

# HERBICIDE CLASSIFICATION



Repeated use of herbicides with the same site of action can result in the development of herbicide-resistant weed populations.

## by MODE OF ACTION (MOA) (effect on plant growth)

This chart groups herbicides by their modes of action to assist you in selecting herbicides **1)** to maintain greater diversity in herbicide use and **2)** to rotate among effective herbicides with different sites of action to delay the development of herbicide resistance.

| SITE-OF-ACTION GROUP             |                                                            | NUMBER OF RESISTANT WEED SPECIES IN U.S. |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|----------------------------------|------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------|-----------------------|
|                                  | SITE OF ACTION                                             | CHEMICAL FAMILY                          | ACTIVE INGREDIENT                                            | PRODUCT EXAMPLES<br>(TRADE NAME)                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| LIPID SYNTHESIS INHIBITORS       |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 1                                | ACCASE INHIBITORS<br>(acetyl CoA carboxylase)              | 15                                       | Aryloxyphenoxypropionate (fops)                              | clodinafop<br>cyhalofop<br>fenoxaprop<br>flazafop<br>quizalofop<br>Aggressor, Assure II, Targa                                                                                                                                                                                                                  |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Cyclohexanedione (dimis)                                     | clethodim<br>sethoxydim<br>Poast, Poast Plus                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Phenylpyrazolin                                              | pinoxaden<br>Axial XL                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| AMINO ACID SYNTHESIS INHIBITORS  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 2                                | ALS INHIBITORS<br>(acetolactate synthase)                  | Imidazolinone                            | imazamox<br>imazapic<br>imazapyr<br>imazaquin<br>imazethapyr | Raptor, Beyond, Clearmax<br>Plateau<br>Arsenal<br>Scepter<br>Pursuit, Newpath                                                                                                                                                                                                                                   |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Pyrimidinylthiobenzic acid                                   | bispyribac<br>pyrithiobac                                                                                                                                                                                                                                                                                       | Regiment<br>Staple                                                                                                                                                                                       |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | Sulfonylaminocarbonyl-triazolinones                                                                                                                                                                                                                                                                             | flucarbazone<br>propoxycarbazone<br>thiencarbazone                                                                                                                                                       | Everest, Pre-Pare, Sierra<br>Olympus<br>Varro                                |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Sulfonyleurea                                                | bensulfuron<br>chlorimuron<br>chlorsulfuron<br>halosulfuron<br>iodosulfuron<br>mesosulfuron<br>metsulfuron<br>nicosulfuron<br>orthosulfamuron<br>primisulfuron<br>prosulfuron<br>rimsulfuron<br>sulfosulfuron<br>thifensulfuron<br>triasulfuron<br>tribenuron<br>trifloxysulfuron<br>triflurosulfuron<br>UpBeet | Londax<br>Classic<br>Glean<br>Permit, Sandea<br>Autumn<br>Osprey<br>Ally<br>Accent Q, Zest<br>Strada<br>Beacon<br>Peak<br>Matrix, Resolve<br>Maverick<br>Harmony<br>Amber<br>Express<br>Envoke<br>UpBeet |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | Triazolopyrimidine                                                                                                                                                                                                                                                                                              | cloransulam<br>florasulam<br>flumetsulam<br>penoxsulam<br>pyroxulam                                                                                                                                      | FirstRate<br>component of Orion<br>Python, Accolade<br>Grasp<br>PowerFlex HL |                                                                               |                                                               |                                 |                       |
|                                  |                                                            | 9                                        |                                                              |                                                                                                                                                                                                                                                                                                                 | EPSP SYNTHASE INHIBITOR<br>(5-enolpyruvyl-shikimate-3-phosphate)                                                                                                                                         | 17                                                                           | Organophosphorus                                                              | glyphosate                                                    | Roundup, several others         |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            | GROWTH REGULATORS                        |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            | 4                                        |                                                              | SYNTHETIC AUXINS<br>(TIR1, AFB5 and unknown auxin receptors)                                                                                                                                                                                                                                                    | Arylpicolinate                                                                                                                                                                                           | halauxifen                                                                   | Elevore                                                                       |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          | Benzoic acid                                                                 | dicamba                                                                       | Banvel, Clarity, DiFlexx, Engenia, FeXapan, XtendiMax, others |                                 |                       |
|                                  |                                                            |                                          | Carboxylic acid                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          | aminopyralid<br>clopyralid<br>fluroxypyr<br>quinclorac<br>triclopyr          | Milestone<br>Stinger<br>Starane Ultra<br>Facet<br>Garlon, Remedy Ultra        |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          | Phenoxy                                                                      | 2,4-D<br>MCPA                                                                 | 2,4-D, Enlist One, others<br>MCPA, others                     |                                 |                       |
|                                  |                                                            |                                          | 19                                                           |                                                                                                                                                                                                                                                                                                                 | AUXIN TRANSPORT INHIBITOR                                                                                                                                                                                | 0                                                                            | Semicarbazone                                                                 | diflufenzoxyr                                                 | component of Status             |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | PHOTOSYNTHESIS INHIBITORS                                    |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | 5                                                            |                                                                                                                                                                                                                                                                                                                 | PHOTOSYSTEM II INHIBITORS<br>(different binding than 6 & 7)                                                                                                                                              | 26                                                                           | Phenylcarbamate                                                               | desmedipham<br>phenmedipham                                   | Betenex<br>component of Betamix |                       |
