

CORN INSECT CONTROL

David Buntin, Research/Extension Entomologist

PEST	MATERIAL AND FORMULATION	MOA	AMOUNT PER ACRE OR PER 1000 FT OF ROW	LB. ACTIVE INGREDIENT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS	
Preplant treatment for soil insects	<i>bifenthrin</i> Brigade, Discipline, Fanfare, other brands 2EC	3A	3–4 fl oz	0.047–0.062	24 H/ 30 D	Use <i>bifenthrin</i> for grubs, wireworms, seedcorn maggot, and cut-worms. Broadcast using 20 GPA before planting and immediately incorporate into top 3" of soil. Plant crop as soon as possible after treatment. May be tank mixed with preplant herbicides.	
Soil Insects At-planting: wireworm, grubs, S. corn rootworm, seed corn maggot, fire ants (Also see sections for billbugs, cutworms, lesser cornstalk borer, and mid-season rootworms for these pests)	<b>SEED TREATMENTS</b>						
	<i>clothianidin</i> Poncho 250: Acceleron, NipsIt Inside Poncho 500: Acceleron with Poncho Vitivo, NipsIt Inside Poncho 1250: Acceleron with Poncho Vitivo 1250, PPST+Poncho 1250, NipsIt Inside	4A	0.25 mg (ai)/seed 0.5 mg (ai)/seed 1.25 mg (ai)/seed	— — —	12 H/ — Not listed	All of these materials at the listed rates provide helpful control, but may not provide complete protection if population pressure is great. Risk of severe infestation is greater in reduced/no tillage, fallow land, following sod, poor soil conditions for seedling growth, and late-planted corn. <b>NOTE:</b> Poncho and Cruiser are commercially applied seed treatments. The low rate may not provide good protection under severe infestations. These products also suppress aphids and chinch bugs on seedlings. Both insecticides available in combination with various fungicides under several brand names. Avicta Complete Corn contains Cruiser 500. Acceleron for corn contains Poncho 250 and Acceleron with VITiVO contains Poncho 500. <b>NOTE:</b> At-planting treatment rates are for 1000 ft of row in 30–40" rows. Per acre rates vary with row spacing; See labels for per acre rates for specific row spacing and for row spacings fewer than 30" apart. <b>NOTE:</b> Apply Counter 20G as a T-band or in-furrow. Counter will interact with ALS-inhibiting herbicides like Accent, Beacon, and Option to cause severe plant injury. See corn weed section of this handbook and product labels for specific herbicide interactions and precautions. <b>NOTE:</b> Phorate / Thimet (phorate) 20G also are labeled but not listed. Apply as a band application only; in-furrow applications may cause plant injury and stand loss. Due to the risk of plant injury, Counter 15G is a better choice. Phorate / Thimet will interact with ALS-inhibiting herbicides as noted for Counter. <b>NOTE:</b> Apply Force 3G and <i>bifenthrin</i> products as an open-furrow T-band or in-furrow. Force and <i>bifenthrin</i> do not interact with ALS herbicides.	
	<i>imidacloprid</i> Gaucho 600, Attendant 600, Axxess, other brands	4A	0.6 mg (ai)/seed 1.34 mg (ai)/seed	—	12 H/ —		
	<i>thiamethoxam</i> Cruiser 250 (5FS), PPST 250 Cruiser 500 (5FS) Cruiser 1250 (5FS)	4A	0.25 mg (ai)/seed 0.5 mg (ai)/seed 1.25 mg (ai)/seed	— — —	12 H/ 45 D		
	<i>thiamethoxam + chlorantraniliprole</i> PPST 250 Plus Lumivia	4A	0.25 mg (ai)/seed + 0.25 mg (ai)/seed	—	12 H/ 45 D		
	<b>AT-PLANTING TREATMENT</b>						
	<i>bifenthrin</i> Brigade, Capture, Fanfare, Discipline, other brands 2EC	3A	0.15–0.3 fl oz/1000 ft of row	0.0023–0.0046/ 1000 ft lb (ai)/A varies with row spacing	24 H/ 30 D		
	Capture LFR 1.5		3.4–13.6 fl oz/A OR 0.2–0.78 fl oz/1000 ft of row	0.04–0.16 lb (ai)/A			
	Capture 3RIVE 3D		0.23–0.92 fl oz/1000 ft row	0.05–0.2	12 H/ 30 D		
	Capture 1.15G, similar products		6.4–8 oz /1000 ft	Varies w/row spacing	24 H/ 30 D		
<i>chlorothoxyfos + bifenthrin</i> Smart Choice 5G Smartbox	11B + 3A	3–3.5 oz/1000 ft of row	Varies	48 H/ —			
<i>tefluthrin</i> Force 3G Force CS	3A	4–5 oz/1000 ft of row 0.46–0.57 fl oz/1000 ft row	Varies	12 H/ —			
<i>terbufos</i> Counter 20G	1B	4.5–6 oz/1000 ft	Varies	48 H/ 30 D			

