin	Danitol	Fortress	Harness Xtra	Lariat	Methyl	Radius	Warrior II
Avitrol	Brigade	Degree Xtra	FulTime	5.6L	Larvin	Parathion	Regent 4SC	Weevil-cide
Aztec	Bullet	Denim	Furadan	Hero	Lasso Micro-Tech	Mustang Max	Silencer	Zephyr
Balance Flex	Chlorpyrifos	Dimilin 2L	Gramoxone	Hoelon	Lexar	EC	SureStart	
Balance Pro	Cinchi ATZ	Double Threat	Inteon	Intrro		Parallel Plus	Surmount	

*This is only a partial list. If you have any doubts, check the label. If it is restricted, it will say so on the label. If you are still unsure, treat it as if it is restricted.

Rainfast Comparisons

PRODUCT	RAINFAST TIMES (HOURS)	PRODUCT	RAINFAST TIMES (HOURS)	PRODUCT	RAINFAST TIMES (HOURS)
AAtrex /Atrazine	2	Gramoxone Inteon\	0.5	Reflex	1
Accent	4	Grandstand R	3	Regent	8
Aim	1	Grasp	1	Regiment	8
Amine, 2,4-D	6	Grazon P+D	6	Rely 200	4
Arrosolo	6	Harmony Extra	4	Remedy Ultra	4
Arsenal	1	Harmony GT	1	Resolve	4
Asana XL	4	Harvade 5F	6	Resource	1
Assure II	1	Hi-Dep	6	Ricestar HT	1
Autumn	2	Hornet WDG	2	Roundup PowerMAX	1
Basagran	4	Huskie	1	Roundup WeatherMAX	0.5
Basis	4	Ignite	4	Scepter DG	2
Baythroid XL	2	Impact	1	Select Max/Arrow	1
Beacon	4	Journey	1	Sequence	2
Brigade	1	Laudis	1	Spirit	4
Buctril	1	Liberty	4	Staple	4
Butyrac 200	1	Lightning	1	Starane	1
Cadet	1	Londax	4	Status	4
Callisto	1	Lov 2,4-D Ester	1	Steadfast	4
Cimarron Plus	4	MSMA	24	Stinger	6
Clarity	4	Mustang Max EC	1	Stout	4
Classic	1	Newpath	1	Suprend	3
Clincher	2	NorthStar	4	Synchrony XP	1
Cobra	0.5	Olympus	4	Tordon 22K	4
Crossbow	4	Olympus Flex	4	Touchdown Hi-Tech	1
Distinct	4	Option	2	Touchdown Total	0.5
Durango DMA	1	Osprey	4	Ultra Blazer	4
Envoke	3	Paramount	6	Valor	1
ET	1	Peak	4	Valor XLT	1
Extreme	1	Pencap M	2	Yukon	4
FirstRate	2	Permethrin	1	Zephyr	4
Flexstar	1	Permit	4		
Fusilade DX	1	Phoenix	2		
Fusion	1	Poast Plus	1		
Gangster	2	Propanil (Stam)	6		
Gly-4 Plus	2	Pursuit	1		
		Raptor	1		

Chemical Storage Temperatures

AAtrex /Atrazine	Not applicable	Aztec	Not applicable	Brushmaster	Not required
Accent	Not applicable	Balan	Above 40°F	Buctril	Above 3°F
Actellic	Above 32°F	Balance Pro	Not required	Bullet	Above 0°F
Aim	Not applicable	Banvel	Not required	Butyrac 200	Above 3°F
Amine, 2,4-D	Above 40°F	Bareground 21	Not applicable	Cadet	Above 32°F
Aquathol Super K	Not applicable	Basagran	Above 40°F	Callisto	Above -20°F
Arrosolo	Above 32°F	Basis DF	Not applicable	Canopy EX	Not applicable
Arsenal	Above 10°F	Baythroid XL	Not required	Cimarron Max	Not applicable
Asana XL	Above 32°F	Beacon	Not applicable	Cimarron Plus	Not applicable
Assure II	Above 32° F	Beyond	Above 32° F	Cinch	Above -30°F
Authority Assist	Above 32° F	Bicep II Magnum	Not required	Cinch ATZ	Not required
Authority First	Above 40°F	Boundary 6.5 EC	Not required	Clarity	Not required
Authority MTZ	Not applicable	Brigade	Above 40°F	Classic	Not applicable

Chemical Storage Temperatures

CORN	Cobalt	Above 20°F	Intrepid 2F	Above 32°F	Regent	Above 3°F
	Cobra	Above 32°F	Intrro	Above 32°F	Rely 200	Above 32°F
	Command 3ME	Above 40°F	Karate Z	Above 32°F	Remedy Ultra	Above 28°F
	Confirm	Above 32°F	Karmex XP	Not applicable	Resolve	Not applicable
SORGHUM	Cotoran	Not applicable	Kelthane MF	Above 32°F	Resource	Above 32°F
	Counter	Not applicable	Keystone	Above -30°F	Ricestar HT	Above 32°F
	Crop Oil	Above 32°F	Lannate	Above 32°F	Roundup PowerMAX	Not required
	Crossbow	Above 10°F	Lariat	Above 40°F	Roundup WeatherMAX	Not required
	Curacron	Not required	Lasso MT	Above 32°F	Sahara DG	Not applicable
	Define	Not required	Laudis	Above -40°F	Scepter	Above 32°F
SOYBEANS	Degree Xtra	Not required	Layby Pro	Not applicable	Select/Select Max/Arrow	Above 40°F
	Dimethoate	Above 45°F	Liberty	Above 32°F	Sencor	Not required
	Diquat	Above 32°F	Linex 4L	Not applicable	Sequence	No applicable
	Distinct	Not required	Lorsban 4E	Above 20°F	Sevin 4F/XLR	Above 32°F
	Domark	Not required	Lov 2,4-D Ester	not required	Sonic	Above 40°F
	Dual II Magnum	Not required	Lexar / Lumax	Above -10°F	Spartan	Not applicable
COTTON	Durango DMA	Not required	Malathion EC	Above 32°F	Spike 20P	Not applicable
	Enlite	Not required	Methyl Parathion	Above 20°F	Spirit	Not applicable
	Envive	Not required	MSMA	Above 32°F	Staple	Not applicable
	Envoke	Not applicable	Mustang Max EC	Above 20°F	Status	Not applicable
	Extreme	Not required	N Serve	Above 28°F	Stratego	Not applicable
	Finesse	Not required	Newpath	Above 32°F	Steadfast	Not applicable
RICE	FirstRate	Not applicable	NorthStar	Not applicable	Steward	Above 32°F
	Flexstar	Above 45°F	Olympus	Not required	Stinger	Above 28°F
	Force 3G	Not applicable	Olympus Flex	Not required	Storm	Above 32°F
	ForeFront	Above 32°F	Option	Not required	Stout	Not applicable
	FulTime	Above -30°F	Osprey	Not required	Super Brush	Not required
	Furadan	Above 32°F	Outlook	Not required	Surflan AS	Not required
FORAGES	Fusilade DX	Not required	Parallel	Not required	Surmount	Above 32°F
	Fusion	Not required	Parallel Plus	Not required	Synchrony XP	Not applicable
	Gangster	Not required	Paramount	Not required	Tordon 22K	Not required
	Gly-4 Plus	Not required	PastureGard	Above 28°F	Tordon RTU	Not required
	Gramoxone Inteon	Above 32°F	Pathfinder Foam	Above 32°F	Touchdown Total/Hi-Tech	Not required
	Grandstand R	Above 28°F	Peak	Not applicable	Tracer	Above 32°F
SMALL GRAINS	Grasp	Not applicable	Permethrin	Above 10°F	Treflan HFP	Above 40°F
	Grazon P+D	Not required	Permit	Not applicable	Ultra Blazer	Above 32°F
	Guardman Max	Not required	Persist/Persist LWV	Above 35°F	Valor	Not required
	Harmony Extra w/Total Sol	Not applicable	Phoenix	Above 32°F	Valor XLT	Not required
	Harmony GT	Not applicable	Poast Plus	Above 40°F	Velpar	Above 32°F
	Harness Xtra 5.6L	Not required	Prefix	Above 5°F	Warrior II	Above 32°F
LAWN & GARDEN	Harvade 5F	Above 40°F	Pramitol	Above 32°F	Weedtrine-D	Above 32°F
	Hi-Dep	Above 32°F	Princep 90	Not applicable	Yukon	Not applicable
	Headline	Not required	Princep 4L	Above 32°F		
	Hero	Above 32°F	Propanail (Stam)	Above 32°F		
	Hoelon	Above 20°F	Prowl H2O	32°F		
	Hornet WDG	Not applicable	Pursuit	Above 32°F		
SEED	Huskie	Above -40°F	Python	Not applicable		
	Hyvar XL	Not required	Radius	Not required		
	Ignite	Above 32°F	Raptor	Above 32°F		
FERTILIZER						