|                                  |                                                            | Triazine                                 |                                                              | atrazine<br>prometon<br>prometryn<br>simazine                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                          |                                                                              | AAtrex, others<br>Pramitol<br>Caparol<br>Princep                              |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | Triazinone                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                          |                                                                              | hexazinone<br>metribuzin                                                      | Velpar<br>Metribuzin, others                                  |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              | Uracil                                                                        | terbacil                                                      | Sinbar                          |                       |
|                                  |                                                            |                                          |                                                              | 6                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                          |                                                                              | PHOTOSYSTEM II INHIBITORS<br>(different binding than 5 & 7)                   | 1                                                             | Benzothiadiazole                | bentazon              |
|                                  |                                                            | Nitrile                                  |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               | bromoxynil                      | Maestro, Moxy, others |
|                                  |                                                            | 7                                        |                                                              | PHOTOSYSTEM II INHIBITORS<br>(different binding than 5 & 6)                                                                                                                                                                                                                                                     |                                                                                                                                                                                                          |                                                                              | 9                                                                             | Pyridazine                                                    | pyridate                        | Tough                 |
| Amide                            | propanil                                                   |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               | SuperWham                                                     |                                 |                       |
| Urea                             | diuron<br>fluometuron<br>linuron<br>tebuthiuron            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               | Direx, Karmex<br>Cotoran<br>Lorox, Linex<br>Spike             |                                 |                       |
| NITROGEN METABOLISM INHIBITOR    |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 10                               | GLUTAMINE SYNTHETASE INHIBITOR                             | 1                                        | Organophosphorus                                             | glufosinate                                                                                                                                                                                                                                                                                                     | Liberty, Rely, Scout, others                                                                                                                                                                             |                                                                              |                                                                               |                                                               |                                 |                       |
| PIGMENT INHIBITORS               |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 12                               | PHYTOENE DESATURASE (PDS) INHIBITOR                        | 1                                        | none recognized                                              | fluridone                                                                                                                                                                                                                                                                                                       | Sonar                                                                                                                                                                                                    |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Pyridazinone                                                 | norflurazon                                                                                                                                                                                                                                                                                                     | Solicam                                                                                                                                                                                                  |                                                                              |                                                                               |                                                               |                                 |                       |
| 13                               | DOXP SYNTHASE INHIBITOR<br>(1-DEOXY-D-XYULOSE 5-PHOSPHATE) | 1                                        | Isoxazolidinone                                              | clomazone                                                                                                                                                                                                                                                                                                       | Command 3ME                                                                                                                                                                                              |                                                                              |                                                                               |                                                               |                                 |                       |
| 27                               | HPPD INHIBITORS                                            | 2                                        | Isoxazole                                                    | isoxaflutole                                                                                                                                                                                                                                                                                                    | Alite 27*, Balance Flexx                                                                                                                                                                                 |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Pyrazole                                                     | pyrasulfotole                                                                                                                                                                                                                                                                                                   | component of Huskie                                                                                                                                                                                      |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Pyrazolone                                                   | topramezone<br>tolpyralate                                                                                                                                                                                                                                                                                      | Armezon, Impact<br>Shieldex                                                                                                                                                                              |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | mesotrione                                                                                                                                                                                                                                                                                                      | Callisto                                                                                                                                                                                                 |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | Triketone                                                    | tembotrione<br>bicyclopyrone                                                                                                                                                                                                                                                                                    | Laudis<br>component of Acuron                                                                                                                                                                            |                                                                              |                                                                               |                                                               |                                 |                       |