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Soil Insect Mid-season: Western corn rootworm	<b>AT-PLANTING TREATMENT</b>					<p>Western corn rootworm can be a problem in non-rotated corn in northern and central Georgia. Hybrids with Bt-rootworm traits are available and are effective against mid-season rootworms but are NOT effective against other soil insects. Bt-rootworm traits have a 20% refuge requirement.</p> <p><b>At-Planting Treatments:</b> Apply at-planting in a 6–7" band or T-band (if label permits) over the open seed furrow in front of the planter press wheel. Counter and Force can be applied in-furrow. For no-till where no incorporation is obtained with the press wheel, use Counter in-furrow at indicated rates.</p> <p><b>NOTE:</b> Rates are for 30–40" row. See label for rates for specific row spacing. Most products cannot be used at the listed rate in less than 30 inch rows without exceeding the maximum labeled amount/A. See label for narrow rows.</p> <p><b>NOTE:</b> Poncho 1250 is available as a commercially applied seed treatment. Provides suppression only of western corn rootworms.</p> <p><b>NOTE:</b> Counter may interact with ALS herbicides like Accent and Beacon to cause plant injury. See corn weed control section of this handbook and product labels for herbicide interactions and precautions.</p>
	<i>chlorothoxyfos + bifenthrin</i> Smart Choice 5G Smartbox	11B + 3A	3–3.5 oz/1000 ft of row	Varies	48 H/ —	
	<i>clothianidin</i> Poncho 1250	4A	1.25 mg (ai)/seed	—	12 H/ —	
	<i>tefluthrin</i> Force 3G Force CS	3A	4–5 oz/1000 ft of row 0.46–0.57 fl oz/1000 ft row	Varies	12 H/ —	
<i>terbufos</i> Counter 20G	1B	4.5–6 oz/1000 ft	Varies	48 H/ 30 D		
Soil Insects: Billbug, Sugarcane beetle	<b>SEED TREATMENTS/AT-PLANTING TREATMENT</b>					<p>Beetles feed on seedling plants at or below soil line causing dead or dead-hearted plants. Generally problems are worse in reduced tillage, when a winter cover crop is used. Billbugs are often associated with nutgrass infestation and sugarcane beetle is often associated with bahiagrass infestation.</p> <p><b>At-Planting treatments:</b> Apply Counter as a T-band application. Apply Capture LFR in-furrow or in a 5–7" open furrow T band for sugarcane beetle control. Poncho 1250 and Cruiser 1250 are available only as a commercial seed treatment. Poncho 500 may also provide suppression of billbug. Poncho 250 also provides fair–good control of sugarcane beetle.</p> <p><b>NOTE:</b> Counter may interact with ALS herbicides like Accent and Beacon to cause plant injury. See corn weed control section of this handbook and product labels for herbicide interactions and precautions.</p> <p><b>Post-emergence control:</b> Stand loss of 10% justifies control. Direct liquid sprays at base of plant using at least 25 gal/A of spray. Generally rescue treatments for sugarcane beetle are not effective.</p>
	<i>bifenthrin</i> Capture LFR	3A	3.4–6.8 fl oz	0.04–0.08 lb ai	12 H/ —	
	<i>clothianidin</i> Poncho 500 (Poncho Votivo) Poncho 1250 NipsIt Inside	4A	0.50 mg (ai)/seed 1.25 mg (ai)/seed See label	— — —	12 H/ —	
	<i>terbufos</i> Counter 20G	1B	4.5–6 oz/1000 ft	Varies	48 H/ 30 D	
	<i>thiamethoxam</i> Cruiser 1250	4A	1.25 mg (ai)/seed	—	12 H/ 45 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.54 fl oz 3.84 fl oz	0.015 0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08 Silencer, Lambda T, others 1CS	3A	1.92 fl oz 3.84 fl oz	0.03 0.03	24 H/ 21 D	