Worker Protection Standards

PRODUCT	RE-ENTRY INTERVAL (HOURS)	POSTING REQUIRED (YES/NO)	PROTECTIVE CLOTHING REQUIRED		PRODUCT	RE-ENTRY INTERVAL (HOURS)	POSTING REQUIRED (YES/NO)	PROTECTIVE CLOTHING REQUIRED	
			APPLICATORS HANDLERS	MIXERS LOADERS				APPLICATORS HANDLERS	MIXERS LOADERS
AAtrex/Atrazine	12	NO	A,B,C	A,B,C,D	Cotoran 4L	24	NO	A,E,I	A,E,I
Accent	4	NO	A,B,I	A,B,I	Counter 15G	48	YES	B,C,D,F,G,H,K	B,C,D,F,G,H,K
Acephate 90S	24	NO	A,B,G,I	A,B,G,I	Cruiser 5FS	12	NO	B,I,J	B,I,J
Aim	12	NO	A,B,I	A,B,I	Curacron	48	NO	C,D,E,L	C,D,E,L,H
Amine Weed Killer	48	NO	B,C,D,G,L	B,C,D,G,H,L	Danitol	24	NO	A,D,E,I	A,D,E,I
Asana XL	12	NO	A,D,E,I	A,D,E,I	Degree Xtra	12	NO	A,B,I	A,B,I
Assure II	12	NO	A,D,E,I	A,D,E,I	Denim	48	NO	C,D,E,G,L	C,D,G,E,L,H
Authority Assist	12	NO	A,B,C	A,B,C	Diamond	12	NO	A,D,E,I	A,D,E,I
Authority First	12	NO	A,B,I	A,B,I	Dimethoate 4EC	48	NO	A,C,D,E,G	A,C,D,E,G,K
Authority MTZ	12	NO	A,C,D,E	A,C,D,E	Dimilin 2L	12	NO	A,E,I	A,E,I
Autumn	12	NO	A,I	A,I	Dipel	4	NO	A,B,I,K	A,B,I,K
Aztec	NONE	NO	A,B,I	A,B,I	Distinct	12	NO	B,F,I	B,F,I
Balance Pro	12	NO	A,B,D,I	A,B,D,I	Di-Syston 15G	48	YES	B,C,G,H,K,L	B,C,G,H,K,L
Basagran	48	NO	A,B,I	A,B,I	Dithane M-45	24	NO	B,F,I	B,D,F,H,I
Basis	4	NO	A,B,I	A,B,I	DSMA	12	NO	A,B,D,I,K	A,B,D,I,K,H
Baythroid XL	12	NO	A,D,E,I	A,D,E,I	Dual II Magnum	24	NO	A,B,I	A,B,I
Beacon	12	NO	A,B,I	A,B,I	Durango DMA	4	NO	A,E,I	A,E,I
Beyond	4	NO	A,E,I	A,E,I	Echo 720	12	NO	A,D,E,I,K	A,D,E,I,K
Bicep II Magnum	24	NO	A,B,I	A,B,I	Enlite	12	NO	A,E,I	A,E,I
Bidrin	48	NO	C,D,E,G,K,L	C,D,E,G,K,L,H	Envive	12	NO	A,E,I	A,E,I
Bolero 8E	4	NO	A,I	A,E,I	Envoke	12	NO	A,E,I	A,E,I
Boundary 6.5 EC	12	NO	B,I,L	B,I,L	Expert	12	NO	L,E,C,G,H	L,E,C,G,H
Bravo Weather Stik	12	NO	A,E,I	A,E,I	Extreme	48	NO	A,B,D,I	A,B,D,I
Brigade	12	NO	A,E,I	A,E,I	Facet	12	NO	A,B,I	A,B,I
Buctril	12	NO	C,D,E,F,G	C,D,E,F,G,H	FirstRate	12	NO	B,I,L	B,I,L
Bullet	12	NO	A,C,D,E	A,C,D,E	Flexstar	24	NO	C,E,L	C,E,H,L
Bumper	24	NO	A,D,E,I	A,D,E,I	Folicur	12	NO	A,E,I	A,E,I
Butyrac 200	48	NO	A,B,D,I	A,B,D,I	Force 3G	0	NO	A,B,I	A,B,I
Cadet	12	NO	A,C,E,D	A,C,E,D	ForeFront	48	NO	A,D,E,I	D,E,I,J
Callisto	12	NO	A,E,I	A,E,I	FullTime	12	NO	A,B,I	A,B,I
Canopy EX	12	NO	A,B,I	A,B,I	Furadan	336	YES	A,D,E,I,K	A,D,E,I,K
Canopy	12	NO	A,B,I	A,B,I	Fury	12	NO	A,E,I	A,D,E,I
Caparol 4L	12	NO	A,I	A,I	Fusilade DX	12	NO	A,E,I	A,D,E,H,I
Captac 4L	96	NO	A,B,D,I	A,B,D,H,I,K	Fusion	24	NO	A,E,I	A,E,I
Centric	12	NO	A,B,I	A,B,I	Goal 2XL	24	NO	C,D,E,F,G	C,D,E,F,G,H
Cimarron Plus	4	NO	A,B,I	A,B,I	Gramoxone Inteon	24	NO	A,D,E,I,M	A,D,E,I,M
Cimarron Max	48	NO	A,E,I,D	F,H	Grandstand R	48	NO	A,D,I	A,D,I
Cinch	24	NO	A,E,I	A,E,I	Grasp	12	NO	A,I	A,I
Cinch ATZ	24	NO	A,E,I	A,E,I	Grazon P+D	24	NO	A,E,D,I	A,E,D,I
Clarity	12	NO	A,B,I	A,B,I	Guardsman Max	12	NO	A,C,D,E	A,C,D,E
Classic	12	NO	A,B,I	A,B,I	Guthion 2L	48	NO	C,D,E,F,G,K	C,D,E,F,G,H,K
Cobra	12	NO	C,D,E,F,G,H	C,D,E,F,G,H	Harmony Extra W/Total Sol	12	NO	A,B,I	A,B,I
Command 3ME	12	NO	A,E,I	A,E,I	Harmony GT	12	NO	A,B,I	A,B,I
Commence	12	NO	A,E,I	A,E,I	Harness Xtra 5.6 L	12	NO	A,B,I	A,B,I
Confirm 2F	4	NO	A,B,I	A,B,I					

