Chemicals for Weed Control in Field Crops

IMPORTANT: READ THE FOLLOWING BEFORE USING

Rates are expressed in pounds of active ingredient (a.i.) per acre for the area actually sprayed; rates in formulation column are given as pounds or liquid measure of product unless otherwise noted.

(NOTE: Commercial rates are expressed in pt or qt or gal or lb or oz).

Apply all agricultural chemicals in accordance with regulations and labels as to rates, timing and crops for which they may be used.

Rates recommended in this bulletin are for medium-textured soils with 3% organic matter.

Many herbicides may also be applied as granules or impregnated on dry fertilizer. With these application methods, uniform application of the herbicide is necessary for acceptable weed control.

For incorporated herbicides the recommended mixing depth is 1 to 2 inches.

TABLE 1A – Chemical Weed Control in Corn

Corn — Soil Applied — All Tillage Systems

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses Nutsedge	alachlor (*Micro-Tech)*	2	2 qt 4L	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • 2½ lb a.i./A of alachlor should be used for more effective fall panicum control. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.
	s-metolachlor *(Dual Magnum, Dual II Magnum, Cinch)*	1.27	1.33 pt 7.6L	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • *Dual II Magnum* and *Cinch* contain a safener which increases corn tolerance to s-metolachlor. • *Dual Magnum* or *Dual II Magnum* at 1.33 pt/A is equivalent to *Dual* or *Dual II* at 2 pt/A. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.

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Corn — Soil Applied — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual grasses Nutsedge	metolachlor *(Stalwart C, Parallel)*	2.0	2.0 pt 7.8L	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • Safener in *Stalwart C* has not been widely tested for effectiveness with metolachlor. • *Parallel* contains a safener which increases corn tolerance to metolachlor. • Metolachlor at 2.0 lb/A should provide weed control similar to s-metolachlor at 1.27 lb/A. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.
	dimethenamid-P *(Outlook)*	0.75	18 oz 6L	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • Will be more effective on nutsedge when incorporated. • *Outlook* rates vary based on soil type (see label for details.) • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.
	acetochlor *(Harness)* OR *(Surpass, Volley)* OR *(TopNotch)* OR *(Degree)*	1.6	1.8 pt 7L OR 2 pt 6.4L OR 4 pt 3.2L OR 3.4 pt 3.8L	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • Do not apply acetochlor to the following soils if water depth is 30 feet or less: sands with ground less than 3% organic matter, loamy sands with less than 2% organic matter, or sandy loams with less than 1% organic matter. • *Harness, Surpass, TopNotch,* and *Degree* each contain a safener that increases corn tolerance to acetochlor. • Application rate varies by soil type. See label for details. • *Harness* and *Surpass* require less rainfall for activation than alachlor, s-metolachlor, or pendimethalin. • *TopNotch* and *Degree* are micro-encapsulated formulations of acetochlor. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.

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Corn — Soil Applied — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual grasses **Nutsedge**	pendimethalin *(Prowl, Pendimax)* OR *(Prowl H_2O)*	1.5 OR 1.4	1.8 qt 3.3EC OR 1.5 qt 3.8ACS	• **DO NOT apply preplant incorporated.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • EXTREME CARE MUST BE TAKEN TO ASSURE COMPLETE CLOSURE OF THE SEED FURROW. IF THE SEED FURROW REMAINS OPEN (EVEN PARTIALLY OPEN), SEVERE INJURY WILL OCCUR. • APPLY AFTER PLANTING. • DO NOT INCORPORATE. • Plant at least 1.5 inches deep. • Adjust *Prowl, Pendimax* or *Prowl H_2O* rate according to soil type (refer *to* labels for details). • Do not use on sandy soil with less than 1.5% organic matter. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.
	flufenacet + metribuzin *(Axiom)*	0.51 + 0.13	15 oz 68DF	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • Not registered for popcorn or sweet corn. • Includes the equivalent of 2.5 oz/A of *Sencor 75DF*. • Do not apply *Axiom* to permeable or coarse-textured soils where the water table is shallow — this may result in groundwater contamination. • Do not apply *Axiom* to sites that are vulnerable to runoff and surface water contamination. • Adjust *Axiom* rate according to soil texture and organic matter. Application rates above those on the label may result in severe corn injury, especially under cool, wet conditions. The margin of crop safety can be narrow. • Refer to Table 12 for crop rotation restrictions.
	flufenacet *(Define)*	0.6	16 oz 60DG OR 19.2 fl oz 4SC	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL BROADLEAVES. • Not registered for popcorn or sweet corn. • Application rate varies by soil type. See label for details. • Corn seed should be planted a minimum of 1 to 1.5 inches deep. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.

Corn — Soil Applied — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual broadleaves	atrazine (commercial product)	1	1 qt 4L OR 1.1 lb 90DG	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL GRASSES AND NUTSEDGE. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions.
	simazine *(Princep)*	1	1 qt 4L OR 1.25 lb 80WP OR 1.1 lb 90DG	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL GRASSES AND NUTSEDGE. • *PRINCEP* HAS SIMILAR CARRYOVER RISK AS ATRAZINE. • WHEN *PRINCEP* AND ATRAZINE ARE BOTH APPLIED TO CORN, CARRYOVER RISK IS ADDITIVE. • May be substituted for atrazine for slightly better grass control. • Refer to Table 12 for crop rotation restrictions.
	flumetsulam *(Python)*	0.056	1.14 oz 80DG	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL GRASSES AND NUTSEDGE. • **ADJUST APPLICATION RATE ACCORDING TO SOIL TYPE AND PERCENT ORGANIC MATTER. SEE LABEL FOR DETAILS.** • Corn should be planted at least 1.5 inches deep. • Do not use if soil pH exceeds 7.8 or crop injury may occur. • Risk of corn injury increases as soil pH increases. • **Do not apply to soils with less than 1.5% organic matter as severe corn injury may occur.** • Risk of corn injury from flumetsulam is greatly reduced if a Clearfield corn hybrid is used. • Do not use if organic matter is >5% *and* soil pH is <5.9 — poor weed control may result. • Do not use on peat or muck soils. • This product has a groundwater advisory statement. • Do not apply to sweet corn or popcorn. • Do not apply within 85 days of harvest. • Do not follow this treatment with a postemergence application of an ALS inhibitor herbicide *(Accent, Beacon, Basis, Basis Gold, Accent Gold, Accent Gold WDG, Lightning* [Clearfield Corn]*, Option, Permit, Steadfast)* if plants are under stress. • Control of only light to moderate populations of common ragweed, cocklebur, and jimsonweed. Control may be improved by adding atrazine to the tank mix. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply to corn treated with any formulation of *Counter* or *Thimet* insecticides. Other organophosphate insecticides should be applied in a band (surface or T-band) to reduce risk of crop injury.

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Corn — Soil Applied — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	flumetsulam *(Python)* + atrazine (commercial product)	0.04 + 1	0.8 oz 80DG + 1 qt 4L OR 1.1 lb 90DG	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL GRASSES AND NUTSEDGE. • **ADJUST APPLICATION RATE ACCORDING TO SOIL TYPE AND PERCENT ORGANIC MATTER. SEE LABEL FOR DETAILS.** • Corn should be planted at least 1.5 inches deep. • Do not use if soil pH exceeds 7.8 — crop injury may occur. • Risk of corn injury increases as soil pH increases. • **Do not apply to soils with less than 1.5% organic matter — severe corn injury may occur.** • Risk of corn injury from flumetsulam is greatly reduced if a Clearfield corn hybrid is used. • Do not use if organic matter is >5% *and* soil pH is <5.9 — poor weed control may result. • Do not use on peat or muck soils. • This product has a groundwater advisory statement. • Do not apply to sweet corn or popcorn. • Do not apply within 85 days of harvest. • Do not follow this treatment with a postemergence application of an ALS inhibitor herbicide *(Accent, Beacon, Basis, Basis Gold, Accent Gold, Accent Gold WDG, Lightning* [Clearfield Corn]*, Option, Permit, Steadfast)* if plants are under stress. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply to corn treated with any formulation of *Counter* or *Thimet* insecticides. Other organophosphate insecticides should be applied in a band (surface or T-band) to reduce risk of crop injury.

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Corn — Soil Applied — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	flumetsulam + clopyralid *(Hornet WDG)* + atrazine (commercial product)	0.034 + 0.094 + 1	3.0 oz 68.5DG + 1 qt 4L OR 1.1 lb 90DG	• **May be applied preplant incorporated or preemergence.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PREMIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL GRASSES AND NUTSEDGE. • Groundwater advisory statement. • Corn should be planted at least 1.5 inches deep. • Application rate varies by soil type. See label for details. • Do not apply to sweet corn or popcorn. • Do not apply within 85 days of harvest. • There is a preharvest interval of 45 days for silage provided application is made before 6 collars or 20 inches • Do not use if organic matter is >5% *and* soil pH is <5.9 — poor weed control may result. • Do not use if soil pH exceeds 7.8 — crop injury may occur. • Risk of corn injury increases as soil pH increases. • **Do not apply to soils with less than 1.5% organic matter — severe corn injury may occur.** • Risk of corn injury from flumetsulam is greatly reduced if a Clearfield corn hybrid is used. • Do not follow this treatment with a postemergence application of an ALS inhibitor herbicide *(Accent, Beacon, Basis, Basis Gold, Accent Gold, Accent Gold WDG, Lightning* [Clearfield Corn]*, Option, Permit, Steadfast)* if plants are under stress. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Refer to Table 1K for information on delayed herbicide application. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply to corn treated with any formulation of *Counter* or *Thimet* insecticides. Other organophosphate insecticides should be applied in a band (surface or T-band) to reduce risk of crop injury.

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Corn — Soil Applied — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	mesotrione (*Callisto*)	0.188	6 oz 4SC	• **May be applied preemergence ONLY.** • Refer to Table 1I for weed control and crop tolerance ratings. • MUST BE COMBINED WITH ANOTHER HERBICIDE (PRE-MIX, TANK MIX, OR SEQUENTIAL APPLICATION) FOR CONTROL OF ANNUAL GRASSES AND NUTSEDGE. • May be applied to hybrid field corn (grain and silage) and production seed corn. Refer to seed company recommendations for use in inbred lines. • Not labeled for preplant incorporation. • Must be tank mixed with a preemergence grass herbicide for control of annual grasses. • If corn has emerged before treatment, do not tank mix *Callisto* with an emulsifiable concentrate herbicide or use liquid nitrogen fertilizer as the herbicide carrier. • There are no soil type restrictions. • Atrazine at 1 lb a.i./A tank mixed with *Callisto* will improve control of certain broadleaved weed species, including common ragweed, giant ragweed, and cocklebur. Atrazine improved control of common ragweed in MSU trials. • Excellent crop safety on hybrid field corn. • Do not apply with suspension fertilizers as the carrier. • Do not apply to popcorn, sweet corn, or ornamental (Indian) corn. • **Crop rotation restrictions**: Corn may be replanted immediately. Small grains may be planted 120 days after application. Soybeans, potatoes, sorghum, canola, and sunflower may be planted the following growing season after application. Sugar beets, peas, dry beans, snap beans, alfalfa, curcurbits, red clover, and all other crops may be planted 18 months after application. • Refer to Table 12 for crop rotation restrictions. • Refer to Table 1K for information on delayed herbicide application. **Mesotrione premixes:** • ***Lumax* – A premix of mesotrione + metolachlor (+ safener) + atrazine is available. See Table 1H.** • ***Camix* – A premix of mesotrione + metolachlor (+ safener) is available. See Table 1H.** • Do not apply *Callisto* postemergence following *Callisto*, *Lumax*, or *Camix* applied preemergence.