| CELL MEMBRANE DISRUPTERS         |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 14                               | PPO INHIBITORS                                             | 4                                        | Aryl triazinone                                              | carfentrazone<br>fluthiacet<br>sulfentrazone                                                                                                                                                                                                                                                                    | Aim<br>Cadet<br>Spartan 4F                                                                                                                                                                               |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | Diphenylether                                                                                                                                                                                                                                                                                                   | acifluorfen<br>fomesafen<br>lactofen                                                                                                                                                                     | Ultra Blazer<br>Flexstar, Reflex, others<br>Cobra, Phoenix                   |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 | N-phenylphthalimide                                                                                                                                                                                      | flumiclorac<br>flumioxazin                                                   | Resource<br>Valor, Chateau, others                                            |                                                               |                                 |                       |
|                                  |                                                            |                                          | Pyrimidinedione                                              | saflufenacil                                                                                                                                                                                                                                                                                                    | Sharpen                                                                                                                                                                                                  |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | 22                                                           | PHOTOSYSTEM I ELECTRON DIVERTER                                                                                                                                                                                                                                                                                 | 5                                                                                                                                                                                                        | Bipyridylium                                                                 | diquat<br>paraquat                                                            | Reglone<br>Gramoxone SL                                       |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | SEEDLING ROOT GROWTH INHIBITORS                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          | 3                                                            | MICROTUBULE INHIBITORS                                                                                                                                                                                                                                                                                          | 6                                                                                                                                                                                                        | Benzamide                                                                    | pronamide                                                                     | Kerb                                                          |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          | Dinitroaniline                                                               | ethalfuralin<br>pendimethalin<br>trifluralin                                  | Sonalan<br>Prowl H2O, others<br>Treflan, others               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| SEEDLING SHOOT GROWTH INHIBITORS |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 8                                | LIPID SYNTHESIS INHIBITOR<br>(not ACCase)                  | 5                                        | Thiocarbamate                                                | butylate<br>cycloate<br>EPTC<br>thiobencarb<br>triallate                                                                                                                                                                                                                                                        | Sutan +<br>Ro-Neet<br>Eradicane, Eptam<br>Bolero<br>Far-Go                                                                                                                                               |                                                                              |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | Amide                                                                                                                                                                                                                                                                                                           | dithiopyr<br>napropamide                                                                                                                                                                                 | Dimension<br>Devrinal                                                        |                                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 | Chloroacetamide                                                                                                                                                                                          | acetochlor<br>dimethenamid-P<br>s-metolachlor                                | Harness, Surpass, Topnotch, Warrant, others<br>Outlook<br>Dual Magnum, others |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              | Pyrazole                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                          | flufenacet<br>pyroxasulfone                                                  | Define<br>Zidua                                                               |                                                               |                                 |                       |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          | 16                                                                           | SPECIFIC SITE UNKNOWN                                                         | 0                                                             | Benzofuran                      | ethofumesate          |
|                                  |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| UNDEFINED                        |                                                            |                                          |                                                              |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                          |                                                                              |                                                                               |                                                               |                                 |                       |
| 17                               | NUCLEIC ACID INHIBITOR                                     | 1                                        | Arsenical                                                    | MSMA                                                                                                                                                                                                                                                                                                            | MSMA                                                                                                                                                                                                     |                                                                              |                                                                               |                                                               |                                 |                       |

For more information and links to additional resources, visit [www.IWillTakeAction.com](http://www.IWillTakeAction.com)

TAKE ACTION IS ENDORSED BY THE FOLLOWING ORGANIZATIONS:



## by PREMIX

This chart lists premix herbicides alphabetically by their trade names so you can identify the premix's component herbicides and their respective site-of-action groups. Refer to the **Site-of-Action** chart on the left for more information.

