

HERBICIDE TRADE NAME, COMMON NAME, FORMULATION, AND MANUFACTURER, ORDERED BY WSSA GROUP #

Trade Name	Common Name	Formulation ¹	Resistance Management WSSA Group # ²	Manufacturer
Betasan	bensulide	4 EC	0	Platte
Betamec	bensulide	4 EC	0	PBI Gordon
Lescosan	bensulide	4 L (others)	0	Lesco
Prefar	bensulide	4 E	0	Gowan
Pre-san	bensulide	7 G	0	PBI Gordon
Acclaim Extra	fenoxaprop	0.57 E	1	Bayer
Assure II	quizalofop	0.88 EC	1	AMVAC
Axial	pinoxaden	0.83 EC	1	Syngenta
Clethodim 2E	clethodim	2 lb/gal	1	Albaugh, LLC
Clincher SF	cyhalofop	2.38 L	1	Corteva
Envoy	clethodim	0.94 EC	1	Valent
Fusilade DX	fluazifop	2 EC	1	Syngenta
Illoxan	diclofop	3 EC	1	Bayer
Ornamec	fluazifop-P	0.5 EC	1	PBI Gordon
Manuscript	pinoxaden	0.42 EC	1	Syngenta
Poast	sethoxydim	1.5 EC	1	Microflo
Poast Plus	sethoxydim	1 EC	1	Microflo
Provisia	quizalofop	0.88 EC	1	BASF
Quiz	quizalofop	1 EC	1	HELM
Ricestar HT	fenoxaprop	0.58 EW	1	Gowan
Select	clethodim	2 EC	1	Valent
TapOut	clethodim	1 EC	1	Helena
Targa	quizalofop	0.88 EC	1	Gowan
Vantage	sethoxydim	1 EC	1	BASF; Microflo
Accent Q	nicosulfuron	54.5 DF	2	Corteva
Ally XP	metsulfuron	60 DF	2	FMC
Arsenal A.C.	imazapyr	4 AC	2	BASF
Beacon	primisulfuron	75 DF	2	Syngenta
Beyond Xtra	imazamox	1 S	2	BASF
Cadre	imazapic	70 DG	2	BASF
Certainty	sulfosulfuron	75 DF	2	Valent
Chopper	imazapyr	2 SL	2	BASF
Cimarron Plus	metsulfuron + chlor-sulfuron (48% + 15%)	63 DF	2	Bayer
Classic	chlorimuron	25 DF	2	AMVAC
Corsair	chlorsulfuron	75 WDG	2	Nufarm
Crusher	rimsulfuron + thifensulfuron	50 DF	2	Cheminova
Defendor	florasulam	0.42 SC	2	Corteva
Envoke	trifloxysulfuron	75 DG	2	AMVAC
Escort	metsulfuron	60 DF	2	Bayer
Express	tribenuron	50 SG	2	FMC
FirstRate	cloransulam	84 DF	2	AMVAC
Grasp	penoxsulam	2 EC	2	Corteva
Habitat	imazapyr	2.0 lb/gal	2	BASF
Halo Max 75	halosulfuron	75 WG	2	Aceto
Harmony SG	thifensulfuron	50 DF	2	FMC
Image	imazaquin	1.5 EC	2	BASF
League	imazosulfuron	75 WG	2	Valent
Katana	flazasulfuron	25 DF	2	PBI Gordon