Corn — Postemergence — All Tillage Systems

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual broadleaves (except lambsquarters)	halosulfuron *(Permit)* + surfactant OR crop oil concentrate	0.03125	2/3 oz 75DS + 0.25% OR 1%	• Controls several broadleaved weeds, including pigweed, ragweed, cocklebur, and velvetleaf. • Ineffective on lambsquarters. • Refer to Table 1I for weed control and crop tolerance ratings. • Liquid nitrogen fertilizer (28% N) added at 4 qt/A may improve velvetleaf and pigweed control. • Apply to corn from spike through lay-by stage (canopy closure). • Use drop nozzles when corn canopy will prevent complete spray coverage of the weeds. • *Permit* may be tank mixed with 2,4-D, *Banvel, Clarity, Buctril, Buctril + atrazine,* atrazine, *Marksman, Accent,* or *Beacon.* • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • There are no restrictions for *Permit* use regarding organophosphate insecticides. • Refer to Table 12 for crop rotation restrictions.
Annual broadleaves	2,4-D amine	0.5	1 pt 4L	• For corn over 6-8 inches, use drop nozzles. • Refer to Table 1I for weed control and crop tolerance ratings. • Ester formulations will cause more crop injury and are not recommended. • Use drift control additives with some 2,4-D amine products to reduce risk of spray particle drift. Check product label. • Not effective on smartweed or wild buckwheat. • Corn hybrids vary in sensitivity to 2,4-D. Consult seed company for details. • If 2,4-D ester is used, an application rate no higher than .25 lb a.i./A is advised. 2,4-D ester is not recommended on corn because of risk of injury. • Most effective when weeds are small (2 to 4 inches). See Table 1J. • Refer to Table 12 for crop rotation restrictions.
	dicamba (*Banvel, Clarity)*	0.5	1 pt 4L	• Refer to Table 1I for weed control and crop tolerance ratings. • Apply postemergence to corn from emergence up to the 5-leaf stage or 8 inches tall, whichever comes first. • *Banvel/Clarity* may be applied at .5 pt/A to corn up to 36 inches tall or 15 days before tassel emergence. Drop nozzles are recommended for corn over 8 inches tall. • Most effective when weeds are small (2-4 inches). See Table 1J. • AMS or 28% liquid nitrogen fertilizer may be added for improved control of larger velvetleaf. See label for details. • **Corn hybrids vary in sensitivity to dicamba. Consult seed company for details.** • Refer to Table 12 for crop rotation restrictions. **OFF-TARGET INJURY** • USE EXTREME CAUTION. DRIFT TO NEARBY SENSITIVE CROPS IS A HAZARD. • To reduce the risk of volatilization, do not apply if the air temperature is expected to exceed 85° F on the day of application. • Use pressure no greater than 20 psi. • Do not apply if soybeans in the vicinity are over 10 inches tall or have begun to bloom. • Drift control agents may be used to reduce the risk of spray particle drift.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	dicamba + diflufenzopyr *(Distinct)* + surfactant + 28% liquid nitrogen OR ammonium sulfate	0.19 + 0.08	6 oz 70DS + 0.25% + 1.25% OR 17 lb/100 gal	• Refer to Table 1I for weed control and crop tolerance ratings. • Apply postemergence to corn between 4 and 10 inches tall. • *Distinct* is labeled for application at 4 oz/A to corn between 10 and 24 inches tall. • May be applied to corn 24 to 36 inches tall when using drop nozzles. DO NOT make applications when corn is within 15 days of tassel emergence. • Two applications may be made per season but must be a minimum of 15 days apart. Do not apply more than a total of 10 oz/A per season. • Do not apply to corn showing injury from a previous herbicide application. • **Corn hybrids vary in sensitivity to dicamba. Consult seed company for details.** • Do not use crop oil concentrate or methylated seed oil — severe crop injury may result. • Do not tank mix *Distinct* with other herbicides that contain growth regulators such as 2,4-D, *Accent Gold WDG, Accent Gold, Banvel, Celebrity, Clarity, Hornet WDG, Marksman, Northstar, Shotgun, Stinger or Yukon.* • Do not tank mix *Distinct* with *Lorsban 4E, Ambush EC,* or *Warrior EC. S*equential treatments may be made at least 7 days apart. • Most effective when weeds are small (2 to 4 inches). See Table 1J. • Provides limited suppression of annual grasses. • Do not cultivate for at least 7 days after application. • Do not harvest for 72 days after application. • Corn can be planted 7 or more days after application. • Refer to Table 12 for crop rotation restrictions. **OFF-TARGET INJURY** • USE EXTREME CAUTION. DRIFT TO NEARBY SENSITIVE CROPS IS A HAZARD. • Use pressure no greater than 20 psi. • Do not apply if soybeans in the vicinity are 10 inches tall or have begun to bloom. • Drift reduction nozzles and drift control agents may be used to reduce the risk of spray particle drift. • To reduce the risk of off-target injury from herbicide volatilization, do not apply if air temperature is expected to exceed 85°F on the day of application. • Risk of off-target injury from herbicide volatilization is similar to *Clarity*.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	mesotrione (*Callisto*) + crop oil concentrate + 28% liquid nitrogen OR ammomium sulfate	0.094	3 oz 4SC + 1% + 2.5% OR 8.5 lb/100 gal	• May be applied to hybrid field corn (grain and silage) and production seed corn. Refer to seed company for recommendations for use on inbred lines. • Refer to Table 1I for weed control and crop tolerance ratings. • Apply to corn up to 30 inches tall or 8-collar stage, whichever comes first. • Most effective when weeds are small (2-4 inches). See Table 1J. • Do not use methylated seed oil (MSO) or MSO blends. • Do not use liquid fertilizer as the herbicide carrier. • *Callisto* will not control annual grasses. • Atrazine at 0.25-0.5 lb a.i./A tank mixed with *Callisto* often improves control of broadleaved weeds (except triazine-resistant weeds), especially larger weeds. Atrazine improved control of redroot pigweed and common ragweed in MSU trials. Note: Tank mixtures of *Callisto* with atrazine can be applied to corn up to 12 inches tall only. • Must be tank mixed with a postemergence grass herbicide for control of annual grasses. Refer to tank mix herbicide for details. • Do not apply to popcorn, sweet corn, or ornamental (Indian) corn. • Do not apply *Callisto* postemergence to corn treated with *Counter*. Application of *Callisto* to corn treated with *Lorsban* may cause temporary injury. Do not make a foliar application of any organophosphate or carbamate insecticide within 7 days before or 7 days after a *Callisto* application. Do not tank mix *Callisto* with an organophosphate or carbamate insecticide. See Table 1L and label for details. • Do not apply *Callisto* postemergence following *Callisto*, *Lumax*, or *Camix* applied preemergence. • **Crop rotation restrictions:** Corn may be replanted immediately. Small grains may be planted 120 days after application. Soybeans, potatoes, sorghum, canola, and sunflower may be planted the following growing season after application. Sugar beets, peas, dry beans, snap beans, alfalfa, curcurbits, red clover, and all other crops may be planted 18 months after application. See Table 12 for details.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	dicamba (*Banvel, Clarity)* + atrazine (commercial product)	0.5 + 1	1 pt 4L + 1qt 4L OR 1.1 lb 90DG	• Apply postemergence to corn from emergence up to the 5-leaf stage or 8 inches tall, whichever comes first. For larger corn, reduce *Banvel/Clarity* rate to .5 pt/A. Do not apply to corn over 12 inches tall. Drop nozzles are recommended for corn over 8 inches tall. See Table 1J. • Refer to Table 1I for weed control and crop tolerance ratings. • Use lower rates on coarser soils or soils low in organic matter. • Treatment must follow a preplant-incorporated or pre-emergence herbicide application for grass control. • **Corn hybrids vary in sensitivity to dicamba. Consult seed company for details.** • Do not use with crop oil concentrate or other additives. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Refer to Table 12 for crop rotation restrictions. **OFF-TARGET INJURY** • Do not apply if soybeans in the vicinity are over 10 inches tall or have begun to bloom. • Drift control agents may be used to reduce the risk of spray particle drift. • See additional remarks and limitations for dicamba (*Banvel/Clarity*).
	bentazon (*Basagran)* + crop oil concentrate	1	1 qt 4L + 1 qt	• Corn is tolerant to *Basagran* at all growth stages. For best results, apply early to small weeds. See Table 1J. • Weak on pigweed, nightshade, and lambsquarters. • Refer to Table 1I for weed control and crop tolerance ratings. • Use a minimum of 40 psi and 20 gal of water/A. • Urea ammonium nitrate (28% liquid nitrogen) may be used at 1 gal/A instead of crop oil concentrate for improved velvetleaf control. Do not use urea ammonium nitrate if common lambsquarters is present. • Refer to Table 12 for crop rotation restrictions.
	bentazon (*Basagran)* + atrazine (commercial product) + crop oil concentrate o	0.75 + 0.75	0.75 qt 4L + 0.75 qt 4L OR 0.8 lb 90DG + 1 qt	• Do not apply to corn over 12 inches tall. • Gives better control of some broadleaf weeds, especially pigweed, than *Basagran* alone. • Refer to Table 1I for weed control and crop tolerance ratings. • Combination reduces risk of carryover from post-emergence application of atrazine alone. • Urea ammonium nitrate (28% liquid nitrogen) may be used at 1 gal/A instead of crop oil concentrate. Do not use urea ammonium nitrate if common lambsquarters is present. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Rates may be reduced to 0.5 lb/A for each herbicide if weeds are small. See *Laddok* label for details. • Refer to Table 12 for crop rotation restrictions.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	bromoxynil *(Buctril, Moxy,* others)	0.375	1.5 pt 2L	• Apply to corn between the 4-leaf stage (4 visible leaves) and prior to tassel emergence. • For best results, weeds must be small (see label or Table 1J). • Refer to Table 1I for weed control and crop tolerance ratings. • Good spray coverage is important. • Do not mix with spray additives or liquid fertilizers unless specified for tank mixes. • For ground applications, use minimum of 20 gal of water/A and 30 psi. • Redroot pigweed and mustard must be controlled when very small (refer to label for details). • Refer to Table 12 for crop rotation restrictions.
	bromoxynil *(Buctril, Moxy,* others) + atrazine (commercial product)	0.25 + 0.5	1 pt 2L + 0.5 qt 4L OR 0.6 lb 90DG	• Apply to corn after emergence but before corn is 12 inches tall. • Apply to weeds less than 4 inches tall for effective control. See Table 1J. • Refer to Table 1I for weed control and crop tolerance ratings. • Good spray coverage is important. • Do not mix with spray additives or liquid fertilizers. • Better control of redroot pigweed and wild mustard than bromoxynil alone. • Combination reduces risk of carryover from post-emergence application of atrazine alone. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Refer to Table 12 for crop rotation restrictions.
	flumetsulam + clopyralid *(Hornet WDG)* + surfactant OR crop oil concentrate + 28% liquid nitrogen OR ammonium sulfate	0.03 + 0.09	3.0 oz 68.5DG + 0.25% OR 1% + 2.5% OR 2 lb	• Apply to corn up to 20 inches tall or 6 collars. • Refer to Table 1I for weed control and crop tolerance ratings. • Tank mixing required for control of pigweed and lambsquarters. • Preharvest interval is 85 days. • There is a preharvest interval of 45 days for silage provided application is made before 6 collars or 20 inches. • Do not tank mix *Hornet WDG* with *Basagran, Lightning* or *Laddok* — severe crop injury may occur. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • Do not apply to corn previously treated with *Counter* or *Thimet* insecticide — severe injury may occur. See Table 1L. • A time interval of at least 10 days between application of *Hornet WDG* and organophosphate insecticides is advised.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	dicamba *(Banvel, Clarity)* + primisulfuron *(Beacon)* + surfactant	0.125 + 0.0234	4 oz 4L + 0.5 oz 75DG + 0.25%	• Apply to corn between 4 and 8 inches tall. • Application to corn between 8 and 20 inches is labeled but not recommended because of risk of corn injury. • Refer to Table 1I for weed control and crop tolerance ratings. • Liquid nitrogen fertilizer (28% N) added at 4 qt/A in addition to surfactant may improve control of certain species. • Refer to insecticide interaction remarks for *Beacon* in the Corn—Postemergence section. • **Corn hybrids vary in sensitivity to dicamba. Consult seed company for details.** • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • See additional remarks and limitations for dicamba. • Do not graze or feed forage from treated corn to livestock within 30 days after application. Do not harvest silage within 45 days after application. Do not harvest grain within 60 days after application. • A premix of dicamba and primisulfuron, *Northstar,* is available. See Table 1H for details. • Refer to Table 12 for crop rotation restrictions.
Nightshade, pigweed and velvetleaf	carfentrazone *(Aim)* + surfactant	0.008	0.5 fl oz 2EW + 0.25%	• Apply to corn up to 8 collars. • Apply when weeds are 2-4 inches. • Will control large velvetleaf (up to 36 inches). • Refer to Table 1I for weed control and crop tolerance ratings. • May be tank mixed with other postemergence corn herbicides to control additional weed species. Follow all restrictions on the tank mix herbicide label. See label for details. • Ammonium sulfate (2–4 lbs/A) or 28% liquid nitrogen (2–4 qts/100 gal) may be added if recommended on the label of the tank mix herbicide. • To avoid significant crop response, applications should not be made within 6–8 hours of either rain or irrigation. • *Aim* should be mixed first in the spray tank. • Sprayers should be adjusted to position spray tips a minimum of 18 inches above the crop and operated to avoid the application of excessive herbicide rates directly over the rows and/or into the whorls of treated crop plants. • Under extremely dry conditions, crop oil concentrate (1%) can be used in place of surfactant but is generally not recommended because of risk of severe crop injury. • There are no restrictions regarding harvesting for forage. • Refer to Table 12 for crop rotation restrictions.
ONLY ragweed, cocklebur, jimsonweed and Jerusalem artichoke	clopyralid *(Stinger)*	0.094	0.25 pt 3L	• Apply to field corn up to 24 inches tall. • Refer to Table 1I for weed control and crop tolerance ratings. • Apply in 10 gal. of water or more per acre. • Treat ragweed, cocklebur, jimsonweed, and Jerusalem artichoke up to the 5-leaf stage. • Do not apply more than 0.66 pt/A per year. • Refer to Table 12 for crop rotation restrictions.

Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Perennial sowthistle, Canada thistle	clopyralid *(Stinger)*	0.188	0.5 pt 2L	• Apply to field corn up to 24 inches tall. • Refer to Table 1I for weed control and crop tolerance ratings. • Apply in 10 gal. of water or more per acre. • Treat thistle plants at least 6-8 inches in diameter or height but before the bud stage. • Do not cultivate before treatment. • Cultivation may be used 14-20 days after treatment. • Rate may be increased to 0.66 pt/A for dense infestations. • Do not apply more than 0.66 pt/A per year. • Refer to Table 12 for crop rotation restrictions.
Velvetleaf	flumiclorac *(Resource)* + crop oil concentrate	0.027	4 oz 0.86L + 1 pt	• Very effective on velvetleaf. • Apply to corn between the 2-collar and 10-collar stages. • Refer to Table 1I for weed control and crop tolerance ratings. • Use drop nozzles when corn canopy will prevent complete spray coverage of the weeds. • *Resource* may be tank mixed with atrazine, *Accent, Banvel,* and 2,4-D. • There are no restrictions for *Resource* regarding organophosphate insecticides. • There are no crop rotation restrictions.
Annual broadleaves **Annual grasses** (except green foxtail, giant foxtail, fall panicum, witchgrass and crabgrass)	atrazine (commercial product) + crop oil concentrate	2	2 qt 4L OR 2.2 lb 90DG + 1 qt	• Do not apply to corn over 12 inches tall. • Refer to Table 1I for weed control and crop tolerance ratings. • Emergency use. • Grasses must be less than 1.5 inches tall. See Table 1J. • Timing of application is critical to get best results. • Surfactant at 1 pt/A may be used in place of crop oil concentrate but is less effective. • Greater chance for carryover because treatment is later in season. • Do not add *Banvel/Clarity, Distinct* or 2,4-D or crop injury may occur. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • Refer to Table 12 for crop rotation restrictions.

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual broadleaves **Fall panicum**	primisulfuron (*Beacon)* + crop oil concentrate OR surfactant	0.0356	0.76 oz. 75DG + 1% OR 0.25%	• Apply to corn between 4 and 20 inches tall. • Refer to Table 1I for weed control and crop tolerance ratings. • The recommended rate may be split into two applications. The second application of the split should be made when the new weed growth is at the optimum height. Do not treat corn after tassel emergence. Do not apply more than 0.76 oz. of *Beacon* per acre in one season. • Crop oil concentrate or surfactant must be added to obtain adequate results. Liquid nitrogen fertilizer (28% N) added at 4 qt/A **in addition to** crop oil concentrate or surfactant may improve control of certain species. • Cultivation 7-14 days after treatment may improve control. • A small number of corn hybrids are classifed as "potentially susceptible." Use of *Beacon* on these hybrids is not recommended. Consult the chemical dealer, seed dealer, or manufacturer for the current list of potentially susceptible hybrids. • Inbred lines grown for hybrid seed production may be severely injured by *Beacon* application. Therefore, inbred lines should be thoroughly tested for potential sensitivity to *Beacon* before treating large acreage. • *Beacon* may be tank mixed with other postemergence herbicides for control of a broader spectrum of weeds. See label for details. • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • Refer to label for special sprayer cleanup instructions. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply *Beacon* to corn previously treated with *Counter 15G* (any application method) or *Counter 20CR* applied in furrow. • *Beacon* application to corn previously treated with *Counter 20CR* banded (surface band or T-band) is not recommended. • Applying *Beacon* to corn previously treated with other soil-applied organophosphate insecticides (*Thimet, Lorsban,* etc.) may result in temporary crop injury. • Soil-applied insecticides other than organophosphates do not increase corn injury from *Beacon.* • Do not treat with a foliar-applied organophosphate insecticide such as *Lorsban* or malathion or with *Basagran* or *Laddok* within 10 days before or 7 days after *Beacon* application.

Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses (except crabgrass)	foramsulfuron *(Option)* + methylated seed oil (MSO) + 28% liquid nitrogen OR ammonium sulfate	0.033	1.5 oz 35DG + 1.5 pt + 2 qt OR 3 lb	• Apply before corn exceeds 6 collars or 16 inches, whichever comes first. • May be applied with drop nozzles when corn is 16-36 inches tall. • Apply to annual grasses 2-4 inches in height. • Refer to Table 1I for weed control and crop tolerance ratings. • May be tank mixed with atrazine, dicamba, *Beacon*, *Distinct, Hornet WDG, Marksman* or *Northstar* for control of a broader spectrum of broadleaf weeds. • To minimize risk of serious corn injury, tank mixes with dicamba 4L (2 fl oz/A) or *Distinct* (2 oz/A) should be applied before corn exceeds 8 inches. Higher application rates of dicamba 4L or *Distinct* may cause severe corn injury. • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase risk of fused leaves in the whorl (rat tail). • Substitution of surfactant or crop oil concentrate for MSO may result in reduced control. • Cultivation 7-14 days after treatment may improve control. • If corn is destroyed after *Option* application, corn can be replanted 7 days after application and soybeans can be planted 14 days after application. All other crops can be planted 60 days after *Option* application. • Refer to label for special sprayer cleanup instructions. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • DO NOT USE *Option* in the same season as *Counter* or *Thimet*. • Use of *Option* following *Lorsban* may result in temporary corn injury. • Foliar applications of an OP insecticide should not be made within 7 days of an *Option* application or injury may result.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual grasses (except crabgrasses)	foramsulfuron + iodosulfuron *(Equip)* + methylated seed oil *(MSO)* + 28% liquid nitrogen OR ammonium sulfate	0.028+ 0.0019	1.5 oz 32DG + 1.5 pt + 2 qt OR 3 lb	• Similar grass control compared to *Option*. • Improved control of certain broadleaves compared to *Option*. • Apply postemergence before corn exceeds 4 collars or 12 inches, whichever comes first. • May be applied with drop nozzles when corn is greater than 4 collars and less than 8 collars, or 12-36 inches. • Apply to 1- to 3-inch weeds for greatest control. • Refer to Table 1I for weed control and crop tolerance ratings. • See label for tank mix options. • Tank mixes containing dicamba (*Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon*, etc.) applied to corn under stress may increase risk of fused leaves in the whorl (rat tail). • To minimize risk of serious corn injury, tank mixes with dicamba 4L (2 fl oz/A) or *Distinct* (2 oz/A) should be applied before corn exceeds 8 inches. Higher application rates of dicamba 4L or *Distinct* may cause severe corn injury. • Substitution of surfactant or crop oil concentrate for MSO may result in reduced control. • Cultivation 7-14 days after treatment may improve control. • Refer to label for special sprayer cleanup instructions. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L • DO NOT USE *Equip* in the same season as *Counter* or *Thimet*. • Use of *Equip* following *Lorsban* may result in temporary corn injury. • Foliar applications of an OP insecticide should not be made within 7 days of an *Equip* application or injury may result.

