

Herbicides for Corn

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Weed Response to Selected Corn Herbicides When Applied According to Label Directions¹

Herbicide(s)	Crop tolerance	Annual grasses								Annual broadleaf weeds											Perennials		
		Barnyardgrass	Crabgrass	Fall panicum	Foxtail	Johnsongrass seedlings	Longspine sandbur	Shattercane	Witchgrass	Eastern black nightshade	Cocklebur	Devilsclaw	Jimsonweed	Kochia	Lambsquarters	Morningglory	Pigweed ²	Common ragweed	Sunflower	Velvetleaf	Vernice mallow	Field bindweed	Established johnsongrass
PREPLANT OR PREEMERGENCE																							
Acuron	G-E	E	E	E	E	F-G	F-G	F-G	E	E	G	E	E	E	E	G	E	G-E	G-E	E	E	—	—
Acuron Flexi	G-E	E	E	E	E	F-G	F-G	F-G	E	E	G	G-E	G-E	G	G-E	G	E	G-E	G	E	E	—	—
Anthem ATZ	E	E	E	E	E	F	F-G	F	E	E	F-G	—	G	E	E	G	E	G	F	G-E	F	—	—
Anthem Maxx	E	E	E	E	E	F	F-G	F	E	G-E	P	—	G	F-G	G	F	E	F	P	G	F	—	—
Atrazine	G-E	F-G	F	—	F-G	—	—	—	F	E	F-G	—	G	G ³	G	G	G-E ³	G	F	F	F	—	—
Balance Flexx	G	G	G	G	G	G	F-G	F	—	G	F	—	G	E	G	F-G	E	G	—	E	G	—	—
Basis Blend, Crusher	G	G-E	F	G-E	G-E	—	F	E	F	P	—	—	—	G ³	E	—	E ³	—	G	G	—	—	—
Bicep II Magnum	G-E	E	E	E	E	P	F-G	P	E	E	G	G	G	G	G	E	G	F	F	F	—	—	
Bicep Lite II Magnum	G-E	E	E	E	E	P	F-G	P	E	E	F	F	F	F	G	F	E	F	F	P	P	—	—
Corvus	G	G-E	G-E	E	G-E	G-E	G	G	G	G	F	—	G	E	G-E	F-G	E	G	G	E	E	—	—
Dual II Magnum and other S-metolachlor	G-E	E	E	E	E	P	F-G	—	E	G	—	—	—	—	F-G	—	F-G	—	—	—	—	—	—
Fierce	G	G-E	E	G-E	E	P	—	P	—	E	—	—	G-E	F	E	F-G	E	G	—	G	G-E	—	—
Harness and other acetochlor	G-E	E	E	E	E	F	F-G	F	G-E	G	—	—	—	—	G	—	G	F	—	—	—	—	—
Harness Max	G-E	E	E	E	E	F	F-G	F	E	E	G	G-E	E	E	G-E	G	E	G	F	E	E	—	—
Harness Xtra and other acetochlor plus atrazine	G-E	E	E	E	E	F	F-G	F	E	E	G	G	G	G	G	G	E	G	F	F	F	—	—
Lumax EZ, Lexar EZ, Helmet Maxx	G-E	E	E	E	E	F	F-G	F	E	E	G	E	E	E	G-E	F-G	E	G	G	E	E	—	—
Maverick	G	E	E	E	E	F-G	F-G	F-G	E	G	G	G	G	E	E	G	E	G-E	G	G	E	—	—
Outlook, Slider	G-E	E	E	E	E	P	F-G	—	E	G	—	—	—	—	—	—	F-G	—	—	—	—	—	—
Princep	G-E	F-G	F	—	F-G	—	—	P-F	F	G	—	—	F	—	G	G	G	G	F	F	F	—	—
Resicore	G	E	E	E	E	F	F	F	E	G	G	G	G	G	E	G	E	G-E	E	G-E	—	—	—
Resolve	G-E	G	F	G	E	—	—	—	—	F	F	—	F	G ³	G	F	G ³	F	—	F	—	—	—
Reviton	E	F	P	F	G	G	—	F	—	G	G	—	G	G	G	G	G	G	G	G	G	—	—
Sharpen	G	—	—	—	—	—	—	—	—	G	G	P-F	G	G	G	G	G	G	G	G	G	—	—
SureStart II, Triple-FLEX II, Trisidual	F	E	E	E	E	—	P	P	E	G	G	—	—	G	E	F	E	G	E	F-G	—	—	—
Valor and other flumioxazin	G-E	F	F	F-G	F-G	P	P	P	F	E	F	F-G	G-E	F	G-E	F-G	E	F	P	F	G-E	—	—
Verdict	G-E	E	E	E	E	P	F-G	P	E	G	G	P-F	G	G	G	G	G	G	G	G	G	—	—
Zemax, Coyote	E	E	E	E	E	F	F-G	P	E	G	G	G	G	G	G	F	E	G	F	G	G	—	—
PREEMERGENCE ONLY																							
Prowl and other pendimethalin	G	G-E	G	G	G	G	G	F	G-E	—	—	—	—	F-G	F-G	—	F-G	—	—	P-F	—	—	—
Zidua	E	E	E	E	E	F	F-G	F	E	G-E	P	—	G	F-G	G	F	E	F	P	F-G	F	—	—

¹ Weed response ratings refer to application according to label directions and with favorable growing conditions:

E = Excellent, G = Good, F = Fair, P = Poor, and — = weed not listed on the herbicide label.

² Pigweed species vary in response to herbicides. Waterhemp and Palmer amaranth tend to be less susceptible to postemergence herbicides than other pigweed species.

³ Except for resistant weed populations.

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POSTEMERGENCE																								
Accent Q, NIC-IT	G-E	G-E	F	G	G-E	E	G	E	—	—	—	—	G	—	—	F	G ³	—	—	—	—	—	—	G
Aim	G-E	—	—	—	—	—	—	—	—	E	F	F	E	F-G	E	E	F-G	F	F	E	G	—	—	—
Assure II (resistant corn only)	E	G-E	G-E	E	E	G-E	G-E	E	G-E	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Atrazine	G-E	F	F	—	G	—	—	—	G	G-E	G-E	—	E	E ³	E	E	E ³	E	E	E	E	—	—	—
Banvel K + Atrazine	G	—	—	—	—	—	—	—	—	G-E	E	—	G-E	E	E	E	E	E	E	G-E	G-E	F-G	—	
Basis, Basis Blend	G	G-E	F	G-E	G-E	—	F	E	F	P	—	—	—	G ³	E	—	F ³	—	G	G	—	—	—	
Beacon	F-G	—	—	F	—	E	—	E	—	G	G	G	G	G ³	F	—	G ³	E	G-E ³	F-G	—	—	G	
Broclean, Bromil, Buctril, Moxy	E	—	—	—	—	—	—	—	—	E	E	—	G	G	G	F-G	F	G	E	F-G	G	—	—	
Brozine	G-E	—	—	—	—	—	—	—	—	E	E	—	E	E ³	E	G-E	E	E	E	E	E	—	—	
Cadet	G	—	—	—	—	—	—	—	—	G	G	—	—	G	G-E	G	F-G	F	F	E	—	—	—	
Callisto and other mesotrione	E	—	G	—	—	—	—	—	—	E	G	G	E	G-E	E	F	G-E	G	G	G-E	G	—	—	
Callisto Xtra	G-E	F	G	—	G	—	—	—	G	E	G-E	G	E	E	E	G-E	E	G-E	G-E	E	G-E	—	—	
Capreno	G	G	G	G	G	G	G	G	—	E	G-E	—	E	G-E	E	G	E	E	E	E	G	—	—	
Dicamba	F-G	—	—	—	—	—	—	—	—	G	G-E	—	G	G	G	G	G-E	G	G	G	F	F	—	
DiFlexx	G	—	—	—	—	—	—	—	—	G	G-E	—	G	G	E	G-E	E	E	G	G	G	F	—	
DiFlexx DUO	G	G	G	P	F	F	F	F	—	E	E	—	E	E	E	E	E	E	E	E	E	F	—	
Distinct	G	F	—	F	F	F	—	F	F	G	G-E	—	G	G	E	E	E	E	G	G	E	G	—	
Glyphosate (resistant corn only)	E	G	E	E	E	E	E	E	E	G	E	—	E	G	E	G	E	G	E	G	G	G	G	
Halex GT (resistant corn only)	G-E	G	E	E	E	E	E	E	E	E	E	G	E	G	E	G	E	E	E	E	E	G	G	
Hornet	F-G	—	—	—	—	—	—	—	—	G	E	—	F	F	F	G	F	G	E	G	—	—	—	
Impact/Armezon	E	G	G	F	F-G	F	—	F	—	E	G-E	—	E	G-E	E	F	G-E	G-E	G-E	G-E	F-G	—	—	
Kochiavore	F	—	—	—	—	—	—	—	—	G-E	E	E	G-E	E	E	E	G-E	E	E	G	G	F	—	
Laudis	E	G	G	P	F-G	G	F	G	—	E	G-E	—	E	G-E	E	F	G-E	E	G-E	E	G	—	—	
Liberty and other glufosinate (resistant corn only)	E	G	G	G	E	F-G	F-G	G	G	G	E	—	E	F	G	G-E	G	E	G-E	G-E	G	F	F	
Maverick	G	E	E	E	E	F-G	F-G	F-G	E	G	G	G	G	E	E	G	E	G-E	G	G	E	—	—	
Permit	G	—	—	—	—	—	—	—	—	—	E	—	—	G ²	F	P	F ²	G	E	G-E	G	—	—	
Realm Q	F-G	G-E	F	G-E	G-E	—	F	E	F	G	G	G	G-E	G	G	F	G-E	G	G	G	—	—	—	
Resolve Q	G	G-E	F	G-E	G-E	—	F	E	F	F	F	—	G	—	F	F	G ³	F	—	F	—	—	F	
Resource	G-E	—	—	—	—	—	—	—	—	—	F	—	G	—	—	F	F	G	—	E	—	—	—	

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POSTEMERGENCE																							
Shieldex	E	G	G	—	G	—	—	F	—	F	G	—	—	G-E	E	F	E	E	E	G-E	P	—	—
Solstice	G	—	G	—	—	—	—	—	—	E	G	C	E	G	E	F-G	G	G	G	E	G	—	—
Starane NXT	G	—	—	—	—	—	—	—	—	E	E	—	G	E	G	E	F	E	E	G	G	F-G	—
Starane Ultra	G	—	—	—	—	—	—	—	—	F	G	—	—	E	P	E	P	E	G	G	G	F-G	—
Status	G-E	F	—	F	F	F	—	F	F	G	G-E	—	G	G	E	E	E	E	G	G	E	G	—
Steadfast Q	E	G-E	G	E	E	E	G	E	—	—	F	—	G	—	—	F	G ³	—	—	—	—	—	G
Tough	E	—	—	—	—	—	—	—	—	E	F	—	—	G	G	—	F-G	—	F	—	—	—	—
WideMatch	G	—	—	—	—	—	—	—	—	F	E	—	—	E	P	E	P	E	E	G	G	F-G	—
Yukon	F-G	—	—	—	—	—	—	—	—	G	E	—	F-G	G	G	G	G	G	E	G-E	F-G	—	—
2,4-D	F	—	—	—	—	—	—	—	—	F	E	E	G	F	E	E	G	E	E	G	G	F-G	—

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Herbicides for Corn

Before using products containing atrazine, you may consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of atrazine is prohibited in your watershed. The AWIC can be accessed by calling 1-866-365-3014.

Atrazine Rate Limitations

All atrazine uses on cropland must conform to the maximum rate limits shown below. The “Precautionary Statements” on atrazine labels indicate required setbacks from all wells, streams, ponds, or other water sources.

For Wheat Stubble Applications in Wheat-Corn-Fallow Rotations

Apply a maximum of 2.25 lb ai/a to stubble ground following wheat harvest. Treat only once during same fallow period. See “Chemical Fallow” section of atrazine label for additional instructions.

For Soil Applications in Spring, Before Crop Emergence

On highly erodible soils (as defined by the Natural Resources Conservation Service)

If plant residue cover at planting is 30% or more, apply a maximum of 2 lb ai/a as a broadcast spray.

If soil coverage is less than 30% at planting, apply a maximum of 1.6 lb ai/acre.

On soils not highly erodible

Apply a maximum of 2 lb ai/a as a broadcast spray.

For Postemergence Applications

If no atrazine was applied before corn emergence, apply a maximum of 2 lb ai/a broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lb ai/a per calendar year. Postemergence applications over 1 lb ai/a are not considered best management practices. Runoff loss potential is very high from mid-April through July.

Practices to Reduce Atrazine Losses in Surface Water Runoff in Central and Eastern Kansas

Corn producers who no-till plant should consider split applications of herbicides. The highest atrazine losses occur when intense rain storms follow atrazine application to high-residue, wet soils. Long-term weather records show that Kansas tends to have little winter precipitation, and that the probability of high-intensity storms occurring in March to mid-April is about half the probability of them occurring from mid-April through June.

Corn producers who till before planting should consider preplant incorporation of atrazine and companion herbicides, such as Dual II Magnum, Outlook, Harness, Zidua, and many others. Mechanically incorporating these herbicides in the top 2 inches of soil reduces potential atrazine loss in runoff by about two-thirds. Soil incorporation can be done with field cultivators, finishing disks, or spring tooth harrows at any time within 14 days before planting. Harrow attachments are recommended for the incorporation implement to avoid streaking. At planting, avoid furrowing that could move herbicide-treated soil out of the crop row.

Reduced-rate atrazine approaches for corn. Some soil-applied formulations, such as Bicep Lite II Magnum, Keystone LA NXT, and Lumax EZ, contain a lower proportion of atrazine than formulations, such as Bicep II Magnum, Keystone NXT, and Lexar EZ. Also, banding preemergence herbicides reduces the amount applied per acre by one-half to two-thirds. Postemergence herbicides, such as Buctril/atrazine and dicamba + atrazine, and many postemergence tank mixtures contain only about 0.5 lb ai/a atrazine still provide good control of tough broad-leaf weeds, such as velvetleaf, cocklebur, pigweed, morningglory, and sunflower.