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Londax	bensulfuron	60 DF	2	UPL-NA
Manor	metsulfuron	60 WDG	2	Nufarm; Riverdale
Matrix	rimsulfuron	25 DF	2	Corteva
Monument	trifloxysulfuron	75 WG	2	Syngenta
Newpath	imazethapyr	2 AS	2	BASF
Osprey	mesosulfuron	4.5 DF	2	Bayer
Oust	sulfometuron	75 WDG	2	Bayer
Outrider	sulfosulfuron	75 WDG	2	Valent
Peak	prosulfuron	57 DG	2	Gowan
Patriot	metsulfuron	60 DF	2	Nufarm
Permit	halosulfuron	75 DG	2	Gowan
Plateau	imazapic	70 DG	2	BASF
Preface	imazethapyr	2 AS	2	ADAMA
Postscript	imazamox	1 S	2	ADAMA
PowerFlex HL	pyroxsulam	13 WG	2	Corteva
Pursuit	imazethapyr	2 AS; 70 DG	2	BASF
Polaris	imazapyr	2 SL	2	Nufarm
Python	flumetsulam	80 WDG	2	AMVAC
Regiment	bispyribac	80 DF	2	Valent
Resolve Q	rimsulfuron	25 DF	2	Corteva
Revolver	foramsulfuron	0.19 L	2	Bayer
Sandea	halosulfuron	75 DF	2	Gowan
Scepter	imazaquin	70 DG	2	AMVAC
Sedgehammer	halosulfuron	75 DF	2	Gowan
Stalker	imazapyr	2 SL	2	BASF
Staple LX	pyrithiobac	3.2 SL	2	Corteva
Strada	orthosulfamuron	50 WG	2	Nichino America
Strongarm	diclosulam	0.84 L	2	Corteva
Synchrony XP	chlorimuron + thifensulfuron	28.4 XP (21.5 + 6.9%)	2	Corteva
Telar	chlorsulfuron	75 DF	2	Bayer
Thunder	imazethapyr	2 lb/gal	2	Albaugh, LLC
Zest	nicosulfuron	75 WDG	2	Corteva
Treaty	thifensulfuron	75 DF	2	Nufarm
Balan	benefin	60 DF	3	Corteva
Barricade	prodiamine	65 WG	3	Syngenta
Curbit	ethalfuralin	3 EC	3	Platte Chemical
Dimension	dithiopyr	2 EC	3	Corteva
Endurance	prodiamine	65 WDG	3	Syngenta
Factor	prodiamine	65 WSG	3	Syngenta
Kerb	pronamide	50 W	3	Corteva
Lesco PRE-M	pendimethalin	50 WP (others)	3	Lesco
Pendimax	pendimethalin	3.3 EC	3	Sterling
Pendulum	pendimethalin	3.3 EC; 2 G; 60 WDG	3	BASF
Pendulum AquaCap	pendimethalin	3.8 lb/gal	3	BASF

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Preen	trifluralin	1.47 G	3	Lebanon Seaboard
Prowl	pendimethalin	3.3 EC	3	BASF
Prowl H ₂ O	pendimethalin	3.8 CS	3	BASF
Regalkade	prodiamine	0.5% G	3	Regal
Satellite Hydrocap	pendimethalin	3.8 ME	3	UPL-NA
Sonalan	ethalfluralin	3 EC	3	Gowan
Surflan	oryzalin	4 EC	3	UPL-NA
Treflan TR-10	trifluralin	10 G	3	Gowan
Treflan HFP	trifluralin	4 EC	3	Gowan
2,4-D amine or ester	2,4-D	several	4	several
2,4-DB	2,4-DB	several	4	several
Banvel	dicamba	4 SL	4	Microflo
Banvel II	dicamba	2 SL	4	Microflo
Barrage HF	2,4-D ester	4.7 EC	4	Helena
Butoxone 200	2,4-DB	2 SL	4	Cedar Chemical
Butyrac 175	2,4-DB	1.75 lb/gal	4	Albaugh, LLC
Butyrac 200	2,4-DB	2 lb/gal	4	Albaugh, LLC
Clarity	dicamba	4 S	4	BASF
Clean Slate	clopyralid	3 SL	4	Nufarm
Clash	dicamba	4 SL	4	Nufarm
Drive	quinclorac	75 DF	4 / 29	BASF
Diablo	dicamba	4 SL	4	Nufarm
Elevore	halauxifen-methyl	0.572 SL lb ae/gal	4	Corteva
Engenia	dicamba	5 lb ae/gal	4	BASF
Enlist One	2,4-D choline	3.8 SL	4	Corteva
Facet, Facet L	quinclorac	75 DF, 1.5 L	4 / 29	BASF
Forestry Garlon 4	triclopyr	4 SL	4	Corteva
Formula 40	2,4-D	3.8 SL	4	Aventis
Garlon	triclopyr	4 L; 3 L	4	Corteva
Grandstand R	triclopyr	3 SL	4	Corteva
GrazonNext HL	aminopyralid + 2,4-D	3 lb/gal (0.33 + 2.67 lb/gal)	4	Corteva
Latigo	2,4-D acid + dicamba acid	2.4 lb/gal + 1.8 lb/gal	4	Helena
Lontrel	clopyralid	3 L	4	Corteva
Loyant	florpyauxifen-benzyl	0.21 EC	4	Corteva
MCP amine	MCPA	4 SL	4	Loveland; Platte
MCPD	MCPD	4 L	4	Verdicon
Mecomec	mecoprop	2.5 L	4	PBI Gordon
Milestone	aminopyralid	2 lb/gal	4	Corteva