GENERAL

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Worker Protection Standards

	PRODUCT	RE-ENTRY INTERVAL (HOURS)	POSTING REQUIRED (YES/NO)	PROTECTIVE CLOTHING REQUIRED		PRODUCT	RE-ENTRY INTERVAL (HOURS)	POSTING REQUIRED (YES/NO)	PROTECTIVE CLOTHING REQUIRED	
				APPLICATORS HANDLERS	MIXERS LOADERS				APPLICATORS HANDLERS	MIXERS LOADERS
CORN	Headline	12	NO	C,D,E,G,L	C,D,E,G,H,L	Permethrin	12	NO	A,E,I	A,E,I
	Hero	12	NO	A,C,E	A,C,D,E	Phoenix	12	NO	A,E,I	A,E,I
	Hi-Dep 2,4-D	48	NO	A,D,E,I	A,D,E,I	Poast Plus	12	NO	A,E,I	A,E,I
SORGHUM	Hornet WDG	48	NO	B,D,I,L	B,D,I,L	Propanil (Stam)	24	NO	A,D,E,I	A,D,E,I
	Huskie	12	NO	A,D,E,I	A,D,E,I	PropiMax	24	NO	A,D,E,I	A,D,E,I
	Ignite	12	NO	C,D,E,L	C,D,E,L,H	Provado 1.6	12	NO	A,B,I	A,B,I
	Intrepid 2F	4	NO	A,B,I	A,B,I	Prowl H2O	24	NO	A,E,I	A,E,I
SOYBEANS	Intrro	12	NO	A,C,D,E	A,C,D,E	Pursuit	12	NO	A,B,D,I	A,B,D,I
	Karmex XP	12	NO	A,B,D,I	A,B,D,I	Python	12	NO	B,I,L	B,I,L
	Kelthane MF	12	NO	C,E,F,G,K	C,E,F,G,H,K	Quadris	4	NO	A,E,I	A,E,I
	Lannate	48	NO	A,B,D,I,K	A,B,D,I,K	Quilt	24	NO	A,E,I	D,F,E,I
	Laredo 25EC	24	NO	C,D,E,F,G	C,D,E,F,G,H	Radius	12	NO	B,I,J	B,I,J
	Lariat	12	NO	A,C,D,E	A,C,D,E	Rage Dtech	12	NO	A,C,D,E	A,C,D,E
COTTON	Lasso M.T.	12	NO	A,C,D,E	A,C,D,E	Raptor	4	NO	A,E,I	A,E,I
	Laudis	12	NO	A,E,I	A,E,I	Reflex	24	NO	A,B,D,I	A,B,D,I
	Layby Pro	24	NO	C,E,F,H	A,E,I	Regent	0	NO	B,C,D,G,K,L	B,C,D,G,H,K,L
	Leverage 2,7	12	NO	C,D,E,L	C,D,E,G,H	Rely 200	12	NO	A,D,E,I	A,D,E,I
RICE	Lexar	24	NO	J,I,E	J,I,E	Resolve	4	NO	A,B,I	A,B,I
	Liberty	12	NO	A,D,E,I	A,D,E,I	Resource	12	NO	C,D,E,L	C,D,E,L
	Lightning	12	NO	A,B,D,I	A,B,D,I	Ricestar HT	24	NO	A,D,I	A,D,I
	Londax	24	NO	A,B,D,I	A,B,D,I	Roundup PowerMax	4	NO	A,E,I	A,E,I
	LOV 2,4-D	12	NO	A,D,E,I	A,D,E,H,I	Roundup WeatherMax	4	NO	A,E,I	A,E,I
	Linex	24	NO	B,G,I,L	B,G,I,L	Scepter DG	12	NO	A,B,I	A,B,I
FORAGES	Lorsban 15G	24	NO	C,E,F,K	C,E,F,K	Scout X-TRA	24	NO	A,D,E,I	A,D,E,I
	Lorsban 4E	24	NO	C,E,G,K,L	C,E,G,H,K,L	Select Max/Arrow	12	NO	A,D,E,I	A,D,E,I
	Lumax	24	NO	A,B,C,I	A,B,C,D,I	Sencor	12	NO	A,B,I	A,B,I
	Malathion EC	12	NO	A,D,E,I	A,D,E,I	Sequence	24	NO	A,E,I	A,E,I
	Methyl Parathion	48	NO	C,D,E,F,G,K	C,D,E,F,G,K,H	Sevin 50W/80W/XLR	12	NO	A,B,G,I	A,B,G,I
	Milestone	12	NO	A,I	E,I,J	Simazine 4L	12	NO	A,E,I	A,E,I
SMALL GRAINS	Monitor 4	48	NO	C,D,E,G,K,L	C,D,E,G,H,K,L	Simazine 90DF	12	NO	A,B,I	A,B,I
	MSMA	12	NO	A,B,C,K	A,B,C,D,H,K	Spartan	12	NONE	A,B,I	A,B,I
	Mustang MAX EC	12	NO	A,E,I	A,E,I,D	Spirit	12	NO	A,B,I	A,B,I
	N-Serve	24	NO	A,D,E,I	A,D,E,I	Staple	24	NO	A,D,E,I	A,D,E,I
LAWN & GARDEN	Newpath	4	NO	A,E,I	A,E,I	Status	24	NO	A,C,D,E	A,C,D,E
	Olympus	24	NO	A,D,E,I	A,D,E,I	Steadfast	4	NO	A,B,I	A,B,I
	Olympus Flex	24	NO	A,D,E,I	A,D,E,I	Steward	12	NO	A,B,I	A,B,I
	Option	12	NO	A,E,I	A,E,I	Storm	48	NO	A,B,D,I	A,B,D,I
SEED	Ordram	12	NO	A,I	C,E,F,K	Stout	4	NO	A,B,I	A,B,I
	Orius	12	NO	A,E,I	A,E,I	Stratego	24	NO	A,E,I,M	A,E,I,M
	Osprey	24	NO	A,D,E,I	A,D,E,I	Surflan 4AS	12	NO	A,B,D,I	A,B,D,I
	Outlook	12	NO	A,D,E,I	A,D,E,I	Suprend	12	NO	A,E,I	A,E,I
	Paramount	12	NO	A,B,I	A,B,I	Surmount	12	NO	A,D,E,I	D,E,I,J
	Peak	12	NO	A,B,I	A,B,I	Synchrony XP	12	NO	A,B,I	A,B,I
FERTILIZER	PennCap M	96	NO	B,C,D,F,G,K	B,C,D,F,G,K	Temik	NONE	NO	B,C,D,G,K,L	B,C,D,G,H,K,L
	Permit	12	NO	A,I	A,I	Thimet L&L	48	YES	B,C,D,F,G	B,C,D,F,G,H,K

Worker Protection Standards

PRODUCT	RE-ENTRY INTERVAL (HOURS)	POSTING REQUIRED (YES/NO)	PROTECTIVE CLOTHING REQUIRED	
			APPLICATORS HANDLERS	MIXERS LOADERS
Thimet Bagged 15G	48	YES	B,C,D,F,G	B,C,D,F,G,H,K
Tilt	12	NO	A,D,E,I	A,D,E,I
Tordon 22K	12	NO	A,B,D,I	A,B,D,I
Touchdown	12	NO	A,B,I	A,B,I
Tracer	4	NO	A,I	A,I
Treflan Granules	12	NO	B,D,I,J	B,D,I,J
Trifluralin	12	NO	C,D,E,G,L	C,D,E,G,H,L
Ultra Blazer	48	NO	A,B,D,G,I	A,B,D,G,I
Valor	12	NO	A,B,I	A,B,I
Valor XLT	12	NO	A,B,I	A,B,I
Velpar	24	NO	A,D,I	A,D,I
Warrior II	24	NO	A,D,E,I	A,D,E,I
Yukon	12	NO	A,I	A,I
Zephyr	12	NO	C,D,E,G,H,L	C,D,E,G,H,L

A. Long-sleeved shirt and long pants
 B. Waterproof gloves
 C. Chemical-resistant footwear plus socks
 D. Protective eyewear
 E. Chemical-resistant gloves
 F. Coveralls over long-sleeved shirt and long pants
 G. Chemical-resistant headgear for overhead exposure
 H. Chemical-resistant apron
 I. Shoes plus socks
 J. Coveralls
 K. Respirator
 L. Coveralls over short-sleeved shirt and short pants
 M. Face shield

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Pest Control in Stored Grain