| COMPONENT                              |                   |                |    | COMPONENT                      |                   |                 |       |
|----------------------------------------|-------------------|----------------|----|--------------------------------|-------------------|-----------------|-------|
| SITE-OF-ACTION GROUP                   |                   |                |    | SITE-OF-ACTION GROUP           |                   |                 |       |
| PREMIX                                 | ACTIVE INGREDIENT | TRADE NAME     |    | PREMIX                         | ACTIVE INGREDIENT | TRADE NAME      |       |
| ACURON                                 | bicyclopyrone     | -----          | 27 | HARNESS MAX                    | acetochlor        | Harness         | 15    |
|                                        | mesotrione        | Callisto       | 27 |                                | mesotrione        | Callisto        | 27    |
|                                        | atrazine          | AAtrex         | 5  | HARNESS XTRA                   | acetochlor        | Harness         | 15    |
|                                        | s-metolachlor     | Dual II Magnum | 15 |                                | atrazine          | AAtrex          | 5     |
| ACURON FLEXI                           | bicyclopyrone     | -----          | 27 | HORNET                         | clopyralid        | Stinger         | 4     |
|                                        | mesotrione        | Callisto       | 27 |                                | flumetsulam       | Python          | 2     |
|                                        | s-metolachlor     | Dual II Magnum | 15 | pyrasulfotole                  | -----             | 27              |       |
| AFFINITY BROADSPEC (Affinity TankMix)  | thifensulfuron    | Harmony        | 2  | HUSKIE                         | bromoxynil        | Maestro         | 6     |
|                                        | tribenuron        | Express        | 2  |                                | pyrasulfotole     | -----           | 27    |
| AFFORIA                                | thifensulfuron    | Harmony        | 2  | HUSKIE COMPLETE                | bromoxynil        | Maestro         | 6     |
|                                        | tribenuron        | Express        | 2  |                                | thiencarbazone    | Varro           | 2     |
|                                        | flumioxazin       | Valor          | 14 |                                | atrazine          | AAtrex          | 5     |
| AGILITY SG                             | dicamba           | Clarity        | 4  | IMPACTZ                        | topramezone       | Impact          | 27    |
|                                        | thifensulfuron    | Harmony        | 2  |                                | rimsulfuron       | Resolve, Matrix | 2     |
| ALLY EXTRA                             | tribenuron        | Express        | 2  | INSTIGATE                      | mesotrione        | Callisto        | 27    |
|                                        | metsulfuron       | Ally           | 2  |                                | glufosinate       | Liberty         | 10    |
|                                        | thifensulfuron    | Harmony        | 2  | INTERMOC                       | s-metolachlor     | Dual Magnum     | 15    |
| ANTHEM FLEX                            | metsulfuron       | Ally           | 2  | KEYSTONE NXT (Keystone LA NXT) | acetochlor        | Surpass NXT     | 15    |
|                                        | pyroxasulfone     | Zidua          | 15 |                                | atrazine          | AAtrex          | 5     |
| ANTHEM MAXX                            | carfentrazone     | Aim            | 14 | KOCIHAVORE                     | 2,4-D             | 2,4-D, others   | 2     |
|                                        | pyroxasulfone     | Zidua          | 15 |                                | fluroxypyr        | Starane         | 4     |
| ARMEZON PRO                            | fluthiacet        | Cadet          | 14 |                                | bromoxynil        | Maestro         | 6     |
|                                        | topramezone       | Armezon        | 27 |                                | mesotrione        | Callisto        | 27    |
| AUTHORITY ASSIST                       | dimethenamid-P    | Outlook        | 15 | LEXAR EZ                       | s-metolachlor     | Dual II Magnum  | 15    |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | atrazine          | Callisto        | 27    |