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Opti-Amine	2,4-D	3.8 EC	4	Helena
Opti-DGA	dicamba	4 SL	4	Helena
PastureGard HL	triclopyr + fluroxypyr	1.5 + 0.5	4	Corteva
Pathfinder II	triclopyr	0.75 SL	4	Corteva
Remedy Ultra	triclopyr	4 SL	4	Corteva
Renovate	triclopyr	3.0 lb/gal	4	SePro
Quinstar	quinclorac	4 L	4 / 29	Albaugh, LLC
Status	dicamba	40% SL	4	BASF
Stinger	clopyralid	3 SL	4	Corteva
Surmount	picloram + fluroxypyr	1.19 + 0.96	4	Corteva
Tahoe 3A	triclopyr amine	3 SL	4	Nufarm
Tordon 22K	picloram	2 SL	4	Corteva
Tordon K	picloram	2 SL	4	Corteva
Transline	clopyralid	3 L	4	Corteva
Turflon Ester	triclopyr	4 L	4	Corteva
Unison	2,4-D	1.74 EC	4	Helena
Vanquish	dicamba	4 SL	4	Syngenta
Weedar 64	2,4-D	3.8 SL	4	Nufarm
Vista	fluroxypyr	2.8 SL	4	Corteva
Xtendimax	dicamba	2.9 lb ae/gal	4	Bayer
AAtrex	atrazine	4 L, 90 DF	5	Syngenta
Caparol	prometryn	80 DF; 4 L	5	Syngenta
Cotoran	fluometuron	4 L; 80 DF	5	ADAMA
Direx	diuron	4 L	5	ADAMA
Hyvar X	bromacil	80 WP	5	Bayer
Karmex	diuron	4 L; 80 DF	5	ADAMA
Linex	linuron	4 L	5	NovaSource
Pramitol	prometon	25 E (25% active liquid)	5	Agrilience
Princep	simazine	4 L; 90 DG	5	Syngenta
Pronone	hexazinone	10 G; 2.5 G	5	Proserve
Pyramin	pyrazon	65 DF	5	Microflo
Spike	tebuthiuron	80 DF; 20 P	5	Corteva
Spin-Aid	phenmedipham	1.3 L	5	Bayer
Stam M4	propanil	4 L; 80 DF	5	UPL-NA
Super Wham	propanil	4 EC	5	UPL-NA
Tricor DF	metribuzin	75 DF	5	UPL-NA
Tupersan	siduron	50 WP	5	PBI Gordon; Gowan
Velpar	hexazinone	75 DF; 2 L	5	Bayer
Basagran	bentazon	4 SL	6	Microflo
Buctril	bromoxynil	4 EC; 2 EC	6	Bayer
Tough	Pyridate	5 EC	6	Belchim

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Accord Concentrate	glyphosate	4 SL (acid eq.)	9	Corteva
glyphosate formulations	glyphosate	various	9	various
Credit Xtreme	glyphosate	4.5 SL (acid eq.)	9	Nurfarm
Roundup formulations	glyphosate	various	9	Bayer
Touchdown HiTech	glyphosate	5 SL (acid eq.)	9	Syngenta
Touchdown IQ	glyphosate	3 SL (acid eq.)	9	Syngenta
Touchdown Total	glyphosate	4.17 SL (acid eq.)	9	Syngenta
Cheetah	glufosinate	2.34 SL	10	Nufarm
Finale	glufosinate	1 SL	10	Bayer
Interline	glufosinate	2.34 SL	10	UPL-NA
Liberty	glufosinate	2.34 SL	10	BASF
Liberty ULTRA	glufosinate-L	1.6 lb/gal	10	BASF
Rely	glufosinate	2.34 SL	10	BASF
Surmise	glufosinate	2.34 lb/gal	10	Albaugh, LLC
Surmise 5	glufosinate	4.6 lb/A	10	Albaugh, LLC
Brake	fluridone	1.2 lb/gal	12	SePRO
Predict	norflurazon	78.6 DF	12	Syngenta
Solicam	norflurazon	78.6 DF	12	Syngenta
Caravel	clomazone	3 ME	13	Sipcam Agro
Command	clomazone	3 ME	13	FMC
Aim	carfentrazone	2 EC	14	FMC
Battle Star	fomesafen	1.88 lb/gal	14	Albaugh, LLC
BroadStar	flumioxazin	51% WDG	14	Valent
Cadet	fluthiacet methyl	0.91 EC	14	FMC
Cobra	lactofen	2 EC	14	Valent
Delta Goal	oxyfluorfen	4 EC	14	Corteva
Dismiss	sulfentrazone	4 L	14	FMC
Zone	sulfentrazone	4F	14	HELM
Flexstar, Rhythm	fomesafen	1.88 ME	14	Syngenta; Cheminova
Goal 2XL	oxyfluorfen	2 EC	14	Corteva
Marvel	fomesafen + fluthiacet-methyl	35 C (2.88 + 0.12 lb/gal)	14	FMC
Quicksilver	carfentrazone	1.9 L	14	FMC
Reflex, Dawn	fomesafen	2 LC	14	Syngenta; Cheminova
Resource	flumiclorac	0.86 EC	14	Valent
Ronstar	oxadiazon	50 SP; 2 G	14	Bayer
Sharpen	saflufenacil	2.85 SC	14	BASF
Sinister	fomesafen	2.87 lb/gal	14	Helena
Spartan	sulfentrazone	4 F	14	FMC
Spartan Charge	carfentrazone + sulfentrazone	4.5L (0.35 + 3.15 lb/gal)	14	FMC