	PRODUCT	DILUTION	REMARKS	
CORN	Actellic	9.2-12.3 fl. oz. per 5 gallons of water per 1071 bu.	For corn and milo only, will control Indian meal moth. Apply as grain goes into storage. Do not dilute more than 48 hours before application.	
	SORGHUM	Insecto	For empty grain bins use 1 lb. per 1000 sq. ft. (3 lbs. per 10,000 bu. bin)	Insecto is a natural material containing Diatomaceus Earth. Thoroughly apply to inside of empty grain bins and warehouses.
Barley: 1 lb. per 41 bu.		Apply as grain goes into storage at recommended rates. Then apply 4 lbs. per 1,000 sq. ft. as a top dressing or barrier.		
Milo: 1 lb. per 35 bu.		Apply as grain goes into storage at recommended rates. Then apply 4 lbs. per 1,000 sq. ft. as a top dressing or barrier.		
Oats: 1 lb. per 62 bu.		Apply as grain goes into storage at recommended rates. Then apply 4 lbs. per 1,000 sq. ft. as a top dressing or barrier.		
Wheat: 1 lb. per 33 bu.		Apply as grain goes into storage at recommended rates. Then apply 4 lbs. per 1,000 sq. ft. as a top dressing or barrier.		
SOYBEANS	Corn: 1 lb. per 35 bu.	Apply as corn goes into storage at recommended rate to bottom and top 10% of grain, then treat every fifth load in between at recommended rate. Then apply 4 lbs. per 1,000 sq. ft. as a top dressing or barrier.		
		Malathion 6% Dust	10 lbs. per 1,000 bu.	Apply as grain goes into storage. Can apply proper amount in the truck or wagon. Mixing will occur as grain goes into storage. Do not heat-dry grain, optimum moisture is 13%. Not labeled for grain sorghum.
		Storcide II	Barley: 9.9 oz. per 1,000 bu.	Apply as grain is being loaded or turned into final storage. Dilute in 5 gal. water.
Milo: 11.6 oz. per 1,000 bu.	Apply as grain is being loaded or turned into final storage. Dilute in 5 gal. water.			
Oats: 6.6 oz. per 1,000 bu.	Apply as grain is being loaded or turned into final storage. Dilute in 5 gal. water.			
COTTON	Rice: 9.3 oz. per 1,000 bu.	Apply as grain is being loaded or turned into final storage. Dilute in 5 gal. water.		
		Wheat: 12.4 oz. per 1,000 bu.	Apply as grain is being loaded or turned into final storage. Dilute in 5 gal. water.	
		Empty bin and warehouse use 1.8 oz in 1 gal of water. Use 1 gal per 1,000 sq. ft.	Apply to walls, floor and equipment of bin.	
RICE	Tempo SC Ultra	8-16 ml. per 1,000 sq. ft.	Insect and sanitation of empty grain bins and warehouses. Do not spray directly on grain or feed. Spray to the point of runoff. Fast knockdown and four to eight weeks of residual. Dilution rate equals .27-.54 fl. oz. per 1000 sq. ft.	
	Weevil-Cide	Pellets (Farm Bins) 450-900 pellets per 1,000 bu.	Upon exposure to air, Weevil-Cide pellets begin to react with atmospheric moisture to produce small quantities of phosphine gas. Apply after grain is in facility. Leakage is the single most important cause of failure in the treatment of farm storages. All vents and aeration ducts must be sealed. Tarping of the grain surface will greatly reduce leakage. Restricted use.	

Spray Additives

	PRODUCT	USE RATE	REMARKS
FORAGES	AMS Advantage	2-3 qts./100 gallons of spray solution	Intended use is with glyphosate that recommends a nitrogen source or water conditioning and sequestering ingredient. Polymer ingredient provides drift suppression, enhanced spray deposition and has been proven to improve glyphosate activity.
	SMALL GRAINS	AMS EZ Plus	2.5 gallons/100 gallons of spray solution
AMS-DEP		9 lbs./100 gallons of spray solution	AMS-DEP is a AMS with a deposition agent. May be used anywhere AMS is used. Applying AMS-DEP at 9 lbs./100 gallons will provide 8.5 lbs. AMS.
AMS-EZ		2.5-5.0 gallons/100 gallons of spray solution	A liquid ammonium sulfate solution. Three quarts contains 2.5 lbs. of ammonium sulfate.
LAWN & GARDEN	Astute	1-2 qts./100 gallons of spray solution	A 90% spreader sticker adjuvant that greatly improves foliage wettability. Add to spray mixture after tank is at least half full of water. Keep agitation going when adding. Also labeled for aquatic uses.
	Astute Lite	1-2 qts./100 gallons of spray solution	An 80% spreader sticker adjuvant that greatly improves foliage wettability. Add to spray mixture after tank is at least half full of water. Keep agitation going when adding.
SEED	Crop Oil (Relay)	1 gallon/100 gallon of spray solution	A blend of paraffinic crop oil plus a surfactant. The excellent wetting and emulsifying properties allow uniform coverage and wetting.
	Fraction	4 lbs/100 gallon of spray solution	An AMS replacement product that is used with glyphosate improve glyphosate activity. Highly soluble, with very refined and uniform granulation. 4 lbs of Fraction would be equivalent to 17 lbs. of AMS. Not for use with sulfonylurea herbicides.
	Soy Plus	1.5-2.0 pts./acre	An adjuvant that contains methylated soybean oil. Use with postemergent herbicides that require an oil additive.

Seed Treatments

PRODUCT	PROBLEM	RATE	REMARKS
Apron Maxx RTA	Soybean - damping off due to Pythium, Phytophthora, Fusarium, Rhizoctonia	5 oz./ 100 lbs. of seed Treats 256 50# units per 5 gallon case	Ready to apply, Farmer applied to seed prior to placing in planter box. Also available with Molybdenum.
ApronMaxx Bean Pak	Soybean - damping off due to Pythium, Phytophthora, Fusarium, Rhizoctonia	Apron XL 0.16-0.64 oz, Maxim 4FS 0.08 oz, and Blue colorant 0.32 oz per 100 lbs of seed	The Pak includes blue colorant, Maxim 4FS and Apron XL. Provides control of wide range of seed-borne, soil-borne and seedling diseases in soybeans.
Apron Maxx RFC	Soybean - damping off and seed rots due to Pythium, Phytophthora, Fusarium, Rhizoctonia	1.5 oz./ 100 lbs. of seed	Currently only available as a dealer-applied treatment. Has lower applications volume and requires less slurry, offering growers better flowability, less wet soybean handling problems and improved plantability when combined with liquid inoculants.
Bean Guard w/ Alegiance	Soybean - damping off due to Pythium, Phytophthora, Fusarium, Rhizoctonia	1.66 oz./50 lbs. of seed	Hopper box treatment that is farmer applied. Mix thoroughly with seed in the hopper box.
Cruiser Dividend Extreme Wheat Pak	Wheat- Insecticide and fungicide	Cruiser 0.8 oz per 100 lbs of seed. Dividend Extreme 2.0 oz per 100 lbs of seed	Certified treater applied. Cruiser seed treatment insecticide to control certain insects including aphids in wheat and Dividend Extreme is a systemic seed dressing that controls or suppresses certain seed borne (Loose Smut), soil-borne and fall foliar diseases of wheat.
CruiserMaxx Beans	Soybean - seed and soil-born disease pathogens, Insecticide for soybean aphid and bean leaf beetle	3 fl oz/100 lbs of seed. Treats 2650 50 lb units per 15 gallon tote.	Certified treater applied. Combination of Cruiser seed treatment insecticide, Apron and Maxim. Provides early season disease and insect control. 3 oz = 0.16 oz Apron XL, 0.08 oz Maxim, 0.32 oz color, and 1.28 oz Cruiser 5FS.
Dividend Extreme	Wheat - disease prevention	2 oz./100 lbs. of seed	Dividend Extreme is a systemic seed dressing that controls or suppresses certain seed-borne, soil-borne, and fall foliar diseases of wheat. It is a mixture of Dividend and Apron XL.
Kernel Guard Supreme	Corn - Seed corn beetle and maggot, wireworms, Damping off, seed decay and seedling blight	1.5 oz. / 42 lbs. of seed	Use as a dry mixture in the planter box as a seed treatment prior to planting. Contains Vitavax and Permethrin.
Latitude	Corn - Seed corn beetle and maggot, flea beetles, grubs, wireworms, damping off, seed decay and seedling blight	1.5 oz / 42 lbs. of seed	Use as a dry mixture in the planter box as a seed treatment prior to planting. Contains Metalaxyl, Vitavax, and Gaucho.
Optimize	Soybean - Growth promoter and inoculant	4.25 oz /100 lbs of seed	A retail - applied product that is a growth promoter and inoculant to improve early season vigor and growth in soybeans. It is compatible with other fungicide and insecticide seed treatments.
Regent TS	Corn - Insecticide	1-2 fl oz/100 lbs	Control and suppression of wireworm, seed corn maggot, grape colapsis, white grubs, flea beetle, and thrips.
Vitavax 20-20 (Enhance)	Soybean- damping off, seed decay organisms, seedling blight	3 oz./bushel	Seed box or dry pre-mix treatment. Do not over mix. Mechanical injury reduces germination.
Vitavax 20-20 (Enhance)	Wheat - disease prevention	2.4 oz./bushel (4 oz./100 lbs. seed)	Planter box or pre-mix treatment. Excellent for loose and covered smut control. Reduces seed rot and seedling blight. Will control seed scab.