| AUTHORITY EDGE*                        | imazethapyr       | Pursuit        | 2  | LUMAX EZ                       | s-metolachlor     | Dual II Magnum  | 15    |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | atrazine          | AAtrex          | 5     |
| AUTHORITY ELITE                        | pyroxasulfone     | Zidua          | 15 | MARVEL                         | fluthiacet        | Cadet           | 14    |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | fomesafen         | Flexstar        | 27    |
| AUTHORITY FIRST                        | s-metolachlor     | Dual Magnum    | 15 | OBEY                           | clomazone         | Command 3ME     | 13    |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | quinclorac        | Facet           | 4     |
| AUTHORITY MTZ                          | cloransulam       | FirstRate      | 2  | OPENSKY                        | pyrrosulam        | PowerFlex HL    | 2     |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | fluroxypyr        | Starane Ultra   | 4     |
| AUTHORITY SUPREME                      | metribuzin        | Metribuzin     | 5  | OPTILL                         | saflufenacil      | Sharpen         | 14    |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | imazethapyr       | Pursuit         | 2     |
| AUTHORITY XL (Authority Maxx)          | pyroxasulfone     | Zidua          | 15 | OPTILL PRO                     | saflufenacil      | Sharpen         | 14    |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | imazethapyr       | Pursuit         | 2     |
| AUTUMN SUPER                           | chlormuron        | Classic        | 2  |                                | dimethenamid-P    | Outlook         | 15    |
|                                        | iodosulfuron      | Autumn         | 2  |                                | ORION             | florasulam      | ----- |
| AXIAL BOLD                             | thiencarbazone    | Varro          | 2  | PANOFLEX                       | MCPA              | MCPA            | 4     |
|                                        | pinoxaden         | Axial XL       | 1  |                                | thifensulfuron    | Harmony         | 2     |
| AXIAL STAR                             | fenoxaprop        | Ricestar       | 1  | PERMIT PLUS                    | tribenuron        | Express         | 2     |
|                                        | pinoxaden         | Axial XL       | 1  |                                | thifensulfuron    | Harmony         | 2     |
| BASIS BLEND                            | fluroxypyr        | Starane        | 4  | PERPETUO*                      | halosulfuron      | Permit          | 2     |
|                                        | rimsulfuron       | Resolve        | 2  |                                | flumiclorac       | Resource        | 14    |
| BETAMIX                                | thifensulfuron    | Harmony        | 2  | PREFIX                         | pyroxasulfone     | Zidua           | 15    |
|                                        | desmedipham       | Betenex        | 5  |                                | s-metolachlor     | Dual Magnum     | 15    |
| BICEP II MAGNUM (Bicep Lite II Magnum) | phenmedipham      | -----          | 5  | PREQUEL                        | fomesafen         | Reflex          | 14    |
|                                        | s-metolachlor     | Dual II Magnum | 15 |                                | rimsulfuron       | Resolve         | 2     |
| BOUNDARY                               | s-metolachlor     | Dual II Magnum | 15 |                                | isoxaflutole      | Balance         | 27    |
|                                        | metribuzin        | Metribuzin     | 5  |                                | desmedipham       | Betenex         | 5     |
| BRAKE F16                              | fomesafen         | Flexstar       | 14 | PROGRESS                       | phenmedipham      | -----           | 5     |
|                                        | fluridone         | Sonar          | 12 |                                | ethofumesate      | Norton          | 16    |
| BRAKE FX                               | fluometuron       | Cotoran        | 7  | PULSAR                         | dicamba           | Clarity         | 4     |
|                                        | fluridone         | Sonar          | 12 |                                | fluroxypyr        | Starane         | 4     |
| BREAKFREE NXT ATZ (Breakfree NXT Lite) | acetochlor        | Breakfree NXT  | 15 | QUELEX                         | halaxiflufen      | Elevore         | 4     |
|                                        | atrazine          | AAtrex         | 5  |                                | florasulam        | -----           | 2     |