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Sureguard	flumioxazin	0.25% G	14	Valent
Ultra Blazer	acifluorfen	2 SL	14	UPL-NA
Reviton	tiafenacil	2.83 SC	14	HELM
Valor	flumioxazin	51 WDG	14	Valent
Bolero	thiobencarb	8 EC	15	Valent
Cinch	S-metolachlor	7.64 EC	15	Corteva
Degree	acetochlor	3.8 SL	15	Bayer
Devrinol	napropamide	2 G; 2 EC	15	UPL-NA
Dual II Magnum	S-metolachlor	7.64 EC	15	Syngenta
Dual Magnum	S-metolachlor	7.62 EC	15	Syngenta
Eptam	EPTC	7 EC	15	Gowan
Fearless	acetochlor	7 EC	15	HELM
Harness, Warrant	acetochlor	7 EC	15	Bayer
Helmet	metolachlor	7.8 EC	15	HELM
Moccasin II Plus	S-metolachlor	7.64 EC	15	UPL-NA
Outlook	dimethenamid-p	6 EC	15	BASF
Parrlay	metolachlor	8 EC	15	Bayer
Pennant Magnum	S-metolachlor	7.62 EC	15	Syngenta
Ro-Neet	cycloate	6 E	15	Helm
Tower	dimethenamid	6 lb/gal	15	BASF
Zidua	pyroxasulfone	4.17 SC	15	BASF
Prograss	ethofumesate	1.5 EC	16	Bayer
DSMA Plus	DSMA	3.8 SL	17	UAP-Loveland
MSMA (others)	MSMA	6 SL; 6.6 SL	17	several
Alanap	naptalam	2 L	19	Crompton Uniroyal
Asulox	asulam	3.34 L	18	UPL
Casoron	dichlobenil	2 G; 4 G	20	Crompton
Dyclomec	dichlobenil	4 G	20	PBI Gordon
Norosac	dichlobenil	4 G	20	PBI Gordon
Gallery	isoxaben	75 DF	21	Corteva
Gramoxone	paraquat	3 SL	22	Syngenta
Quick-Quat	paraquat	3 SL	22	ADAMA
Helmquat	paraquat	3 SL	22	HELM
Reward	diquat	2 SL	22	Syngenta
Basamid Granular	dazomet	99 G	26	BASF
Krenite S	fosamine	4 S	26	Corteva
Argos	mesotrione	4 L	27	HELM
Balance Flexx	isoxaflutole	2.05 L	27	Bayer
Callisto	mesotrione	4 L	27	Syngenta
Impact, Armezon	topramezone	2.8 L	27	AMVAC; BASF
Laudis	tembotrione	3.5 L	27	Bayer
Motif	mesotrione	4 SL	27	UPL-NA
Rogue	benzobicyclon	3.4 SC	27	Gowan
Shieldex	tolpyralate	3.33 SC	27	Summit Agro
Rezilon	indaziflam	1.67 lb/gal	29	Bayer