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Soil Insects: Lesser cornstalk borer	<b>PREPLANT/SEED TREATMENTS/AT-PLANTING</b>					<p>Lesser cornstalk borer larvae tunnel into the seedling plant below the soil line causing dead or dead-hearted plants. Larvae spin silken tubes at plant base. Hot, dry conditions, clean tillage, and late planting favor infestations. Difficult to control after planting; at-planting treatments are most effective.</p> <p><b>Post-emergence:</b> Direct spray at full rate in a band around base of plants and lightly incorporate. Apply before larvae enter plants. A rescue treatment once larvae tunnel into plants is rarely effective.</p> <p><b>NOTE:</b> Hybrids with Bt traits also may provide useful control.</p>
	<i>clothianidin</i> Poncho 500 (Poncho Votivo) Poncho 1250 NipsIt Inside	4A	0.5 mg (ai)/seed 1.25 mg (ai)/seed See label	— — —	12 H/ —	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.54 fl oz 3.84 fl oz	0.015 0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08 Silencer, Lambda, others 1	3A	1.92 fl oz 3.84 fl oz	0.03 0.03	24 H/ 21 D	
Chinch bug	<b>AT-PLANTING</b>					<p><b>At-planting treatments:</b> Low (250) rates of Poncho and Cruiser seed treatments as applied at planting for soil insect control may suppress chinch bugs for up to 25 days after planting. Poncho 500, 1250, and Cruiser 1250 may control chinch bugs for several weeks after planting.</p> <p>Counter 20G for suppression of light to moderate infestations.</p> <p><b>Post-emergence treatments:</b> Treat if bugs become numerous and wilting leaves are noticed. Usually not important after seedling stage. Chinch bug infestations are difficult to control. Treatment after boot stage is rarely effective.</p>
	<i>clothianidin</i> Poncho 250 Poncho 500 (Poncho Votivo) NipsIt Inside 5	4A	0.25 mg (ai)/seed 0.5 mg (ai)/seed See label	— — —	12 H/ —	
	<i>terbufos</i> Counter 20G	1B	4.5–6 oz/1000 ft	Varies	48 H/ 30 D	
	<i>thiamethoxam</i> Cruiser 250 Cruiser 1250	4A	0.25 mg (ai)/seed 1.25 mg (ai)/seed	— —	12 H/ 45 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.54 fl oz 3.84 fl oz	0.015 0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08 Silencer, Lambda T, others 1CS	3A	1.92 fl oz 3.84 fl oz	0.03 0.03	24 H/ 21 D	

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Aphids (foliar treatments)	<i>bifenthrin</i> Brigade, Capture, Fanfare, Discipline, other brands 2EC	3A	2.1–6.4 fl oz	0.05–0.10	24 H/ 30 D	Aphids seldom require control on field corn in Georgia. Natural enemies, mainly lady beetles, usually move in and rapidly control aphid infestations. During silking and tasseling, treat if aphids are so abundant they appear likely to interfere with pollination. <b>NOTE:</b> Poncho and Cruiser seed treatments as applied at planting for soil insect control will control aphids on seedling corn for up to 30 days after planting.
	<i>dimethoate</i> Dimethoate 2.67EC Dimethoate 4E, 400	1B	0.5 pt 2–3 pt	0.25 0.5–0.75	48 H/ 42 D	
	<i>esfenvalerate</i> Asana XL, Adjourn 0.66EC	3A	5.8–9.6 fl oz	0.03–0.05	12 H/ 21 D	
	<i>flupyradifurone</i> Sivanto Prime	4D	7–10.5 fl oz	0.091–0.137 fl oz	4H/ 21 D	
	<i>sulfoxaflor</i> Transform WG	4C	0.75–1.5 oz	0.023–0.047	24H/ 7 D	
Armyworms: True armyworm Fall armyworm	<i>alpha-cypermethrin</i> Fastac CS 0.83	3A	1.8–3.8 fl oz	0.012–0.025	12 H/ 30 D	Reduced tillage and grassy weeds favor infestations. Seedling plants, treat if 25% of plants show defoliation including window-panning type defoliation and larvae are present. Treat within 48 hours. Whorl stage plants, treat when 30% of the plants are infested. Use ground equipment and apply at least 20 gal of finished spray/A directed down into the whorls. Nozzles with large droplet size will aid in control. <b>NOTE:</b> Bt-corn, especially YieldGard-CB, generally is not effective against true armyworm. See seed dealer for refuge requirements of Bt corn hybrids.
	<i>bifenthrin</i> Brigade, Capture, Fanfare, Discipline, other brands 2EC	3A	2.1–6.4 fl oz	0.033–0.01	24 H/ 30 D	
	<i>beta-cyfluthrin</i> Baythroid XL 1.0EC	3A	2.8 fl oz	0.022	12 H/ 21 D	
	<i>chlorantraniliprole</i> Prevathon 0.43 Vantacor (Fall armyworm only)	28	14–20 fl oz 1.2–2.5 fl oz	0.047–0.09 0.047–0.098	4 H/ 21 D	
	<i>deltamethrin</i> Delta Gold 1.5EC	3A	0.8 fl oz	0.009	12 H/ 21 D	
	<i>esfenvalerate</i> Asana XL, Adjourn 0.6 6EC (True armyworm only)	3A	9.6 fl oz	0.05	12 H/ 21 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.54 fl oz 3.84 fl oz	0.015 0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08 Silencer, Lambda T, others 1CS	3A	1.92 fl oz 3.84 fl oz	0.03 0.03	24 H/ 21 D	
	<i>methomyl</i> Lannate, Annihilate, other brands 2.4LV	1A	0.75–1.5 pt	0.225–0.45	48 H/ 21 D	
	<i>methoxyfenozide</i> Intrepid 2F (True armyworm only)	18	4–16 fl oz	0.06–0.25	24 H/ 21 D	
<i>methoxyfenozide + spinetoram</i> Intrepid Edge	5 + 18	4–12 fl oz		24 H/ 28 D		