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Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual grasses (except crabgrass)	nicosulfuron (*Accent)* + crop oil concentrate OR surfactant	0.03125	0.67 oz 75DF + 1% + 0.25%	• Apply broadcast to corn up to 20 inches tall (freestanding) or that is exhibiting up to and including 6 leaf collars (V6), whichever is more restrictive. • For corn 20-36 inches tall, use drop nozzles. Do not apply to corn taller than 36 inches or exhibiting 10 collars, whichever is more restrictive. • Refer to Table 1I for weed control and crop tolerance ratings. • A second application may be made 2-4 weeks later. Do not apply more than 1.33 oz./A in one season. • Crop oil concentrate or surfactant must be added to obtain adequate control. Liquid nitrogen fertilizer (28% N) added at 4 qt/A **in addition** to crop oil concentrate or surfactant may improve control of certain species. • Cultivation 7-14 days after treatment may improve control. • *Accent* may be tank mixed with other postemergence herbicides for control of a wider spectrum of weeds. See label for details. • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • Control of green and yellow foxtail may be antagonized with tank mixes of *Accent* with *Buctril, Banvel, Clarity* or *Marksman.* Timely cultivation or a second application may be required for complete control. • Refer to label for special sprayer cleanup instructions. • Refer to Table 12 for crop rotation restrictions. **ROTATIONAL GUIDELINE** • Sugarbeets: rotation interval is 10 months on soils with pH <7.5 and 18 months on soils with pH ≥7.5. • Potatoes, cucumbers, tomatoes: rotation interval is 10 months on soils with pH ≤6.5 and 18 months on soils with pH >6.5. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply *Accent* to corn previously treated with *Counter 15G* or an in-furrow application of *Counter 20CR* — severe corn injury may result. • *Accent* may be applied to corn previously treated with a banded (surface band or T-band) application of *Counter 20CR*. However, planned programs that include both *Accent* and *Counter* are not recommended. The risk of crop injury is reduced but not eliminated by banded application of *Counter 20CR*. Risk of corn injury is greatest on soils with 4% or less organic matter. • Applying *Accent* to corn previously treated with other soil-applied organophosphate insecticides (*Thimet, Lorsban,* etc.) may result in temporary crop injury. • Soil-applied insecticides other than organophosphates do not increase corn injury from *Accent.* • Do not apply to corn that has been treated within 7 days before with foliar-applied organophosphate insecticides such as *Lorsban* or malathion or with the herbicides *Basagran* or *Laddok* — severe injury may result. Do not apply these materials within 3 days after *Accent* application.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual Grasses (except crabgrass)	nicosulfuron + rimsulfuron (*Steadfast*)	0.023 +0.012	0.75 oz 75DG	• Apply to corn that is up to 20 inches tall and exhibiting up to and including 6 leaf collars, whichever is more restrictive.
	+		+	• Refer to Table 1I for weed control and crop tolerance ratings.
	crop oil concentrate		1%	• More effective on annual grasses than *Accent Gold* *Accent Gold WDG* or *Basis Gold*, especially on larger plants.
	OR		OR	
	surfactant		0.25%	
	+		+	• May be tank mixed with other postemergence herbicides for control of broadleaf weed species. See label for details.
	28% liquid nitrogen		2 qt	
	OR		OR	• Rainfall within 5-7 days after application will improve residual activity.
	ammonium sulfate		2 lb	• To minimize risk of corn injury: – DO NOT treat if nightime temperatures are below 40°F or daytime temperatures are above 92°F. – DO NOT treat Hi-Lysine corn or white corn. – Applications may be made to field corn hybrids of 77-88 CRM if the corn is no more than 12 inches tall with 5 or fewer collars unless a seed company provides a specific warning for the hybrid. – Risk of injury is greater following several days of cool, cloudy conditions. – Risk of injury increases with corn height.
				• Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail).
				• Limit the application of *Steadfast* with dicamba-containing herbicides to 12-inch tall/V5 corn. Corn tolerance to dicamba decreases as corn height increases, especially above 8 inches height.
				• Do not tank mix with *Basagran* or *Laddok* — severe injury may occur.
				• Tank mixes with 2,4-D may cause severe grass control antagonism.
				• Refer to Table 12 for crop rotation restrictions.
				ROTATIONAL GUIDELINE • Sugarbeets: rotation interval is 10 months on soils with pH <7.5 and 18 months on soils with pH ≥7.5. • Potatoes, cucumbers, tomatoes: rotation interval is 10 months on soils with pH ≤6.5 and 18 months on soils with pH >6.5.
				INSECTICIDE INTERACTION • See Table 1L. • Do not apply *Steadfast* to corn previously treated with *Counter 15G* or an in-furrow application of *Counter 20CR* — severe injury may occur. • *Steadfast* application to corn previously treated with *Counter 20CR* (T-band), *Thimet* or *Lorsban* is not recommended. Risk of injury is especially great on soils with less than 4% organic matter.

Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses (except crabgrass) **Annual broadleaves**	nicosulfuron +rimsulfuron + atrazine *(Basis Gold)* + crop oil concentrate + 28% liquid nitrogen OR ammonium sulfate	0.012 +0.012 +0.76	+ 1% + 2 qt OR 2 lb	• Apply to corn that is up to 12 inches tall and exhibiting up to and including 6 leaf collars, whichever is more restrictive. • Refer to Table 1I for weed control and crop tolerance ratings. • To minimize risk of corn injury: – DO NOT treat if nighttime temperatures are below 40°F or daytime temperatures are above 92°F. – DO NOT treat Hi-Lysine corn or white corn. – Applications may be made to field corn hybrids of 77-88 CRM if the corn is no more than 12 inches tall with 5 or fewer collars unless a seed company provides a specific warning for the hybrid. – Risk of injury is greater following several days of cool, cloudy conditions. – Risk of injury increases with corn height. • *Basis Gold* may be tank mixed with other postemergence herbicides to improve broadleaf control, especially larger weeds. • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • Do not tank mix with *Basagran* or *Laddok* — severe crop injury may occur. • Tank mixes with 2,4-D may cause severe grass control antagonism. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details. • *Basis Gold* will have very little residual activity in organic soils. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply *Basis Gold* to corn previously treated with *Counter 15G* or an in-furrow application of *Counter 20CR* — severe injury may occur. • *Basis Gold* application to corn previously treated with *Counter 20CR* (T-band), *Thimet* or *Lorsban* is not recommended. Risk of injury is especially great on soils with less than 4% organic matter.

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Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual grasses (except crabgrass) **Annual broadleaves**	nicosulfuron + rimusulfuron + flumetsulam + clopyralid *(Accent Gold)* OR *(Accent Gold WDG)* + crop oil concentrate + 28% liquid nitrogen OR ammonium sulfate	0.012 + 0.012 + 0.035 + 0.094	2.9 oz 83.8DG OR 3.5 oz 69.5WDG + 1% + 2 qt OR 2 lb	• Apply to corn up to 12 inches tall. Do not apply to corn taller than 12 inches or exhibiting 6 leaf collars, whichever is more restrictive. • Refer to Table 1I for weed control and crop tolerance ratings. • To minimize risk of corn injury: – DO NOT treat if nighttime temperatures are below 40°F or daytime temperatures are above 92°F. – DO NOT treat Hi-Lysine corn, or white corn. – Applications may be made to field corn hybrids of 77-88 CRM if the corn is no more than 12 inches tall with 5 or fewer collars unless a seed company provides a specific warning for the hybrid. – Risk of injury is greater following several days of cool, cloudy conditions. – Risk of injury increases with corn height. • *Accent Gold* or *Accent Gold WDG* may be tank mixed with other postemergence herbicides to improve broadleaf control, especially larger weeds. • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • Do not tank mix with *Basagran* or *Laddok* — severe injury may occur. • Tank mixes with 2,4-D may cause severe grass control antagonism. • *Accent Gold* or *Accent Gold WDG* will have very little residual activity in organic soils. • Do not apply *Accent Gold* or *Accent Gold WDG* to corn previously treated with *Python* or *Hornet WDG.* • Do not use *Accent Gold* or *Accent Gold WDG* and either *Hornet WDG* or *Stinger* in the same growing season. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply *Accent Gold* or *Accent Gold WDG* to corn previously treated with *Counter 15G, Counter 20CR,* or *Thimet.* • *Accent Gold* or *Accent Gold WDG* applied to corn previously treated with *Lorsban* is not recommended because of risk of injury.

Corn — Postemergence — All Tillage Systems (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses (except smooth crabgrass) **Annual broadleaves**	rimsulfuron + thifensulfuron *(Basis)* + dicamba *(Banvel, Clarity)* + surfactant + 28% liquid nitrogen OR ammonium sulfate	0.0156 + 0.125	0.33 oz 75DG + 0.25 pt 4L + 0.25% + 2 qt OR 2 lb	• Refer to Table 1I for weed control and crop tolerance ratings. • See Table 1G for information on the use of *Basis* for burndown. • Treatment must be made when corn is between spike and 2-collar stage. DO NOT TREAT CORN OVER 6 INCHES TALL OR CORN WITH 3 COLLARS — SEVERE INJURY MAY OCCUR. • *Basis* can also be applied preemergence. For preemergence application, do not apply to coarse soils (sand, loamy sand, sandy loam) with less than I% organic matter. • For preemergence application, do not tank mix *Basis* with products containing flumetsulam, such as *Hornet, Python* or *Broadstrike*. • Do not make more than 1 application per season. • For postemergence applications, *Basis* may also be tank mixed with atrazine 90DF, *Callisto* or *Hornet WDG*. Do not use MSO adjuvants with *Callisto* tank mixtures. See label for details. • Tank mixes containing dicamba *(Banvel, Celebrity, Celebrity Plus, Clarity, Distinct, Marksman, Northstar, Yukon)* applied to corn under stress may increase the risk of fused leaves in the whorl (rat tail). • Weeds must be 2 inches or less for adequate control. • Since this treatment provides limited residual weed control, application when grasses are 1 to 2 inches tall will usually provide the optimum results. • Rainfall within 5–7 days after application is required for residual activity of *Basis*. • Cultivation 10–14 days after application is usually needed for adequate seasonlong weed control and is generally recommended. • Corn hybrids with a relative maturity rating less than 88 days vary in tolerance to *Basis*. Treatment of these hybrids may result in severe crop injury and is not recommended. • Refer to Table 12 for crop rotation restrictions. **INSECTICIDE INTERACTION** • See Table 1L. • Do not apply *Basis* to corn previously treated with *Counter 15G* or an in-furrow application of *Counter 20CR* — severe injury may occur. • *Basis* application to corn previously treated with *Counter 20CR* (T-band), *Thimet* or *Lorsban* is not recommended. Risk of injury is especially great on soils with less than 4% organic matter.

TABLE 1B — Chemical Weed Control in Imidazolinone-Resistant Corn (Clearfield Corn)

In addition to the herbicide options in Tables 1A, the following herbicides and herbicide combinations may be applied to corn hybrids warranted by the seed company to possess **resistance** to direct application of imidazolinone herbicides. These hybrids are designated as Clearfield Corn. These hybrids vary in cross-resistance to other herbicide families (e.g. sulfonylureas), but they all appear to possess adequate resistance to *Lightning.* The following table describes recommended postemergence treatments with *Lightning.* These treatments may follow a preemergence herbicide for control of several annual grass species. See Table 1A for details.

Imidazolinone-Resistant Corn

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual broadleaves **Giant foxtail**	imazethapyr + imazapyr *(Lightning)* + 28% liquid nitrogen OR ammonium sulfate + surfactant	0.042 + 0.014	1.28 oz 70DG + 1 qt OR 2.5 lb + 0.25%	• **USE ONLY ON IMIDAZOLINONE-RESISTANT/ TOLERANT CORN (IMI CORN).** • Apply before weeds exceed 4 inches tall and corn exceeds 12 inches tall or 5 collars, whichever is more restrictive. • Refer to Table 1I for weed control and crop tolerance ratings. • *Lightning* should be tank mixed with *Banvel, Clarity, Distinct, Buctril* or atrazine for improved ragweed control. See *Lightning* and tank mix herbicide labels for restrictions. • See practices to prevent/delay herbicide-resistant weeds, pg. 18. • Do not graze or feed treated forage, silage, fodder, or grain for at least 45 days after application. • Do not harvest for 45 days after application. • Do not apply *Pursuit* or *Pursuit Plus* the same year as *Lightning*. • Do not make more than one application of *Lightning* to a field in one growing season. • See Table 1L for insecticide restrictions. • Always add both surfactant and nitrogen fertilizer (28% liquid nitrogen or ammonium sulfate). • Use of crop oil concentrate or methylated seed oil increases the risk of crop injury, especially under cool, wet or hot, humid conditions. • Do not use crop oil concentrate or methylated seed oil with tank mixtures including *Buctril.* • Do not use *Lightning* in combination with products containing flumetsulam, thifensulfuron or rimsulfuron. • Refer to Table 12 for crop rotation restrictions.