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Goosegrass/Crabgrass Control	bensulide + oxadiazon	5.25 G	0, 14	Scott's
Fusion	fluazifop + fenoxaprop	2.56 EC (2 + 0.56 lb/gal)	1, 1	Syngenta
Exceed	primisulfuron + prosulfuron	57 DF (28.5 + 28.5%)	2, 2	Syngenta
Finesse Cereal and Fallow	chlorsulfuron + metsulfuron	75 DF (62.5 + 12.5%)	2, 2	FMC
FirstShot SG	thifensulfuron + tribenuron	50% SG (25% + 25%)	2, 2	FMC
Frontrow	cloransulam + flumetsulam	co-pack 84% + 80%	2, 2	Corteva
Gambit	halosulfuron + prosulfuron	79 WDG (50 + 29%)	2, 2	Gowan
Harmony Extra SG	thifensulfuron + tribenuron	50 SG (33.3 + 16.7%)	2, 2	FMC
Landmark II MP	sulfometuron + chlorsulfuron	75 DG (56.25 + 18.75%)	2, 2	Corteva
LeadOff	rimsulfuron + thifensulfuron	33.4 SG (16.7 + 16.7%)	2, 2	Corteva
Lightning	imazethapyr + imazapyr	70 DG (52.5 + 17.5%)	2, 2	BASF
Permit Plus	halosulfuron + thifensulfuron	75 DF (67 + 8%)	2, 2	Gowan
Resolve Q	rimsulfuron + thifensulfuron-methyl	22.4 DG (18.4 + 4%)	2, 2	Corteva
Steadfast Q	nicosulfuron + rimsulfuron	38 DG (25 + 13%)	2, 2	Corteva
Afforia	thifensulfuron + tribenuron + flumioxazin	50.8 DG (5 + 5 + 40.8%)	2, 2, 14	Corteva
Chaparral	aminopyralid + metsulfuron	72 DF (62 + 9%)	2, 4	Corteva
FullScript	imazamox + quinclorac	3.3 L (0.3 + 3.0 lb/gal)	2, 4/29	ADAMA
Novoxid	florpyrauxifen-benzyl + penoxsulam	0.27 SC (0.10 + 0.17 lb/gal)	2, 4	Corteva
Rinde	bispyribac + quinclorac	1.62 L (0.12 + 1.5 lb/gal)	2, 4/29	AMVAC
Yukon	halosulfuron + dicamba	67.5 WSG (12.5 + 55%)	2, 4	Gowan
Cimarron Max	two-part mix: metsulfuron and 2,4-D + dicamba	60 DF and 1.87 + 1 lb/gal	2, 4, 4	Corteva
SureStart II	flumetsulam + clopyralid + acetochlor	4.25 EC (0.12 + 0.38 + 3.75 lb/gal)	2, 4, 15	Corteva
Oustar	sulfometuron + hexazinone	75 DG (11.8 + 63.2%)	2, 5	Corteva
Envive	chlorimuron + flumioxazin + thifensulfuron	41.3 WDG (9.2% + 29.2% + 0.9%)	2, 14, 2	Corteva
Enlite	chlorimuron + flumioxazin + thifensulfuron	47.9 WDG (2.85 + 36.21 + 8.8%)	2, 14, 2	Corteva
Trivence	chlorimuron + flumioxazin + metribuzin	61.3 DG (3.9 + 12.8 + 44.6%)	2, 14, 5	Corteva
Realm Q	rimsulfuron + mesotrione	38.75 DG (7.5 + 31.25%)	2, 27	Corteva
RiceOne CS	pendimethalin + clomazone	3.69 CS (2.61 + 1.08 lb/gal)	3, 13	UPL-NA
Tripzin ZC	pendimethalin + metribuzin	4 ZC (2.9 + 1.1 lb/gal)	3, 5	UPL-NA
Strategy	ethalfuralin + clomazone	2.1 EC (1.6 + 0.5 lb/gal)	3, 13	Platte; Loveland
Ornamental Herbicide II	pendimethalin + oxyfluorfen	3 G (1 + 2%)	3, 14	Scott's
Rout	oryzalin + oxyfluorfen	3 G (1 + 2%)	3, 14	Scott's Sierra
Snapshot 2.5 TG	trifluralin + isoxaben	2.5 G (2 + 0.5%)	3, 21	Corteva
Showcase	trifluralin + isoxaben + oxyfluorfen	2.5 G	3, 21, 14	Corteva
Confront	triclopyr + clopyralid	3 L (2.25 + 0.75 lb/gal)	4, 4	Corteva
Crossbow	2,4-D + triclopyr	3 S (2 + 1 lb/gal)	4, 4	Corteva
Grazon P + D	picloram + 2,4-D	2.54 L (0.54 + 2 lb/gal)	4, 4	Corteva
Outlaw	2,4-D + dicamba	2.55 EC (1.45 + 1.1 lb/gal)	4, 4	Helena
Overdrive	dicamba + diflufenzopyr	0.7 L (0.5 + 0.2 lb/gal)	4, 4	Helena
Chaser	2,4-D + triclopyr	3 S (2 + 1 lb/gal)	4, 4	Loveland
Pathway	picloram + 2,4-D	ready-to-use liquid (3 + 11.2% active)	4, 4	Corteva
Redeem R & P	triclopyr + clopyralid	3 L (2.25 + 0.75 lb/gal)	4, 4	Corteva
Status	dicamba + diflufenzopyr	56% EC (40 + 16%)	4, 4	BASF
Weedmaster	dicamba + 2,4-D	3.87 SL (1 + 2.87 lb/gal)	4, 4	Nufarm
Trimec, Endrun	2,4-D + mecoprop + dicamba	various	4, 4, 4	various
DuraCor	aminopyralid + florpyrauxifen-benzyl	0.667 + 0.067 lb/gal	4, 4	Corteva