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Armyworms: True armyworm Fall armyworm (continued)	<i>spinetoram</i> Radiant 1SC	5	3–6 fl oz	0.0234–0.0469	4 H/ 28 D	
	<i>spinosad</i> Blackhawk (36%)	5	1.67–3.3 oz	0.038–0.075	4 H/ 28 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect	3A	4 fl oz	0.025	12 H/ 30 D	
Corn earworms, Fall armyworms (In ears)	<i>chlorantraniliprole</i> Prevathon 0.43 Vantacor	28	14–20 fl oz 1.2–2.5 fl oz	0.047–0.09 0.047–0.098	4 H/ 21 D	Corn earworm and fall armyworm in ears are difficult to control. Usually not economical to keep these insects out of the ears using insecticides. Apply Prevathon when eggs are being laid on silks and before larvae move into the ear. Bt-trait in Genuity Trecepta, Agrisure Viptera, and Optimum Leptra will reduce infestation and ear/kernel damage by corn earworm and fall armyworm. Other single Bt traits are not effective in preventing ear damage.
	<i>methoxyfenozide + spinetoram</i> Intrepid Edge	5 + 18	8–12 fl oz		24 H/ 28 D	
	Bt-trait corn Genuity Trecepta Agrisure Viptera Optimum Leptra	11A	Insecticide produced in plant			
Cutworms	<i>alpha-cypermethrin</i> Fastac CS, other brands 0.83	3A	1.8–3.8 fl oz	0.012–0.025	12 H/ 30 D	Several species including black, dingy and variegated cutworms. Reduced tillage conditions, plant residue, winter cover crops, and winter grassy weeds favor infestation. <b>Pre-plant</b> broadcast application within 2 weeks of planting may provide helpful control of large cutworms. Use intermediate to highest rate listed. Most products can be tank mixed with a pre-plant herbicide. <b>At planting</b> apply insecticide as a band or T-band over the row. Check label for specific banding directions. <b>NOTE:</b> Poncho 1250 as applied at planting for soil insect control also will reduce cutworm damage. <b>NOTE:</b> Some Bt traits are effective at preventing cutworm damage.
	<i>beta-cyfluthrin</i> Baythroid XL 1EC	3A	1.6 fl oz	0.013	12 H/ 21 D	
	<i>bifenthrin</i> Bifenthrin, Capture, Discipline, Fanfare, other brands 2EC	3A	PPI & PRE: 3–4 fl oz/A (0.047–0.062 lb AI) POST: 2.1–6.4 fl oz/A (0.033–0.10)	0.033–0.10	24 H/ 30 D	
	<i>cyfluthrin</i> Tombstone 2	3A	1.6 fl oz	0.025	12 H/ 21 D	
	<i>deltamethrin</i> Delta Gold 1.5EC	3A	0.8 fl oz	0.009	12 H/ 21 D	
	<i>esfenvalerate</i> Asana XL, Adjourn 0.66EC	3A	9.6 fl oz	0.05	12 H/ 21 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.54 fl oz 3.84 fl oz	0.015 0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08 Silencer, Lambda T, others 1CS	3A	1.28–1.6 fl oz 1.92–3.2 fl oz	0.02–0.025 0.02–0.025	24 H/ 21 D	
	<i>permethrin</i> others 3.2EC	3A	4–6 fl oz	0.1–0.15	12 H/ 30 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.8–4 fl oz/A or 0.16 fl oz/1000 ft	0.014–0.025	12 H/ 7 D	