TABLE 1C — Chemical Weed Control in Liberty-Resistant/Liberty Link Corn

In addition to the herbicides in Table 1A, the following herbicides and herbicide combinations may be applied to corn resistant to *Liberty* herbicide. These hybrids are designated as Liberty Link.

Liberty-Resistant Corn

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses **Annual broadleaves**	glufosinate *(Liberty)* + ammonium sulfate	0.42	32 oz 1.67L + 3.0 lbs	• **APPLY ONLY TO CORN RESISTANT TO LIBERTY HERBICIDE.** • Refer to Table 1I for weed control and crop tolerance ratings. • One application of *Liberty* alone will not consistently provide seasonlong control. One of the following strategies is recommended: 1) Preemergence herbicide application followed by *Liberty* postemergence. Preemergence herbicide options include: – Atrazine (1 lb a.i./A). – Any herbicide or herbicide combination labeled for preemergence application in corn. 2) Postemergence tank mixture with *Liberty.* See label for details. 3) Postemergence *Liberty* application followed by a second herbicide application or cultivation, if needed, 12-14 days after *Liberty* application. • Apply to corn up to 24 inches or V7, whichever comes first. • *Liberty* may be applied with drop nozzles to corn 24-36 inches tall. • **Always add ammonium sulfate**. Surfactant is not needed. • Treat when annual weeds are 2–4 inches tall. • Minimum carrier volume of 15 gallons per acre. • Do not use drift control agents — this reduces spray coverage and may result in reduced weed control. • Do not apply *Liberty* within 60 days of harvesting corn forage or within 70 days of harvesting corn grain. • *Liberty* will not control perennnial weeds. • Application should be made between dawn and 2 hours before sunset to avoid the risk of reduced control of lambsquarters and velvetleaf. • No insecticide interaction restrictions. • Application rate ranges from 24 oz to 34 oz/A. See label. • Refer to Table 12 for crop rotation restrictions.

TABLE 1D — Chemical Weed Control in Glyphosate-Resistant Corn

In addition to the herbicides listed in Table 1A, the following herbicides and herbicide combinations may be applied to Roundup-resistant corn. These hybrids are designated as *Roundup Ready* Corn. Some herbicide labels allow higher in-crop application rates and later application timings on *Roundup Ready II* Corn. See label for details.

Roundup Ready Corn

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses **Annual broadleaves** **Suppression of perennials**	glyphosate + ammonium sulfate	0.75	See Table 10 + 17 lb/100 gal	• **APPLY TO *ROUNDUP READY* CORN ONLY.** • See Table 10 for glyphosate products labeled for postemergence application on *Roundup Ready* corn. • Refer to Table 1I for weed control and crop tolerance ratings. • One application of glyphosate alone will not consistently provide seasonlong control. One of the following strategies is recommended: 1) Preemergence herbicide application followed by glyphosate postemergence. Preemergence herbicide options include: – atrazine (1 lb a.i./A). – Any herbicide or herbicide combination labeled for preemergence application in corn. 2) Postemergence tank mixture with glyphosate. Refer to glyphosate product label for details. Tank mixtures with some residual herbicides may cause temporary burn, discoloration, or growth reduction. 3) Postemergence glyphosate application followed by a second herbicide application or cultivation, if needed, 12-14 days after glyphosate application. • See Table 10 for recommended additives for glyphosate products. • Apply when annual weeds are 2-4 inches tall. • Apply to corn up to 30 inches or 8 collars. • Application rate can be reduced to 0.56 lb a.e./A if: 1) Spray volume is 3-10 gal/A. 2) Weeds are no more than 4 inches tall. 3) Weeds are actively growing. • A second glyphosate application may be made if needed at a rate up to 0.75 lb a.e./A. Make second application before weeds exceed 4 inches. • Use extreme caution to avoid spray drift to sensitive crops. • Do not apply more than 1.5 lb a.e./A in-crop per season. • Do not harvest for forage within 50 days after application. • Control of perennial broadleaf weeds will be improved with a second application of glyphosate. • **Addition of ammonium sulfate will minimize antagonism from hard water or tank mixtures and is always recommended.** • Refer to Table 12 for crop rotation restrictions.

TABLE 1E — Chemical Weed Control in No-Till Corn

Burndown Herbicides

Effective weed control in no-tillage corn production requires complete control of all weeds, cover crops, and sod plants present at the time of planting. Alfalfa and quackgrass sods must be treated prior to planting. Burndown of annual weeds and cover crops can be accomplished with burndown herbicides. Burndown herbicides such as glyphosate (Table 10) or *Gramoxone Max* can be used alone prior to planting to avoid excessive cover crop growth. *Gramoxone Max* provides faster kill. Glyphosate (Table 10) may provide better control if weed or cover crop growth is dense. Glyphosate is preferred for perennial weeds or seedling grasses before completion of tillering.

Listed below are specific recommendations for control of legume sod and quackgrass sod. Table 1F contains weed response ratings for several sod species.

For weed control in no-till corn planted into grain stubble or row crop residue (with or without a cover crop), a burndown herbicide must be used. Refer to Table 1G for burndown herbicide options.

Herbicides listed in the Corn–Preemergence and Corn–Postemergence sections may be used in all tillage systems including no-till. For many preemergence herbicides, complete closure of the seed furrow is critical to avoid crop injury.

With preemergence herbicides, many situations require little or no adjustment in application rates. However, dense plant residue and total reliance on herbicides for weed control may require that herbicides be used at the higher end of the labelled rate range for the soil type.

No-Till Corn — Legume Sod

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
FALL application followed by preemergence				
Alfalfa sod **Quackgrass** **Annual broadleaves** **Annual grasses**	glyphosate FOLLOWED BY: atrazine + Burndown (See Table 1G)	1.5 2	See Table 10 2 qt 4L	• Apply glyphosate in fall. • Best timing for treatment is 4-6 weeks after last alfalfa harvest. • Alfalfa should be at least 4 inches tall and actively growing. • Quackgrass, if present, should be at least 8 inches tall and actively growing. • Air temperature should be at least 60°F. • Postemergence *Banvel, Clarity, Distinct* or 2,4-D may be needed to control alfalfa escapes. • *Micro-Tech, Harness, Outlook, Surpass, TopNotch, Degree, Define, Dual Magnum, Dual II Magnum* or *Axiom* may be included if annual grasses are expected to be a serious problem. • If weeds are small, the rate of *Gramoxone Max* or glyphosate may be reduced. See label for details. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details.

No-Till Corn — Legume Sod (continued)

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
FALL application followed by preemergence				
Alfalfa sod **Annual broadleaves** **Annual grasses**	2,4-D ester	1.25	1.25 qt 4L	• Apply 2,4-D in fall. • Alfalfa should be at least 4 inches tall and actively growing at treatment time. • Air temperature should be at least 60°F.
	FOLLOWED BY:			
	atrazine (commercial product)	2	2 qt 4L OR 2.2 lb 90DG	• Apply atrazine + *Gramoxone Max* or glyphosate at planting time. • Postemergence *Banvel/Clarity, Distinct* or 2,4-D may be needed to control alfalfa escapes.
	Burndown (See Table 1G)			• Quackgrass is usually not at the proper state of growth (8 inches tall) for maximum effectiveness from glyphosate treatment at corn planting. (See "Quackgrass" section for notes on glyphosate use.) • *Micro-Tech, Outlook, Harness, Surpass, TopNotch, Degree, Define, Dual II Magnum, Dual Magnum*, or *Axiom* may be included if annual grasses are expected to be a serious problem. • If weeds are small, the rate of *Gramoxone Max* or glyphosate may be reduced. See label for details. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details.
SPRING application followed by preemergence				
Alfalfa sod **Annual broadleaves** **Annual grasses**	2,4-D ester	1.25	1.25 qt 4L	• Apply 2,4-D 7-10 days before planting. • Alfalfa should be at least 4 inches tall at treatment time.
	FOLLOWED BY:			• Apply atrazine and *Gramoxone Max* or glyphosate at planting time.
	atrazine (commercial product)	2	2 qt 4L OR 2.2 lb 90DG	• Postemergence *Banvel/Clarity, Distinct* or 2,4-D may be needed to control alfalfa escapes.
	+ Burndown (See Table 1G)			• Quackgrass is usually not at the proper stage of growth (8 inches tall) for maximum effectiveness from glyphosate treatment at corn planting. (See "Quackgrass" section for notes on glyphosate use.) • *Micro-Tech, Outlook, Harness, Surpass, TopNotch, Degree, Define, Dual Magnum, Dual II Magnum* or *Axiom* may be included if annual grasses are expected to be a serious problem. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details.

No-Till Corn — Quackgrass Sod

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
FALL application followed by preemergence				
Alfalfa **Quackgrass** **Annual broadleaves** **Annual grasses**	glyphosate	1.5	See Table 10	• Apply glyphosate in fall. • Quackgrass should be at least 8 inches tall and actively growing. • Air temperature should be at least 60°F.
	FOLLOWED BY:			• *Micro-Tech, Outlook, Harness, Surpass, TopNotch, Define, Degree, Dual Magnum, Dual II Magnum or Axiom* may be included if annual grasses are expected to be a serious problem. • Mixing, loading, and application setbacks are required for atrazine. See page 11 or label for details.
	atrazine (commercial product)	2	2 qt 4L OR 2.2 lb 90DG	
	+ Burndown (See Table 1G)			

TABLE 1F — Plant Response to Fall or Spring Herbicides in Sod

	Alfalfa	Red Clover	Hairy Vetch	Dandelion	Curled Dock	Bromegrass	Timothy	Bluegrass	Orchardgrass	Quackgrass
Fall Application[e]										
glyphosate (0.75 lb a.e./A)[ad]	**F-G**	**F-G**	**F-G**	**G**	–	**G**	**G**	**G**	**G**	**G-E**
glyphosate (1.5 lb a.e./A)[bd]	**G-E**	**G-E**	**G-E**	**G**	–	**E**	**E**	**E**	**E**	**E**
2,4-D ester (1.0 lb a.i./A)[c]	**F-G**	**F-G**	F	F	–	N	N	N	N	N
glyphosate (0.75 lb a.e./A)[ad] + 2,4-D ester (1.0 lb a.i./A)[c]	**G**	**G**	**G**	**G**	–	**G**	**G**	**G**	**G**	**G-E**
glyphosate (1.5 lb a.e./A)[bd] + 2,4-D ester (1.0 lb a.i./A)[c]	**G-E**	**G-E**	**G-E**	**G**	–	**E**	**E**	**E**	**E**	**E**
Spring Application[f]										
glyphosate (0.75 lb a.e./A)[ad]	F	F	F	F	P	F	F	**G**	P	**G**
glyphosate (1.5 lb a.e./A)[bd]	**F-G**	**F-G**	**F-G**	F	F	**G**	**G**	**G**	F	**E**
2,4-D ester (1.0 lb a.i./A)[c]	**F-G**	**G**	**F-G**	P	P	N	N	N	N	N
glyphosate (0.75 lb a.e./A)[ad] + 2,4-D ester (1.0 lb a.i./A)[c]	**F-G**	**F-G**	**F-G**	F	P-F	F	F	**G**	P	**G**
glyphosate (1.5 lb a.e./A)[bd] + 2,4-D ester (1.0 lb a.i./A)[c]	**G**	**G**	**G**	F	F	**G**	**G**	**G**	F	**E**

P = Poor; F = Fair; G = Good; E = Excellent; N = None; – = Not enough information to rank

a. Rate for 3 lb a.e./gal glyphosate formulations = 32 fl oz/A.
Rate for 3.7 lb a.e./gal glyphosate formulations = 26 fl oz/A.
Rate for 4.5 lb a.e./gal glyphosate formulations = 22 fl oz/A.
Rate for 65% a.e. glyphosate formulations = 18.5 oz/A.

b. Rate for 3 lb a.e./gal glyphosate formulations = 64 fl oz/A.
Rate for 3.7 lb a.e./gal glyphosate formulations = 52 fl oz/A.
Rate for 4.5 lb a.e./gal glyphosate formulations = 44 fl oz/A.
Rate for 65% a.e. glyphosate formulations = 37 oz/A.

c. Rate for 4 lb a.i./gal 2,4-D ester formulations = 1 qt/A.
Rate for 6 lb a.i./gal 2,4-D ester formulations = 21 fl oz/A.

d. Addition of ammonium sulfate (AMS) at 17 lb/100 gal of water often improves control. Always check label for instructions on the addition of a non-ionic surfactant. See Table 10.

e. Ideal timing is 4-6 weeks after mowing. Mow in late August–early September and treat in early to mid-October in central or southern Michigan.

f. Treat when plants reach at least 6 inches tall.