| BROADAXE XC                            | s-metolachlor     | Dual Magnum    | 15 | RAVE                           | triasulfuron      | Amber           | 2     |
|                                        | sulfentrazone     | Spartan 4F     | 14 |                                | dicamba           | Clarity         | 4     |
| BRONATE                                | bromoxynil        | Maestro        | 6  | RAZE                           | flucarbazone      | Everest         | 2     |
|                                        | MCPA              | MCPA           | 4  |                                | fluroxypyr        | Starane         | 4     |
| CALLISTO GT                            | mesotrione        | Callisto       | 27 | REALM Q                        | rimsulfuron       | Resolve         | 2     |
|                                        | glyphosate        | glyphosate     | 9  |                                | mesotrione        | Callisto        | 27    |
| CALLISTO XTRA                          | mesotrione        | Callisto       | 27 | REBELEX                        | cyhalofop         | Clincher        | 1     |
|                                        | atrazine          | AAtrex         | 5  |                                | penoxsulfam       | Grasp           | 2     |
| CANOPY                                 | chlormuron        | Classic        | 2  | RESICORE                       | clopyralid        | Stinger         | 4     |
|                                        | metribuzin        | Metribuzin     | 5  |                                | acetochlor        | Surpass NXT     | 15    |
| CANOPY EX                              | chlormuron        | Classic        | 2  | RESOLVE Q                      | mesotrione        | Callisto        | 27    |
|                                        | tribenuron        | Express        | 2  |                                | rimsulfuron       | Resolve         | 2     |
| CAPRENO                                | thiencarbazone    | Varro          | 2  | REVULIN Q                      | thifensulfuron    | Harmony         | 2     |
|                                        | tembotrione       | Laudis         | 27 |                                | nicosulfuron      | Accent Q        | 2     |
| CARNIVORE                              | MCPA              | MCPA           | 4  | RIMFIRE MAX                    | mesotrione        | Callisto        | 27    |
|                                        | clopyralid        | Stinger        | 4  |                                | propoxycarbazone  | Olympus         | 2     |
| CHEETAH MAX                            | bromoxynil        | Maestro        | 6  | ROUNDUP XTEND*                 | mesosulfuron      | Osprey          | 2     |
|                                        | glufosinate       | Liberty        | 10 |                                | dicamba           | XtendiMax       | 4     |
| CINCH ATZ (Cinch ATZ Lite)             | fomesafen         | Reflex         | 14 | SENTRALLAS                     | glyphosate        | glyphosate      | 9     |
|                                        | s-metolachlor     | Dual II Magnum | 15 |                                | thifensulfuron    | Harmony         | 2     |
| CLEARPATH                              | quinclorac        | Facet          | 4  | SEQUENCE                       | fluroxypyr        | Starane         | 4     |
|                                        | imazethapyr       | Newpath        | 2  |                                | s-metolachlor     | Dual Magnum     | 15    |
| COLT + SALVO (Trump Card)              | 2,4-D             | 2,4-D          | 4  | SOLSTICE                       | glyphosate        | glyphosate      | 9     |
|                                        | fluroxypyr        | Starane        | 4  |                                | mesotrione        | Callisto        | 27    |
| COLT + SWORD                           | MCPA              | MCPA           | 4  | SONIC                          | fluthiacet        | Cadet           | 14    |
|                                        | fluroxypyr        | Starane        | 4  |                                | sulfentrazone     | Spartan 4F      | 14    |
| CORVUS                                 | thiencarbazone    | Varro          | 2  | SPARTAN CHARGE                 | cloransulam       | FirstRate       | 2     |
|                                        | isoxaflutole      | Balance Flexx  | 27 |                                | sulfentrazone     | Spartan 4F      | 14    |
| COYOTE                                 | s-metolachlor     | Dual II Magnum | 15 | STANZA                         | carfentrazone     | Aim             | 14    |