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European corn borer, Southwestern corn borer	<i>bifenthrin</i> Bifenthrin, Capture, Fanfare, Discipline, other brands 2EC	3A	2.1–6.4 fl oz	0.033–0.10	24 H/ 30 D	<p><b>EUROPEAN CORN BORER:</b> Insecticides must be applied before larvae bore into stalks. Whorl stage (1st generation), treat if numerous egg masses are found in the field (treat just as eggs hatch) or when 50% of the plants have leaf feeding and live, small larvae are found. Tasseling stage (2nd generation), treat when the corn is in the early-tasseling stage and moths are active in the field.</p> <p><b>SOUTHWESTERN CORN BORER:</b> Currently restricted to northwestern Georgia. Infestations usually worse in late-planted fields. Comments on European corn borer also apply to southwestern corn borer.</p> <p><b>NOTE:</b> All Bt-corn products currently on the market are very effective against both borer species. See seed dealer for refuge requirements of Bt corn hybrids.</p> <p><b>NOTE:</b> Blackhawk/Tracer is most effective against small larvae.</p>
	Bt-trait corn	11A	Insecticide produced in plant			
	<i>chlorantraniliprole</i> Prevathon 0.43 Vantacor		14–20 fl oz 1.2–2.5 fl oz	0.047–0.09 0.047–0.098	4 H/ 21 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.28–1.54 fl oz 3.20–3.84 fl oz	0.0125–0.015 0.0125–0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08, Silencer, Lambda T, others 1CS	3A	1.6–1.92 fl oz 3.2–3.84 fl oz	0.025–0.003 0.025–0.003	24 H/ 21 D	
	<i>methoxyfenozide</i> Intrepid 2F	18	4–16 fl oz	0.06–0.25	24 H/ 30 D	
	<i>methoxyfenozide + spinetoram</i> Intrepid Edge	5 + 18	4–12 fl oz		24 H/ 28 D	
	<i>spinosad</i> Blackhawk (36%)	5	1.67–3.3 oz	0.038–0.075	4 H/ 28 D	
Grasshoppers	<i>alpha-cypermethrin</i> Fastac CS, other brands 0.83	3A	2.7–3.8 fl oz	0.017–0.025	12 H/ 30 D	<p>Generally, a problem in reduced tillage and along field margin. Products listed are most effective against small to medium sized nymphs. Adults are highly mobile and may re-infest soon after treatment.</p>
	<i>beta-cyfluthrin</i> Baythroid XL 1EC	3A	2.1–2.8 fl oz	0.0165–0.022	12 H/ 21 D	
	<i>bifenthrin</i> Bifenthrin, Capture, Discipline, Fanfare, other brands 2EC	3A	2.1–6.4 fl oz	0.033–0.10	24 H/ 30 D	
	<i>cyfluthrin</i> Tombstone 2	3A	2.1–2.8 fl oz	0.033–0.044	12 H/ 21 D	
	<i>deltamethrin</i> Delta Gold 1.5EC	3A	1.5 fl oz	0.018	12 H/ 21 D	
	<i>dimethoate</i> Dimethoate 400, 4EC	3A	1 pt	0.5	48 H/ 28 D	
	<i>esfenvalerate</i> Asana XL, Adjourn 0.66EC	3A	5.8–9.6 fl oz	0.03–0.05	12 H/ 21 D	