GENERAL

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Aquatic Weed Control

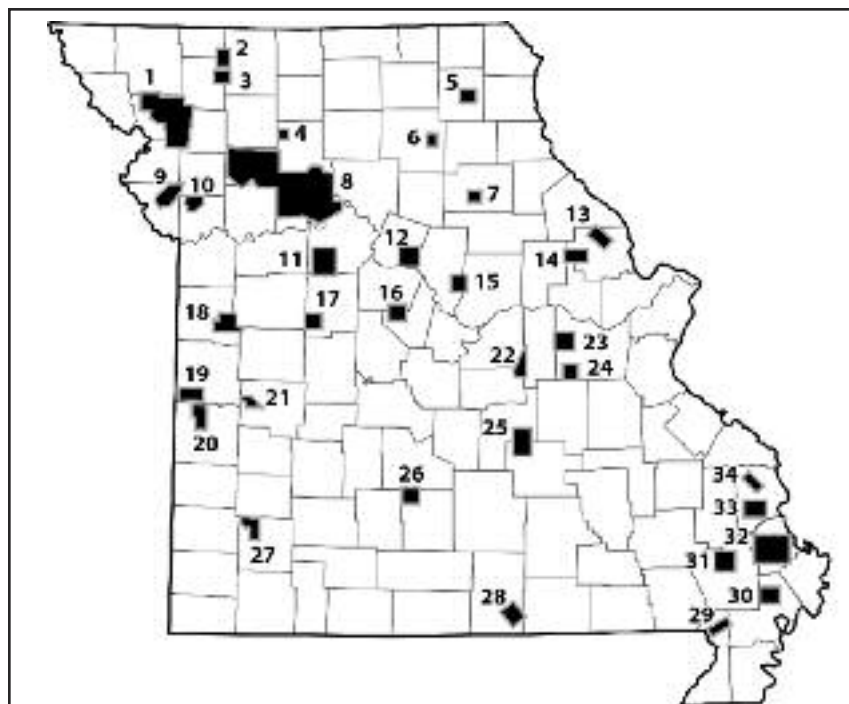
	PRODUCT	PROBLEM	DILUTION	REMARKS
CORN	Aquashade	Algae, aquatic weeds	1 gal./acre of water 4 ft. deep	EPA registered for algae and weed control. Used as a preventative, not a contact product. Turns the water aqua blue. Treated water may be used for swimming (after complete dispersal), fishing, irrigation and livestock watering. Do not use treated water for human consumption.
SORGHUM	Aquashadow	Cloudy or off-colored water	7.15 oz./acre of water 1 ft. deep	Turns the water aqua blue. Treated water may be used for swimming (after complete dispersal), fishing, irrigation and livestock watering. Do not use treated water for human consumption.
	Aquathol Super K	Submersed weeds	2.2-110 lbs./acre	Contact killer. Apply after weeds are present. Do not use fish from treated water for 3 days. Do not swim in water for 24 hours after treatment. Do not use treated water for watering livestock, agricultural sprays, irrigation or domestic purposes for 25 days.
SOYBEANS	Citrine-Plus	Algae, Chara and Nitella	1 lb./720 sq. ft. surface, or 60 lbs./surface acre	Treat early in the season before algae becomes too prevalent. As season prolongs algae becomes more resistant. Spread directly over vegetation to be treated. May use treated waters for swimming and fishing immediately after treatment. Water from treated lakes and ponds may be used to irrigate turf, water livestock and for domestic use immediately after treatment.
	Citrine-Plus Liquid	Chara and Nitella Algae	1.2-4.8 gal./surface acre	Treat early in the season when algae is present. As season prolongs algae becomes more resistant. Apply on a sunny day when water temperature is 60 F or above. For chara and nitella algae, dilute 9:1. Spread directly over vegetation to be treated. Treated water may be used for swimming, fishing, irrigation and livestock watering immediately after treatment.
COTTON	Citrine-Plus Liquid	Filamentous and Planktonic Algae	.6-2.4 gal./surface acre	Treat early in the season when algae is present. As season prolongs algae becomes more resistant. Apply on a sunny day when water temperature is 60 F or more. For filamentous algae, dilute 9:1. For planktonic (pea soup) algae dilute 20:1. Spread directly over vegetation to be treated. Treated water may be used for swimming, fishing, irrigation and livestock watering immediately after treatment.
RICE	Eraser AQ	Emerged weeds such as cattails	1-2% solution	Non-selective herbicide containing glyphosate. Always add a surfactant at 0.25% V/V. Apply when cattails are flowering. For other weeds, apply when they are actively growing and above the water surface.
	Glyphomate	Emerged weeds such as cattails	2-3% solution	Non-selective herbicide containing glyphosate and a surfactant. Apply when target plants are actively growing and above the water surface. Apply when cattails are flowering.
FORAGES	Navigate	Emerged and submersed weeds	150-200 lbs./acre	Do not apply to water used for irrigation, agricultural sprays, watering dairy animals or domestic water supplies.
	Sonar	Duckweed, suppression of watermeal, some submersed plants.	1 qt. per surface acre.	Excellent product for Duckweed control. Treated water may be used for swimming, fishing or livestock use. Check label if wanting to use water for irrigation. Apply at first sign of weeds floating to the surface. May take 30-60 days to obtain control.
SMALL GRAINS	Stocktrine II	Algae in water tanks and troughs. Protects livestock from toxic algae	1 oz. / 250 gal. of water	Dilute desired amount of Stocktrine II with at least 9 parts of water. Apply with sprinkling can over entire surface of water. No waiting period for watering stock but should apply when consumption is low.
	Weedtrine-D	Duckweed	5 gal./surface acre + surfactant	Do not use treated water for animal consumption, spraying, irrigation or domestic purposes within 14 days after treatment. Must use surfactant. Apply on a sunny day.
LAWN & GARDEN	Weedtrine-D	Floating weeds	2.5-3.75 gal./surface acre	Do not use treated water for animal consumption, spraying, irrigation or domestic purposes within 14 days after treatment. Must use surfactant. Apply on a sunny day.
	Weedtrine-D	Submersed weeds	5-10 gal./surface acre	Do not use treated water for animal consumption, spraying, irrigation or domestic purposes within 14 days after treatment. Must use surfactant. Apply on a sunny day.
SEED				
FERTILIZER				

MISSOURI PRIVATE LAND QUAIL FOCUS AREAS

by Aaron Jeffries

To benefit landowners and bobwhite quail, the Missouri Department of Conservation has identified 34 private land quail focus areas throughout the state (see map). These focus areas have been established where several landowners are already managing for quail, near conservation areas with good quail habitat and/or where conservation partners have expressed an interest in quail habitat management. The purpose of establishing quail focus areas is to show a landscape level improvement in quail populations by improving habitat on several farms close to one another.