Non-atrazine alternatives for corn. For certain soil types, soil-applied Resicore, Triple FLEX II, Sure Start II, Zemax, Balance Flexx, or Corvus can substitute for part or all of the atrazine. Postemergence herbicides for corn that control many weed species and do not contain atrazine include Liberty, Realm Q, Resolve Q, Status, glyphosate, and many other products. Caution: Some of these can be used only on genetically modified or other selected corn. Some have restrictions or cannot be used where Counter or Thimet insecticides have been used.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
2 to 3 pt of 4 lb/gal 2,4-D	2,4-D (4) 1 to 1.5	Application rates of 2,4-D, spray volumes, and timings differ with company and formulation. Apply 3 to 5 days after planting but before corn emerges. Can control broadleaf weeds for several weeks. Do not use on sandy soils. Avoid spray or vapor drift to sensitive crops. Enlist One herbicide (2,4-D choline) may be applied at 1.5 to 2 pt per acre PRE- or POST-plant and prior to emergence of all corn types, including Enlist corn hybrids.
2.5 to 3 qt Acuron	S-metolachlor (15) + Mesotrione (27) + Bicyclopyrone (27) + Atrazine (5) 1.34 to 1.61 + 0.15 to 0.18 + 0.038 to 0.045 + 0.63 to 0.75	Acuron is a premix of 2.14 lb S-metolachlor, 0.06 lb bicyclopyrone, 0.24 lb mesotrione, and 1 lb atrazine (restricted use herbicide) for preemergence weed control in all corn types from 28 days before planting prior to corn emergence. Acuron may be applied early post to field, silage, and seed corn prior to corn attaining 12 inches tall. See Acuron in the Postemergence section of this weed guide for further discussion. Use rates are 2.5 qt when soil organic matter is less than 3% and 3 qt when organic matter is 3% or greater. The addition of bicyclopyrone will enhance control of large seeded broadleaf weeds. Rotational restrictions include wheat, rye, or barley 4 months; cotton, soybeans, and sorghum 10 months; canola and alfalfa 18 months.
2 to 2.25 qt Acuron Flexi	S-metolachlor (15) + Mesotrione (27) + Bicyclopyrone (27) 1.43 to 1.60 + 0.16 to 0.18 + 0.040 to 0.045	Acuron Flexi is a premix of 2.86 lb S-metolachlor, 0.32 lb mesotrione, and 0.08 lb bicyclopyrone for preemergence weed control in all corn types from 28 days before planting and through early postemergence to field, silage, and seed corn up to 30 inches tall or 8 leaf growth stage. Apply the 2 qt rate when soil organic matter is less than 3% and 2.25 qt when soil organic matter is 3% or greater. See the Postemergence section for further discussion. Acuron Flexi is best adapted for areas having atrazine restrictions. Acuron Flexi performance will be enhanced with the addition of atrazine. Rotational restrictions following Acuron Flexi application is wheat, rye, or barley, 4 months; and alfalfa, cotton, drybeans, soybean, and sorghum 10 months.
0.5 to 1 fl oz Aim EC or Longbow EC	Carfentrazone (14) 0.0074 to 0.015 or 2 lb/gallon	No-till: Can be applied alone or with other herbicides in fallow and preplant burndown applications to control or suppress annual broadleaf weeds. Can be tank-mixed with glyphosate, 2,4-D, dicamba, or paraquat to broaden the spectrum of weeds controlled. Apply with NIS or COC. Aim is a contact herbicide requiring thorough spray coverage of foliage. Do not exceed 2 fl oz/a per season for all fallow, preplant, or in-crop applications to corn.
1.75 to 3 pt Anthem ATZ	Pyroxasulfone (15) + Fluthiacet (14) + Atrazine 0.106 to 0.182 + 0.003 to 0.005 + 0.9 to 1.5	Anthem ATZ (a restricted use herbicide) may be applied in the fall for residual weed control or from 45 days before planting to postemergence up to 4 visible collars to field corn, seed corn, sweetcorn, and popcorn for broadleaf and grass weed control. Apply Anthem ATZ at 1.75 to 2 pt on coarse soils, 2 to 2.5 pt on medium soils, and 2 to 3 pt on fine textured soils. If weeds are present at the time of application add COC or MSO at 1 to 2 pt/a or NIS at 0.25% v/v to enhance activity on emerged weeds. Anthem ATZ is compatible with liquid and dry fertilizers. Do not harvest all types of corn for forage within 60 days and for grain or fodder within 70 days of the final Anthem ATZ application. Do not harvest sweet corn forage or ears for human consumption within 45 days of Anthem ATZ application. The year after Anthem ATZ has been applied, rotation to soybean, cotton, or peanuts may occur depending on herbicide rate used, precipitation received, and timing of application. See label for details.
2.75 to 7.28 fl oz Anthem Flex	Pyroxasulfone (15) + Carfentrazone (14) 0.080 to 0.212 + 0.006 to 0.015	Anthem Flex may be applied early preplant 45 days before planting through preemergence following planting to field corn, seed corn, sweetcorn, and popcorn for grass and broadleaf weed control. Plant corn a minimum of 1.5 inches deep to reduce the risk of crop injury. Tank mixing with atrazine, Balance Flexx, or Hornet will broaden the spectrum of weeds controlled. To broaden the spectrum of foliar activity in a preplant burndown situation, Anthem Flex may be applied with glyphosate, paraquat, glufosinate, 2,4-D, dicamba, or Aim. When applying 15 to 45 days before planting use 3.5 to 4.5 fl oz on coarse textured soils, 4.5 to 5.5 on medium textured soils, and 5.5 to 7.28 fl oz on fine texture soils. When applying less than 15 days prior to corn planting use 2.75 to 5 fl oz on coarse soils, 3 to 6 fl oz on medium soils, and 3.5 to 7.28 on fine textured soils. See label for organic matter effect on Anthem Flex rates. Do not harvest sweet corn for human consumption with 37 days of Anthem Flex application.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
2.5 to 6.5 fl oz Anthem Maxx	Pyroxasulfone (15) + Fluthiacet (14) 0.082 to 0.212 + 0.002 to 0.006	Anthem Maxx may be applied in the fall for residual weed control or from 45 days before planting to postemergence up to 4 visible collars to field corn, seed corn, sweetcorn, and popcorn for broadleaf and grass weed control. The addition of atrazine, Balance Flexx (preemergence only to corn), or Hornet to Anthem Maxx will improve control of additional broadleaf species. Apply Anthem Maxx at 2.5 to 4 fl oz on coarse soils, 2.5 to 5.5 fl oz on medium soils, and 3 to 6.5 fl oz on fine textured soils. See label for organic matter effect on Anthem Maxx rate with soil textures. If weeds are present at the time of application add COC or MSO at 1 to 2 pt/a or NIS at 0.25% v/v to enhance activity on emerged weeds. Anthem Maxx is compatible with liquid and dry fertilizers. Do not harvest field, pop, or seed corn for forage within 30 days and for grain or fodder within 70 days of the final Anthem Maxx application. Do not harvest sweet corn for forage or ears within 40 days of Anthem Maxx application. Rotation intervals vary based on Anthem Maxx rate used, soybean, 0 to 4 mo.; grain sorghum, 6 to 10 mo.; wheat, 1 to 6 mo.; sunflower, 4 mo.; and alfalfa 10 mo. See label for other crop rotation restrictions.
14 to 24 fl oz Armezon PRO	Topramezone (27) + Dimethenamid-P (15) 0.011 to 0.019 + 0.57 to 0.98	Armezon PRO can be applied to all corn types preemergence to help control emerged weeds at planting. For burndown activity, apply Armezon PRO with COC or MSO at 1% v/v or HSOC at 0.5% v/v. If tank mix partner prohibits the use of oil additives use NIS at 0.25 to 0.5% v/v. The addition of UAN at 2.5% v/v or AMS at 8.5 to 17 lb/100 gal spray solution is recommended. Use 14 to 16 fl oz on coarse textured soils having less than 3% organic matter and 16 to 20 when organic matter is 3% or greater. On medium and fine textured soils use 16 to 20 fl oz when soils have less than 3% organic matter and 20 to 24 when soil organic matter is 3% or greater. Can rotate to cereals after 4 months; sorghum, soybean, sunflower, alfalfa, canola, and cotton after 9 months; and peas and drybeans after 9 months.
1.6 to 2 qt Atrazine 4L or 1.8 or 2.2 lb Atrazine 90DF	Atrazine (5) 1.6 to 2	A restricted-use pesticide. Upper rate limits depend on soil texture, percentage plant residue cover, and NRCS soil erodibility classification. Controls small-seeded broadleaf weeds and helps suppress other broadleaf weeds and annual grasses. Apply preplant and incorporate or apply before corn emerges. Recropping options depend on soil pH, rate, and timing of application. Atrazine carryover is longer in higher pH soils. Caution: Because atrazine moves readily with water, surface runoff losses on fine-textured soils and leaching in coarse-textured soils can impair water quality. See K-State Research and Extension publication MF-2208 for atrazine best management practices. Follow label directions for rates, cropping, and feeding limitations. No-till, fall application: Atrazine can be applied to Kansas row-crop stubble from fall harvest to December 31 to control winter annual weeds and reduce or eliminate the need for burndown herbicide application or preplant tillage in spring. Apply with COC to enhance foliar activity. Tank mixing with 2,4-D LVE enhances control of dandelion and other broadleaf winter annual weeds. Can be tank-mixed with Gramoxone SL to enhance control of cheat, downy brome, and Japanese brome. For highly erodible soils with less than 30% plant residue cover, limit fall application to a maximum of 1.6 lb. Total atrazine applications must not exceed 2.5 lb/a per calendar year. Do not apply to frozen ground or where soil surface conditions favor wind erosion. Do not plant any crops except corn, grain sorghum, or forage sorghum in the following spring. Follow directions on 24(C) Special Local Need label for Kansas. No-till, early preplant application: Atrazine can be applied in spring up to 45 days before planting. If weeds are present at time of treatment, but before crop emergence, atrazine may be tank-mixed with Gramoxone SL or glyphosate. Apply with COC or NIS to enhance foliar uptake. Avoid tillage after application. Applying about two-thirds of the atrazine dose early preplant and one-third at planting time is a best management practice.
0.3 oz Autumn Super	Iodosulfuron (2) + Thiencarbazone-methyl (2) 0.0011 to 0.008	Autumn Super may be used for burndown/residual control anytime after fall harvest up to 1 month prior to planting field corn. For all other corn the rotational restriction is 9 months with 15 inches of precipitation. Do not use on soils with pH > 8 or on any soil that is frozen. Apply with COC or MSO and a nitrogen fertilizer, such as UAN or AMS. Autumn Super may be tank-mixed with glyphosate, 2,4-D, dicamba, paraquat, and others to enhance control of emerged weeds. See label for rotational crop restrictions.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
3 to 6 fl oz Balance Flexx	Isoxaflutole (27) 0.047 to 0.094	Balance Flexx is a restricted-use pesticide. It is prohibited on fields that contain vulnerable sandy loam, loamy sand, or sand soils if the water table is less than 25 feet below the soil surface. See 24(c) label for list of vulnerable soils. Rate depends on soil texture, organic matter, pH, and application timing. The addition of atrazine will improve control. Balance Flexx may be tank-mixed with many grass and broadleaf herbicides. Do not apply aerially or through any type of irrigation system. Corn seed must be planted at least 1.5 inches deep, completely covered with soil, and the seed furrow firmed. The rotational interval is 4 months for wheat, 6 months for soybean, sorghum or sunflower, and 10 months for alfalfa. No-till: May be soil surface applied up to 21 days before planting field corn and up to 30 days before planting when used in a planned sequential application program. When applied with COC or MSO, Balance Flexx controls labeled weeds less than 3 inches in height. Tank mix with other burndown herbicides to control a broader spectrum of weeds or larger weeds. Tank mix with other residual herbicides to extend the spectrum and duration of control. Early postemergence: Balance Flexx can be applied postemergence to corn in a tank mixture with atrazine (only) from spiking through the 2-collar leaf stage of growth. Do not apply with other herbicides, insecticides, fertilizers, or adjuvants, or crop injury including bleaching, leaf necrosis, and stunting may result.
0.33 to 1 oz Basis or 0.83 to 2.5 oz Basis Blend	Rimsulfuron (2) + Thifensulfuron (2) 0.0104 to 0.0315 + 0.0052 to 0.0158	Apply Basis in the fall (.033 to 0.5 oz) with 2,4-D ester before the ground freezes to control winter annual weeds and provide some residual weed control of later emerging winter annuals or early emerging spring annual weeds. Early spring applications up to 1 oz of Basis can be applied on heavy textured soils. Do not use on fields intended to be planted to popcorn, sweet corn, or field corn for seed production. Field corn can be planted in the spring following a fall application of Basis. Basis can be applied up to 7 days prior to planting corn for burndown of emerged weeds. To control emerged weeds, apply Basis with a COC or NIS and an ammonium nitrogen fertilizer. Tank mixing with herbicides registered for corn having a different mode of action may help control ALS-resistant weed species.
1.3 to 2.6 qt Bicep II Magnum, Charger Max ATZ	S-metolachlor (15) + Atrazine (5) 0.78 to 1.56 + 1 to 2	These are formulated mixtures of 3.1 lb atrazine (a restricted-use pesticide) and 2.4 lb S-metolachlor/gal. Use the lower rate for expected light weed infestations and the higher rate for heavy weed infestations. Use with shallow preplant incorporation or surface apply after planting and before grasses and broadleaf weeds are at 2-leaf stage and corn is 5 inches tall. For sensitive watersheds, see K-State Research and Extension publication MF-2208 for atrazine best management practices. Follow atrazine rate limits and label directions.
No-till: 2.1 to 2.6 qt Bicep II Magnum	S-metolachlor (15) + Atrazine (5) 1.27 to 1.56 + 1.6 to 2	No-till: Apply two-thirds the recommended rate as a split treatment 30 to 45 days before planting and the remainder at planting. Applications made less than 30 days before planting may be either a split or single treatment. May apply in fluid fertilizer with NIS to burn down labeled weeds up to 2-leaf stage. To control larger weeds, tank mix with Gramoxone SL, glyphosate, etc. Follow atrazine rate limits and label directions.
0.95 to 1.9 qt Bicep Lite II Magnum, Charger Max ATZ Lite	S-metolachlor (15) + Atrazine (5) 0.8 to 1.58 + 0.63 to 1.27	These are formulated mixtures of 2.67 lb atrazine (a restricted-use pesticide) and 3.33 lb S-metolachlor/gal for use by growers wanting to reduce rates of soil-applied atrazine.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
3 to 7.7 fl oz Callisto, Incinerate, BL4, Bridle, Explorer, Willowood Mesotrione, Motif, Argas	Mesotrione (27) 0.094 to 0.241	Mesotrione may be used on all field corn, yellow popcorn, or sweet corn at 5.3 to 7.7 fl oz/acre. Mesotrione can be tank-mixed with atrazine or a premix or mixture of a chloracetamide (14) + atrazine for broad spectrum weed control. Not all tank mix partners shown on the label have registration for yellow popcorn and sweetcorn, see labels. If used in a burndown tank mix, mesotrione can be applied at 3 fl oz with Gramoxone brands, Roundup brands, Touchdown brands, dicamba or 2,4-D. Use the higher mesotrione rate structure to provide greater residual control. NOTE actual rate structure may vary slightly among mesotrione formulations, however, all are 4 lb ai/gal of herbicide. When applying PRE to corn and POST to weeds use an adjuvant system that includes MSO or COC and a nitrogen based adjuvant to enhance foliar activity. NIS can be used but often is less effective than oils.
20 to 51 fl oz Callisto Xtra	Mesotrione (27) + Atrazine (5) 0.178 to 0.2 + 0.5 to 1.275	Controls broadleaf weeds in all corn types. Apply after corn emergence but before corn exceeds 12 inches in height. Use higher rates for extended residual control or for soils with more organic matter. Lower rates will require a follow up treatment Add NIS (0.25% v/v), COC (1% v/v), or MSO (1% v/v) to control emerged weeds. AMS (8.5 to 17 lb/100 gallons) may also be added. Do not plant small grains for 4 months; alfalfa, canola, cotton, soybeans, or sunflowers for 10 months.
1.4 to 2.8 qt Calibra	S-metolachlor (15) + mesotrione (27) 1.0 to 2.1 + 0.19 to 0.38 + 0.019 to 0.038	Apply preplant or preemergence to control some broadleaf and annual grass weeds. Use higher rates if organic matter is greater than 3%. Maximum rate per application is 2.8 qt per acre. May be split-applied. Maximum rate per production year is 2.8 qt per acre. When applied postemergence to weeds, use NIS at 0.25% v/v, COC at 1% v/v, or MSO at 1% v/v. Spray-grade AMS at 8.5 to 17 lb/100 gal may be used with NIS. Do not rotate to wheat, forage sorghum, or non-safened grain sorghum for 4.5 months; or alfalfa, cotton, or soybeans for 10 months.
3.33 to 5.6 oz Corvus	Isoxaflutole (27) + Thiencarbazone (2) 0.049 to 0.082 + 0.019 to 0.033	Corvus is a restricted-use pesticide for use on field corn only. It is prohibited on fields that contain vulnerable sandy loam, loamy sand, or sand soils if the water table is less than 25 feet below the soil surface. Rate depends on soil texture, organic matter, pH, and application timing. The addition of atrazine will improve weed control. Corvus may be tank-mixed with many grass and broadleaf herbicides. Do not apply aerially or through any type of irrigation system. Corn seed must be planted at least 1.5 inches deep, completely covered with soil, and the seed furrow firmed. The rotational interval is 4 months for wheat, 9 months for soybean, and 17 months for alfalfa, sorghum, and sunflower. Do not use Corvus in the same season that Counter 20 CR or Counter 15G insecticides are used. No-till: May be soil surface applied up to 21 days before planting field corn and up to 30 days before planting when used in a planned sequential application program. When applied with COC or MSO, Corvus controls labeled weeds less than 6 inches in height. Tank mix with other burndown herbicides to control a broader spectrum of weeds or larger weeds. Tank mix with other residual herbicides to extend the spectrum and duration of control. Early postemergence: Corvus can be applied postemergence to corn in a tank mixture with atrazine (only) from spiking through the 2-collar leaf stage of growth. Do not apply with other herbicides, insecticides, fertilizers, or adjuvants, or crop injury including bleaching, leaf necrosis, and stunting may result.
1 to 1.8 oz Crusher	Rimsulfuron (2) + Thifensulfuron (2) 0.0156 to 0.0281 + 0.0156 to 0.0281	Crusher may be applied following fall harvest in the previous year through winter and early spring but prior to corn emergence for preplant and preemergence weed control in field corn. Do not apply to frozen soil during the winter or early spring or postemergence to corn. If control of emergent weeds is anticipated with Crusher, add COC or MSO at 1% v/v. If tank-mixed with a fully loaded glyphosate or Liberty 280 at recommended use rates, no additional adjuvants are required. Corn hybrids may vary in their sensitivity to Crusher; as a result, FMC is not responsible for crop injury observed from a Crusher application.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
0.5 to 1 pt Dicamba or DiFlexx	Dicamba (4) 0.25 to 0.5	Some dicamba formulations have differing dicamba concentrations. Review label for appropriate product rates. Following discussion assumes a 4 lb ae per gallon. After applying dicamba for weed burndown in no-till fields, it is recommended to delay corn planting 5 days for rates up to 4 fl oz/a and 7 days for rates from 4 to 8 fl oz/acre. Soil texture and organic matter content will also affect crop injury potential. If the DiFlexx formulation is used, there are no corn planting period restrictions. Can be applied immediately after corn is planted at least 1.5 inches deep, however, there is less potential for corn injury if application is delayed until near the spike stage. Do not apply to coarse-textured soils (sand, sandy loam, and loamy sand) until after crop emergence. Do not harvest or use corn for dairy or beef cattle feed before the milk stage. Avoid spray or vapor drift to sensitive crops. The addition of AMS to a spray mixture containing dicamba will increase the risk of volatility of dicamba and mitigate the benefits of lower volatility formulations.
0.5 to 1 pt Dicamba or Oracle + 1 qt 2,4-D LV4 , Latigo , Outlaw	Dicamba (4) + 2,4-D (4) 0.25 to 0.5 + 1	No-till: For control of established alfalfa and annual weeds, apply when alfalfa regrowth is 6 to 8 inches tall and growing actively. Fall treatment is preferred, provided that conditions favor vigorous alfalfa growth. If alfalfa escapes occur, apply only dicamba at rate recommended on label after corn emerges. See Latigo or Outlaw label for use rates.
4 to 6 oz Distinct	Diflufenzopyr (19)+ Dicamba (4) 0.05 to 0.075 + 0.125 to 0.19	Apply Distinct prior to but not sooner than 7 days before corn planting. Do not apply on coarse-textured soils. Distinct controls many broadleaf weeds and may suppress emerged annual grasses. Apply Distinct with NIS and UAN or AMS, COC, or MSO.
1 to 2 pt Dual II Magnum , EvarpreX , Charger Max , or Moccasin II Plus or 1 to 2 pt Me-Too-Lachlor II	<i>S</i> -metolachlor (15) 1 to 1.9 Metolachlor (15) 0.98 to 1.95	Controls many annual grass and small-seeded broadleaf weeds. May be applied early preplant, preplant-incorporated or preemergence to corn. See labels for specific timing, rate, and soil restrictions. Small grains can be planted 4.5 months after treatment. Me-Too-Lachlor II and Parallel contain two forms of metolachlor, one of which is less effective. Research indicates that metolachlor formulations have approximately 1/3 less herbicidal activity than the <i>S</i> -metolachlor formulations when equal rates are compared. See label for the appropriate rate for your soil.
1 fl oz Elevore	Halauxifen (4) 0.0045	Apply at least 3 days prior to planting corn for control of emerged marestail, henbit, wild garlic, and other broadleaf weeds listed on the label. Elevore is often tank-mixed with other herbicides for broader spectrum weed control. Apply with COC or MSO at 0.5 to 1.0% v/v. Plant corn at least 1.5 in. deep and ensure furrow closure. Do not plant sorghum, soybeans, sunflowers, wheat, or canola for 14 days; cotton for 30 days; and alfalfa for 8 months.
3.5 to 4.75 pt Enlist Duo	Glyphosate (9) + 2,4-D choline (4) 0.74 to 1.01 + 0.70 to 0.95	Enlist Duo may be applied at 3.5 to 4.75 pt per acre pre-plant or preemergence to all types of corn including Enlist corn for burndown of broadleaf and grass weeds. Use the upper end of the rate range for less susceptible weeds, more mature weeds, or weeds under stress. Do not exceed 4.75 pts for any single application. See POSTEMERGENCE section for postemergence use on Enlist corn.