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Grasshoppers (continued)	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02–1.54 fl 3A3AG RG AW G	0.01–0.015 0.01–0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08, Silencer, Lambda T, others 1CS	3A	1.28–1.92 fl oz 2.56–3.84 fl oz	0.02–0.03 0.02–0.03	24 H/ 21 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.72–4 fl oz	0.017–0.025	12 H/ 7 D	
Beetle Adults: Cereal Leaf beetles, Flea beetles, Japanese beetle, Corn rootworm adults	<i>alpha-cypermethrin</i> Fastac CS 0.83	3A	2.7–3.8 fl oz	0.017–0.025	12 H/ 30 D	<p>LEAF FEEDING by CEREAL LEAF BEETLES, FLEA BEETLES, JAPANESE BEETLES: Leaf feeding on whorl stage plants usually in late spring. Cereal leaf beetles move out of maturing small grain fields and infest nearby corn fields. Usually only border rows are damaged and may need control. Treat if beetles become numerous and their feeding damage exceeds 25% leaf area loss.</p> <p>SILK FEEDING by JAPANESE BEETLE, CORN ROOTWORM ADULTS: Feeding on silks by beetles during pollination. Treat if 2 or more Japanese beetles or 5 or more rootworm beetles are present AND most silks are being clipped to within an inch of the ear tip.</p> <p><b>NOTE:</b> During pollination, Sevin (<i>carbaryl</i>) has a bee caution. Notification of beekeepers in the area may be needed. See label for details.</p>
	<i>beta-cyfluthrin</i> Baythroid XL 1EC	3A	2.1–2.8 fl oz	0.0165–0.022	12 H/ 21 D	
	<i>bifenthrin</i> Bifenthrin, Capture, Fanfare, Discipline, other brands 2EC	3A	2.1–6.4 fl oz	0.033–0.10	24 H/ 30 D	
	<i>carbaryl</i> Sevin, other brands 4.0	1A	1–2 qt	1–2	24 H/ 48 D	
	<i>cyfluthrin</i> Tombstone 2	3A	1.6–2.8 fl oz	0.025–0.044	12 H/ 21 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02–1.54 fl oz 2.56–3.84 fl oz	0.01–0.015 0.01–0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08 Silencer, Lambda T, others 1CS	3A	1.28–1.92 fl oz 2.56–3.84 fl oz	0.02–0.03 0.02–0.03	24 H/ 21 D	
	<i>permethrin</i> others 3.2EC	3A	4–6 fl oz	0.1–0.15	12 H/ 21 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.72–4 fl oz	0.017–0.025	12 H/ 7 D	
Spider Mites	<i>bifenthrin</i> Bifenthrin, Capture, Fanfare, Discipline, other brands 2EC	3A	5.12–6.4 fl oz	0.08–0.10	24 H/ 30 D	<p>MITES: Treat if infestations become widespread, leaf discoloration is evident, and 1–2 lower leaves are dying.</p> <p><i>Bifenthrin</i> products: Use 6.4 fl oz rate alone OR use 5.1 fl oz rate tank mixed with <i>dimethoate</i> at 0.5 lb (AI)/A.</p>
	<i>dimethoate</i> Dimethoate 2.67EC Dimethoate 4E, 400	1B	Tank mix <i>dimethoate</i> at 0.5 lb (AI)/A with <i>bifenthrin</i>		48 H/ 42 D	
	<i>etoxazole</i> Zeal 72WSP	10B	1–3 oz	0.045–0.135	12 H/ 21 D	

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CORN

PEST	MATERIAL AND FORMULATION	MOA	AMOUNT PER ACRE OR PER 1000 FT OF ROW	LB. ACTIVE INGREDIENT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
Spider Mites (continued)	<i>hexythiazox</i> Onager 1	10A	10–24 fl oz	0.078–0.1875	12 H/ 30 D	Apply at first sign of mites before population begins to build.
	<i>propargite</i> Comite II 6	12C	1.5–2.25 pt	1.125–1.6875	13 H/ 30 D	Only apply to dry foliage. Do not tank mix; do not use an oil-based surfactant. See label for additional restrictions.
	<i>spiromesifen</i> Oberon 2SC Oberon 4SC,	23	5.7–8.5 fl oz 2.85–8 fl oz	0.087–0.13 0.087–0.25	13 H/ 30 D	Use 8.5 fl oz rate for large infestations. A NIS adjuvant is beneficial.
Stink bugs	<b>BROWN STINK BUGS</b>					SEEDLING STAGE: Treat if 10% of seedling plants have damage and stink bugs are present. Poncho 250, 500, and 1250 will suppress stink bug damage to seedlings for a few weeks after planting. EAR STAGE: Corn is most sensitive to stink bug injury during ear formation before silking. Treat if 1 bug per 8 plants in the ear zone are infested with stink bugs. KERNEL FILL: During early kernel filling bugs feed through the husk damaging individual kernels. Treat if 1 bug per 4 plants are infested. <b>NOTE:</b> Use pyrethroids (Baythroid, Capture, Delta Gold, Fastac CS, Mustang, Karate, Warrior, Declare, Proaxis, Tombstone) if southern green stink bug is present. These products are less effective against brown stink bug. <b>NOTE:</b> Bidrin as used on cotton is not registered for use on corn.
	<i>bifenthrin</i> Bifenthrin, Capture, Discipline, Fanfare, others 2EC	3A	6.4 fl oz	0.10	12 H/ 30 D	
	<i>bifenthrin + zeta cypermethrin</i> Hero Speed	3A	10.3 fl oz 4.7 fl oz	<i>bifenthrin</i> 0.10 <i>bifenthrin</i> 0.10	12 H/ 30 D	
	<b>GREEN/SOUTHERN GREEN STINK BUGS</b>					
	<i>alpha-cypermethrin</i> Fastac CS, other brands 0.83	3A	3.2–3.8 fl oz	0.020–0.025	12 H/ 30 D	
	<i>beta-cyfluthrin</i> Baythroid XL 1EC	3A	2–2.8 fl oz	0.015–0.022	12 H/ 21 D	
	<i>bifenthrin</i> Bifenthrin, Capture, Discipline, Fanfare, other brands 2EC	3A	3.2–6.4 fl oz	0.05–0.10	24 H/ 30 D	
	<i>cyfluthrin</i> Tombstone 2	3A	2.1–2.8 fl oz	0.033–0.044	12 H/ 21 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.28–1.54 fl oz 3.20–3.84 fl oz	0.0125–0.015 0.0125–0.015	24 H/ 21 D	
	<i>lambda cyhalothrin</i> Warrior II Zeon 2.08, Silencer, Lambda T, others 1CS	3A	1.6–1.92 fl oz 3.2–3.84 fl oz	0.025–0.03 0.025–0.03	24 H/ 21 D	
<i>zeta-cypermethrin</i> Mustang MAX, Respect 0.8EC	3A	3.2–4 fl oz	0.02–0.025	12 H/ 7 D		