Most focus areas are around 30,000 acres in size, but some are even larger because of widespread landowner interest and success. Department employees target landowners within these focus areas by marketing quail management and then providing technical and financial assistance to those interested. In the meantime, staff continue to work with landowners outside focus areas by providing technical and financial assistance to help landowners meet their resource objectives.



- | | | |
|-----------------------------|-------------------------|---------------------|
| 1. Covey Headquarters | 14. Hawk Point/Truxton | 28. Howell County |
| 2. Seat | 15. Bradford | 29. Indian Camp |
| 3. Albany | 16. Tipton/Upland Plain | 30. Little River |
| 4. Poosey | 17. Green Ridge | 31. Crowley's Ridge |
| 5. Knox County | 18. Cass County | 32. Scott County |
| 6. Salt River | 19. Southwest Bates | 33. Gordonville |
| 7. Paris | 20. Douglass Branch | 34. Oak Ridge |
| 8. 2C | 21. Taberville | |
| 9. Platte County | 22. Covey Junction | |
| 10. Smithville | 23. Port Hudson | |
| 11. Sweet Springs | 24. Boone Creek | |
| 12. Bullseye | 25. White River Trace | |
| 13. White Conservation Area | 26. Wright County | |
| | 27. Spring River | |

Landowners are improving habitat for quail by converting grass fields and crop field edges to native warm-season grasses and wildflowers. Habitat edges between open land and woodlands are being developed as winter and escape cover through edge feathering and timber stand improvement. Landowners are also controlling invasive plants like sericea lespedeza, spotted knapweed, teasel, autumn olive and bush honeysuckle. Often herbicides perform a critical role in the restoration of quail friendly habitats. For example, glyphosate based herbicides are excellent for eradicating undesirable herbaceous vegetation or suppressing grass growth. Brush herbicides can be used to control unwanted broadleaf plants like sericea lespedeza and for treating cut tree stumps when edge feathering.

Several private land focus areas have gotten off to a great start as a result of widespread landowner interest and conservation programs like the Conservation Reserve Program (CRP) and Conservation Security Program (CSP). Focus areas in Cass, Caldwell, Carroll, Dekalb, Knox, Lawrence, Monroe, Saline, Scott, Howell and Wright Counties are seeing an increase in quail densities, and, as a result, other landowners have started to notice. Some landowners within focus areas are converting their entire farm to quail friendly habitat, while others are restoring small portions of their agriculture operation. No matter how much landowners are restoring, every little bit helps. The key is having a concentration of quality habitat to benefit bobwhite and other wildlife. Success will come one farm at a time. For quail, every little bit helps.

Get Cost-Share, Technical Assistance and Large-Scale Results

Establishing quail focus areas helps neighbors work together to create large spreads of high-quality quail habitat. Cooperators receive cost-share and technical assistance, and many landowners are excited about restoring quail to their farms. To learn more about quail habitat management visit your local Missouri Department of Conservation office or visit www.mdc.mo.gov/landown/wild/quail.

Brush Control Guide

Key:
 R=Recommended
 R*=Recommended but
 may not be practical
 N=Not recommended

ARSENAL (FOLIAR SPRAY)
 BRUSH KILLER 875 (FOLIAR SPRAY)
 BRUSHMASTER (BASAL SPRAY)
 BRUSHMASTER (FOLIAR SPRAY)
 BRUSHMASTER (CUT STUMP)
 CROSSBOW (BASAL SPRAY)
 CROSSBOW (FOLIAR SPRAY)
 CROSSBOW (CUT STUMP)
 HILDER (FOLIAR SPRAY)
 PASTUREGARD (FOLIAR SPRAY)
 REMEDY ULTRA (BASAL SPRAY)
 REMEDY ULTRA (FOLIAR SPRAY)
 SPIKE 20P (GROUND TREATMENT)
 SUPER BRUSH KILLER (BASAL SPRAY)
 SUPER BRUSH KILLER (FOLIAR SPRAY)
 SURMOUNT (FOLIAR SPRAY)
 TORDON 22K (FOLIAR SPRAY)
 TORDON RTU (CUT STUMP)

Ash	R	R	R	R	R	R	R	R	N	R	R	R	R	R	R	R	N	N	R
Birch	N	R	R	R	R	R	R	R	N	R	R	R	N	R	R	R	N	N	R
Blackberry**	R	R	R	R	R*	R	R	R*	R	R	R	R	R	R	R	R*	R	R	R*
Black Cherry	R	N	R	R	R	N	N	N	R	N	N	N	N	R	R	R	N	N	R
Black Willow	N	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Buckbrush	N	R	R	R	R*	R	R	R*	R	N	N	N	R	R	R	R*	N	N	R*
Cedar	N	R	R	R	R	N	N	N	N	N	N	N	N	R	R	R	N	N	R
Cottonwood	N	R	R	R	R	R	R	R	N	R	R	R	R	R	R	R	R	R	R
Dogwood	R	R	R	R	R	R	R	R	N	R	R	R	R	R	R	R	R	R	R
Elm**	N	N	N	N	N	R	N	R	N	R	R	R	R	N	N	N	R	R	R
Hackberry	N	N	N	N	N	R	R	R	N	R	R	R	N	N	N	N	R	R	R
Hickory**	R	R	R	R	R	N	N	N	N	N	N	N	R	R	R	R	N	N	R
Honey Locust	N	R	R	R	R	R	R	R	R	R	R	R	N	R	R	R	R	R	R
Maple**	R	N	N	N	N	R	R	R	N	R	R	R	R	N	N	N	R	R	R
Multiflora Rose	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Mulberry	R	N	N	N	N	R	R	R	N	R	R	R	N	N	N	N	R	R	R
Oak**	R	R	R	R	R	R	R	R	N	R	R	R	R	R	R	R	N	N	R
Osage Orange	N	N	N	N	N	R	R	R	N	R	R	R	N	N	N	N	R	N	R
Persimmon	R	R	R	R	R	R	R	R	N	R	R	R	N	R	R	R	R	N	R
Poison Ivy	R	R	R	R	R	R	R	R	R	R	R	R	N	R	R	R	R	R	N
Sassafras	R	R	R	R	R	R	R	R	N	R	R	R	N	R	R	R	R	R	R
Serviceberry	N	N	N	N	N	R	R	R	N	R	R	R	N	N	N	N	N	N	R
Sumac	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	N
Sycamore	N	R	R	R	R	R	R	R	N	R	R	R	N	R	R	R	N	N	R
White Poplar	N	R	R	R	R	R	R	R	N	R	R	R	N	R	R	R	R	R	R

** Check label to see if exact species is identified.

Tips on Controlling Brush

1. Do not mow the same year that you spray brush. One or two years of new growth is needed to insure adequate volume of foliage to uptake herbicide.
2. Application timing is critical in providing good control. Some species will have different application timings to get adequate control. Spray your targeted species at the right time.
3. Try to use a minimum of 20 gal per acre when broadcast spraying. This will insure adequate coverage. Always add Astute (NIS) to the mix.