|                                        | mesotrione        | Callisto       | 27 |                                | flumetsulam       | Stinger         | 4     |
| CRUSHER                                | rimsulfuron       | Resolve        | 2  | STARANE FLEX                   | florasulam        | -----           | 2     |
|                                        | thifensulfuron    | Harmony        | 2  |                                | fluroxypyr        | Starane         | 4     |
| CURTAIL                                | clopyralid        | Stinger        | 4  | STARANE NXT                    | fluroxypyr        | Starane         | 4     |
|                                        | 2,4-D             | 2,4-D          | 4  |                                | bromoxynil        | Maestro         | 6     |
| CURTAIL M                              | clopyralid        | Stinger        | 4  | STATUS                         | diffluenzopyr     | -----           | 19    |
|                                        | MCPA              | MCPA           | 4  |                                | dicamba           | Clarity         | 4     |
| DEGREE XTRA                            | acetochlor        | Degree         | 15 | STEADFAST Q                    | nicosulfuron      | Accent Q        | 2     |
|                                        | atrazine          | AAtrex         | 5  |                                | rimsulfuron       | Resolve         | 2     |
| DIFLEXX DUO                            | dicamba           | DIFlexx        | 4  | STORM                          | benzotiaz         | Basagran        | 6     |
|                                        | tembotrione       | Laudis         | 27 |                                | acifluorfen       | Ultra Blazer    | 14    |
| DIMETRIC CHARGED                       | metribuzin        | Metribuzin     | 5  | SUPREMACY                      | fluroxypyr        | Starane         | 4     |
|                                        | flumioxazin       | Valor          | 14 |                                | thifensulfuron    | Harmony         | 2     |
| ENGENIA PRO*                           | dicamba           | Engenia        | 4  | SUPRENO                        | tribenuron        | Express         | 2     |
|                                        | pyroxasulfone     | Zidua          | 15 |                                | prometryn         | Caparol         | 5     |
| ENLIST DUO                             | 2,4-D             | 2,4-D          | 4  | SURESTART II                   | trifloxysulfuron  | Envoke          | 2     |
|                                        | glyphosate        | glyphosate     | 9  |                                | acetochlor        | Surpass NXT     | 15    |
| ENLITE                                 | chlormuron        | Classic        | 2  | SURESTART II                   | clopyralid        | Stinger         | 4     |
|                                        | thifensulfuron    | Harmony        | 2  |                                | flumetsulam       | Python          | 2     |
| ENNVIVE                                | flumioxazin       | Valor          | 14 | SURVEIL                        | flumioxazin       | Valor           | 14    |
|                                        | chlormuron        | Classic        | 2  |                                | cloransulam       | FirstRate       | 2     |
| EXTREME                                | thifensulfuron    | Harmony        | 2  | SYNCHRONY XP                   | chlormuron        | Classic         | 2     |
|                                        | flumioxazin       | Valor          | 14 |                                | thifensulfuron    | Harmony         | 2     |
| FIERCE                                 | imazethapyr       | Pursuit        | 2  | TALINOR                        | bromoxynil        | Maestro         | 6     |
|                                        | glyphosate        | glyphosate     | 9  |                                | bicyclopyrone     | -----           | 27    |
| FIERCE MTZ                             | flumioxazin       | Valor          | 14 | TAVIUM                         | dicamba           | XtendiMax       | 4     |
|                                        | pyroxasulfone     | Zidua          | 15 |                                | s-metolachlor     | Dual Magnum     | 15    |
| FIERCE XLT                             | flumioxazin       | Valor          | 14 | TRIPLELEX II                   | acetochlor        | Harness         | 15    |
|                                        | pyroxasulfone     | Zidua          | 15 |                                | clopyralid        | Stinger         | 4     |
| FINESSE                                | chlormuron        | Classic        | 2  | TRIPZIN ZC                     | flumetsulam       | Python          | 2     |
