

28	<i>Amaranthus retroflexus</i>	redroot pigweed
	Anacardiaceae	Cashew Family
29	<i>Rhus typhina</i>	staghorn sumac
	Apiaceae (Umbelliferae)	Parsley Family
30	<i>Conium maculatum</i>	poison hemlock
31	<i>Daucus carota</i>	wild carrot
	Apocynaceae	Dogbane Family
32	<i>Apocynum cannabinum</i>	hemp dogbane
	Asclepiadaceae	Milkweed Family
33	<i>Asclepias syriaca</i>	common milkweed
	Asteraceae (Composite)	Aster Family
34	<i>Achillea millefolium</i>	common yarrow
35	<i>Ambrosia artemisiifolia</i>	common ragweed
36	<i>Ambrosia trifida</i>	giant ragweed
37	<i>Anthemis cotula</i>	mayweed chamomile
38	<i>Arctium minus</i>	common burdock
39	<i>Artemisia vulgaris</i>	mugwort
40	<i>Carduus nutans</i>	musk thistle
41	<i>Centaurea maculosa</i>	spotted knapweed
42	<i>centaurea nigrescens</i>	vochin knapweed
43	<i>Chrysanthemum leucanthemum</i>	oxeye daisy
44	<i>Cirsium arvense</i>	Canada thistle
45	<i>Cirsium vulgare</i>	bull thistle
46	<i>Conyza Canadensis</i>	horseweed
47	<i>Galinsoga ciliate</i>	hairy galinsoga
48	<i>Senecio vulgaris</i>	common groundsel
49	<i>Sonchus oleraceus</i>	annual sowthistle
50	<i>Taraxacum officinale</i>	dandelion
51	<i>Xanthium strumarium</i>	common cocklebur
	Berberidaceae	Barberry Family
52	<i>Berberis thunbergii</i>	Japanese barberry
	Brassicaceae (Cruciferae)	Mustard Family
53	<i>Alliaria petiolata</i>	garlic mustard
54	<i>Barbarea vulgaris</i>	yellow rocket
55	<i>Brassica kaber</i>	wild mustard
56	<i>Capsella bursa-pastoris</i>	shepherd's-purse
57	<i>Lepidium campestre</i>	field pepperweed
58	<i>Lepidium virginicum</i>	Virginia pepperweed
59	<i>Raphanus raphanistrum</i>	wild radish
60	<i>Thlaspi arvense</i>	field pennycress
	Caprifoliaceae	Honeysuckle Family
61	<i>Lonicera japonica</i>	Japanese honeysuckle
62	<i>Lonicera tatarica</i>	tartarian honeysuckle

	Caryophyllaceae	Pink Family
63	<i>Cerastium vulgatum</i>	mouseear chickweed
64	<i>Stellaria media</i>	common chickweed
	Chenopodiaceae	Goosefoot Family
65	<i>Chenopodium album</i>	common lambsquarters
	Convolvulaceae	Morningglory Family
66	<i>Calystegia sepium</i>	hedge bindweed
67	<i>Convolvulus arvensis</i>	field bindweed
68	<i>Ipomoea hederacea</i>	ivyleaf morningglory
69	<i>Ipomoea lacunose</i>	pitted morningglory
70	<i>Ipomoea purpurea</i>	tall morningglory
	Cucurbitaceae	Gourd Family
71	<i>Echinocystis lobata</i>	wild cucumber
72	<i>Sicyos angulatus</i>	burcucumber
	Dipsacaceae	Teasel Family
73	<i>Dipsacus sylvestris</i>	common teasel
	Elaeagraceae	Oleaster Family
74	<i>Elaeagnus umbellata</i>	autumn-olive
	Euphorbiaceae	Spurge Family
75	<i>Euphorbia maculate</i>	spotted spurge
	Fabaceae (Leguminosae)	Pea (Bean) Family
76	<i>Medicago lupulina</i>	black medic
77	<i>Pueraria lobata</i>	kudzu
78	<i>Trifolium repens</i>	white clover
	Haloragaceae	Watermilfoil Family
79	<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
	Hydrocharitaceae	Frog's-bit Family
80	<i>Hydrilla verticillata</i>	hydrilla
	Labiatae (Lamiaceae)	Mint Family
81	<i>Glechoma hederacea</i>	ground ivy
82	<i>Lamium amplexicaule</i>	henbit
83	<i>Lamium purpureum</i>	purple deadnettle
84	<i>Nepeta cataria</i>	catnip
	Lythraceae	Loosetrife Family
85	<i>Lythrum salicaria</i>	purple loosestrife