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Trimec Ester, Triamine	2,4-D + MCPA + dicamba	3.96 SL (2.44 + 1.3 + 0.22 lb/gal)	4, 4, 4	Various
Enlist Duo	2,4-D choline + glyphosate	3.3 SL (16 lb/gal + 1.7 lb/gal)	4, 9	Corteva
Tavium	dicamba + <i>S</i> -metolachlor	3.38 CS (1.12 + 2.26 lb/gal)	4, 15	Syngenta
Suprend	prometryn + trifloxysulfuron	80 WG (79.3 + 0.7%)	5, 2	Syngenta
Cloak	metribuzin + chlorimuron	75 DG (64.3 + 10.7%)	5, 2	Nufarm
Duet	propanil + bensulfuron	60 DF (60 + 0.46%)	5, 2	UPL-NA
Krovar	bromacil + diuron	80 DF (40 + 40%)	5, 5	Corteva
RiceBeaux	propanil + thiobencarb	6 SL (35% + 31%)	5, 8	UPL-NA
Intimidator	metribuzin + fomesafen + <i>S</i> -metolachlor	4.81 SL (0.75 + 0.67 + 3.39 lb/gal)	5, 14, 15	Loveland
Prompt	bentazon + atrazine	5 L (2.5 + 2.5 lb/gal)	6, 5	Microflo
Storm	bentazon + acifluorfen	4 SL (2.67 + 1.33 lb/gal)	6, 14	UPL-NA
Journey	glyphosate + imazapic	1.5 + 0.75 SL	9, 2	BASF
OneStep	glyphosate + imazapyr	2.16 L (1.53 + 0.637 lb/gal)	9, 2	BASF
Costarr	glyphosate + dicamba	2.1 EC (1.5 + 0.6 lb/gal)	9, 4	Albaugh
Landmaster	glyphosate + 2,4-D	3.1 EC (1.2 + 1.9 lb/gal)	9, 4	Albaugh
Sequence	glyphosate + <i>S</i> -metolachlor	5.25 F (2.25 + 3 lb/gal)	9, 15	Syngenta
Authority First	sulfentrazone + cloransulam	0.7 DF (0.62 + 0.08 lb/lb)	14, 2	FMC
Authority Maxx	sulfentrazone + chlorimuron ethyl	66 DF (0.62 + 0.04 lb/lb)	14, 2	FMC
Authority XL	sulfentrazone + chlorimuron	0.7 DG (0.62 + 0.08 lb/lb)	14, 2	FMC
OpTill	saflufenacil + imazethapyr	68 WG (17.8 + 50.2)	14, 2	BASF
Surveil	flumioxazin + cloransulam	48 WDG (36% + 12%)	14, 2	Corteva
Valor XLT	flumioxazin + chlorimuron	40.3 WDG (30% + 10.3%)	14, 2	Valent
Zone Maxx	sulfentrazone + chlorimuron ethyl	66 DF (0.62 + 0.04 lb/lb)	14, 2	HELM
Zidua Pro	saflufenacil + imazethapyr + pyroxasulfone	4.09 SC (0.48 + 1.33 + 2.28 lb/gal)	14, 2, 15	BASF
Echelon	sulfentrazone + prodiamine	4 SC	14, 3	FMC
Avenue South	sulfentrazone + penoxsulam + 2,4-D + dicamba	0.8 EC (0.06 + 0.06 + 0.53 + 0.15 lb/gal)	14, 2, 4, 4	PBI Gordon
Power Zone	carfentrazone + MCPA + mecoprop + dicamba	2.9 EC (0.04 + 2.21 + 0.44 + 0.22 lb/gal)	14, 4, 4, 4	PBI Gordon
Speed Zone	carfentrazone + mecoprop + 2,4-D + dicamba	2.2 EC (0.05 + 1.53 + 0.48 + 0.14 lb/gal)	14, 4, 4, 4	PBI Gordon
Surge	sulfentrazone + 2,4-D + MCPA + dicamba	2.2 EC (1.4 + 0.5 + 0.2 + 0.06 lb/gal)	14, 4, 4, 4	PBI Gordon
Authority MTZ	sulfentrazone + metribuzin	45 DG (18 + 27%)	14, 5	FMC
Battle Star GT	fomesafen + glyphosate	2.8L (0.54 + 2.26)	14, 9	Albaugh, LLC
Flexstar GT 3.5	fomesafen + glyphosate	2.8 L (0.56 + 2.26 lb/gal)	14, 9	Syngenta
Display	carfentrazone + fluthiacet-methyl	4.3 SE (4.174 + 0.126 lb/gal)	14, 14	FMC
Zone Defense	sulfentrazone + flumioxazin	77 WDG (62 + 15%)	14, 14	HELM
Anthem Maxx	pyroxasulfone + fluthiacet-methyl	2.15 SE (2.087 + 0.063 lb/gal)	14, 15	FMC
Authority Edge	sulfentrazone + pyroxasulfone	4.25 SC (2.73 + 1.52 lb/gal)	14, 15	FMC
Authority Elite, BroadAxe XC	sulfentrazone + <i>S</i> -metolachlor	7 EC (0.7 + 6.3 lb/gal)	14, 15	FMC/Syngenta