2.5 to 3.75 qt Expert	<i>S</i> -metolachlor (15) + Atrazine (5) + Glyphosate (9) 1.1 to 1.6 + 1.3 to 2 + 0.47 to 0.70	No-till: Expert is a premix of the active ingredients in Bicep II Magnum (a restricted-use pesticide) and glyphosate. Typical use rate is 3 qt/acre. Use as a burndown of existing weeds and residual weed control.
3 oz Fierce or 6 oz Fierce EZ	Flumioxazin (14) + Pyroxasulfone (15) 0.063 + 0.08	Fierce is a premix of Valor and Zidua for early preplant preemergence broadleaf and grass control in field corn only. Fierce should be applied to the soil surface in a no-till or minimum-till system 7 to 30 days before corn planting and to conventional-till 30 days before corn planting. Fierce is activated with precipitation and effectively controls many grasses as well as small- and large-seeded broadleaf weeds. It may be tank-mixed with glyphosate, 2,4-D, dicamba, atrazine, and others (see label) to control emerged weeds.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
Glyphosate (see glyphosate table)	Glyphosate (9)	No-till: Use to control annual weeds up to 6 inches tall and some perennial weeds in fallow fields or before corn emergence. Application in 3 to 10 gal/a spray is more effective than in higher gallonage. Condition spray water with 1 to 2%, by weight, of spray-grade AMS (9 to 17 lb/100 gal water) before adding glyphosate products to the tank. Some glyphosate products contain little or no adjuvant, so check label requirements carefully. Dust on plants can decrease performance. Usually applied with 2,4-D or dicamba to enhance control of certain broadleaf species.
2 to 4 pt Gramoxone SL 2.0 or 1.3 to 2.7 pt Gramoxone SL 3.0, Helmquat	Paraquat (22) 0.5 to 1.0	Gramoxone SL is a formulation containing an alerting odor, emetic, and dye designed to reduce the amount of paraquat absorbed after accidental ingestion. Paraquat can only be handled and applied by certified individuals. Paraquat is a nonselective, nonresidual contact herbicide often used for preplant burndown of weeds. Apply in clean water or nitrogen fertilizer solutions to thoroughly cover actively growing weeds 1 to 6 inches tall. Rate depends on weed size. Dust on plants decreases paraquat activity. Tank mixing with triazine herbicides and COC in water carrier enhances weed burndown. When nitrogen fertilizer is the carrier, use NIS instead of COC.
0.45 to 0.9 oz Harmony SG	Thifensulfuron (2) 0.014 to 0.028	Apply preplant until corn emergence for burndown of certain broadleaf weeds. Generally tank-mixed with burndown herbicides for broader spectrum weed control. Apply with NIS or COC plus ammonium nitrogen fertilizer additives.
1.25 to 3 pt Harness or Surpass NXT, Volley NXT, or Confidence* , or Fearless or 2 to 3.75 qt TopNotch or 2.25 to 5 pt Degree or 1.5 to 3.75 pt Cadence, Overtime, or Volley	Acetochlor (15) 1.1 to 3	TopNotch and Degree are microencapsulated formulations of acetochlor. Soil activity controls most annual grass and small-seeded broadleaf weeds. Rate depends on soil type and preplant or preemergence timing. Apply and incorporate into top 2 inches of soil within 2 weeks of planting, or apply after planting but before corn emerges. Contains a safener for corn. Do not apply through irrigation system. Do not apply aerially. Do not rotate to crops other than corn, sorghum, wheat, or soybean for 12 months. Can be tank-mixed with atrazine, Hornet, dicamba, and several other herbicides to enlarge spectrum of weeds controlled. Note restrictions on label for depth to ground-water.
1.72 to 2.75 qt Harness Max	Acetochlor (15) + Mesotrione (27) 1.51 to 2.42 + 0.142 to 0.227	Harness Max may be used on all field corn, grain, silage, or seed, and yellow popcorn from 29 days before planting prior to emergence. Harness Max may be applied early postemergence to corn. See postemergence section for further discussion. Use Harness Max at 55 to 64 fl oz on coarse soils, 64 to 75 fl oz on medium soils, and 64 to 75 fl oz on fine soils when organic matter is less than 3% and 75 to 88 fl oz when organic matter is 3% or greater. When applying Harness Max in a burndown situation, Harness Max may be tank-mixed with Roundup brand glyphosate only, Gramoxone brands, dicamba and/or 2,4-D. Rotational restrictions: sorghum (concept treated immediately) wheat 4 months; alfalfa, soybean, and cotton 10 months; barley, oat, millet, and rye the spring following application; cucurbits, drybeans, peas, and other crops 18 months.
1.8 to 2.3 qt Harness Xtra or Confidence Xtra, Keystone LA NXT, Volley ATZ Lite NXT, or 1.6 to 3 qt Cadence Lite ATZ, Overtime ATZ Lite, or Volley ATZ Lite	Acetochlor (15) + Atrazine (5) 1.6 to 3 + 0.6 to 1.1	These herbicides are restricted-use pesticides. These formulations are used by growers who want to reduce rates of soil-applied atrazine. Formulations vary in their ratio of acetochlor to atrazine, so follow label directions.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
1.7 to 3 qt Harness Xtra 5.6, Confidence Xtra 5.6L, or Fearless XTRA 5.6L, or 1.4 to 3 qt Keystone NXT or Volley ATZ NXT, or 2.9 to 4.4 qt FulTime NXT, or 2.9 to 3.7 qt Degree Xtra or 2.2 to 3.4 qt Cadence ATZ, Overtime ATZ, or Volley ATZ	Acetochlor (15) + Atrazine (5) 1.3 to 3 + 1 to 2.0	These herbicides are restricted-use pesticides. The addition of atrazine will enhance annual grass and broadleaf weed control. The ratio of acetochlor to atrazine varies in the products named. For sensitive watersheds, see K-State Research and Extension publication MF-2208 for atrazine best management practices. Follow atrazine rate limits and label directions. No-till: If applied more than 30 days before planting, use split applications of 60% early preplant followed by 40% at planting. For single applications, apply within 30 days preplant up to planting time. Can be tank-mixed with atrazine, Hornet, Gramoxone SL, glyphosate, dicamba, or 2,4-D and adjuvants to control emerged weeds. Follow atrazine rate limits and label directions.
4 to 5 oz Hornet	Clopyralid (4) + Flumetsulam (2), 0.18 - 0.21	Apply preplant, preemergence, or before 2 inch spike corn. Include COC to control mustards and ragweeds. Plant corn at least 1.5 inches deep and do not use on soils with less than 1.5% organic matter to avoid injury. Do not apply where soil pH is greater than 7.8 or less than 5.9. Do not plant wheat for 4 months, alfalfa or soybean for 10.5 months, grain sorghum for 12 months, cotton or sunflowers for 18 months, or canola for 26 months.
1.5 to 2.7 oz Leopard	Rimsulfuron (2) + Thifensulfuron (2) 0.0156 to 0.0281 + 0.0156 to 0.0281	Leopard may be applied after fall harvest through early spring, up to planting, but prior to corn emergence whenever the ground is not frozen, to control emerged weeds and to provide residual control of early-emerging spring weeds. DO NOT apply postemergence to corn.
3 to 3.5 qt Lexar EZ, Helmet Maxx	S-metolachlor (15) + Mesotrione (27) + Atrazine (5) 1.3 to 1.5 + 0.17 to 0.19 + 1.3 to 1.5	Helmet Maxx is a premix with metolachlor, rather than S-metolachlor. Use rate depends on soil organic matter content. Apply up to 14 days before planting. The higher atrazine content than Lumax EZ should give improved control of morningglory and cocklebur. Do not rotate to winter wheat following corn. Do not rotate to crops other than corn, cotton, soybean, or sorghum the spring following application. No-till: May be tank-mixed with Gramoxone SL, glyphosate, or a 2,4-D product (see 2,4-D label for restrictions) for preplant burndown of existing weeds. May be applied in liquid fertilizer before corn emerges.
2.7 to 3.25 qt Lumax EZ	S-metolachlor (15) + Mesotrione (27) + Atrazine (5) 1.68 to 2 + 0.17 to 0.2 + 0.63 to 0.76	Lumax EZ is a premix of 2.49 lb S-metolachlor (Dual II Magnum), 0.268 lb mesotrione (Callisto), and 0.935 lb atrazine (a restricted-use pesticide). Use the 2.7 qt rate when organic matter is less than 3% and 3.25 qt when organic matter is 3% or greater. Apply up to 14 days before planting or preemergence. Controls a wider spectrum of weeds than Bicep, especially velvetleaf, pigweed, and waterhemp, if properly activated. Can rotate to winter wheat 4.5 months after application and to cotton, soybean, or sorghum the following spring. Application to sands and loamy sands where the water table is near the surface may result in groundwater contamination. Follow atrazine rate limits and label directions. No-till: May be tank-mixed with Gramoxone SL, glyphosate, or a 2,4-D product (see 2,4-D label for restrictions) for preplant burndown of existing weeds. May be applied in liquid fertilizer before corn emerges.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
14 to 32 fl oz Maverick	Pyroxasulfone (15) + Mesotrione (27) + Clopyralid (4) 0.08 to 0.17 + 0.09 to 0.21 + 0.06 to 0.13	Maverick Corn Herbicide can be applied at 18 – 32 fl oz for preemergence weed control in field corn, seed corn, silage corn, and yellow popcorn. Maverick Corn Herbicide maybe used at up to 18 fl oz on coarse-textured soils, 24 fl oz on medium-textured soils, and 32 fl oz on fine-textured soils. Weed control with Maverick Corn Herbicide may be enhanced when applied with atrazine. Rotational restrictions: wheat 4 to 6 months depending on rate; sunflowers 10.5 months; soybeans 10.5 to 18 months depending on atrazine combinations, soil pH, organic matter content and precipitation (refer to label); and cotton, canola, sorghum, and alfalfa 18 months.
12 to 21 oz Outlook	Dimethenamid-P (15) 0.56 to 0.98	Controls most grasses and some broadleaf weeds, such as nightshade and pigweeds. Does not control emerged weeds. Rate depends on soil type. Apply preplant within 2 weeks of planting and incorporate shallowly, or apply after planting up to early postemergence. Can be tank-mixed with atrazine, Pursuit (imidazolinone-tolerant corn only), and other herbicides. Can be used on sweet corn, popcorn, or seed corn. Fall cereals can be planted after 4 months.
6 to 10 fl oz Perpetuo	Pyroxasulfone (15) + Flumiclorac (14) 0.080 to 0.134 + 0.028 to 0.046	Perpetuo may be applied preplant or preemergence for residual grass and broadleaf weed control in field corn. See Perpetuo entry in the postemergence section for additional information to control emerged weeds. Weed control with Perpetuo may be enhanced when applied with atrazine. Rotational restrictions: wheat 1 to 4 months depending on rate; sunflowers 2 to 3 months; cotton 2 to 4 months; canola 12 to 15 months; sorghum 6 to 8 months; and alfalfa 10 months. See label for other crop rotation restrictions.
1 to 2 qt Princep 4L, Simtrol, Simazine 4L, or 1.1 to 2.2 lb Princep Caliber 90, Simazine 90DF	Simazine (5) 1 to 2	Has more residual grass activity than atrazine and is less water soluble. Usually applied late preplant or preemergence at about 1 lb/acre. Do not soil incorporate. Does not have foliar activity. Can be used on sand, silt, and loam soils that are low in organic matter. Has longer carryover than atrazine.
2 to 4 pt Prowl H₂O or Satellite Hydrocap, or 1.8 to 3.6 pt Prowl 3.3EC or Pendimax, Pendant, Acumen, Satellite	Pendimethalin (3) 0.75 to 1.5	Controls grasses more effectively than broadleaf weeds. Apply at planting or after planting but before weeds or corn emerge. Do not mechanically incorporate into soil because serious crop injury can occur. Corn must be planted at least 1.5 inches deep. Winter wheat can be planted in the fall, 4 months after application. Can be tank-mixed with many grass herbicides and atrazine.
2.25 to 3 qt Resicore	Acetochlor (15) + Clopyralid (4) + Mesotrione (27) 1.6 to 2.1 + 0.107 to 0.142 + 0.169 to 0.225	Resicore may be used on all field corn, grain, silage, or seed, and yellow popcorn from 28 days before planting prior to emergence. Resicore may be applied early postemergence to all field corn. See postemergence section for further discussion. When organic matter is less than 3% use Resicore at 2.25 qt on coarse soils, 2.5 qt on medium soils, and 2.75 qt on fine soils. When soils are 3% or more organic matter, use Resicore at 2.5 qt on coarse soils, 2.75 on medium soils, and 3 qt on fine soils. When applying Resicore as a split application, both pre and post, see label for restrictions and rates. A maximum of 3.25 qt can be used in the entire season. Weed control with Resicore will be enhanced when applied with atrazine. Rotational restrictions: wheat 4 months; alfalfa, barley, millet, oats, rye, sorghum and sunflower 10.5 months; soybeans 10.5 to 18 months depending on atrazine combinations, soil pH, organic matter content and precipitation (refer to label). If atrazine tank-mix rate exceeds 2 lb/a, do not plant soybean for 18 months. If Resicore is applied in the High Plains region or after June 1, only corn or grain sorghum can be planted the following year.
1.4 to 3 qt Resicore XL	Acetochlor (15) + Clopyralid (4) + Mesotrione (27) 0.98 to 2.1 + 0.059 to 0.142 + 0.067 to 0.225	Resicore XL may be applied to all field corn, silage corn, or seed corn, preplant or preemergence (after planting but prior to crop emergence). Use highest rates on fine soil with greater than 3% organic matter. When applied postemergence to weeds, use NIS 0.25% v/v or COC not to exceed 1% v/v. Rotational restrictions: wheat 4 months; alfalfa, barley, millet, oats, rye, sorghum, and sunflower 10.5 months; soybeans 10.5 to 18 months depending on atrazine combinations, soil pH, organic matter content, and precipitation (refer to label). If atrazine tank-mix rate exceeds 2 lb/a, do not plant soybean for 18 months. If Resicore is applied in the High Plains region, only corn or grain sorghum can be planted the following year.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
2 to 4 fl oz Resource	Flumiclorac (14) 0.014 to 0.028	No-till: Resource can be tank-mixed with glyphosate products to increase speed of burndown activity before planting field corn or soybean. Resource is a contact herbicide requiring thorough spray coverage of the foliage. West of U.S. Highway 75, always apply with 1 qt/a of COC plus AMS water conditioner for glyphosate.
1 to 3 fl oz Reviton	Tiafenacil (14) 0.022 to 0.066	Apply preemergence to field corn, silage, or seed corn for control of broadleaf and some grass weeds. Do not apply to corn that has emerged. Maximum rate of Reviton is 3.0 fl oz per acre per application and 6.0 fl oz per acre per production year. Reviton must be applied with MSO at 1% v/v (minimum of 1 pt per acre). The addition of AMS at 8.5 to 17 lb/100 gal is recommended. Reviton may be tank-mixed with many other herbicides including clethodim, 2,4-D, dicamba, atrazine, glyphosate, glufosinate, metolachlor, acetochlor, mesotrione, and tolypralate.
2.4 to 4 pt Sequence	S-metolachlor (15) + glyphosate (9) 0.94 to 1.5 + 0.70 to 1.125	Sequence is a premix of 3 lb S-metolachlor (Dual II Magnum) and 2.25 lb ae glyphosate and may be applied to all corn before, during, or after planting but before corn emerges if corn is not glyphosate-resistant. Apply with 8.5 to 17 lb AMS/100 gal spray solution to enhance foliar activity of the glyphosate on emerged weeds. The Dual II Mag component will provide early season residual of annual grasses and some small seeded broadleaf weed, but Sequence may be applied with several different tank mix partners listed on the label to broaden the spectrum of weeds controlled. Do not apply more than 3.5 pt of Sequence on coarse-textured soils.
1 to 3.5 fl oz Sharpen	Saflufenacil (14) 0.022 to 0.078	Sharpen can be applied preplant surface, preplant incorporated, or preemergence to field corn, silage, or popcorn for broadleaf weed control. Some popcorn hybrids may be sensitive to Sharpen. Check with seed supplier. Do not apply to corn that has emerged, or significant crop injury may result. The maximum rates of Sharpen that can be applied to a coarse soil is 2.5 fl oz, medium soil is 3 fl oz, and to a fine soil is 3.5 fl oz. Sharpen has excellent burndown activity of broadleaf weeds and must be applied with MSO at 1% v/v (minimum of 1 pt/a) plus AMS 8.5 to 17 lb/100 gal or liquid nitrogen at 1.25 to 2.5 gal/100 gal. Sharpen rate is affected by soil texture. Sharpen may be tank-mixed or applied sequentially with but not exclusively with Clarity, Verdict, Outlook, Prowl H ₂ O, Status, Atrazine, glyphosate, Harness, or Harness Extra. Sequential applications with Sharpen or Verdict require 14 days between applications. Do not apply more than 0.134 lb/a saflufenacil (6 oz of Sharpen) per cropping season. Do not use if organophosphate or carbamate insecticides were used at planting.
1.1 to 2.4 qt Storen	Bicyclopyrone (27) + Mesotrione (27) + Pyroxulfone (15) + S-metolachlor (15) 0.02 to 0.45 + 0.09 to 0.19 + 0.04 to 0.09 + 0.74 to 1.6	Controls many annual grass and broadleaf weeds in field corn, seed corn, sweet corn, or popcorn. May be applied preplant (up to 28 days before planting) or preemergence, postemergence, or both. Do not apply postemergence to sweet corn or popcorn. Tank mix may be required for acceptable control of emerged grasses. Rates are based on soil texture and organic matter; see product label to determine rate appropriate for your soil. Do not apply on coarse-textured soils. May be applied with liquid fertilizer carrier. Add NIS (0.25% v/v). COC or MSO may be used before corn emergence to increase control of emerged weeds.
2 to 3.5 pt Stratos or Banvel K + Atrazine	Dicamba (4) + Atrazine (5) 0.28 to 0.48 + 0.5 to 0.9	No-till: These are premixes of dicamba and atrazine (a restricted-use pesticide). They control many broadleaf weeds when applied before planting no-till corn. Do not apply to coarse-textured soils or soils with less than 2% organic matter. Contact your seed corn company before using this product on seed corn or specialty corn. Follow atrazine rate limits and label directions.
1.5 to 3 pt SureStart II, TripleFLEX II, or Trisidual	Acetochlor (15) + Clopyralid (4) + Flumetsulam (2) 0.7 to 1.4 + 0.07 to 0.14 + 0.023 to 0.046	These herbicides are for use in conventional or herbicide-tolerant field or silage corn. These herbicides may be used preemergence or early postemergence on corn up to 11 inches tall. The rate is dependent upon soil texture and organic matter. If soils are coarse-textured, use 1.5 to 2 pt/a; if medium-textured and less than 3% organic matter, use 1.5 to 2.5 pt; and if 3% organic matter or greater, use 1.75 to 3 pt/a. If soil textures are fine, use 2 to 3 pint/acre. The new formulations of these herbicides followed by II contain a safener allowing rates up to 3 pt.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
BURNDOWN, PREPLANT, AND/OR PREEMERGENCE		
10 to 20 fl oz TriVolt	Thiencarbazone (2) + isoxaflutole (27) + flufenacet (15) 0.0018 to 0.0036 + 0.045 to 0.089 + 0.22 to 0.44	TriVolt is a restricted-use pesticide. It is prohibited on fields that contain vulnerable sandy loam, loamy sand, or sand soils if the water table is less than 25 feet below the soil surface. See label for list of vulnerable soils. Apply preplant, preplant incorporated (up to 2 inches), or preemergence. May be applied up to 21 days before planting field corn or up to 30 days before planting when used in a planned sequential application program. Application rate is influenced by soil texture, organic matter, and pH. The addition of atrazine will improve control. Corn should be planted at least 1.5 inches deep and seed furrow thoroughly closed and firmed. Do not apply additional Group 27 herbicides to corn treated with TriVolt. Early postemergence: Apply through 2-leaf collar. Do not use COC or MSO, or mix with herbicides other than atrazine when applied to emerged field corn. Do not rotate to wheat for 4 months; soybean for 9 months; alfalfa, sorghum, or sunflower for 17 months.
2 to 3 oz Valor, Outflank, Panther, or Tuscany, or 2 to 3 fl oz Valor EZ, Panther SC or Tuscany SC	Flumioxazin (14) 0.064 to 0.096	Apply to the soil surface 7 to 28 days prior to planting corn in a no-till or minimum-till system only. In conventional planted corn, 1 inch of precipitation must fall during the 30 day period between application and planting. Controls several broadleaf weeds including pigweeds and nightshade. Glyphosate, dicamba, or 2,4-D should be tank-mixed to control emerged weeds. Valor can be tank-mixed with atrazine or metribuzin. Do not rotate to wheat for 1 month or to alfalfa or oat for 8 months after application.
10 to 18 fl oz Verdict	Dimethenamid-P (15) + Saflufenacil (14) 0.39 to 0.70 + 0.044 to 0.079	Verdict can be applied preplant surface, preplant incorporated, or preemergence to field corn, silage, or popcorn for broadleaf and grass weed control. Some popcorn hybrids may be sensitive to Verdict. Check with seed supplier. Do not apply Verdict to corn that has emerged, or significant crop injury may result. If broadleaf weeds are present at the time of application, to optimize burndown activity on broadleaf weeds, Verdict should be applied with MSO at 1% v/v (minimum of 1 pt/a) plus AMS 8.5 to 17 lb/100 gal or liquid nitrogen at 1.25 to 2.5 gal/100 gal. Apply with glyphosate to control emerged grasses. Verdict rate is affected by soil texture. Use 10 to 12 oz rate on coarse textured soils, 13 to 15 oz rate on medium textured soils, and 16 to 18 oz rate on fine-textured soils. Verdict may be tank-mixed or applied sequentially with but not exclusively with Sharpen, Clarity, Status, atrazine, or glyphosate. Sequential applications with Sharpen or Verdict require 14 days between applications. Do not apply more than 0.134 lb/a saflufenacil per cropping season. Do not use if organophosphate or carbamate insecticides were used at planting.
2 to 2.4 qt Zemax or Coyote	S-metolachlor (15) + Mesotrione (27) 1.67 to 2 + 0.165 to 0.198	Zemax may be applied preplant up to 14 days before planting or preemergence for grass and broadleaf weed control in field corn, seed corn, popcorn, and sweet corn. See postemergence section for Zemax postemergence on field and seed corn. Any adjuvants may be used preplant or preemergence where corn has not emerged to increase burndown activity on existing weeds. Cereal crops (wheat, rye, barley, and oats) may be planted 4.5 months following application. Soybeans may be planted the following spring. All corn or Concep-treated sorghum may be planted anytime. Glyphosate, Gramoxone SL, atrazine, and several other herbicides (see label) may be tank-mixed with Zemax to improve burndown of existing weeds or improve the spectrum of broadleaf and grass weed control.
2.5 to 6.5 fl oz Zidua SC	Pyroxasulfone (15) 0.08 to 0.21	Zidua may be applied preplant or preemergence to field corn and some popcorn, or sweet corn cultivars. Verify cultivar sensitivity with your seed supplier. Zidua when activated in soil with rainfall will effectively control several grasses and small seeded broadleaf weeds. See label for complete list. Does not control emerged weeds. Zidua is sensitive to soil texture. Use 2.5 to 4.5 fl oz on coarse soils, 3.25 to 5 fl oz on medium soils, and 4 to 6.5 fl oz on fine soils.

