

Phenoxy and pyridinoxy *Auxin-type herbicides*

- Postemergence
- Foliar absorbed and translocated
- Also root absorbed
- Broadleaf weeds

Phenoxy and pyridinoxy *Auxin-type herbicides*

Clarity (dicamba)



Stem twisting
Stem swelling

Phenoxy and pyridinoxy *Auxin-type herbicides*

Clarity (dicamba)



Stem twisting

Stem and leaf
reddening

Phenoxy and pyridinoxy *Auxin-type herbicides*

Clarity (dicamba)



Leaf curling and
cupping

Phenoxy and pyridinoxy *Auxin-type herbicides*

Butyrac (2,4-DB)



Stem twisting

Necrosis

Phenoxy and pyridinoxy *Auxin-type herbicides*

Butyrac (2,4-DB)



Legumes not as
injured as other
broadleaves

Phenoxy and pyridinoxy *Auxin-type herbicides*

Butyrac (2,4-DB)



Leaf strapping

Dinitroaniline herbicides

DNA's

- Soil-applied
- Root and shoot absorbed
- Not translocated
- Grass weeds and some small-seeded broadleaf weeds

Dinitroaniline herbicides

DNA's

Prowl (pendimethalin)



Control of
grasses and
small seeded
broadleaf
weeds

Chloroacetamide herbicides

- Soil-applied
- Root and shoot absorbed
- Translocated but not herbicidal
- Grass weeds and some small-seeded broadleaf weeds

Chloroacetamide herbicides

Dual Magnum (*s*-metalachlor)



Buggy whipping

Chloroacetamide herbicides

Dual Magnum (*s*-metalachlor)



Cotton and Cantaloupe injury and morningglory control at 2x use rate

Other “amides” and miscellaneous category herbicides

- pronamide (Kerb)
- napropamide (Devrinol)
- flufenacet (Axiom-w/metribuzin)
- isoxaben (Gallery)
- bensulide (Prefar)
- DCPA (Dacthal)
- dichlobenil (Casoran)
- quinclorac (Facet)

Miscellaneous chemistry herbicides

- Foliar applied
- Shoot absorbed
- Not readily translocated
- Broadleaf weeds

Nitrile herbicides

Buctril (bromoxynil)



Chlorotic mosaic



Miscellaneous chemistry herbicides

Roundup (glyphosate)



Chlorosis followed
by necrosis

Miscellaneous chemistry herbicides

Roundup (glyphosate)



Immediate
cessation of growth

Stacked nodes
(regrowth)

Miscellaneous chemistry herbicides

Roundup (glyphosate)



Interveinal
chlorosis at sub-
lethal dose

Miscellaneous chemistry herbicides

Roundup (glyphosate)



Pigment inhibiting herbicides

- Soil-applied
- Root absorbed
- Translocated
- Broad-spectrum weeds

Pigment inhibiting herbicides

Evital (norflurazon)



Bleached leaves



Pigment inhibiting herbicides

Evital (norflurazon)



Pigment inhibiting herbicides

Evital (norflurazon)



Pigment inhibiting herbicides

Evital (norflurazon)



Triazine herbicides

- Soil and foliar applied
- Root absorbed and translocated
- Not translocated out of treated leaves
- Broadleaf weeds

Triazine herbicides

Aatrex (atrazine)



Interveinal chlorosis

Necrosis

New growth unaffected
(foliar application)

Triazine herbicides

Caporal (prometryn)



Triazine herbicides

Caporal (prometryn)



Plants emerge then symptoms occur (chlorosis followed by necrosis)

Phenylurea herbicides

- Soil and foliar applied
- Root absorbed and translocated
- Not translocated out of treated leaves
- Broadleaf weeds

Phenylurea herbicides

Karmex (diuron)



Interveinal
chlorosis on
lower leaves

Phenylurea herbicides

Karmex (diuron)



Leaf tip burn

Bipyridilium herbicides

- Foliar applied
- Rapid burndown activity
- Non-selective grass and broadleaf weeds

Bipyridilium herbicides

Gramoxone Max (paraquat)



Rapid
desiccation of
leaf tissue

Bipyridilium herbicides

Gramoxone Max (paraquat)



Leaf tip burn

Necrotic lesions

Bipyridilium herbicides

Gramoxone Max (paraquat)



Necrotic spots
with red halo

Diphenylether herbicides

Goal (oxyfluorfen)



Bronzing of
contacted leaf
tissue

Diphenylether herbicides

Goal (oxyfluorfen)



Bronzing of
contacted leaf
tissue

Triazolinone herbicides

- Foliar and soil applied
- Readily absorbed by leaves
- Not translocated
- Annual broadleaf weeds

Triazolinone herbicides

Aim (carfentrazone)



Bronzing and
necrosis of leaf tissue

Triazolinone herbicides

Aim (carfentrazone)



Bronzing and
necrosis of leaf tissue

Imidazolinone herbicides

- Foliar and soil applied
- Root and shoot absorbed
- Rapidly translocated to growing points
- Selective and broadspectrum

Imidazolinone herbicides

Pursuit (imazethapyr)

Buggy whipping



Imidazolinone herbicides

Pursuit (imazethapyr)



Stunting (flat top)

Purple
discoloration

Imidazolinone herbicides

Pursuit (imazethapyr)



Lime green color
Cupping of upper
leaves

Imidazolinone herbicides

Pursuit (imazethapyr)



Stacked nodes

Sulfonylurea herbicides

- Foliar and soil applied
- Root and shoot absorbed
- Rapidly translocated to growing points
- Selective and broadspectrum

Sulfonylurea herbicides

Sandea (halosulfuron)



Red veins

Sulfonylurea herbicides

Sandea (halosulfuron)



Pyrimidinyl oxybenzoate herbicide

- Foliar and soil applied
- Root and shoot absorbed
- Rapidly translocated to growing points
- Selective and broadleaf weeds

Pyrimidinyl oxybenzoate herbicide

Staple (pyrithiobac)



Red veins

Aryloxyphenoxy propionate and Cyclohexanedione herbicides *grass herbicides*

- Foliar applied
- Shoot absorbed
- Rapid uptake and translocation to growing points
- Selective and only grass weeds

Aryloxyphenoxy propionate and Cyclohexanedione herbicides *grass herbicides*

Select (clethodim)



Growing point
easy to remove

Aryloxyphenoxy propionate and Cyclohexanedione herbicides *grass herbicides*

Select (clethodim)



Purpling of
leaf tissue