The 25 weeds with *official* resistance to herbicides in France

May 2021

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Resistance very widespread and frequent: two grasses, one broadleaf

Black-grass
Alopecurus myosuroides
Winter crops
D1 (1993) and/or F2 (2000)

Rye-grass
Lolium sp.
Winter crops
D1 (1993) and/or F2 (2006) and/or D2 (2018)
Grapevine
F1 (2005)

Corn poppy
Papaver rhoeas
Winter crops
F2 (2005) and/or L1 (2013)

D1 = ACCase: very widespread and frequent F2 = ALS: y widespread and frequent
L1 = auxin-mimetics: moderately prevalent D2 = fatty acid elongation: 1st reports F1 = glyphosate: moderately prevalent

Resistance widespread and frequent (two grasses, three broadleaves)

Barnyard-grass
Echinochloa crus-galli
Rice
D1 (2000s) and/or F2 (2012)
(maize: 1st reports)

Rice barnyard-grass
Echinochloa oryzicola
Rice
D1 (2000s) and/or F2 (2012)

Common groundsel
Senecio vulgaris
Grapvine, major crops, vegetables…
F2 (2009)

Spiny sow-thistle
Sonchus asper
Chicory (major crops)
F2 (2015)

Common lambs-quarters
Chenopodium album
Sugar beet, potatoe
B1 (2005)

Resistance moderately prevalent (six grasses, six broadleaves)

Wild oats
Avena spp.
Winter crops
D1 (1996) and/or F2 (2006)

Silky bentgrass
Apera spica-venti
Winter crops
D1 (2000s) and/or F2 (2006)

Bromes
Bromus spp.
Winter crops
F2 (2008)

Foxtails
Setaria sp.
Maize
F2 (2011)

Large crabgrass
Digitaria sanguinalis
Vegetables
D1 (2005)
Maize
F2 (2014)

NEW!
Teosinte
Zea mays ssp. mexicana
Maize
D1 (1995s)

Common ragweed
Ambrosia artemisiifolia
ALS-tolerant sunflower, soybean, maize
F2 (2013)

Chamomiles
Matricaria spp.
Winter crops
F2 (2010)

Sumatra fleabane
Conyza sumatrensis
Grapevine
F1 (2010) and/or F2 (2016)

Weedy sunflower
Helianthus annuus
ALS-tolerant sunflower, soybean
F2 (2009)

Chickweed
Stellaria media
Winter crops
F2 (2012)

NEW!
Canadian horseweed
Conyza canadensis
Grapevine
F1 (2019)

First reports (two grasses, three broadleaves)

Annual bluegrass
Poa annua
Major crops
D1: naturally insensitive
F2 (2015)

Rough meadow-grass
Poa trivialis
Major crops F2 (2012)

Gallant soldier
Galinsoga parviflora
Chicory
F2 (2017)

Bitter dock
Rumex obtusifolius
Winter crops
F2 (2017)

NEW!
Spear saltbush
Atriplex patula
Sugar beet, potatoe
B1 (2019)

To get a better idea: chemical families and examples of actives concerned by resistance (non-exhaustive list).

Group D1: ACCase inhibitors
3 families concerned out of 3 approved in France

- Fops: clodinafop (wheat), fluazifop (rape, sugar beet…), quizalofop (rape…), propaquizafop (sugar beet…)
- Den: pinoxaden (wheat, barley)
- Dims: clethodim (sunflower, rape, sugar beet…), cycloxydim (rice, rape, ACCase-tolerant maize, sugar beet…)

Group F2: ALS inhibitors
4 families concerned out of 4 approved in France

- Sulfonylureas: iodosulfuron + mesosulfuron (wheat), metsulfuron (wheat), azimsulfuron (rice), flazasulfuron (grapevine), prosulfuron (maize), nicosulfuron (maize), tribénuron (ALS-tolerant sunflower), foramsulfuron (maize), rimsulfuron (ALS-tolerant chicory), triflusulfuron (sugar beet)…
- Triazolopyrimidines: pyroxsulam (wheat), florasulam (cereals), penoxsulam (rice, chicory)…
- Sulfonylamino-carbonyl-triazolinones: propoxycarbazone (cereals), thiencarbazone (maize)
- Imidazolinone: imazamox (ALS-tolerant sunflower, ALS-tolerant rape)

Group L1: Auxinic herbicides
At least 2 families concerned out of 4 approved in France

- Phenoxy-carboxylic acids: 2,4-D (cereals), MCPA (cereals)…
- Pyrydin-carboxylic acids: aminopyralid (rape)…

Group B1: photosystem II inhibitors (psbA)
At least 2 families concerned out of 5 approved in France

- Triazines: terbuthylazine (maize). *Others actives in this family are no longer approved in France.*
- Triazinones: metamitron (sugar beet), metribuzin (vegetables)…

Group F1: EPSPS inhibitors
One single active: glyphosate (grapevine, orchards…)

Group D2: lipid elongation inhibitors
At least 1 family concerned out of 5 approved in France

- Oxyacetamides: flufenacet (cereals, vegetables)…