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Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
0.5 to 1 pt 2,4-D amine or 0.5 to 0.75 pt 2,4-D LVE of 4 lb/gal	2,4-D (4) 0.25 to 0.5 Amine or 0.25 to 0.38 LVE	Controls or suppresses annual broadleaf weeds. Apply in at least 10 gal of water/a from time corn emerges to tasseling. Do not apply from tasseling to dough stages. When corn is more than 8 inches tall, use drop nozzles to avoid application to corn leaves. Hybrids differ in response to 2,4-D; some are injured easily. Potential for injury is greater when corn is growing rapidly under high temperatures and high soil-moisture conditions. Low rates of 2,4-D in combination with other postemergence herbicides are safer to corn than higher rates of 2,4-D used alone. After application, delay cultivation for 8 to 10 days to allow corn to overcome temporary brittleness. Avoid spray or vapor drift to sensitive crops. Enlist One herbicide (2,4-D choline) may be applied at 2 pt per acre postemergence to Enlist corn up to the V-8 stage or 30 inches tall and up to 48 inches tall if drop nozzles are used.
0.9 oz Accent Q or 2 fl oz NIC-IT	Nicosulfuron (2) 0.031	Controls 4- to 12-inch shattercane, 8- to 18-inch rhizome johnsongrass, and certain annual grasses and broadleaf weeds in field corn. Can be broadcast applied over corn up to 20 inches tall (freestanding). For corn 20 to 36 inches tall, apply with drop nozzles. Accent application to V7 to V10 corn (7 to 10 leaf collars visible) increases the potential for ear malformation (pinching). This risk may be reduced greatly, but not eliminated, by using drop nozzles adjusted so as to not apply Accent into the corn whorl. Do not apply to field corn taller than 36 inches or with more than 10 leaf collars visible, whichever is more restrictive. Do not apply to seed corn or popcorn taller than 20 inches. Apply with NIS or COC. In addition, UAN or spray-grade AMS can be added to enhance performance on certain weed species. Sequential treatments can improve rhizome johnsongrass control. Do not apply to corn that was treated with Counter 15G or Counter 20CR in-furrow. Can be applied following T-band applications of Counter 20CR, but injury potential still exists. Do not apply in irrigation water. Often tank-mixed with dicamba or emulsified bromoxynil formulations to enhance broadleaf weed control. Use NIS rather than COC for these mixtures. Can be tank-mixed with pendimethalin to provide late-season, residual grass control. A timely cultivation may be necessary to control suppressed weeds, weeds beyond maximum size at application, or weeds that emerge after Accent application. Optimum timing for cultivation is 7 to 14 days after application. See label for insecticide compatibility, sprayer cleanup, subsequent cropping, feeding restrictions, and other guidelines.
1.5 to 3 qt Acuron	S-metolachlor (15) + Bicyclopyrone (27) + Mesotrione (27) + Atrazine (5) 0.825 to 1.61 + 0.023 to 0.045 + 0.09 to 0.18 + 0.375 to 0.75	May be applied to field, silage, and seed corn prior to corn attaining 12 inches tall. The addition of NIS at 0.25% v/v is recommended. COC not to exceed 1% v/v can be used; however, crop injury may occur. When applying Acuron POST do not tank mix with MSO or nitrogen products including UAN or AMS. POST applications will not provide adequate control of emergence grasses thus an additional herbicide with grass activity should be tank-mixed with the early post application. The addition of bicyclopyrone will enhance control of large seeded broadleaf weeds. Rotational restrictions include wheat, rye, or barley 4 months; cotton, soybeans, and sorghum 10 months; canola and alfalfa 18 months.
1.25 to 2.25 qt Acuron Flexi	S-metolachlor (15) + Mesotrione (27) + Bicyclopyrone (27) 0.89 to 1.60 + 0.10 to 0.18 + 0.025 to 0.045	Acuron Flexi is a premix of 2.86 lb S-metolachlor, 0.32 lb mesotrione, and 0.08 lb bicyclopyrone and may be applied early postemergence to field, silage, and seed corn up to 30 inches tall up to 8 leaf growth stage. Apply the 1.25 to 2 qt rates when soil organic matter is less than 3% and 1.25 to 2.25 qt rates when soil organic matter is 3% or greater. Apply with NIS at 0.25% v/v. If COC is used, crop injury may be observed. Do not exceed 1.0% v/v COC. Do NOT use MSO or nitrogen based adjuvants, AMS OR UAN. Acuron Flexi is best adapted for areas having atrazine restrictions. Acuron Flexi performance will be enhanced with the addition of atrazine. When Acuron Flexi has been applied prior to June 1, the following rotational restrictions apply: wheat, rye, or barley, 4 months; and alfalfa, cotton, drybeans, soybean, and sorghum 10 months. If application is after June 1, rotate to corn the following spring.
3.75 pt Acuron GT	S-metolachlor (15) + glyphosate (9) + mesotrione (27) + bicyclopyrone (27) 0.94 + 0.94 + 0.094 + 0.045	Apply from corn emergence up to 30 inches in height or 8-leaf. Can provide up to 4 weeks of residual control if activated. The addition of 0.25 to 5.0% v/v NIS and 8.5 to 17 lb AMS/100 gallons is recommended. May be tank-mixed with atrazine, dicamba, and glyphosate for improved control of emerged weeds. Severe crop injury may occur if tank-mixed with EC formulations. Do not plant small grains for 4.5 months; alfalfa, cotton, soybeans, or sorghum for 10 months.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
0.5 to 1 fl oz Aim EC or Longbow EC	Carfentrazone (14) 0.008 to 0.016 or 2 lb/gallon	Carfentrazone helps control black nightshade, velvetleaf, lambsquarter, pigweed, and morning-glory when applied to actively growing plants 1 to 4 inches tall. Can be broadcast applied to corn with up to 8 leaf collars. For corn from 9 to 14 leaf collars, apply with drop nozzles. Always apply with NIS at 0.25% v/v. Substituting 1% v/v COC is permissible for very dry soil conditions, but leaf speckling on treated corn may increase. Can be tank-mixed with other postemergence corn herbicides to broaden the weed spectrum and increase the level of control. For tank mixes, follow application and rotation guidelines of the more restrictive partner. Thorough and uniform spray coverage is needed for best results. Any crop can be planted after 30 days following application.
1.5 to 3 pt Anthem ATZ	Pyroxasulfone (15) + Fluthiacet (14) + Atrazine 0.091 to 0.182 + 0.0026 to 0.005 + 0.75 to 1.5	Anthem ATZ (a restricted use herbicide) may be applied early postemergence from emergence up to 4 visible collars to field corn, seed corn, sweetcorn, and popcorn for broadleaf weed control and residual grass control. Check with your seed dealer to verify the hybrid selectivity to this herbicide. Additional tank mixtures are required to effectively control emerged grasses and certain resistant weeds. Can be tank-mixed with glyphosate or glufosinate and other postemergence broadleaf herbicides approved for corn. Adding an adjuvant system, such as NIS, COC, or MSO, will enhance foliar activity of Anthem ATZ. The adjuvant system used may be limited or required by the tank mix partner. Use 1.5 to 2 pt on coarse soils, 1.75 to 2.25 pt on medium soils, and 2 to 3 pt on fine textured soils. Use highest rate for each soil type when weeds are large. Do not harvest sweet corn forage or ears for human consumption within 45 days of Anthem ATZ application. Do not harvest for forage within 60 days and grain or fodder within 70 days of the final Anthem ATZ application. The year after Anthem ATZ has been applied, rotation to soybean, cotton, or peanuts may occur depending on herbicide rate used, precipitation received, and timing of application. See label for details.
2 to 6 fl oz Anthem Maxx	Pyroxasulfone (15) + Fluthiacet (14) 0.065 to 0.196 + 0.002 to 0.006	Anthem Maxx may be applied early postemergence from emergence up to 4 visible collars to field corn, seed corn, sweetcorn, and popcorn for broadleaf weed control and residual grass control. Check with your seed dealer to verify the hybrid selectivity to this herbicide. Additional tank mixtures are required to effectively control emerged weeds. Can be tank-mixed with glyphosate or glufosinate and other postemergence broadleaf herbicides approved for corn. Adding an adjuvant system, such as NIS, COC, or MSO, will enhance foliar activity of Anthem Maxx. The adjuvant system used may be limited or required by the tank mix partner. Use 2 to 3 (up to 3.5 on soil with 1% organic matter or more) fl oz on coarse soils, 2.5 to 4.5 fl oz on medium soils, and 3.5 to 6 fl oz on fine textured soils. Do not harvest sweet corn for forage or ears within 40 days of the last Anthem Maxx application. Do not harvest field, seed or popcorn for forage within 30 days and grain or fodder within 70 days of the last application of Anthem Maxx. Rotation intervals vary based on Anthem Maxx rate used, soybean, 0 to 4 mo.; grain, sorghum, 6 to 10 mo.; wheat, 1 to 6 mo.; sunflower, 4 mo.; and alfalfa 10 mo. See label for other crop rotation restrictions.
0.75 to 2 fl oz Armezon	Topramezone (27) 0.016 to 0.022	May be applied postemergence to all corn types and hybrids. To control certain grasses or large weeds. Apply with MSO or COC and a nitrogen fertilizer source such as 1.25 to 2.5 gal of 28 to 32% nitrogen or AMS at 8.5 to 17 lb/100 gal of spray. MSO at 1% v/v is recommended for best performance. A tank mix with 0.25 to 1 lb atrazine is recommended on corn up to 12 inches or 8 to 12 fl oz Tough on corn up to V8. Armezon cannot be applied after the V8 stage of corn. Do not graze or feed treated corn for at least 45 days after application. Avoid cultivation for at least 7 days after application. These herbicides are rainfast after 1 hour. Can rotate to winter cereals after 3 months; and to alfalfa, canola, cotton, dry bean, sorghum, sunflower, or soybean after 9 months. If the 1 oz rate is used, canola, dry bean, and peas can be planted after 18 months.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
14 to 24 fl oz Armezon PRO	Topramezone (27) + Dimethenamid-P (15) 0.011 to 0.019 + 0.57 to 0.98	Armezon PRO can be applied to all corn types. Preharvest interval for sweetcorn is 50 days. Can be applied on corn up to 30 inches tall or the V8 stage of growth. When applying Armezon PRO only include MSO at 1% v/v. When applying Armezon PRO with atrazine use COC at 1% v/v or HSOC at 0.5% v/v. Use NIS at 0.15% v/v when tank mix partners prohibit the use of oil based adjuvants. Use the higher rate of the adjuvants when hot and dry conditions exist. It is recommended that UAN at 1.25% to 2.5% v/v or AMS at 8.5 to 17 lb/100 gal be included in the tank mix. Use rates are based on soil texture and organic matter. Use 14 to 16 fl oz on coarse soils with less than 3% organic matter and 16 to 20 fl oz when organic matter is 3% or greater. On medium and fine texture soils use 16 to 20 fl oz on soils with less than 3% organic matter and 20 to 24 oz when soils are 3% organic matter or higher. If used sequentially following PRE applied Outlook or Verdict, do not exceed 1.125 lb dimethenamid-P. Do not apply with Status herbicide. Can rotate to cereals after 4 months; sorghum, soybean sunflower, alfalfa, and cotton after 9 months; and canola, peas, or drybean after 9 months.
5 to 12 oz Assure II	Quizalofop (1) 0.03 to 0.075	Apply only to Enlist corn. Controls annual and perennial grasses including shattercane, johnson-grass, volunteer wheat, and volunteer corn (susceptible varieties). Apply with 1% v/v COC or 0.25% v/v NIS. Use higher rates west of I-135. Tank mixing with broadleaf herbicides can reduce grass control.
1 to 2 qt Atrazine 4L or 1.1 to 2.2 lb Atrazine 90 DF	Atrazine (5) 1 to 2	A restricted-use pesticide. The 2 lb/a rate is permissible only when no atrazine was applied before corn emergence. Apply with COC in water before grasses, broadleaf weeds, and corn exceed 1.5, 4, and 12 inches in height, respectively. Do not apply in liquid fertilizer carrier after corn emerges because injury can occur. Do not plant treated field to crops other than corn (or sorghum in northeastern Kansas) during the same season. Postemergence atrazine rates over 1 lb/a are not considered best management practices because of high runoff potential in surface water in sensitive watersheds (see K-State Research and Extension publication MF-2208). See label for directions, rates, recropping, and feeding limitations.
0.83 oz Basis Blend	Rimsulfuron (2) + Thifensulfuron (2) 0.0104 + 0.0052	Controls emerged foxtail, fall panicum, and barnyardgrass that is less than 2 inches tall and provides short-term residual control if activated by rainfall or sprinkler irrigation. Apply to field corn that will have a lay-by cultivation 10 or more days after Basis application. Apply when corn is in the spike to 4-leaf (V2, or 2 leaf collars visible) stage (approximately 0.5 to 6 inches tall). Grass weeds must be less than 2 inches tall at treatment. Apply with NIS or COC and with UAN or spray-grade AMS. If dicamba is added, do not use COC. Do not tank mix with Basagran, Laddok S-12, Accent, Beacon, or other ALS-inhibiting herbicides. Do not apply to corn that was treated with Counter 15G or 20CR in-furrow. See label for insecticide compatibility, sprayer cleanup, rotational cropping, and feeding restrictions. Rotate to wheat after 4 months; and sorghum or sunflower after 10 months.
0.76 oz Beacon or split application of 0.38 oz + 0.38 oz Beacon	Primisulfuron (2) 0.036	Controls 4- to 12-inch shattercane, 8- to 16-inch rhizome johnsongrass, and many annual broadleaf weeds 1 to 4 inches tall. Apply to approved field corn hybrids at 4- to 20-inch height or postdirected between the rows for corn from 20-inch height to tasseling. Apply with NIS or COC. Up to 1 gal/a of UAN can be added to improve control of velvetleaf and rhizome johnsongrass. Do not apply to corn treated with Counter 15G insecticide. Do not apply in irrigation water. Half rates of Beacon and Accent can be applied together as a sequential treatment to a preemergence grass-control herbicide. Can be tank-mixed with dicamba, dicamba plus atrazine premix, bromoxynil plus atrazine premix, or 2,4-D for enhanced broadleaf weed control, but then do not use COC adjuvant. Can be tank-mixed with pendimethalin for enhanced residual grass control. See label for insecticide compatibility, sprayer cleanup, subsequent cropping, feeding restrictions, and other guidelines.
1 to 1.5 pt Bromoxynil 2*	Bromoxynil (6) 0.25 to 0.38	Apply bromoxynil when broadleaf weeds are small and growing actively but before they reach size limits listed on the label. Contact action requires thorough coverage. Bromoxynil is safer for corn than 2,4-D or dicamba. No residual activity. Can be tank-mixed with atrazine, Callisto, dicamba, or 2,4-D. Do not feed forage or allow grazing within 30 days of treatment.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
1 to 3 pt Brozine, Buctril + Atrazine*	Bromoxynil (6) + Atrazine (5) 0.13 to 0.38 + 0.25 to 0.75	Atrazine is a restricted-use pesticide. These premixes of 1 lb bromoxynil and 2 lb atrazine/gal control many seedling broadleaf weeds. Use up to two applications per season when weeds are small and actively growing but before they reach size limits listed on the labels. Apply after 3- to 4-leaf stage but before corn exceeds 12 inches in height. Can be tank-mixed with dicamba to increase control of pigweeds, kochia, and field bindweed. Tank mixing with up to 8 fl oz 2,4-D increases control of devilsclaw and field bindweed but increases potential for crop injury. Can be tank-mixed with Accent for shattercane control. Bromoxynil plus atrazine application is considered an atrazine best management practice for use in sensitive watersheds because the low rate of atrazine reduces the potential for runoff loss. Do not feed forage or allow grazing within 30 days of treatment.
0.4 to 0.9 oz Cadet	Fluthiacet (14) 0.003 to 0.006	Especially good for velvetleaf control and suppression of certain other small broadleaf weeds. The low rate is primarily to enhance velvetleaf control in tank mixes with other herbicides. Apply to field corn, seed corn, popcorn, or sweet corn up to 48 inches tall. There is a 90-day preharvest interval. Always apply in combination with 0.25% v/v NIS or 1 to 2 pt/a crop oil. Cadet is a PPO inhibitor and can cause leaf burning or speckling. New growth is unaffected.
1.4 to 2.8 qt Calibra	S-metolachlor (15) + mesotrione (27) 1.0 to 2.1 + 0.19 to 0.38 + 0.019 to 0.038	Apply postemergence through V8 or 30-inch corn to control some broadleaf and annual grass weeds. Use higher rates if organic matter is greater than 3%. Maximum rate per application is 2.8 qt per acre. May be split-applied. Maximum rate per production year is 2.8 qt per acre. When applied postemergence to weeds and corn, use NIS at 0.25% v/v. Spray-grade AMS at 8.5 to 17 lb/100 gal may be used with NIS. Do not rotate to wheat, forage sorghum, or non-safened grain sorghum for 4.5 months; or alfalfa, cotton, or soybeans for 10 months.
3 fl oz Callisto, Incinerate, BL4, Bridle, Explorer, Willowood Mesotrione, Motif, or Argos	Mesotrione (27) 0.094	Apply mesotrione from emergence to 8-leaf stage of corn. Always add COC at 1% v/v (1 gal/100 gal spray). Note label for insecticide restrictions. Controls many annual broadleaf weeds. Mesotrione is rainfast after 1 hour. For corn up to 12 inches tall, mesotrione may be used in combination with atrazine at 0.25 to 0.75 lb/a or in combination with Bicep II Magnum or Lite Magnum. Can rotate to winter wheat 4.5 months after application and to cotton, soybean, or sorghum the following spring. See label for sprayer cleanup after application.