(Continued on page 17)

HERBICIDE TRADE NAME, COMMON NAME, FORMULATION, AND MANUFACTURER, ORDERED BY WSSA GROUP # [cont.]

Trade Name	Common Name	Formulation ¹	Resistance Management WSSA Group # ²	Manufacturer
Zone Elite	sulfentrazone + metolachlor	7 EC (0.7 + 6.3 lb/gal)	14, 15	HELM
Authority Supreme	sulfentrazone + pyroxasulfone	4.16 SC (2.08 + 2.08 lb/gal)	14, 15	FMC
Perpetuo	flumiclorac + pyroxasulfone	2.3 SC (0.59 + 1.71 lb/gal)	14, 15	Valent
Prefix	S-metolachlor + fomesafen	Co-Pak (7.62 EC/2 LC)	14, 15	Syngenta
Verdict	saflufenacil + dimethenamid	5.57 EC (0.57 + 5.0)	14, 15	BASF
Freehand	dimethenamid + pendimethalin	1.75 G	15, 3	BASF
Axiom	flufenacet + metribuzin	68 DF (54.4 + 13.6%)	15, 5	Bayer
Bicep II Magnum	S-metolachlor + atrazine	5.5 L (3.1 + 2.4 lb/gal)	15, 5	Syngenta
Bicep Lite II Magnum	S-metolachlor + atrazine	6 L (3.33 + 2.67 lb/gal)	15, 5	Syngenta
Boundary	S-metolachlor + metribuzin	7.8 EC (6.3 + 1.5 lb/gal); 6.5 EC (5.25 + 1.25 lb/gal)	15, 5	Syngenta
Cinch ATZ	S-metolachlor + atrazine	5.5 F (3.1 + 2.4 lb/gal)	15, 5	Corteva
Degree Xtra	acetochlor + atrazine	4 SL	15, 5	Bayer
Fearless Xtra 5.6	acetochlor + atrazine	5.6 L (3.1 + 2.5 lb/gal)	15, 5	HELM
Harness Extra	acetochlor + atrazine	5.6 L (3.1 + 2.5 lb/gal); 6 L (4.3 + 1.7 lb/gal)	15, 5	Bayer
Keystone	acetochlor + atrazine	5.5 L (3 + 2.5 lb/gal)	15, 5	Corteva
Lariat	alachlor + atrazine	4 L (2.5 + 1.5 lb/gal)	15, 5	Bayer
Tendovo	S-metolachlor + metribuzin + cloransulam-methyl	4.18 ZC (3.47 + 0.642 + 0.065 lb/gal)	15, 5, 2	Syngenta
Resicore XL	acetochlor + mesotrione + clopyralid	3.26 ZC (2.8 + 0.27 + 0.19 lb/gal)	15, 27, 4	Corteva
Acuron	S-metolachlor + atrazine + bicyclopyrone + mesotrione	3.44 L (2.14 lb + 1.0 lb + 0.06 lb + 0.24 lb)	15, 5, 27	Syngenta
Helmet Maxx	metolachlor + atrazine + mesotrione	3.578 L (1.7 + 1.66 + 0.218 lb/gal)	15, 5, 27	HELM
Acuron GT	S-metolachlor + glyphosate + mesotrione + bicyclopyrone	4.3 ZC (2 + 2 + 0.2 + 0.095 lb/gal)	15, 9, 27	Syngenta
Anthem Flex	pyroxasulfone + carfentrazone	4 SE (3.733 + 0.267 lb/gal)	15, 14	FMC
Fierce	pyroxasulfone + flumioxazin	76 WDG	15, 14	Valent
Surtain	pyroxasulfone + saflufenacil	1.628 ZC	15, 14	BASF
Armezon PRO	dimethenamid + topramezone	5.35 EC (5.25 + 0.1 lb/gal)	15, 27	BASF