TABLE 1G — Effectiveness of Herbicides for Spring Burndown in Corn*,**

	ANNUAL BROADLEAVES										ANNUAL GRASSES								WINTER ANNUALS/ PERENNIALS							COVER CROPS			
	Cocklebur	Jimsonweed	Lambsquarters	Nightshade	Pigweed	Ragweed (Common)	Ragweed (Giant)	Smartweed	Velvetleaf	Wild Mustard	Barnyardgrass	Crabgrass	Giant Foxtail	Green Foxtail	Yellow Foxtail	Fall Panicum	Witchgrass	Sandbur	Chickweed (common)	Yellow Rocket	Shepard's purse	Pennycress	Marestail (Horseweed)	Dandelion	Quackgrass	Rye	Wheat	Clover	Hairy Vetch
	Maximum Weed Height (inches)																		Herbicide Effectiveness										
atrazine (1 lb a.i./A)[ab]	2	2	2	2	2	2	2	2	2	2	NR	NR	NR	NR	NR	NR	NR	NR	–	**G**	**E**	**G**	**G**	P	P	P	P	P	P
atrazine (2 lb a.i./A)[ab]	3	3	3	3	3	3	3	3	3	3	NR	NR	NR	1.5	1.5	NR	NR	NR	–	**E**	**E**	**E**	**E**	F	F	F	F	F	F
2,4-D ester (0.5 lb a.i./A)[c]	3	NR	3	3	3	3	3	NR	2	3	NR	NR	NR	NR	NR	NR	NR	NR	P	F	**G**	F	**E**	N	N	N	N	F	F
2,4-D ester (1.0 lb a.i./A)[d]	6	3	6	6	6	6	6	3	5	6	NR	NR	NR	NR	NR	NR	NR	NR	F	**G**	**E**	**G**	**E**	P	N	N	N	**G**	**G**
glyphosate (0.37 lb a.e./A)[ef]	5	2	2	2	5	2	NR	NR	NR	5	NR	–	5	5	5	–	–	–	**E**	**G**	**E**	**G**	**G**	P	P	**G**	**G**	P	P
glyphosate (0.75 lb a.e./A)[eg]	16	10	10	10	16	10	5	5	5	16	5	–	16	16	16	–	–	–	**E**	**E**	**E**	**E**	**E**	F	F	**E**	**E**	F	F
Gramoxone Max (1.25 pt/A)[h]	3	3	3	3	3	3	3	NR	3	3	3	3	3	3	3	3	3	3	**E**	**G**	**G**	**G**	P	P	P	F	F	P	P
Gramoxone Max (2.1 pt/A)[h]	6	6	6	6	6	6	6	NR	6	6	6	6	6	6	6	6	6	6	**E**	**E**	**E**	**E**	P	P	P	**G**	**G**	F	F
Basis (0.5 oz/A) + 2,4-D ester (0.5 lb a.i./A)[c] + atrazine (1 lb a.i./A)[ab]	3	2	3	3	3	3	3	3	3	3	2	NR	2	2	2	2	–	–	–	**G**	**E**	**G**	**E**	–	F	P	P	F	F

P = Poor; F = Fair; G = Good; E = Excellent; N = None; NR = Not Recommended; – = Not enough information to rank

*Burndown effectiveness varies, depending on several factors. This table is intended as a guide to relative effectiveness of burndown herbicide options. **This table assumes tank mix applications with residual herbicides**.

**To avoid excessive cover crop growth, 2,4-D, *Gramoxone Max*, or glyphosate (Table 10) may be applied prior to planting.

a. Always add crop oil concentrate at 1 qt/A to maximize foliar activity.

b. Use of liquid nitrogen fertilizer as the herbicide carrier will improve burndown.

c. Rate for 4 lb a.i./gal 2,4-D ester formulations = 1 pt/A.
Rate for 6 lb a.i./gal 2,4-D ester formulations = 10.5 fl oz/A.

d. Rate for 4 lb a.i./gal 2,4-D ester formulations = 1 qt/A.
Rate for 6 lb a.i./gal 2,4-D ester formulations = 21 fl oz/A.

e. Addition of ammonium sulfate at 17 lbs/100 gal of water often improves control. Always check label for instructions on the addition of a non-ionic surfactant. See Table 10.

f. Rate for 3 lb a.e./gal glyphosate formulations = 16 fl oz/A.
Rate for 3.7 lb a.e./gal glyphosate formulations = 13 fl oz/A.
Rate for 4.5 lb a.e./gal glyphosate formulations = 11 fl oz/A.

g. Rate for 3 lb a.e./gal glyphosate formulations = 32 fl oz/A.
Rate for 3.7 lb a.e./gal glyphosate formulations = 26 fl oz/A.
Rate for 4.5 lb a.e./gal glyphosate formulations = 22 fl oz/A.

h. Always add surfactant with *Gramoxone Max*. Use 1 pt/100 gal of water. Double surfactant in liquid nitrogen fertilizer. Regrowth of rye or wheat may occur if plants are not fully tillered when treated.

TABLE 1H — Herbicide Premixes in Corn

TRADE NAME	COMPANY	FORMULATION	TYPICAL USE RATE	=	EQUIVALENT RATES
Accent Gold	DuPont	83.8DG	2.9 oz/A	=	0.25 oz Accent + 0.188 oz a.i. rimsulfuron + 2.4 oz Hornet
Accent Gold WDG	DuPont	69.5WDG	3.5 oz/A	=	0.25 oz Accent + 0.188 oz a.i. rimsulfuron + 3.0 oz Hornet WDG
Basis	DuPont	75DG	.33 oz/A	=	0.165 oz a.i. rimsulfuron + 0.33 oz Pinnacle
Basis Gold	DuPont	89.5DG	14 oz/A	=	0.25 oz Accent + 0.188 oz a.i. rimsulfuron + 0.84 lb atrazine 90DF
Bicep Lite II Magnum	Syngenta	6L	1.5 qt/A	=	1.33 pt Dual II Magnum + 1 qt atrazine 4L
Bicep II Magnum	Syngenta	5.5L	2.1 qt/A	=	1.33 pt Dual II Magnum + 1.6 qt atrazine 4L
Buctril + Atrazine	Bayer CropSciences	3L	3 pt/A	=	0.75 qt Buctril 2E + 0.75 qt atrazine 4L
Bullet	Monsanto	4L	3 qt/A	=	1.88 qt Micro-Tech + 1.13 qt atrazine 4L
Camix	Syngenta	3.67L	2.0 qt/A	=	5.36 fl oz Callisto + 1.75 pt Dual II Magnum
Cinch ATZ	DuPont	5.5L	2.1 qt/A	=	1.33 pt Cinch + 1.6 qt atrazine 4L
Cinch ATZ Lite	DuPont	6L	1.5 qt/A	=	1.33 pt Cinch + 1.0 qt atrazine 4L
Celebrity	BASF	Co-pack	6.67 oz/A	=	0.67 oz Accent (Celebrity G) + 0.53 pt Banvel (Celebrity B)
Celebrity Plus	BASF	70DG	4.7 oz/A	=	4.0 oz Distinct + 0.67 oz Accent
Degree Xtra	Monsanto	4L	3 qt/A	=	4.3 pt Degree + 1.0 qt atrazine 4L
Expert	Syngenta	4.88L	3 qts/A		1.37 pt Dual II Magnum + 1.6 qt atrazine 4L + 0.75 lb a.e. glyphosate (See Table 10)
Field Master	Monsanto	4.06L	1 gal/A	=	2.3 pt Harness + 1.5 qt atrazine 4L + 0.56 lb a.e. glyphosate (See Table 10)
Fultime	Dow AgroSciences	4L	2.7 qt/A	=	2 qt TopNotch + 1 qt atrazine 4L
Guardsman Max	BASF	5L	3.5 pt/A	=	16 fl oz Outlook + 1.45 qt atrazine 4L

(continued on next page)

TABLE 1H — Herbicide Premixes in Corn (continued)

TRADE NAME	COMPANY	FORMULATION	TYPICAL USE RATE	=	EQUIVALENT RATES
G-Max Lite	BASF	5L	2.7 ptA	=	16 fl oz Outlook + 0.9 qt atrazine 4L
Harness Xtra	Monsanto	6L	2 qt/A	=	2.5 pt Harness + 0.8 qt atrazine 4L
Harness Xtra 5.6L	Monsanto	5.6L	2 qt/A	=	1.8 pt Harness + 1.25 qt atrazine 4L
Hornet WDG	Dow AgroSciences	68.5WDG	3.0 oz/A	=	0.7 oz Python + 0.25 pt Stinger
Keystone	Dow AgroSciences	5.25L	2.2 qt/A	=	1.65 lb a.i. acetochlor + 1.2 qt atrazine 4L
Keystone LA	Dow AgroSciences	5.5L	2.0 qt/A	=	2.0 lb a.i. acetochlor + 0.75 qt atrazine 4L
Laddok	Sipcam Agro	5L	2.4 pt/A	=	0.75 qt Basagran + 0.75 qt atrazine 4L
Lariat	Monsanto	4L	3 qt/A	=	1.88 qt Lasso + 1.13 qt atrazine 4L
Lexar	Syngenta	3.7L	3 qts/A		1.36 pt Dual II Magnum + 5.34 fl. oz. Callisto + 1.3 qt atrazine 4L
Liberty ATZ	Bayer CropSciences	4.3 L	40 fl oz/A	=	24 fl oz Liberty + 1 qt atrazine 4L
Lightning	BASF	70DG	1.28 oz/A	=	1 oz Pursuit 70DG + imazapyr
Lumax	Syngenta	3.95L	2.5 qt/A	=	5.36 fl oz Callisto + 1.75 pt Dual II Magnum + 0.63 qt atrazine 4L
Marksman	BASF	3.2L	3.5 pt/A	=	1 pt dicamba 4L + 1 qt atrazine 4L
Northstar	Syngenta	43.8DG	5 oz/A	=	0.5 oz Beacon + 3.6 fl oz dicamba 4L
Priority	Tenkoz	62.5DG	1.0 oz/A	=	0.53 fl. oz. Aim EW + 0.75 oz. Permit
Ready Master ATZ	Monsanto	3.5L	2 qt/A	=	1 qt atrazine 4L + 0.75 lb a.e. glyphosate (See Table 10)
Shotgun	United Agri Products	3.25L	1 qt/A	=	0.56 qt atrazine 4L + 0.5 pt 2,4-D ester
Stalwart Xtra	Sipcam Agro	5.5L	2.1 qt/A	=	1.3 pt Stalwart C + 1.6 qt atrazine 4L
Steadfast	DuPont	75WDG	0.75 oz/A	=	0.5 oz Accent + 0.187 oz a.i. rimsulfuron
Steadfast ATZ	DuPont	89.3WDG	14 oz/A	=	0.75 oz Steadfast + 0.83 lb atrazine 90 DF
Volley ATZ	Tenkoz	5.25L	2.2 qt/A	=	1.0 qt Volley + 1.2 qt atrazine 4L
Volley ATZ Lite	Tenkoz	5.5L	2.0 qt/A	=	1.25 qt Volley + 0.75 qt atrazine 4L
Yukon	Monsanto	67.5WDG	4.0 oz/A	=	4.4 fl oz dicamba 4L + 0.66 oz Permit