2 pt Callisto GT	Mesotrione (27) + Glyphosate (9) 0.095 + 0.95	Callisto GT may be applied at 2 pt/a to glyphosate-tolerant corn from emergence up to 30 inches tall showing 8 leaves or less, whichever is most restrictive. Apply Callisto GT with 0.25 to 0.5% v/v NIS and 8.5 to 17 lb of AMS/100 gal of spray solution. COC at 1% v/v may be substituted for the NIS, but, there is increased risk of temporary (<7 days) crop injury. Atrazine may be included in the tank mixture. Atrazine rate will depend on atrazine used preemergence as well as atrazine restrictions for the soil type or area.
1.25 to 1.5 pt Callisto Xtra	Mesotrione (27) + Atrazine (5) 0.078 to 0.094 + 0.5 to 0.6	Callisto Xtra is a restricted-use pesticide for use on field corn, silage corn, and yellow popcorn. Controls broadleaf weeds. Apply Callisto Xtra after crop emergence but before corn exceeds 12 inches in height. Apply with COC at 1% v/v (do not use MSO). You may add AMS at 8.5 to 17 lb/100 gal spray solution. Temporary crop response may occur under extreme weather conditions when a crop is under stress. Can be applied with glyphosate in glyphosate-tolerant corn (refer to glyphosate label for proper adjuvant use). Do not apply to corn that has been treated with Counter (organophosphate) insecticides, as severe crop injury may occur. Can rotate to all corn or grain sorghum immediately; to small grains 4 months after application; and to alfalfa, canola, cotton, potatoes, soybean, and sunflower 10 months following application. All other crops can be planted after 18 months. See label for additional rotation restrictions when applied to high pH soils or in low-rainfall areas.
3 fl oz Capreno	Tembotrione (27) + Thienkarbazone-methyl (2) 0.068 + 0.013	Apply Capreno to all types of corn from emergence up through the 6-leaf stage. Apply with COC at 1% v/v and a nitrogen fertilizer source. Capreno controls many annual broadleaf and some grassy weeds. Capreno can be tank-mixed with glyphosate, atrazine, or glufosinate. Capreno is rainfast in 1 hour. Can rotate to wheat in 4 months; cotton, soybean, and sorghum in 10 months; and alfalfa and sunflower in 18 months. Do not use in the same season as Counter 15G or Counter 20G. Apply Capreno spray mixtures within 24 hours of mixing to avoid product degradation. Do not graze or harvest forage within 45 days of application. Do not apply by chemigation.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
0.5 to 1 pt Dicamba	Dicamba (4) 0.25 to 0.5	Controls most broadleaf annual weeds. Best when applied before weeds are 3 inches tall. For corn from the spike stage through 8 inches, apply up to the 0.5 lb/a rate. Reduce the rate to 0.25 lb if corn is growing on coarse-textured soils. Apply up to 0.25 lb until corn is 36 inches tall or until 15 days before tassels emerge, whichever is earlier. Can be tank-mixed with Exceed, Permit, and many other herbicides. Do not apply when temperature on the day of application is expected to exceed 85°F. Do not apply when soybean is growing nearby, if corn is more than 24 inches tall, soybean is more than 10 inches tall, or soybean has begun to bloom. Avoid spray or vapor drift to sensitive crops. See label for additional precautions. The addition of AMS to a spray mixture containing dicamba will increase the risk of volatility of dicamba and mitigate the benefits of lower volatility formulations.
0.5 to 1 pt DiFlexx	Dicamba (4) 0.25 to 0.5	DiFlexx is a premix of Clarity and Bayer's CSA safener. DiFlexx can be applied to all corn types from spike through 10 collar or 36 inches tall, whichever comes first. The use of NIS at 0.25% v/v, COC or MSO at 1% v/v and a nitrogen source UAN at 2 to 4 qt/a or AMS 8.5 to 17 lb/100 gal will enhance postemergence activity on emerged weeds. For the best control, apply to weeds that are less than 3 inches tall. The addition of AMS to a spray mixture containing DiFlexx will increase the risk of volatility of dicamba and mitigate the benefits of lower volatility of DiFlexx.
24 to 40 fl oz DiFlexx Duo	Dicamba (4) + Tembotrione (27) 0.23 to 0.39 + 0.050 to 0.084	DiFlexx Duo is a premix of Clarity 1.26 lb ae, Laudis 0.27 lb, and Bayer's CSA safener. DiFlexx Duo can be applied to field, silage, seed, and popcorn preplant, preemergence or postemergence on corn up through V6 or 36 inches tall, whichever comes first. It can be applied with a directed spray on 7 to 10 collar corn up to 36 inch tall corn. DiFlexx Duo applied sequentially, two applications only, must be separated by a minimum of two weeks and must not exceed a total of 78 fl oz. Use MSO or COC at 1% v/v when applied alone or tank-mixed with atrazine. The use of 1.5 qt/a of UAN or 8.5 to 17 lb AMS/100 gal spray solution with DiFlexx Duo will improved weed control when applied in conditions of low humidity. The addition of AMS to a spray mixture containing dicamba will increase the risk of volatility of dicamba and mitigate the benefits of lower volatility of products like Clarity or DiFlexx.
1 to 2 pt Dual II Magnum, Charger Max, or Moccasin II Plus, or 1 to 2 pt Helmet	<i>S</i> -metolachlor (15) 0.95 to 1.9 Metolachlor (15) 0.98 to 1.95	<i>S</i> -metolachlor alone or in premixes can be applied postemergence to corn up to 40 inches tall. Metolachlor has no postemergence activity. Its role is strictly to enhance residual weed control. Emerged weeds must be controlled with cultivation or the companion herbicide. Use only water as a carrier to avoid crop injury.
3.5 to 4.75 pt Enlist Duo	Glyphosate (9) + 2,4-D choline (4) 0.74 to 1.01 + 0.70 to 0.95	Enlist Duo may be applied postemergence to Enlist Corn up to the V-8 stage of application or 30 inches tall, whichever comes first. Applications can be made to corn 30 to 48 inches tall if drop nozzles are used. Do not exceed 4.75 pts for any single application not to exceed 14.75 pt per crop season. Review details in label to comply with application requirements for spray drift management.
2.5 to 3.75 qt Expert	Glyphosate (9) + <i>S</i> -metolachlor (15) + Atrazine (5) 0.47 to 0.70 + 1.1 to 1.6 + 1.3 to 2.0	Expert is a premix of the active ingredients in Bicep Magnum (a restricted-use pesticide) and glyphosate. Apply postemergence to corn with the Roundup Ready/GT gene only from emergence up to 12 inches in height. Do not tank mix with any other products. Apply in water preconditioned with AMS.
Glyphosate (see glyphosate table)	Glyphosate (9)	Most glyphosate products may be applied postemergence to corn with the Roundup Ready/GT gene only; however, RT3 and Touchdown CT are not labeled for in-crop use. Apply from emergence through the V8 stage (8 leaf collars visible) or until corn height reaches 30 inches (freestanding), whichever comes first. For corn with the RR2 event, glyphosate may be applied with drop nozzles to corn 30 to 48 inches tall. Some tank mixtures limit application to corn 5 or 11 inches tall. Condition spray water with 1 to 2%, by weight, of spray-grade AMS (8.5 to 17 lb/100 gal water) that is dissolved completely before adding glyphosate to the tank. Can be ground or aerially applied. Glyphosate has no soil residual activity. To reduce selection pressure for glyphosate resistance, a foundation treatment with a residual herbicide is recommended. Allow a minimum of 50 days between application and harvest of corn forage. There are no rotational crop restrictions.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
3.6 pt Halex GT	Mesotrione (27) + S-metolachlor (15) + Glyphosate (9) 0.094 + 0.94 + 0.94	Halex GT, a mixture of Callisto, Dual Magnum, and Touchdown, may be applied postemergence to glyphosate tolerant (GT or RR) corn from emergence to 30 inches in height. Condition water with 8.5 to 17 lb AMS/100 gal spray mix before adding Halex GT. Always add 0.25% v/v (1 qt/100 gal) NIS. Tank mix with a product containing dicamba for increased control of kochia and Russian thistle. Halex GT can be applied with aerial application. Rotation restrictions: Corn (all types), sweet sorghum, grain sorghum (Concep treated sorghum only), anytime; barley, oats, rye, and wheat, 4 months; alfalfa, cotton, peas, potatoes, soybean, and sunflower, 10 months; canola and flax, 12 months; and all other crops, 18 months.
0.125 oz Harmony SG , or 0.083 oz Unity	Thifensulfuron (2) 0.004	Apply to 1- to 5-collar field corn not exceeding 16 inches tall for control of selected broadleaf weed species. Tank mix with other herbicides for broader spectrum weed control. ALS-resistant broadleaf weeds will not be controlled unless tank-mixed with other broadleaf herbicides. Always apply with NIS and nitrogen fertilizer additives. Do not feed forage from treated areas or allow livestock grazing within 7 days of application. Allow 30 days between application and feeding hay from treated areas to livestock.
1.2 to 2.7 pt Harness , Surpass NXT , Volley NXT , Fearless , or Confidence * or 3 to 6 pt Warrant or 2.25 to 5 pt Degree or 1.5 to 3.75 pt Cadence , Overtime , or Volley	Acetochlor (15) 1.1 to 3	Acetochlor and premixes containing acetochlor can be applied postemergence to corn up to 11 inches tall except Warrant may be applied on corn up to 30 inches tall. See labels for appropriate use rates on various soil types for each acetochlor formulation. It can be tank-mixed with many postemergence herbicides. Follow label guidelines for all herbicides used. Acetochlor has no postemergence activity, so its role is to enhance residual weed control. Emerged weeds must be controlled with cultivation or the companion herbicide. Use only water as a carrier to avoid crop injury.
1.25 to 2.34 qt Harness Max	Acetochlor (15) + Mesotrione (27) 1.10 to 2.06 + 0.103 to 0.193	Harness Max may be applied to all field corn, grain, silage, or seed, and yellow popcorn early postemergence to corn up to 11 inches tall and before weeds exceed 3 inches tall. Use Harness Max at 40 to 55 fl oz on coarse soils, 55 to 64 fl oz on medium soils, and 55 to 65 fl oz on fine soils when organic matter is less than 3% and 64 to 75 fl oz when organic matter is 3% or greater. Include with these rates, NIS 0.25% v/v or COC at 1% v/v and a nitrogen based adjuvant, UAN or AMS. Do not use COC or nitrogen based products when applying to yellow popcorn. Do not mix with MSO. Harness Max may be applied postemergence when tank-mixed with Roundup brand only glyphosate on Roundup Ready 2 technology or Liberty herbicide on Liberty Link corn. Do not use MSO, COC, or a nitrogen based adjuvant when tank mixing with Liberty. Rotational restrictions: sorghum (concept treated immediately) wheat 4 months; alfalfa, soybean, and cotton 10 months; barley, oat, millet, and rye the spring following application; Cucurbits, drybeans, peas, and other crops 18 months. A maximum of 95 fl oz of Harness Max may be used during the season.
1 to 2.3 qt Harness Xtra , Fearless Xtra , or Confidence Xtra , or 1.4 to 3 qt Cadence ATZ Lite or Overtime ATZ Lite , or 1.8 to 3 qt Volley ATZ Lite , or 1.8 to 2.3 qt Volley ATZ Lite NXT or Keystone LA NXT	Acetochlor (15) + Atrazine (5) 1.4 to 3 + 0.5 to 1.2	These herbicides are restricted-use pesticides. The ratio of acetochlor and atrazine varies in the products shown. These herbicides may be applied to corn up to 11 inches tall. Use rates will vary based on soil texture. Growers often use these products when reduced rates of atrazine are required. For fields in sensitive watersheds, please review K-State Research and Extension Publication MF-2208 for atrazine best management practices. Total atrazine applied in a single crop season cannot exceed 2.5 lb. These herbicides are intended to extend residual control of weeds and are often tank-mixed with additional herbicides to provide adequate control of emerged weeds. Review labels for tank mix partners. Restrictions apply to the herbicide with the most restrictive label in the mix.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
1 to 3 qt Harness Xtra 5.6 or Confidence Xtra 5.6 , or 1.4 to 3 qt Keystone NXT or Volley ATZ NXT , or 1.5 to 3.7 qt Degree Xtra or Fultime NXT , or 1.8 to 3.4 qt Cadence ATZ , Overtime ATZ , or Volley ATZ ,	Acetochlor (15) + Atrazine (5) 0.8 to 3 + 0.6 to 2.0	These herbicides are restricted-use pesticides. The ratio of acetochlor and atrazine varies in the products shown. These herbicides maybe applied to corn up to 11 inches tall. Use rates will vary based on soil texture. For fields in sensitive watersheds, please review K-State Research and Extension Publication MF-2208 for atrazine best management practices. Total atrazine applied in a single crop season cannot exceed 2.5 lb. No more than 2 lb of atrazine can be applied in a single application. These herbicides are intended to extend residual control of weeds and are often tank-mixed with additional herbicides to provide adequate control of emerged weeds. Review labels for tank mix partners. Restrictions apply to the herbicide with the most restrictive label in the mix.
2 to 5 oz Hornet	Clopyralid (4) + Flumetsulam (2), 0.09 - 0.21	Apply from corn emergence through 20 inch or V6 corn. Include NIS (0.25% v/v) or COC (1% v/v). Drop nozzles should be used when is 24 to 36 inches. Do not apply where soil pH is greater than 7.8 or less than 5.9. Do not plant wheat for 4 months, alfalfa or soybean for 10.5 months, grain sorghum for 12 months, cotton or sunflowers for 18 months, and canola for 26 months.
0.75 to 2 fl oz Impact	Topramezone (27) 0.016 to 0.022	May be applied postemergence to all corn types and hybrids. To control certain grasses or large weeds. Apply with MSO or COC adjuvant and a nitrogen fertilizer source such as 1.25 to 2.5 gal of 28 to 32% nitrogen or AMS at 8.5 to 17 lb/100 gal of spray. MSO at 1% v/v is recommended for best performance. A tank mix with 0.25 to 1 lb atrazine is recommended on corn up to 12 inches or 8 to 12 fl oz Tough on corn up to V8. Do not harvest or graze treated corn for at least 45 days after application. Avoid cultivation for at least 7 days after application. These herbicides are rainfast after 1 hour. Can rotate to winter cereals after 3 months; and to alfalfa, canola, cotton, dry bean, sorghum, sunflower, or soybean after 9 months. If the 1 oz rate is used, canola, dry bean, and peas can be planted after 18 months.
20 to 40 fl oz Impact Core	Topramezone (27) + Acetochlor (15), 1.12-2.23 lb ai	Apply postemergence up to 11-inch corn. Tank mixture with atrazine is recommended, others tank mix partners are allowed to increase spectrum of weed control. Apply in a minimum of 15 gal water/a with AMS (3.4 lb/gal water) and MSO (0.5% v/v), unless tank-mixed, then apply with AMS and NIS (0.25% v/v). Do not plant wheat for 4 months, alfalfa, grain sorghum, or small grains other than wheat for 9 months, soybean, cotton, or sunflower for 10 months.
8 to 10.7 fl oz ImpactZ	Topramezone (27) + Atrazine (5), 0.27-0.36 lb ai	Apply before corn reaches 12 inches tall in a minimum of 10 gallons of water per acre. Nozzles, spray pressure, and carrier volume should be selected to deliver medium- to coarse-sized droplets. Apply with MSO or HSOC (1 to 1.5% v/v) and UAN (1 to 2.5% v/v). Should be applied at least 4 hours before rainfall or overhead irrigation. Do not graze or feed treated corn for at least 60 days. Do not plant alfalfa, small grains, cotton, soybean, or sunflower for 9 months; or canola for 9 to 18 months.
2.3 to 4 fl oz Katagon	Tolpyralate (27) + Nicosulfuron (2) 0.018 to 0.03 + 0.018 + 0.03	Controls small grass and broadleaf weeds in field corn. Apply to corn up to the V5 stage or 20 inches tall, whichever is more restrictive. The addition of atrazine will improve control of most weed species. Apply with MSO (0.5 to 1% v/v) plus UAN (2.5% v/v) or AMS (8.5 lb/100 gal). COC or NIS can be substituted for MSO when combing with multiple products that increase concern for crop injury, but may be less effective. Do not plant winter cereal crops for 4 months; soybean for 9 months; cotton for 10 months; alfalfa for 12 months; or sorghum for 18 months.
1 to 1.5 pt Kochiavore	Fluroxypyr (4) + Bromoxynil (6) + 2,4-D (4) 0.084 to 0.126 + 0.21 to 0.31 + 0.21 to 0.31	Kochiavore can be applied to burndown broadleaf weeds, preplant to corn. Wait a minimum of 7 days before planting corn or apply preemergence after corn is planted in a no-till system. The seed furrow must be completely closed at the time of application or severe crop injury may result. Kochiavore can be applied to corn from V3 through V5 growth stage and a directed spray only from V6 growth stage up to 2 weeks prior to tassal. Do not cultivate for 7 to 10 days following treatment to avoid stalk breakage. DO NOT tank mix with atrazine, crop oils, or other adjuvants, such as NIS.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
35 to 60 fl oz Kyro	Acetochlor (15) + Topramezone (27) + Clopyralid (4) 0.76 to 1.3 + 0.01 to 0.02 + 0.07 to 0.12	Kyro will control annual grass and broadleaf weeds in field corn, seed corn, silage corn, and popcorn. Apply to emerged corn up to 24 inches tall and weeds that are 4 inches tall or less. Apply with COC, HSCO, MSO at 0.5 to 1% v/v, and AMS (8.5 to 17 lb/100 gal) or UAN (1.25 to 2.5 gal/100 gal). Use NIS (0.25 to 5% v/v) when applying Kyron in a tank mixture. Use higher rates for control of emerged grasses and for residual control. May only be applied once per year. Winter wheat may be planted 4 months after application. Sorghum, soybean, alfalfa, and sunflower should not be planted for 10.5 months and cotton for 12 months.
3 fl oz Laudis	Tembotrione (27) 0.082	Apply Laudis to field corn or popcorn from emergence up to V9 stage. Always apply with high-surfactant oil concentrate or MSO at 1% v/v and a nitrogen fertilizer source. Laudis controls many annual broadleaf and some grassy weeds. Atrazine is a recommended tank mix partner; however, corn must not exceed 12 inches tall. Laudis can be tank-mixed with glyphosate or glufosinate. Laudis is rainfast in 1 hour. Can rotate to wheat in 4 months; and to cotton, sorghum, and soybean the following spring. Do not graze or harvest forage within 45 days of application. Do not apply by chemigation.