Brush Control Herbicides

PRODUCT	PROBLEM	DILUTION	REMARKS
Arsenal	Grasses, broadleaf weeds, brush, unwanted trees per gallon of water)	Use a .5-1.0 % solution. (Equivalent to .65 to 1.33 oz.	Spray foliage and or ground on noncropland areas. Will provide postemergence and residual control. Keep at least 2 drip lines away from desirable trees. Controls weeds for 1 year or more. Add a NIS or COC to the spray mixture.
Bareground 21	Annual weeds, grasses	.50-1.0 lb./100 sq. ft.	Spread on ground. Needs irrigation or rainfall to move into the root zone. Controls weeds for 1 year or more.
Bareground 21	Perennial weeds	1.0-2.5 lbs./100 sq. ft.	Spread on ground. Needs irrigation to move into the root zone. Controls weeds for 1 year or more.
Brush Killer 875	Brush	1.0-1.5 gal./100 gal. water (Equivalent to 1.33 to 2 oz. per gallon of water)	Spray foliage when actively growing.
Brushmaster	Brush, unwanted trees, weeds	1-2 gal./100 gal. water (Equivalent to 1.33 to 2.67 oz. per gallon of water)	Spray all foliage in full leaf and when temperature is below 85 F. Use the lower rate on easy to kill species (Locust, willow, buckbrush, etc.) Use only on roadside, ditch banks, fence rows, industrial sites and other non-cropland areas.
Brushmaster	Unwanted stump regrowth	1-2 gal./25 gal. diesel	Spray to stumps when temperature is below 85 F. Use only on roadside, ditch banks, fence rows, industrial sites and other non-cropland areas.
Brushmaster	Unwanted trees	6-10 gal./90-94 gal. diesel for basal treatment	Spray base of trunks when temperature is below 85 F. Use only on roadside, ditch banks, fence rows, industrial sites and other non-cropland areas.
Cimarron Plus/ Cimarron Max	Broadleaf weeds, thistle, Multiflora Rose, Serecia lespedeza. See label.	.1 to .5 oz. /acre	Absorbed through the leaves. Can tank mix with 2,4-D, Tordon 22K, Grazon P+D, or Banvel. Add 1-2 qts. NIS / 100 gal. water; may stunt fescue or timothy. See label. Can be tank mixed with liq. N. Use spray mix in 24 hours. For spot spray use 1 oz. per 100 gallons of water.
Crossbow	Brush, unwanted trees, weeds	1.5-4.0 gal./15-30 gal. of water per acre when using a boom sprayer	Spray foliage in full leaf and when temperature is below 85 F. See label for grazing and haying restrictions by dairy and other livestock.
Crossbow	Brush, unwanted trees, weeds	1.0-1.5 gal./100 gal. water (Equivalent to 1.33-2.0 oz. per gallon of water)	Spray foliage in full leaf and when temperature is below 85 F. See label for grazing and haying restrictions by dairy and other livestock.
Crossbow	Stumps, unwanted trees, woody species	1-4 gal./100 gal. diesel oil for basal treatment	Treat susceptible woody species anytime when brush is dormant and bark is dry. Best results occur late winter to early spring. Thoroughly wet basal part of brush or trees to a height of 15-20 inches from the ground. Treatment is effective on trees up to 6-8 inches in diameter. For stumps, most effective when applied quickly after trees are cut.
Glyphosate	Woody species	5% solution (Equivalent to 6.5 oz. per gallon of water)	Spray foliage when actively growing. Refer to label for specific timing.
Hi-Dep	Broadleaf weeds, multiflora rose, buckbrush, locust, willow, poison ivy	Broadcast 2-4 qts./acre or spot spray .75-1% solution	Spray all foliage in full leaf. May use on roadside, ditch banks, fence rows, industrial sites and other non-crop areas. Hi-Dep can also be sprayed in pastures. Check label for grazing restrictions.
Hyvar XL	Annual weeds	1.5-3.0 gal./acre	Spray foliage on non-cropland areas.
Hyvar XL	Brush	2.75-5.0 gal./acre	Spray foliage on non-cropland areas.
Hyvar XL	Brush	1 gal./5 gal. water	Basal spray.
Hyvar XL	Perennial weeds	3-6 gal./acre	Spray on foliage on non-cropland areas.
Journey	Vegetation Management prior to the establishment of certain native prairie grasses and wildflowers	4-32 oz./acre	Contains Plateau and Roundup Pro. 10.7 oz. of Journey contains 4 oz. Plateau and 5.3 oz. of Roundup Pro.

GENERAL

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Brush Control Herbicides

	PRODUCT	PROBLEM	DILUTION	REMARKS
CORN	Panoramc	Cool season grasses and broadleaves in warm season grasses	4-12 oz.	Generic Plateau. Can be used as a preemergent or postemergent applications in warm season grasses and wild flowers. View label for restrictions on certain warm season grass cultivars and wild flowers. When applying post-emerge, add MSO at 1% V/V.
SORGHUM	PastureGard	Serecia lespedeza	1.5-2 pts.	Apply 1.5 pts. when sercicia lespedeza is 12-15" tall. Increase rates to 2 pts for dense stands or later stages of growth. For best results apply before bloom. Spot treatments at 1 oz./gal of water. Add a surfactant at 1-2 qts. per 100 gal. of solution.
	PastureGard	Brush	3-6 pts.	Spray foliage at full leaf and under good environmental conditions. Add NIS at 0.25% v/v. Very good on blackberry and multiflora rose.
	Power Pellets	Brush, multiflora rose, unwanted trees	1-2 pellets per stem inch diameter	Apply prior to or during periods of active growth. Apply by hand at a rate of 1-2 pellets for every inch of trunk diameter. Most popular rate for multiflora rose is 2 pellets per bush, for plants 2' to 4' tall.
SOYBEANS	Pramitol 25E	Annual weeds, grasses	1-1.5 pts./1,000 sq. ft.	Spray ground. Needs irrigation to move into the root zone. Controls weeds for 1 year or more.
	Pramitol 25E	Perennial weeds	22.0-29.4 oz. /1,000 sq. ft.	Spray ground. Needs irrigation to move into the root zone. Controls weeds for 1 year or more. Can be diluted in water, diesel oil or crop oil.
COTTON	Remedy Ultra	Brush, unwanted trees	25% solution with diesel for basal treatments	Spray basal parts of tree trunks to a height of 12 to 15 inches from the ground in a manner that wets the stem and root collar but not to the point of runoff. Works best on trees and brush less than 6 inches in diameter.
	Remedy Ultra	Brush, unwanted trees, weeds	1-2 pts./acre	May be tank mixed with 2,4-D and Tordon 22K. Check label for grazing and haying restrictions by dairy and other livestock.
	Sahara DG	Annual and Perennial weeds and grasses	5 to 19 lbs. per acre. Need to tank mix with water and spray (equivalent to 1.8-7 oz./1000 sq. ft.)	Spray with water. Need to add a NIS or COC. Apply as preemergent or postemergent treatment. Will provide residual control. Apply only to noncropland areas.
RICE	Spike 20P	Unwanted trees, weeds, woody brush	.5 oz./45 sq. ft., .5 oz./3-4 in. diameter of tree	Toss on ground around weeds, brush and trees. Do not overapply or grass injury may occur. No grazing restriction for beef cattle.
	Super Brush Killer	Brush, unwanted trees, weeds	.5-1.0 gal./100 gal. water (Equivalent to .67 to 1.33 oz. per gallon of water)	Spray all foliage in full leaf and when temperature is below 85 F. Use the lower rate on easy to kill species (Locust, willow, buckbrush, etc.) Use only on roadside, ditch banks, fence rows, industrial sites and other non-cropland areas.
FORAGES	Super Brush Killer	Unwanted stump regrowth	.5-1.0 gal./25 gal. diesel	Spray to stumps when temperature is below 85 F. Use only on roadside, ditch banks, fence rows, industrial sites and other non-cropland areas.
	Super Brush Killer	Unwanted trees	3-5 gal./95-97 gal. diesel for basal treatment	Spray base of trunks when temperature is below 85 F. Use only on roadside, ditch banks, fence rows, industrial sites and other non-cropland areas.
	Surmount	Brush, unwanted trees, weeds	3-6 pts./acre	Tordon 22K and Starane. Spray brush when leaves are fully expanded and under good growing conditions. Add a surfactant. 1-2 qts./100 gal. of spray solution. Check label regarding grazing restrictions.
SMALL GRAINS	Tordon 22K	Brush, unwanted trees, weeds	1-2 pts./acre	1-2 pts./acre of Tordon 22K + 1 lb./acre of 2,4-D will control locust, hackberry and broadleaf weeds. May also be tank mixed with Remedy.
	Tordon RTU	Stumps, unwanted trees	Ready-to-use	Girdle tree as close to ground as possible. Thoroughly wet injured surface. Paint the surface of freshly cut stump, wet the area just inside the bark.
	TriAte	Asphalt construction	2-4 lbs. / 100 sq. ft.	Replaces Sodium Chlorate. Non selective herbicide. Designed to give complete control for entire growing season. Kills plants better than Sodium Chlorate but without the fire hazard.
LAWN & GARDEN	TriAte	Deep rooted perennials	3 lbs. / 100 sq. ft.	Replaces Sodium Chlorate. Non selective herbicide. Designed to give complete control for entire growing season. Kills plants better than Sodium Chlorate but without the fire hazard.
	TriAte	General vegetation control	1-2 lbs. / 100 sq. ft.	Replaces Sodium Chlorate. Non selective herbicide. Designed to give complete control for entire growing season. Kills plants better than Sodium Chlorate but without the fire hazard.
SEED				
FERTILIZER				