Coyote	S-metolachlor + mesotrione	3.67 SC (3.34 + 0.33 lb/gal)	15, 27	UPL-NA
Harness MAX	acetochlor + mesotrione	3.85 L (3.52 + 0.33 lb/gal)	15, 27	Bayer
Restraint	acetochlor + tolypyralate	6.50 EC (6.404 + 0.094 lb/gal)	15, 27	Summit Agro
Moccasin MTZ	S-metolachlor + metribuzin	4.46 EC (3.35 + 1.11 lb/gal)	15, 5	UPL-NA
Corvus	isoxoflutole + thien carbazone	2.63 SC (0.75 + 1.88)	27, 2	Bayer
Trivolt	isoxaflutole + thien carbazone + flufenacet	3.65 SC (0.57 + 0.23 + 2.85 lb/gal)	27, 2, 15	Bayer
ImpactZ	topramezone + atrazine	4.26 L (0.26 + 4 lb/gal)	27, 5	AMVAC
Sinate	topramezone + glufosinate	2.57 L (0.1 + 2.47 lb/gal)	27, 10	AMVAC
Impact Core	topramezone + acetochlor	7.15 L (0.07 + 7.08 lb/gal)	27, 15	AMVAC
Halex GT	mesotrione + S-metolachlor + glyphosate	4.4 L (0.209 + 2.09 + 2.09)	27, 15, 9	Syngenta
Storen	S-metolachlor + mesotrione + pyroxasulfone + bicyclopyrone	3.23 ZC (2.69 + 0.31 + 0.15 + 0.075 lb/gal)	27+15	Syngenta

¹ Liquid formulations include AC, applicator's concentration; CS, aqueous capsule suspension; E, EC or EW, emulsifiable concentrate; F, flowable; L, liquid; ME, micro-encapsulated; SL, soluble liquid; S, suspension. **Dry** formulations include DF, dry flowable; DG, dispersible granules; G, granules; SP, soluble powder; W, WG or WDG, wettable dispersible granules; WP, wettable powder; WSG, wettable soluble granule.

² Herbicide classification according to primary site of action as described by Weed Science Society of America (WSSA) (number designation) and Herbicide Resistance Action Committee (HRAC) (letter designation). *From Mallory-Smith and Retzinger.*

Rotating herbicides so plants are not exposed to a single herbicidal mode of action for several seasons or plant generations is highly recommended as part of a resistance-management program. The classification presented here can be used as a tool to choose herbicides in different site-of-action groups so that mixtures or rotations of active ingredients can be planned. An attempt should be made to rotate herbicides designated with the same number or letter to those with different numbers or letters (i.e., different sites or modes of action). See table on page 19 for sites of action associated with each classification.