3 to 3.5 qt Lexar EZ, Helmet Maxx	Mesotrione (27) + Atrazine (5)+ S-metolachlor (15) 0.17 to 0.2 + 1.3 to 1.5 + 1.3 to 1.5	May be applied postemergence to corn up to 12 inches tall. See Callisto entry for adjuvants and restrictions. Helmet Maxx is a premix with metolachlor, rather than S-metolachlor.
32 oz Liberty, Chectah, Interline, Scout, and others	Glufosinate (10) 0.58	A nonselective herbicide for use over corn designated as Liberty Link or corn warranted by BASF as being resistant to glufosinate. Optimum weed control is achieved by applying with atrazine or Armezon when weed height is 1 to 4 inches and corn height is less than 12 inches. May be applied without atrazine to corn up through the V6 stage. Glufosinate is primarily a contact herbicide, so thorough spray coverage is important. For best results on crabgrass, sandbur, and yellow foxtail, apply before tillering. Always condition water carrier with spray-grade AMS before adding glufosinate to the spray tank. AMS rates range from 1.5 to 3 lb/a, depending on product. Do not add surfactants. See label for rate guidelines, according to weed species and size. Liberty is foliar active and has no soil activity. Apply in a tank-mix with a residual herbicide for extended control. Liberty can be applied twice in-season. Maximum Liberty per season is 87 fl oz per acre.
2.7 to 3.25 qt Lumax EZ	Mesotrione (27) + Atrazine (5) + S-metolachlor (15) 0.17 to 0.2 + 0.63 to 0.76 + 1.68 to 2	Lumax EZ, a premix of Callisto, Dual II Magnum, and atrazine (a restricted-use pesticide), may be applied postemergence to corn up to 12 inches tall. Apply Callisto GT with 0.25 to 0.5% v/v NIS and 8.5 to 17 lb of AMS/100 gal of spray solution. COC at 1% v/v may be substituted for the NIS, but, there is increased risk of temporary (<7 days) crop injury.
14 fl oz Maverick	Pyroxasulfone (15) + Mesotrione (27) + Clopyralid (4) 0.08 + 0.09 0.06	Maverick Corn Herbicide may be applied early postemergence at 14 fl oz to all field corn (grain, silage, or seed) through V6 or 18 inches. Where Maverick Corn Herbicide is applied after field corn has emerged, a non-ionic surfactant (NIS) at 0.25% v/v or crop oil concentrate (COC) at a rate not to exceed 1.0% v/v should be included. Do not use nitrogen-based adjuvants (AMS or UAN) or methylated seed oil (MSO) with Maverick Corn Herbicide when applied alone. An exception is that Maverick Corn Herbicide may be applied with AMS postemergence when tank-mixed with glyphosate or glufosinate. Weed control with Maverick Corn Herbicide may be enhanced when applied with atrazine. Rotational restrictions: wheat 4 to 6 months depending on rate; sunflowers 10.5 months; soybeans 10.5 to 18 months depending on atrazine combinations, soil pH, organic matter content and precipitation (refer to label); and cotton, canola, sorghum, and alfalfa 18 months.
12 to 21 oz Outlook	Dimethenamid-P (15) 0.56-0.98	Dimethenamid-P can be applied postemergence to corn up to 12 inches tall. Dimethenamid-P has no foliar activity, so its role is strictly to enhance residual weed control. Emerged weeds must be controlled with cultivation or the companion herbicide. Use only water as a carrier to avoid crop injury.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
0.67 oz Permit	Halosulfuron (2) 0.031	Permit can be applied to corn over the top or with drop nozzles from the spike through lay-by stage of growth for control of many broadleaf weeds and suppression of yellow nutsedge. Use 0.25 to 0.5% v/v NIS or COC at 1% v/v. To enhance pigweed and morning glory control, an herbicide with improved activity on these species should be added to the mix.
6 to 10 fl oz Perpetuo	Pyroxasulfone (15) + Flumiclorac (14) 0.080 to 0.134 + 0.028 to 0.046	Perpetuo may be applied early postemergence from V2 through V6 in field corn. Additional tank-mix partners are required to effectively control emerged grasses and several broadleaves. Can be tank-mixed with glyphosate, glufosinate, and other products approved for field corn. The addition of COC or NIS will enhance foliar activity and temporary corn leaf burn is expected. Rotational restrictions: wheat 1 to 4 months, depending on rate; sunflowers 2 to 3 months; cotton 2 to 4 months; canola 12 to 15 months; sorghum 6 to 8 months; and alfalfa 10 months. See label for other crop rotation restrictions.
2 to 3 pts Prowl H₂O, Satellite Hydrocap or Satellite Flex	Pendimethalin (3) 0.95 to 1.43	Prowl H ₂ O may be applied postemergence to field corn up to 30 inches tall or to seed corn, popcorn or sweet corn up to 24 inches tall. Abide by the height restriction or the 8 leaf stage whichever is most restrictive. Use drop nozzles if the canopy prevents adequate soil coverage with herbicide. Use rate is 2 pt on coarse soils with <1.5% organic matter and 3 pt on all other soils. Prowl H ₂ O only has preemergence activity on the weeds and will require precipitation for activation and effective control.
4 oz Realm Q	Rimsulfuron (2) + Mesotrione (27) 0.019 + 0.078	These herbicides are a premix of Resolve Q and a dry formulation of Callisto for postemergence broadleaf and grass weed control in field corn. Realm Q can be applied to corn up to 20 inches tall or to 7-leaf corn, whichever comes first. Apply Realm Q with NIS or COC and a nitrogen source, UAN or AMS. Best control will be obtained when Realm Q is applied to corn less than 12 inches tall, grass weeds less than 2 inches tall, and broadleaf weeds less than 5 inches tall. Realm Q may be tank-mixed with glyphosate when applied to corn containing the Roundup Ready gene and may be tank-mixed with Liberty when applied to corn with the Liberty Link gene. Do not apply more than 1 oz/ai rimsulfuron (an active ingredient in Basis, Prequel, Resolve SG, Resolve Q, or Steadfast Q) in a cropping season.
1.25 to 3 qt Resicore	Acetochlor (15) + Cloprialid (4) + Mesotrione (27) 0.88 to 2.1 + 0.059 to 0.142 + 0.094 to 0.225	Resicore may be applied to all field corn, grain, silage, or seed, early postemergence up to 11 inches tall and weeds less than 3 inches. When organic matter is less than 3% use Resicore at 2.25 qt on coarse soils, 2.5 qt on medium soils, and 2.75 qt on fine soils. When soils are 3% or more organic matter, use Resicore at 2.5 qt on coarse soils, 2.75 on medium soils, and 3 qt on fine soils. Include with these rates, NIS 0.25% v/v. Do not mix with MSO or adjuvants containing nitrogen. An exception is the 1.25 qt rate of Resicore may be applied postemergence when tank-mixed with glyphosate or glufosinate to 1 to 2 inch weeds and corn 11 inches tall or less. In this tank mix, add 0.25% v/v NIS and AMS at 8.5 lb/100 gal spray solution. Do not use UAN or MSO. Rotational restrictions: wheat 4 months; alfalfa, barley, millet, oats, rye, sorghum and sunflower 10.5 months; soybeans 10.5 to 18 months depending on atrazine combinations, soil pH, organic matter content and precipitation (refer to label). If atrazine tank-mix rate exceeds 2 lb/a, do not plant soybean for 18 months. If Resicore is applied in the High Plains region or after June 1, only corn or grain sorghum can be planted the following year.
1.4 to 3 qt Resicore XL	Acetochlor (15) + Cloprialid (4) + Mesotrione (27) 0.98 to 2.1 + 0.059 to 0.142 + 0.067 to 0.225	Resicore XL may be applied to all field corn, silage corn, or seed corn, postemergence, up to 24 inches tall. Use highest rates on fine soil with greater than 3% organic matter. When applied postemergence to weeds, use NIS 0.25% v/v. An exception is the 1.4 qt rate of Resicore may be applied postemergence when tank-mixed with glyphosate or glufosinate to 1- to 2-inch weeds and corn 11 inches tall or less. In this tank mix, add AMS at 8.5 lb/100 gal spray solution and 0.25% v/v NIS if the glyphosate product requires additional surfactant. Do not use MSO or adjuvants containing nitrogen with any Resicore XL application. Rotational restrictions: wheat 4 months; alfalfa, barley, millet, oats, rye, sorghum, and sunflower 10.5 months; soybeans 10.5 to 18 months depending on atrazine combinations, soil pH, organic matter content, and precipitation (refer to label). If atrazine tank-mix rate exceeds 2 lb/a, do not plant soybean for 18 months. If Resicore is applied in the High Plains region, only corn or grain sorghum can be planted the following year.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
1.25 oz Resolve Q	Rimsulfuron (2) + Thifensulfuron (2) 0.014 to 0.003	Apply postemergence to field corn up to 20 inches tall or up to V7 (7 leaves or more), whichever is more restrictive. May be tank-mixed with glyphosate products for application over glyphosate-tolerant corn. May be tank-mixed with Starane and dicamba for kochia control. Precipitation is required for optimum activity. See label for tank mix precautions. Apply with 0.25% v/v of a good NIS plus either 2 qt/a UAN or 2 lb/a spray-grade AMS. Do not apply with liquid nitrogen fertilizer as the total carrier. Do not mix with Basagran, malathion, or parathion. May be applied aerially. Do not chemigate. Rotate to wheat after 4 months and to soybean, sorghum, or sunflower after 10 months.
2 to 6 oz Resource	Flumiclorac (14) 0.013 to 0.040	Resource is used mainly in tank mixes to enhance velvetleaf control. It can be applied from the V2 to V10 stages (2 to 10 leaf collars visible) of corn. Use 2 oz for velvetleaf up to 4-leaf stage and 4 oz for velvetleaf at 6-leaf stage. Resource tank-mixed with atrazine, Accent, Beacon, or similar products must be applied with 1 pt/a COC and AMS at 2.5 lb/a or UAN at 1 qt/a can be added. Resource mixed with 2,4-D amine, Stinger, or dicamba must be applied with 0.25% NIS. Resource mixed with Buctril, 2,4-D ester, or dicamba + atrazine must be applied without the addition of an adjuvant. See label for mixing order recommendations and directions for drop nozzle application.
3.4 to 4 oz Revulin Q	Nicosulfuron (2) + Mesotrione (27) 0.031 to 0.036 + 0.078 to 0.092	Revulin Q contains 14.4% nicosulfuron and 36.8% mesotrione and may be applied postemergence to all types of corn for broadleaf and grass weed control. NOTE: not all corn inbreds, sweet corn hybrids, or popcorn hybrids have been evaluated for crop safety. Apply to corn up to 20 inches tall or 6 leaf collars whichever is more restrictive. With drop nozzles Revulin Q may be applied to corn up to 30 inches tall or 8 collars whichever is more restrictive. See label for growth restrictions when applying Revulin Q to field corn inbreds, popcorn, or sweet corn. Apply with COC 1 to 2% v/v or HSOC 0.5% v/v. NIS at 0.25% v/v may be used, however, reduced activity on weeds may be observed. Do not use MSO as unacceptable injury to corn may occur. UAN at 2 quarts per acre or AMS at 2 lb per acre is recommended. When Revulin Q is applied sequentially following preemergence herbicides a maximum of 3.85 oz ai mesotrione and 1 oz ai nicosulfuron can be applied in the crop year. Rotational restrictions include winter cereals 4 months; spring cereals 8 months; alfalfa, canola, cotton, sorghum, soybeans, and sunflower 10 months.
2.5 pt Sequence	Glyphosate (9) + S-metolachlor (15) 0.7 + 0.94	Sequence is a premix of glyphosate and Dual Magnum. Apply postemergence to corn with the Roundup Ready/GT gene only from emergence up to 30-inch corn. Apply in water preconditioned with AMS. (It may also be applied preplant or preemergence, but it does not contain the benoxacor safener that is in Dual II Magnum.)
1 to 1.35 oz Shieldex	Tolpyralate (27) 0.026 to 0.035	Shieldex can be applied to all types of corn from emergence to V6 or 20 inches tall, for postemergence control of broadleaf weeds and grasses up to 5 inches tall, but prior to tillering. Apply with MSO at 0.5 to 1% v/v and a nitrogen fertilizer source such as UAN at 2.5% v/v or AMS at 8.5 lb/100 gal of spray. A tank mix with 0.25 to 2 lb atrazine is recommended on corn up to 12 inches or 8 to 12 fl oz Tough on corn up to V8. Do not graze or feed treated corn forage or silage for 21 days after application. Corn can be replanted any time. Do not rotate to cereal crops for 3 months; alfalfa, canola, cotton, sorghum, soybean, or sunflower for 9 months; or other crops for 12 months after application.
21 to 28 fl oz Sinate	Topramezone (27) + Glufosinate (10), 0.42-0.56 lb ai	Sinate can only be used in Liberty Link hybrids up to V7 growth stage. Drop nozzles should be used when corn is 24 to 36 inches. It should be applied with AMS (3 lb/a) and MSO (1% v/v) or HSMOC (0.5-0.75% v/v). Nozzles, spray pressure, and carrier volume should be selected to deliver medium- to coarse-sized droplets. May be tank-mixed with other herbicides. Do not plant small grains for 3 months; alfalfa, cotton, grain sorghum, soybean, or sunflower for 9 months; soybean, cotton, or canola for 9 to 18 months.
1 oz Solida	Rimsulfuron (2) 0.016	Solida at 1 oz/a may be applied to corn up to 12 inches tall exhibiting 5 leaf collars to control emerged annual grasses less than 2 inches tall and certain broadleaf weeds less than 3 inches tall. Do not use more than 2 oz of Solida in a single growing season. Apply with NIS at 0.25% v/v and an ammonium fertilizer, UAN at 2 qt/a or AMS at 2 lb/a. Solida at 1.5 oz/a may be applied with COC or MSO for burndown of emerged weeds and preemergence to corn.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
2 to 3.15 fl oz Solstice	Mesotrione (27) + Fluthiacet (14) 0.059 to 0.093 + 0.003 + 0.005	Solstice may be applied postemergence to field, silage, seed, pop, or sweet corn from emergence to the 8-leaf stage or to 30 inches tall. Apply with COC at 1% v/v. NIS at 0.25% is acceptable, but weed control may be reduced. Using MSO adjuvants or blends may cause unacceptable crop injury. Include AMS at 8.5 lb/100 gal spray solution or UAN at 2.5% v/v to field, silage, or seed control only. Do not use AMS or UAN when applying Solstice to sweetcorn or popcorn. When tank-mixed with other herbicides follow the most restrictive label guidelines for adjuvant recommendations.
0.4 pt Starane Ultra, Comet, StareDown or Vista XRT	Fluroxypyr (4) 0.14	Starane Ultra can be applied to field corn as a broadcast application by either ground or air. Use of a high quality adjuvant is recommended for improved weed control, especially in hot, dry conditions. Apply to field corn up to and including the V5 stage of growth. Starane Ultra can be tank-mixed with other herbicides registered for postemergence application to corn.
14 to 27.4 fl oz Starane NXT	Fluroxypyr (4) + Bromoxynil (6) 0.064 to 0.125 + 0.25 to 0.5	Starane NXT can be applied to field corn as a broadcast application by either ground or air, from emergence (low use rates) through and including the V5 stage. May be tank-mixed with other labeled corn herbicides, but spray mixtures that include spray additives or liquid fertilizers may cause excessive corn leaf burn.
5 to 10 oz Status	Diflufenzopyr (19) + Dicamba (4) 0.053 to 0.11 + 0.138 to 0.275	Status combines diflufenzopyr and dicamba with isoxadifen, a safener. It may be broadcast applied over corn from 4 to 36 inches tall or the V8 stage. Always apply with NIS, MSO, or COC plus a nitrogen source, such as 5 qt/100 gal of UAN or 5 to 17 lb/100 gal of spray-grade AMS. When using AMS, dissolve Status in the tank before adding AMS. May be tank-mixed with glyphosate for resistance management. May be aerially applied west and inclusive of Highway 81 in Kansas. Do not tank mix with growth regulator herbicides containing 2,4-D, dicamba, or clopyralid. Sequential treatment with these products must be separated by at least 15 days. Do not tank mix with emulsifiable concentrate formulations of chloroacetamide herbicides (which include actives: metolachlor, acetochlor, and dimethenamid).
1.5 oz Steadfast Q	Nicosulfuron (2) + Rimsulfuron (2) 0.023 + 0.012	Steadfast contains 25.2% nicosulfuron and 12.5% rimsulfuron. Note grass and broadleaf size restrictions on label. It can be applied to field corn up to 12 inches tall or up to the V5 stage (5 leaf collars visible), whichever comes first. Must be applied with either COC or NIS and ammonium nitrogen fertilizer.
0.33 to 0.67 pt Stinger	Clopyralid (4) 0.12 to 0.25	Can be applied to corn from emergence until 24 inches tall, primarily for Canada thistle control. Apply to thistle plants at least 4 inches in diameter or tall but before the bud stage. Do not cultivate Canada thistle patches within 2 weeks before or after Stinger application. Can be tank-mixed with 2,4-D.
0.7 to 2.4 qt Storen	Bicyclopyrone (27) + Mesotrione (27) + Pyroxulfone (15) + S-metolachlor (15) 0.02 to 0.45 + 0.09 to 0.19 + 0.04 to 0.09 + 0.74 to 1.6	Controls many broadleaf weeds up to 3 inches tall in field corn or seed corn after corn emerges up to V8. May be applied preemergence, postemergence, or both. Tank mix may be required for acceptable control of emerged grasses and large-seeded broadleaf weeds. Rates are based on soil texture and organic matter; see product label to determine rate appropriate for your soil. Do not apply on coarse-textured soils. Use NIS (0.25% v/v). Do not apply to corn treated with organo-phosphate or carbamate insecticides.
1.5 to 3 pt SureStart II, TripleFLEX II, or Trisidual	Acetochlor (15) + Clopyralid (4) + Flumetsulam (2) 0.7 to 1.4 + 0.07 to 0.14 + 0.023 to 0.046	These herbicides maybe tank-mixed with glyphosate (on glyphosate-tolerant) or Liberty (on Liberty Link) herbicide-tolerant field or silage corn from emergence up to 11 inches tall. The rate is dependent upon soil texture and organic matter. If soils are coarse-textured, use 1.5 to 2 pt/a; if medium-textured and less than 3% organic matter, use 1.5 to 2.5 pt; and if 3% organic matter or greater, use 1.75 to 3 pt/a. If soil textures are fine, use 2 to 3 pt/a. The new formulations of these herbicides followed by II contain a safener allowing rates up to 3 pt/a.