PEST	MATERIAL AND FORMULATION	MOA	AMOUNT PER ACRE OR PER 1000 FT OF ROW	LB. ACTIVE INGREDIENT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
Thrips	<b>SEEDLING CONTROL</b>					Treat if field is heavily infested and new leaves show excessive damage. Rarely causes yield loss on field corn. Seed treatments provide suppression; low (250) rate usually not effective. <b>NOTE:</b> Blackhawk/Tracer 4SC as applied for fall armyworm may provide helpful control.
	<i>clothianidin</i> Poncho 500 Poncho 1250 NipsIt Inside 5	4C	0.50 mg (ai)/seed 1.25 mg (ai)/seed See label	— — —	12 H/ —	
	<i>thiamethoxam</i> Cruiser Extreme 1250	4C	1.25 mg (ai)/seed	—	12 H/ 45 D	

**PREMIXED OR CO-PACKED INSECTICIDES**

Products listed are available as premixes or co-packages of two insecticide active ingredients. User should check mixture labels for active ingredient, specific use rates, target pests, and precautions.

BRAND NAME (ACTIVE INGREDIENTS)	RANGE OF FORMULATION RATES
Besiege ( <i>lambda-cyhalothrin, clorantraniliprole</i> )	5–10 fl oz/A
Consero ( <i>spinosad, gamma-cyhalothrin</i> )	2–3 fl oz/A
Elevest ( <i>chlorantraniliprole, bifenthrin</i> )	4.8–9.6 fl oz/A
Hero ( <i>zeta-cypermethrin, bifenthrin</i> ) Steed ( <i>zeta-cypermethrin, bifenthrin</i> )	2.6–10.3 fl oz/A 2.5–4.7 fl oz/A
Intrpid Edge ( <i>methoxyfenozide, spinetoram</i> )	4–12 fl oz/A

**Bt-TRAITS FOR CORN:** Most corn hybrids now contain one or more Bt traits. Some traits target caterpillar pests including corn borers, cutworms, fall armyworm, and corn earworm in the whorl, and corn earworm and fall armyworm in the ears. Hybrids with two or three stacked traits for caterpillar control are available. Hybrids also may contain one or more Bt traits for control of western corn rootworms that attack roots during mid-season. Bt-rootworm traits are effective against mid-season rootworms but are NOT effective on seedlings against southern corn rootworm or other soil insects such as wireworms and white grubs. Depending on specific traits, refuge requirements for hybrids with Bt traits are either 20% or 50% of the corn acreage on a farm. Check with seed supplier for a complete list of resistant management restrictions. A table listing various combinations of Bt traits and relative efficacy against pests in Georgia is in the Insect Control section of the current Georgia Corn Production Handbook and on the Georgia Grain web page.