Sweetcorn and Popcorn Chemicals

INSECTICIDE	SWEETCORN	POPCORN	POST-EMERGENT	SWEETCORN	POPCORN
Asana XL	Yes	Yes	2,4-D Amine	No	No
Aztec	Yes	Yes	2,4-D LOV	No	No
Baythroid XL	Yes	No	AAtrex/Atrazine	Yes	Yes
Brigade	Yes	Yes	Accent	Yes	Yes
Cobalt	Yes	No	Aim	Yes	Yes
Hero	Yes	Yes	Basagran	Yes	Yes
Lannate	Yes	Yes	Basis	No	No
Lorsban 4E	Yes	No	Beacon	No	Yes
Mustang Max	Yes	Yes	Bicep II Magnum	Yes	Yes
Permethrin	Yes	Yes	Buctril 2EC	No	Yes
Regent	No	No	Bullet	No	Yes
Warrior II	Yes	Yes	Cadet	Yes	Yes
			Callisto	Yes	Yes
			Clarity	No	Yes
			Degree Xtra	No	Yes
			Distinct	No	Yes
			Equip	No	No
			FulTime	No	Yes
			Guardzman Max	Yes	Yes
			Harness Xtra 5.6L	No	Yes
			Hi-Dep	No	No
			Hornet WDG	No	No
			Impact	Yes	Yes
			Ignite	No	No
			Lariat	No	No
			Liberty	No	No
			Lumax/Lexar	No	No
			Northstar	No	Yes
			Option	No	No
			Outlook	Yes	Yes
			Permit	Yes	Yes
			Prowl	Yes	No
			Resource	No	No
			Sencor DF	No	No
			Spirit	No	Yes
			Steadfast	No	No
PRE-EMERGENT	SWEETCORN	POPCORN			
AAtrex/Atrazine	Yes	Yes			
Balance Pro	No	No			
Bicep II Magnum	Yes	Yes			
Bullet	Yes	Yes			
Degree Xtra	Yes	Yes			
Dual II Magnum	Yes	Yes			
FulTime	Yes	Yes			
Guardzman Max	Yes	Yes			
Harness Xtra 5.6L	No	Yes			
Hornet WDG	No	No			
Lariat	Yes	Yes			
Lasso/Micro-Tech	Yes	Yes			
Lumax/Lexar	Yes	Yes			
Keystone/Keystone LA	Yes	Yes			
Outlook	Yes	Yes			
Prowl	Yes	Yes			
Python WDG	No	No			
SureStart	No	No			
Surpass EC	Yes	Yes			

CORN

SORGHUM

SOYBEANS

COTTON

RICE

FORAGES

SMALL GRAINS

LAWN & GARDEN

SEED

FERTILIZER

Household Chemicals for Weeds

	PRODUCT	PROBLEM	LOCATION	DILUTION	REMARKS
CORN	Roundup Extended Control (RTU)	Grass and broadleaf weeds	Driveways, walks and around trees	Ready-to-use	Contains 1% Roundup and .03% Dimension. Provides fast knockdown and residual control. Apply to both existing weeds and weed-prone areas where weeds have not yet appeared.
SORGHUM	Roundup L&G	Grass and broadleaf weeds	Flower beds, around trees, shrubs, in lawns, walks and driveways	Ready-to-use or 1-5% solution	Spray foliar plants. Do not get on desirable plants or death will occur. Kills plants in 2 weeks.
	Roundup QuikPro	Total vegetation control	Flower beds, around trees, shrubs, in lawns, walks and driveways	1.5 oz./1 gallon of water	Do not spray desirable foliage. Contains glyphosate and diquat.
SOYBEANS	Sedgehammer	Yellow nutsedge (watergrass)	Lawns	0.65-1.3 oz. / acre or 0.45-.09 gram / 1000 sq. ft. (1 packet makes a gallon of spray)	Superior turf safety. Translocate and kills bulblet. Need to add a surfactant for adequate control.
	Stump Remover	Stump regrowth	Cut stumps	4 oz. per 12 in. stump	Drill hole in top and side of stump. Pour 4 oz. in top hole. Wait 4-6 weeks. Next, pour diesel or kerosene in hole and ignite.
COTTON	Super Brush Killer	Shrubs, stumps, unwanted trees, vines, broadleaf weeds	Fence rows, roadsides, vacant lots, non-cropland, lawns	.67-1.33 oz./gallon of water	Spray entire plant after foliage is fully developed in the spring until plants begin to go dormant in the fall. May be used as a basal or stump spray.
	Trimec Plus	Crabgrass, Nutgrass (watergrass), Goosegrass, Sandbur, Dandelions, Buckhorn, Ground Ivy, Clover	Lawns	3 oz./gallon of water	Contains dye so you can see which plants have been sprayed. Kills both crabgrass and broadleaf weeds with one spray.
RICE	Trimec Plus RTU	Broadleaf weeds, Crabgrass, Nutgrass (watergrass)	Lawns	RTU	For spot spraying. Kills both crabgrass and broadleaf weeds with one spray. Contains a marker dye.
	Vegetation Killer	Grass and broadleaf weeds	Flower beds, trees, shrubs, in lawns, walks and driveways	.75-1 pt./gal. of water per 100 sq. ft.	Ground sterilant that provides total vegetation control. Do not spray desirable plants.

Household Chemicals for Insects

	PRODUCT	PROBLEM	LOCATION	DILUTION	REMARKS
FORAGES	Home Pest Killer	Household pests-ants, cockroaches, crickets, fleas, flies, mosquitoes, moths, silverfish, spiders	Inside/outside buildings	Ready-to-use	Do not contaminate food, food containers or cooking utensils. Do not use on indoor plants or pets. Contains Permethrin or Tempo.
SMALL GRAINS	Indoor Insect Fogger	Household pests-ants, cockroaches, crickets, fleas, flies, mosquitoes, moths, silverfish, spiders	Inside buildings	6 oz./6000 cu. ft.	Do not contaminate food, food containers or cooking utensils. Do not use on indoor plants or pets.
	Malathion Insect Spray	Fleas and Ticks	Dogs and cats	2.25 tbs./gal.	Thoroughly apply to animal. Do not repeat within 7 days or use on pets under 3 months of age.
LAWN & GARDEN	Malathion Insect Spray	Fleas and ticks	Kennels and pens	10 tbs./gal.	Remove all debris before applying.
	Malathion Insect Spray	Fowl mites, lice, red mites	Poultry	2.25 tbs./gal. per 100-150 birds	Repeat 4-8 weeks.
	Terro Ant Killer	Ants	Inside or outside	Ready-to-use	Contains Borax. Ants carry it back to the nest and kill colony.
SEED	38-Plus	Subterranean termite control	Trench treatment/outside	1qt. of 38-Plus per 20 gallons of water per 50 linear feet of trench.	Remove all wood debris and wood forms. Around piers, chimney bases and along foundations of poured concrete, dig a trench 6" wide and 4" deep.
	Viper (Sniper) Concentrate	Fleas, ticks, cockroaches, ants, spiders, pantry pests, silverfish	Inside or outside	1 oz./gallon	Offers contact and residual control of 24 common crawling and flying insects
FERTILIZER	Wasp and Hornet Spray	Bees, hornets and wasps	Outside buildings	Aerosol	Shoots up to 15 ft. away.



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