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Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
POSTEMERGENCE		
8 to 24 oz Tough	Pyridate (6)	Apply when broadleaf weeds are 2- to 4-leaf and corn is up to the V8. Apply with NIS (0.25% v/v) or COC (1 to 4 pt/a). UAN (2 to 4 qt/a) or AMS (2 to 4 lb/a) may be added also. Do not use liquid fertilizer as the sole spray carrier as injury can occur. Recommended spray volume 20 to 30 GPA. Maximum of two applications and 24 fl oz per treated acre per production year. Can be applied at 8 ounces per acre with glyphosate, group 27 herbicides, atrazine, and Status to improve broadleaf weed control. No residual activity. No rotation restrictions.
16 fl oz Tough R	Pyridate (5) + Mesotrione (27) 0.31 + 0.094	Apply when weeds are less than 5 inches tall for best results. Can be applied to field corn, seed corn and yellow popcorn up to 8-leaf stage. Apply with COC (1% v/v) plus UAN (2.5% v/v) of AMS (8.5 lb/100 gal). Do not use MSO or MSO blend adjuvants. Apply in a spray volume of 15-30 gpa, at least 20 gpa if weed foliage is dense and using 30 to 40 psi. See label for information about possible interactions between this herbicide and soil-applied/foliar insecticides. Can rotate to winter wheat 4.5 months after application; and to cotton, soybean, or sorghum the following spring.
1.33 pt WideMatch	Fluroxypyr (4) + Clopyralid (4) 0.125 + 0.125	WideMatch can be applied to field corn as a broadcast application by either ground or air. Apply to field corn up to and including the V5 stage of growth (5 leaf collars visible). Use of an adjuvant is not recommended when using WideMatch alone, as crop safety may be reduced. WideMatch can be tank-mixed with other herbicides registered for postemergence application to corn. Do not apply WideMatch in combination with COC or MSO unless risk of crop injury is acceptable.
4 to 8 oz Yukon	Halosulfuron (2) + Dicamba (4) 0.03 to 0.06 + 0.125 to 0.25	4 oz of Yukon premix is equivalent to 2/3 oz Permit and 4 fl oz dicamba. May be broadcast applied over field corn from spike stage through 36 inches tall. Apply to small weeds for best performance. Must be applied with 0.25 to 0.5% NIS or 1% (1 gal/100 gal spray mix) COC.
2 to 2.4 qt Zemax or Coyote	Mesotrione (27) + S-metolachlor (15) 0.165 to 0.198 + 1.67 to 2.0	May be applied early postemergence to field and seed corn from emergence up to 30-inch-tall corn or up to the 8-leaf stage to control broadleaf weeds less than 3 inches in height. Use COC at 1% v/v or NIS at 0.25% v/v in combination with UAN or AMS to enhance foliar activity on the broadleaf weeds. DO NOT use methylated seed soil. Once incorporated with rainfall, Zemax will control germinating grass and broadleaf weeds. Several herbicides maybe tank-mixed with Zemax including atrazine, Liberty (Liberty-Link corn), glyphosate (glyphosate tolerant corn), Status, and others (see label) to broaden the spectrum of weed species controlled. Zemax may be applied at 1.6 qt/a in combination with glyphosate or Liberty and use only AMS and the adjuvants recommended in the glyphosate product or Liberty label. Cereal crops (wheat, rye, barley, and oats) may be planted 4.5 months following application. Soybeans may be planted the following spring.
1.75 to 6.5 fl oz Zidua SC	Pyroxasulfone (15) 0.05 to 0.21	Zidua may be applied preemergence to weeds and early postemergence to field corn, some popcorn, or sweet corn cultivars at the spike to V8 stage of growth. Zidua when activated in soil with rainfall will effectively control several grasses and small seeded broadleaf weeds. In addition, Zidua has excellent activity on several large seeded broadleaf weeds. See label for complete list. Zidua is sensitive to soil texture. Use 1.75 to 4.5 fl oz on coarse texture soils, 2.5 to 5 fl oz on medium soils, and 3.25 to 6.5 fl oz on fine soils.