Malvaceae

- 86 *Abutilon theophrasti*
- 87 *Anoda cristata*
- 88 *Hibiscus trionum*
- 89 *Malva neglecta*
- 90 *Sida spinosad*

Oxalidaceae

- 91 *Oxalis stricta*

Phytolaccaceae

- 92 *Phytolacca Americana*

Plantaginaceae

- 93 *Plantago lanceolata*
- 94 *Plantago major*

Polygonaceae

- 95 *Polygonum aviculare*
- 96 *Polygonum convolvulus*
- 97 *Polygonum cuspidatum*
- 98 *Polygonum penslyvanicum*
- 99 *Polygonum perfoliatum*
- 100 *Polygonum persicaria*
- 101 *Rumex acetosella*
- 102 *Rumex crispus*
- 103 *Rumex obtusifolius*

Portulacaceae

- 104 *Portulaca oleracea*

Rosaceae

- 105 *Potentilla recta*
- 106 *Rosa multiflora*

Rubiaceae

- 107 *Galium aparine*

Scrophulariaceae

- 108 *Linaria vulgaris*
- 109 *Verbascum Thapsus*
- 110 *Veronica arvensis*
- 111 *Veronica persica*

Sinaroubaceae

- 112 *Ailanthus altissima*

Mallow Family

- velvetleaf
- spurred anoda
- Venice mallow
- common mallow
- prickly sida

Woodsorrel Family

- yellow woodsorrel

Pokeweed Family

- common pokeweed

Plantain Family

- buckhorn plantain
- broadleaf plantain

Buckwheat Family

- prostrate knotweed
- wild buckwheat
- Japanese knotweed
- Pennsylvania smartweed
- mile-a-minute
- lady's thumb
- red sorrel
- curly dock
- broadleaf dock

Purslane Family

- common purslane

Rose Family

- sulfur cinquefoil
- multiflora rose

Madder Family

- catchweed bedstraw

Figwort Family

- yellow toadflax
- common mullein
- corn speedwell
- Persian speedwell

Quassia Family

- tree-of-heaven

Solanaceae

- 113 *Datura stramonium*
- 114 *Physalis longifolia*
- 115 *Solanum carolinense*
- 116 *Solanum ptycanthum*

Nightshade Family

- jimsonweed
- smooth groundcherry
- horsenettle
- eastern black nightshade

Trapaceae

- 117 *Celastrus orbiculatus*
- 118 *Trapa natans*

Water-chesnut Family

- Oriental bittersweet
- water-chesnut

2. IDENTIFICATION OF UNKNOWN HERBICIDES

List of Crops (planted from seed unless otherwise noted)

1. Corn, field
2. Soybeans
3. Wheat
4. Canola
5. Alfalfa
6. Snap Beans
7. Corn, sweet
8. Pumpkins (or squash, cucumbers)
9. Tomatoes- transplants
10. Turfgrass (Kentucky bluegrass, or K blue/fescue mix)- sod, or established from seed

List of Weeds

1. Crabgrass, large
2. Foxtail, giant
3. Shattercane
4. Pigweed, redroot or smooth
5. Lambsquarters, common
6. Ragweed, common
7. Velvetleaf
8. Cocklebur
9. Morningglory, tail or ivyleaf
10. Yellow nutsedge

