Herbicide Mode of Action
Herbicides can be classified into “families” on the basis of chemical similarities and mode of action. The mode of action is the process by which a chemical kills or suppresses plant growth. Herbicides of the same chemical family usually have the same mode of action. Different chemical families of herbicides also may have the same mode of action. Repeated use of the same herbicide, herbicides of the same family, or herbicides having the same mode of action eventually can lead to enhanced degradation, weed species shifts, herbicide resistance, increased carryover, and crop injury. Using herbicides of different modes of action in tank mixes and in rotation along with other cultural weed control practices will help prevent these problems from occurring. Refer to the following list for the various herbicide families and modes of action.

Amino Acid Inhibitors
ALS-AHAS inhibitors:
- Imidazolinone family—Arsenal, Plateau, Pursuit, Raptor, Scepter, Contain, Beyond
- Sulfonylurea family—Accent, Affinity, Ally, Amber, Basis, Beacon, Cimarron, Classic, Escort, Express, Finesse, Glean, Harmony SG, Harmony Extra, Maverick, Option, Oust, Peak, Permit, Spirit, Steadfast, Synchrony, Telar
- Sulfonamide family—Python, FirstRate, PowerFlex
- Sulfonylaminobutyryl-triazolinone family—Olympus, Olympus Flex, Osprey, thiencarbazone

EPSP inhibitors:
- Amino acid derivative family—glyphosate, Roundup, Touchdown, and others

Cell Membrane Disrupters
- Bipyridilium family—Gramoxone Inteon, Diquat
- Diphenylether family—Ultra Blazer, Cobra, Phoenix, Reflex, Flexstar, ET, Vida
- N-Phenylphthalimide family—Resource, Cadet
- Aryl-Triazolinone family—Spartan, Aim, Valor, Encompass
- Pyrimidinedione family—Sharpen, Kixor

Growth Regulators
- Benzoic acid family—Banvel, Clarity, Sterling, Distinct, dicamba, Status
- Phenoxy family—2,4-D, 2,4-DB, MCPA, MCPP, 2,4-DP
- Pyridine family—Tordon, Stinger, Remedy, Garlon, Starane, Milestone

Lipid Synthesis Inhibitors
- Aryloxyphenoxypropionate family—Fusilade DX, Assure II, Fusion, Targa
- Cyclohexanedione family—Poast, Poast Plus, Select, Volunteer, Section
**Nitrogen Metabolism Inhibitors**

Phosphorylated amino acid family—Liberty, Ignite

**Photosynthetic Inhibitors**

Triazine family—Atrazine, Sencor, Princep, Evik, Pramitol
Phenylurea family—Lorox, Karmex, Spike
Uracil family—Sinbar, Hyvar
Nitrile family—Buctril, Moxy, Bromox, Brox
Benzothiadiazole family—Basagran

**Pigment Inhibitors**

Isoxazolidinone family—Command
Isoxazole family—Balance, Huskie
Pyridazinone family—Zorial
Triketone family—Callisto, Impact, Laudis

**Seedling Growth Inhibitors**

Carbamothioate family—Eradicane, Eptam, Sutan+
Acid amide family—Lasso, Micro-Tech, Dual II Magnum, Define, Outlook, Propel, Surpass, Harness,
Degree, Topnotch, Intro, Warrant
Dinitroaniline family—Treflan, Trust, Prowl, Acumen, Sonalan, Balan