DIRECTED POSTEMERGENCE

0.5 to 2 fl oz Aim	Carfentrazone (14) 0.0074 to 0.030	Apply as postdirected spray to target weeds, avoiding the corn whorl in corn up to the V14 leaf stage. Apply with NIS, COC, or MSO.
2 to 2.5 lb Evik 80W	Ametryn (5) 1.6 to 2	Apply as a postemergence directed spray in corn at least 12 inches tall (freestanding). Apply with NIS at 0.5% v/v (2 qt/100 gal). Do not apply over-the-top to corn; injury will occur. Do not apply within 3 weeks of tasseling. This is a nonselective contact herbicide.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.

Herbicides for Corn

Formulated product/acre*	Herbicide* and lb active ingredient needed/acre	Comments and limitations
DIRECTED POSTEMERGENCE		
1 to 2 pt Gramoxone SL 2.0 or 0.7 to 1.3 pt Gramoxone SL 3.0	Paraquat (22) 0.25 to 0.5	Apply as a postemergence directed spray when corn is at least 10 inches tall (freestanding). Adjust nozzle to spray no higher than the lower 3 inches of corn stems. Always add NIS. Do not tank mix with liquid fertilizer. Paraquat can only be handled and applied by licensed individuals.
PREHARVEST		
1 to 2 pt of 4 lb/gal 2,4-D	2,4-D (4) 0.5 to 1 Amine or LVE	Apply after corn reaches hard dough or dent stage. Apply by air or ground equipment to suppress perennial weeds, decrease weed seed production, and control tall weeds and vines that interfere with harvesting. Do not allow grazing or feed forage from treated areas for 7 days after application.
1 to 2 fl oz Aim	Carfentrazone (14) 0.015 to 0.030 Glyphosate* (9)	Apply as a preharvest treatment after corn reaches hard dough stage. Apply with NIS, COC, or MSO. No grazing restrictions apply, but the preharvest interval is 3 days. Follow label directions. Several glyphosate formulations are approved for preharvest application to control annual and perennial weeds listed on the labels. Apply after corn is physiologically mature, as indicated by black layer formation, and grain moisture is below 35%. Allow a minimum of 7 days between application and harvest. Do not apply to corn grown for seed.
FOR SPOT TREATMENT ONLY		
Glyphosate (9) (see glyphosate table)	1 to 2 gal/100 gal or 1.33 to 2.67 fl oz/gal spray solution	Apply spot treatment to control annual and some perennial weeds. Apply at stage of weed growth recommended on glyphosate label but before corn silks. Corn that is not Roundup Ready will be killed. Avoid drift or spray outside target area.

* Numbers in parentheses indicate herbicide site of action; see p. 3 for more information. Products often are available in several formulations or brand names, and label information may vary. Refer to the Names, Toxicities, and Persistence table, p. 12.