|                                        | chlorsulfuron     | Glean          | 2  |                                | pendimethalin     | Prowl           | 3     |
| FIRSTSHOT                              | metsulfuron       | Ally           | 2  | TRIVENICE                      | metribuzin        | Metribuzin      | 5     |
|                                        | thifensulfuron    | Harmony        | 2  |                                | chlormuron        | Classic         | 2     |
| FLEXSTAR GT                            | tribenuron        | Express        | 2  | VALOR XLT                      | flumioxazin       | Valor           | 14    |
|                                        | fomesafen         | Flexstar       | 14 |                                | metribuzin        | Metribuzin      | 5     |
| FOXFIRE                                | glyphosate        | glyphosate     | 9  | VARISTO                        | flumioxazin       | Valor           | 14    |
|                                        | fenoxaprop        | Tecoma         | 1  |                                | chlormuron        | Classic         | 2     |
| FULTIME NXT                            | pinoxaden         | Axial XL       | 1  | VELPAR ALFAMAX                 | imazamox          | Raptor          | 2     |
|                                        | acetochlor        | TopNotch       | 15 |                                | benzotiaz         | Basagran        | 6     |
| FUSION                                 | atrazine          | AAtrex         | 5  | VERDICT                        | hexazinone        | Velgar          | 5     |
|                                        | flusulfop         | Fusilade DX    | 1  |                                | diuron            | Karmex          | 2     |
| GANGSTER                               | fenoxaprop        | Puma           | 1  | WARRANT ULTRA                  | saflufenacil      | Sharpen         | 14    |
|                                        | flumioxazin       | Valor          | 14 |                                | dimethenamid-P    | Outlook         | 15    |
| GOLDSKY                                | cloransulam       | FirstRate      | 2  | WELD (FULL DECK)               | fomesafen         | Reflex          | 14    |
|                                        | pyrrosulam        | PowerFlex HL   | 2  |                                | acetochlor        | Warrant         | 15    |
| GRAMOXONE MAGNUM*                      | florasulam        | -----          | 2  |                                | MCPA              | MCPA            | 4     |
|                                        | fluroxypyr        | Starane        | 4  |                                | fluroxypyr        | Starane         | 4     |
| GRAZONNEXT HL                          | s-metolachlor     | Dual Magnum    | 15 | WIDEMATCH                      | clopyralid        | Stinger         | 4     |
|                                        | paraquat          | Gramoxone      | 22 |                                | fluroxypyr        | Starane         | 4     |
| HALEX GT                               | aminopyralid      | Milestone      | 4  | WOLVERINE                      | fenoxaprop        | Tecoma          | 1     |
|                                        | 2,4-D             | 2,4-D          | 4  |                                | pyrasulfotole     | -----           | 27    |
| HARMONY EXTRA                          | s-metolachlor     | Dual Magnum    | 15 | YUKON                          | bromoxynil        | Maestro         | 6     |
|                                        | glyphosate        | glyphosate     | 9  |                                | dicamba           | Banvel          | 4     |
|                                        | thifensulfuron    | Harmony        | 2  | ZEMAX                          | halosulfuron      | Permit          | 2     |
|                                        | tribenuron        | Express        | 2  |                                | mesotrione        | Callisto        | 27    |
|                                        |                   |                |    | s-metolachlor                  | Dual II Magnum    | 15              |       |
|                                        |                   |                |    | imazethapyr                    | Pursuit           | 2               |       |
|                                        |                   |                |    | saflufenacil                   | Sharpen           | 14              |       |
|                                        |                   |                |    | pyroxasulfone                  | Zidua             | 15              |       |