TABLE 1I — Weed Response to Herbicides in Corn*

			ANNUAL BROADLEAVES											ANNUAL GRASSES								PERENNIALS				
Soil Applied	**SITE OF ACTION**	**CORN TOLERANCE****	**COCKLEBUR**	**JIMSONWEED**	**LAMBSQUARTERS**	**T-R LAMBSQUARTERS[a]**	**NIGHTSHADE (E. BLACK)**	**PIGWEED (REDROOT)**	**RAGWEED (COMMON)**	**RAGWEED (GIANT)**	**SMARTWEED**	**VELVETLEAF**	**WILD MUSTARD**	**BARNYARDGRASS**	**CRABGRASS**	**GIANT FOXTAIL**	**GREEN FOXTAIL**	**YELLOW FOXTAIL**	**FALL PANICUM**	**WITCHGRASS**	**SANDBUR**	**CANADA THISTLE**	**QUACKGRASS**	**YELLOW NUTSEDGE**	**JOHNSONGRASS (seedling)**	**JOHNSONGRASS (Rhizome)**
ALS Inhibitors																										
PYTHON	**B**	3	F	F	**E**	**E**	**G**	**E**	F	P	**G**	**G**	**E**	P	P	F	P	P	P	P	P	N	N	N	N	N
Photosynthesis Inhibitors																										
ATRAZINE	**C**	1	F	F	**E**	N	**E**	**G**	**E**	**G**	**G**	F	**E**	**G**	P	F	F	**G**	P	P	P	F	F	F	N	N
PRINCEP	**C**	1	F	F	**E**	N	**E**	**G**	**E**	F	**G**	F	**E**	**G**	F	F	F	**G**	P	P	P	P	F	F	N	N
Others																										
CALLISTO (Pre only)	O	1	P	–	**E**	**E**	**E**	**E**	F	F	**E**	**E**	–	N	P	N	N	N	N	N	N	P	N	N	N	N
DEFINE	O	2	N	N	P	P	F	**G**	P	N	P	N	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	P[b]	P	N
DUAL II MAGNUM/CINCH	O	1	N	N	P	P	F	**G**	P	N	P	N	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	F[b]	P	N
HARNESS/SURPASS/TOPNOTCH/ DEGREE/VOLLEY	O	2	P	N	F	F	**G**	**G**	F	N	P	P	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	F[b]	P	N
MICRO-TECH	O	2	N	N	P	P	**G**	**G**	P	N	P	N	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	P[b]	P	N
OUTLOOK	O	2	N	N	P	P	**G**	**G**	P	N	P	N	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	F[b]	P	N
PROWL/PENDIMAX/PROWL H_20 (Pre only)	O	3	N	N	**E**	**E**	P	F	P	N	P	F	P	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	N	N	N	P	N
STALWART C‡/PARALLEL	O	1	N	N	P	P	F	**G**	P	N	P	N	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	F[b]	P	N
Premixes and Tank Mixes																										
AXIOM	O/**C**	3	P	P	**G**	–	F	**E**	F	P	**G**	F	**G**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	F	N	N	P	P	N
HORNET WDG	**B**/O	3	**G**	F	**E**	**E**	**G**	**E**	**E**	**G**	**G**	**G**	**E**	N	N	N	N	N	N	N	N	F	N	N	N	N

Herbicide Site of Action: A = ACCase Inhibitor; B = ALS Inhibitor; C = Photosynthesis Inhibitor; O = Other

Herbicide Effectiveness: P = Poor; F = Fair; G = Good; E = Excellent; N = None; – = Not enough information to rank

**The above ratings are a relative comparison of herbicide effectiveness. Weather conditions greatly influence the herbicide's effectiveness, and weed control may be better under favorable conditions or poorer under unfavorable conditions.*

**Crop Tolerance: 1=Minimal risk of crop injury; 2=Crop injury can occur under certain conditions (soil applied—cold, wet: foliar applied—hot, humid); 3=Severe crop injury can occur. Follow precautions under Remarks and Limitations and on the label; 4=Risk of severe crop injury is high. Recommended only in rescue situations.

‡ On light soils, inbred corn lines treated with *Stalwart C* may carry more risk of injury than with *Dual II Magnum* or *Cinch*.

[a] Triazine-resistant lambsquarters

[b] Control of yellow nutsedge will be increased if the treatment is incorporated in the top 2 to 3 inches of soil.

TABLE 1I — Weed Response to Herbicides in Corn* (continued)

Postemergence	SITE OF ACTION	CORN TOLERANCE**	ANNUAL BROADLEAVES											ANNUAL GRASSES								PERENNIALS				
			COCKLEBUR	JIMSONWEED	LAMBSQUARTERS	T-R LAMBSQUARTERS[a]	NIGHTSHADE (E. BLACK)	PIGWEED (REDROOT)	RAGWEED (COMMON)	RAGWEED (GIANT)	SMARTWEED	VELVETLEAF	WILD MUSTARD	BARNYARDGRASS	CRABGRASS	GIANT FOXTAIL	GREEN FOXTAIL	YELLOW FOXTAIL	FALL PANICUM	WITCHGRASS	SANDBUR	CANADA THISTLE	QUACKGRASS	YELLOW NUTSEDGE	JOHNSONGRASS (seedling)	JOHNSONGRASS (Rhizome)
ALS Inhibitors																										
ACCENT	**B**	2	F	**G**	F	F	P	**E**	P	N	**G**	F	–	**E**	P	**E**	**E**	**E**	**E**	**E**	**G**	F	**G**	F	**E**	**G**
BASIS	**B**	3	F	–	**G**	**G**	P	**E**	P	P	**E**	**G**	**G**	**G**	F[d]	F	F	F	F	F	P	P	P	N	F	P
BEACON	**B**	2	**E**	**G**	F	F	**G**	**E**	**E**	**E**	**G**	**G**	F	P	P	F	F	F	**G**	**G**	F	F	**G**	F	**G**	F
EQUIP	**B**	3	**G**	**G**	**G**	**G**	**G**	**E**	F	F	F	F	–	**E**	P	**G**	**G**	**G**	**G**	**G**	F	F	**G**	F	**E**	**G**
LIGHTNING (Clearfield Corn only)[b]	**B**	2	**E**	**G**	F	F	**G**	**E**	F	F	**G**	**G**	**G**	F	F	**G**	F	F	F	F	F	F	P	F	**G**	**G**
OPTION	**B**	3	F	**G**	F	F	**G**	**E**	F	P	–	F	–	**E**	P	**G**	**G**	**G**	**G**	**G**	F	F	**G**	F	**E**	**G**
PERMIT	**B**	1	**E**	**G**	N	N	P	**E**	**G**	**G**	F	**G**	–	N	N	N	N	N	N	N	N	P	N	**E**	N	N
STEADFAST	**B**	3	F	**G**	F	F	P	**E**	P	N	**G**	F	–	**E**	F[d]	**E**	**E**	**E**	**E**	**E**	**G**	F	**G**	F	**E**	**G**
Photosynthesis Inhibitors																										
ATRAZINE	**C**	1	**G**	**G**	**E**	N	**G**	**E**	**E**	**G**	**G**	F	**E**	F	P	F	**G**	**G**	P	P	P	F	F	F	N	N
Others																										
AIM	O	3	P	–	F	F	**G**	**G**	P	P	P	**E**	–	N	N	N	N	N	N	N	N	N	N	N	N	N
BANVEL/CLARITY	O	3	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**E**	**E**	F	**G**	N	N	N	N	N	N	N	N	F	N	N	N	N
BASAGRAN	O	1	**E**	**G**	F	F	P	P	F	P	**G**	F	**E**	N	N	N	N	N	N	N	N	**G**	N	**G**	N	N
BUCTRIL/MOXY/OTHERS	O	2	**G**	**G**	**E**	**E**	**G**	F	**G**	**G**	**G**	**G**	F	N	N	N	N	N	N	N	N	P	N	N	N	N
CALLISTO	O	2	F	–	**E**	**E**	**E**	**G**	**G**	**G**	**E**	**E**	–	N	F[d]	N	N	N	N	N	N	P	N	P	N	N
DISTINCT	O	3	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**E**	**E**	**G**	**G**	P	P	P	P	P	P	P	P	**G**	N	N	N	N
GLYPHOSATE (RR Corn only)[ce]	O	1	**E**	**E**	**G**	**G**	**G**	**E**	**G**	**G**	**G**	**G**	**G**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**G**	**E**	F	**E**	**E**
LIBERTY (Liberty Resistant Corn only)[c]	O	1	**E**	**G**	F	F	**G**	**G**	**E**	**G**	**G**	**G**	**E**	F	F	**G**	**G**	F	F	F	P	P	P	P	**G**	F
RESOURCE	O	2	P	P	F	F	P	P	P	P	P	**E**	P	N	N	N	N	N	N	N	N	N	N	N	N	N
STINGER	O	1	**E**	**G**	P	P	F	P	**G**	**E**	F	P	P	N	N	N	N	N	N	N	N	**G**	P	N	N	N
2, 4-D AMINE	O	3	**G**	F	**G**	**G**	**G**	**G**	**G**	**G**	P	F	**G**	N	N	N	N	N	N	N	N	F	N	N	N	N
Premixes and Tank Mixes																										
ACCENT GOLD/ACCENT GOLD WDG	**B**/O	3	**E**	**G**	F	F	F	**E**	**E**	**E**	**E**	**G**	**G**	**G**	F[d]	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	P	**G**	F
BANVEL + ATRAZINE (MARKSMAN)	O/**C**	3	**G**	**G**	**E**	**G**	**G**	**E**	**E**	**E**	**E**	**G**	**E**	P	P	P	F	F	P	P	P	F	P	F	N	N
BASAGRAN + ATRAZINE (LADDOK)	O/**C**	1	**E**	**G**	**G**	F	F	**G**	**E**	**G**	**G**	**G**	**E**	P	P	P	F	F	P	P	P	F	P	**G**	N	N
BASIS GOLD	**B**/**C**	3	F	**G**	**G**	F	**G**	**E**	**G**	**G**	**E**	**G**	**G**	**G**	F[d]	**G**	**G**	**G**	**G**	**G**	**G**	F	**G**	F	**G**	F
BUCTRIL + ATRAZINE	O/**C**	2	**G**	**G**	**E**	**E**	**G**	**G**	**E**	**E**	**G**	**G**	**G**	P	P	P	F	F	P	P	P	P	P	F	N	N
HORNET WDG	**B**/O	2	**E**	F	F	F	F	P	**G**	**E**	**G**	**G**	**G**	N	N	N	N	N	N	N	N	**G**	N	N	N	N

Herbicide Site of Action: A = ACCase Inhibitor; B = ALS Inhibitor; C = Photosynthesis Inhibitor; O = Other

Herbicide Effectiveness: P = Poor; F = Fair; G = Good; E = Excellent; N = None; – = Not enough information to rank

**The above ratings are a relative comparison of herbicide effectiveness. Weather conditions greatly influence the herbicide's effectiveness, and weed control may be better under favorable conditions or poorer under unfavorable conditions.*

**Crop Tolerance: 1=Minimal risk of crop injury; 2=Crop injury can occur under certain conditions (soil applied—cold, wet: foliar applied—hot, humid); 3=Severe crop injury can occur. Follow precautions under Remarks and Limitations and on the label; 4=Risk of severe crop injury is high. Recommended only in rescue situations.