Herbicide List for "Identification of Unknown Herbicides"

Note: Application rates are in amount of product per acre. Appropriate adjuvants will be included with each POST herbicide

No.	Herbicide Mode/ Site of Action	Herbicide family	Common name	Product to be Used	Applic. Timing	Use rate (acre)
1	Plant growth regulator [auxin mimic]	phenoxy	2,4-D	Weedar 64	POST	1 pint
2			2,4-DB	Butyrac 200	POST	1 pint
3		benzoic acid	dicamba	Banvel 4L	POST	1 pint
4		pyridine	clopyralid	Stinger 3L	POST	0.5 pint
5	Amino Acid Synthesis [inhibits the enzyme Acetolactate Synthase (ALS)]	sulfonylurea	chlorimuron	Classic 25DF	POST	0.75 oz
6			halosulfuron	Permit 75WG	POST	1 oz
7			nicosulfuron	Accent 75WG	POST	0.67 oz
8		imidazolinone	imazethapyr	Pursuit 70WG	POST	1.44 oz
9	Amino Acid Synthesis [inhibits the enzyme 5- enolpyruvateshikimate-3- phosphate-synthase (EPSP synthase)]	amino acid analog	glyphosate	Roundup Weathermax 4.5 L	POST	22 fl oz
10	Nitrogen Metabolism Disrupter [inhibits the enzyme glutamine synthetase]	amino acid analog	glufosinate	Liberty 1.67L	POST	2.10 pints
11	Fatty Acid Synthase Inhibitors [inhibits the enzyme acetyl CoA carboxylase (ACCase)]	cyclohexanedione	sethoxydim	Poast 1.5L	POST	1.5 pints
12	Seedling Root Inhibitor: [inhibits microtubule polymerization during mitosis by binding to tubulin]	dinitroaniline	pendimethalin	Prowl 3.3EC	PRE	2.4 pints
13		pyridazine	dithiopyr	Dimension 1EC	PRE	2 quarts
14	Seedling Shoot Inhibitor: [inhibits the formation of long chain fatty acids]	chloracetamide	metolachlor	Dual II Magnum 7.64L	PRE	1.33 pints
15	Cell Wall Synthesis Inhibitor [inhibits the enzyme cellulose synthase]	benzamide	isoxaben	Gallery 75DF	PRE	1.33 lbs
16	Photosynthesis Inhibitor- Mobile [inhibits Photosystem II by binding to the Q _B site on the D1 protein at Site A]	triazine	atrazine	Aatrex 4L	PRE	1.5 lbs
17			metribuzin	Sencor 75DF	PRE	10.66 oz

18	Photosynthesis Inhibitor- Non-mobile [inhibits Photosystem II by binding to the Q _B site on the D1 protein at site C]	benzothiadiazole	bentazon	Basagran 4L	POST	1 quart
19		nitrile	bromoxynil	Buctril 2EC	POST	0.75 pint
20	Cell Membrane Disrupter: [Inhibits the enzyme protoporphyrinogen IX oxidase (PPO or protox)]	diphenyl ether	lactofen	Cobra 2EC	POST	12.5 fl oz
21			oxyfluorfen	Goal 2XL	POST	1 pint
22		aryl triazinone	sulfentrazone	Dismiss 4F	POST	8 fl oz
23	Cell Membrane Disrupter: [Inhibits Photosystem I]	bipyridylum	paraquat	Gramoxone Max 3L	POST	1.7 pints
24	Pigment Inhibitor: [Inhibits the enzyme 1-deoxy-D- xylulose-5-phosphate synthase (DOXP synthase)]	isoxazolidinone	clomazone	Command 3ME	PRE	2 pints
25	Pigment Inhibitor: [Inhibits the enzyme p- hydroxyphenylpyruvate dioxygenase (HPPD)]	triketone	mesotrione	Callisto 4L	POST	3 fl oz