[a] Triazine-resistant lambsquarters

[b] Apply to Clearfield Corn only.

[c] Must add nitrogen fertilizer for velvetleaf control.

[d] Large crabgrass only.

[e] For consistent velvetleaf control, treat before plants exceed 4 inches.

TABLE 1J — Weed and Crop Heights for Postemergence Herbicide Applications in Corn*

Herbicide[b]		ANNUAL BROADLEAVES											ANNUAL GRASSES								CORN	
		COCKLEBUR	JIMSONWEED	LAMBSQUARTERS	T-R LAMBSQUARTERS[c]	NIGHTSHADE (E. BLACK)	PIGWEED (REDROOT)	RAGWEED (COMMON)	RAGWEED (GIANT)	SMARTWEED	VELVETLEAF	WILD MUSTARD	BARNYARDGRASS	CRABGRASS	GIANT FOXTAIL	GREEN FOXTAIL	YELLOW FOXTAIL	FALL PANICUM	WITCHGRASS	SANDBUR	MINIMUM[a] HEIGHT	MAXIMUM[a] HEIGHT
	RATE/A	MAXIMUM HEIGHT[a]											MAXIMUM HEIGHT[a]									
Broadcast																						
Accent	0.67 oz	NR	3”	NR	NR	NR	4”	NR	NR	4”	NR	–	4”	NR	4”	4”	4”	4”	4”	3”	None	20” or 6 collars
Accent Gold/ Accent Gold WDG	2.9 oz/ 3.5 oz	6”	4”	NR	NR	NR	4”	6”	6”	6”	6”	6”	3”	NR	3”	3”	3”	3”	3”	2”	None	12” or 5 collars
Aim EW	0.33 oz/0.5 fl oz	NR	–	NR	NR	4”	4”	NR	NR	NR	36”	–	NR	NR	NR	NR	NR	NR	NR	NR	None	8 collars
Atrazine 4L	2 qt	4”	4”	6”	NR	4”	6”	4”	4”	4”	NR	4”	NR	NR	NR	1½”	1½”	NR	NR	NR	None	12”
Banvel/Clarity	1 pt	4”	4”	4”	4”	4”	4”	4”	4”	6”	NR	2”	NR	NR	NR	NR	NR	NR	NR	NR	None	8” or 5 lf
Banvel + atrazine 4L	1 pt + 2 pt	6”	6”	6”	4”	6”	6”	6”	6”	8”	6”	6”	NR	NR	NR	NR	NR	NR	NR	NR	None	8” or 5 lf
Basagran	2 pt	10”	10”	NR	NR	NR	NR	NR	NR	10”	NR	8”	NR	NR	NR	NR	NR	NR	NR	NR	None	None
Basagran + atrazine 4L	1.4 pt + 1.4 pt	8”	8”	8”	NR	NR	6”	5”	6”	12”	10”	8”	NR	NR	NR	NR	NR	NR	NR	NR	None	12”
Basis	0.33 oz	NR	NR	3”	3”	NR	3”	NR	NR	3”	3”	3”	2”	NR	2”	2”	2”	2”	2”	NR	None	2 collars or 6”
Basis Gold	14 oz	NR	4”	3”	NR	3”	4”	3”	3”	4”	3”	3”	3”	NR	3”	3”	2”	3”	3”	2”	None	12” or 6 collars
Beacon	.76 oz	4”	4”	NR	NR	4”	4”	9”	9”	4”	4”	NR	NR	NR	NR	NR	NR	2”	2”	NR	4”	20”
Buctril, Moxy, others	1.5 pt	10”	6”	8”	8”	6”	NR	6”	6”	6”	5”	NR	NR	NR	NR	NR	NR	NR	NR	NR	None	d
Buctril + atrazine	1.5 pt + 1.5 pt	12”	6”	12”	8”	6”	6”	6”	10”	8”	6”	4”	NR	NR	NR	NR	NR	NR	NR	NR	None	12”
Callisto	3 fl oz	NR	NR	5”	5”	5”	5”	3”	3”	5”	5”	NR	NR	NR	NR	NR	NR	NR	NR	NR	None	30” or 8 collars
Distinct	6 oz	4”	4”	4”	4”	4”	4”	4”	4”	6”	4”	2”	NR	NR	NR	NR	NR	NR	NR	NR	4”	10”
Equip	1.5 oz	4”	4”	4”	4”	4”	4”	NR	NR	NR	NR	NR	4”	NR	3”	3”	3”	3”	3”	NR	None	4 collars or 12”
Hornet WDG	3.0 oz	6”	NR	NR	NR	NR	NR	6”	6”	6”	4”	4”	NR	NR	NR	NR	NR	NR	NR	NR	None	20” or 6 collars
Liberty (Liberty Link only)	24 fl oz	4”	4”	NR	NR	2”	3”	4”	4”	4”	3”	4”	2”	2”	4”	4”	2”	2”	2”	NR	None	24” or 7 collars
Lightning (Clearfield Corn only)	1.28 oz	4”	3”	3”	3”	3”	6”	NR	NR	3”	3”	–	2”	2”	4”	2”	2”	2”	2”	2”	None	12” or 5 collars
Option	1.5 oz	NR	3”	NR	NR	4”	3”	NR	NR	NR	NR	NR	4	NR	3	3	3	3	3	NR	None	6 collars or 16”
Permit	0.67 oz	9”	6”	NR	NR	NR	3”	9”	3”	NR	6”	–	NR	NR	NR	NR	NR	NR	NR	NR	None	canopy closure
Resource	4 fl oz	NR	NR	NR	NR	NR	NR	NR	NR	NR	5 lf	NR	NR	NR	NR	NR	NR	NR	NR	NR	2 lf	10 collars or canopy closure
glyphosate (RR Corn only)	0.56 lb a.e.	6”	6”	3”	3”	4”	4”	4”	6”	4”	4”	6”	6”	4”	6”	6”	6”	6”	6”	6”	None	30” or 8 collars
Steadfast	0.75 oz	NR	4”	NR	NR	NR	4”	NR	NR	3”	NR	NR	4”	NR	4”	4”	4”	4”	4”	2”	None	20” or 6 collars
Stinger	0.25 pt	5 lf	5 lf	NR	NR	NR	NR	5 lf	5 lf	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	None	24”
2,4-D amine	1 pt	4”	NR	4”	4”	4”	4”	4”	4”	NR	NR	4”	NR	NR	NR	NR	NR	NR	NR	NR	None	8”

[a] NR = not recommended; – = not enough information to rank; lf = leaf stage.

[b] Consult label for recommended additives.

[c] Triazine-resistant lambsquarters.

[d] Before tassel emergence.

*The weed heights and growth stages listed in this table are estimates of the maximum size where consistent control is expected. The maximum height for effective control in any specific situation is dependent on environment conditions, including soil moisture, temperature, and relative humidity.

Table 1K - Delayed Herbicide Application in Corn

Preemergence herbicides should be applied as soon after planting as possible. Delayed application increases the risk of poor herbicide performance, especially for grass control. This table lists herbicides commonly applied preemergence that are also labelled for application after corn emergence. Tank mix combinations are not included in the table. All the herbicide treatments should be applied with water as the carrier. Applying herbicides to emerged corn with 28% liquid nitrogen fertilizer as the carrier poses a risk of severe crop injury. Refer to the herbicide labels for information on application rates and specific restrictions for tank mixtures.

Herbicide	**Maximum Corn Stage**
Axiom, Princep	Before corn emergence
Python	2 inches (before the first leaf is unfurled)
Bicep II Magnum, Cinch ATZ, Bicep Lite II Magnum, Cinch ATZ Lite, Bullet, Micro-Tech, Lumax, Camix	5 inches
Define	5 collars
Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Fultime, Surpass, TopNotch, Keystone, Keystone LA, Volley, Volley ATZ, Volley ATZ Lite	11 inches
Atrazine	12 inches
Lexar	12 inches
Outlook	12 inches
Guardsman Max, G-Max Lite	12 inches
Hornet WDG	20 inches or 6 collars
Callisto	30 inches or 8 collars
Prowl, Prowl H2O	30 inches or 8 collars
Dual II Magnum, Cinch	40 inches
Pendimax (tank mix)	Based on tank mix partner (see label)
Stalwart C (tank mix)	Based on tank mix partner (see label)

TABLE 1L —Herbicide: Organophosphate Insecticide Compatibility Chart for Conventional and Clearfield Corn

Herbicide	Soil applied OPs[1] Counter 15G	Soil applied OPs[1] Counter 20CR (in furrow)	Soil applied OPs[1] Counter 20CR (banded)	Foliar applied OPs[4] Thimet/ phorate	Foliar applied OPs[4] Lorsban	Foliar applied OPs[4] Other[2]	Days before herbicide[5]	Days after herbicide[6]
Accent	Do not use	Do not use	NR	T	T	T	7	3
Accent Gold/Accent Gold WDG	Do not use	Do not use	Do not use	Do not use	NR	T	7	3
Beacon	Do not use	Do not use	NR	T	T	T	10	7
Basis	Do not use	Do not use	NR	NR	NR	T	7	3
Basis Gold	Do not use	Do not use	NR	NR	NR	T	7	3
Callisto (foliar applied)	Do not use	Do not use	NR	NR	T	T	7	7
Equip	Do not use	Do not use	Do not use	Do not use	T	T	7	7
Hornet WDG (soil applied)	Do not use	Do not use	Do not use	Do not use	T[3]	T[3]	NA	NA
Hornet WDG (foliar applied)	Do not use	Do not use	Do not use	Do not use	T[3]	T[3]	10	10
Lightning (Clearfield Corn only)	Do not use	Do not use	T[3]	T[3]	T[3]	T[3]	—	—
Option	Do not use	Do not use	Do not use	Do not use	T	T	7	7
Steadfast	Do not use	Do not use	NR	NR	NR	T	7	3

[1] Do not use = do not apply herbicide to corn previously treated with soil-applied OP insecticide — severe injury may result; NR = application of herbicide to corn previously treated with soil-applied OP is not recommended; T = application of herbicide to corn previously treated with soil-applied OP may result in temporary injury; — = no information or not applicable; NA = not applicable.

[2] Includes diazinon and *Mocap. Aztec* and *Fortress* do not appear to interact with the herbicides listed and can be used without risk of injury.

[3] OP insecticides should be applied in a band treatment to reduce risk of crop injury.

[4] Includes dimethoate, diazinon, *Imidan, Lorsban,* malathion, and *Penncap.* Also includes the herbicides *Basagran* and *Laddok.*

[5] Foliar-applied OP may be safely applied this many days *before* herbicide treatment.

[6] Foliar-applied OP may be safely applied this many days *after* herbicide treatment.