# INSECTICIDE USE RESTRICTIONS FOR FIELD CORN

David Buntin, Research/Extension Entomologist

CORN

INSECTICIDE	BRAND NAME	DAYS TO GRAIN HARVEST	DAYS TO GRAZING OR SILAGE HARVEST	RESTRICTED ENTRY INTERVAL (REI, hours)	MAXIMUM AMOUNT ALLOWED PER ACRE PER CROP	REMARKS
<i>alpha-cypermethrin</i>	Fastac CS	30	60	12	11.4 fl oz	
<i>bifenthrin</i>	Brigade, Capture, Bifenthrin, Discipline, Fanfare 2E	30	30	24	19.2 fl oz	Use of <i>bifenthrin</i> is prohibited in all coastal counties.
<i>beta cyfluthrin</i>	Baythroid XL IEC	21	0	12	11.2 fl oz (4 applications)	Only 1 application from early dent to 21 days before harvest.
<i>carbaryl</i>	Sevin, Carbaryl 4	48	14	2 4	8 qt	Bee caution. Beekeeper notification may be needed. See label for details.
<i>chlorantraniliprole</i>	Coragen 1.67SC Prevathon 0.43	14	14 1 (grazing)	4	15.4 fl oz	Do not apply fewer than 7 days apart.
<i>chlorethoxyfos + bifenthrin</i>	Smart Choice 5G	at-planting only	—	48	1 application/year	In-furrow only. Do not apply as a surface band application. Registration in Georgia expected by 2013.
<i>clothianidin</i>	Poncho 600 sold as Poncho 250 and Poncho 1250	Not Listed	Not Listed	0	seed treatment	Commercially applied. See label for plant back restrictions.
<i>cyfluthrin</i>	Tombstone 1	21	0	12	11.2 fl oz	Only 1 application from early dent to 21 days before harvest.
<i>deltamethrin</i>	Delta Gold 1.5EC	21	12 21 (fodder)	12	8.1 fl oz (5 applications)	Do not apply fewer than 21 days apart.
<i>dimethoate</i>	Dimethoate	42	14	48	3 applications	Do not apply during pollen shed.
<i>esfenvalerate</i>	Asana XL, Adjournal	21	Not Listed	12	48 fl oz	Do not apply more than 0.25 lb (ai) per acre per season.
<i>flupyradifurone</i>	Sivanto Prime, Sivanto HL	21	7	4	14 fl oz	
<i>gamma cyhalothrin</i>	Declare 1.25, Proaxis 0.5	21	21	24	0.48 pt 0.96 pt	See label for additional restrictions.
<i>hexythiazox</i>	Onager	30	20	12	1 application	15–20 GPA by ground or 5 GPA by air; see label.
<i>lambda cyhalothrin</i>	Warrior II Zeon 2.08, Silencer, other brands 1	21	21	24	0.96 pt 0.48 pt	See label for restrictions.
<i>methoxyfenozide</i>	Intrepid 2F	21	21	4	64 fl oz	
<i>spiromesifen</i>	Oberon 4SC	30	5	12	See label	
<i>permethrin</i> (foliar)	Permethrin	30	0	12	24 fl oz	
<i>methomyl</i>	Lannate 2.4LV, 90SP	21	3	48	2.25 lb ai	
<i>phorate</i>	Phorate, Thimet 20G	30 <sup>1</sup>	30	48	1 application; 6.5 lb/A	Do not apply in-furrow or after cultivation.
<i>propargite</i>	Comite II	30	30	7 days	1 application	Only apply to dry foliage, DO NOT tank mix, do not use an oil-based surfactant. Use minimum of 20 GPA by ground and 5 GPA for aerial applications.

INSECTICIDE	BRAND NAME	DAYS TO GRAIN HARVEST	DAYS TO GRAZING OR SILAGE HARVEST	RESTRICTED ENTRY INTERVAL (REI, hours)	MAXIMUM AMOUNT ALLOWED PER ACRE PER CROP	REMARKS
<i>spinosad</i>	Tracer 4SC Blackhawk 36%	28	7	4	6 fl oz 8.3 oz	Most effective against small larvae.
<i>spiromesifen</i>	Oberon 2SC	30	5	12	17 fl oz and 2 applications	Use at least 10 GPA by ground and 5 GPA by air.
<i>terbufos</i>	Counter 20G	30 <sup>1</sup>	30 <sup>1</sup>	48	6.5 lb	Make only 1 application.
<i>tefluthrin</i>	Force 3G	Not Listed	Not Listed	0	1 application	Granules must be incorporated into soil.
<i>thiamethoxam</i>	Cruiser 5FS	Not Listed	—	12	Seed treatment	Commercially applied; see label for plant back restrictions. Some formulations may contain fungicides.
<i>zeta-cypermethrin</i>	Mustang Maxx, Respect	7	7	12	16 fl oz	

I. Not listed for at-planting application.

## CORN NEMATODE CONTROL

Bob Kemerait, Extension Plant Pathologist

CHEMICAL	RATE/A	REMARKS AND PRECAUTIONS
AVICTA Duo Corn (seed treatment)		AVICTA Duo Corn is a combination of abamectin and thiamethoxam.
BIOST Nematicide 100	6–8 fl oz/100 cwt	BIOST Nematicide 100 is a seed treatment. BIOST Nematicide 100 is derived from the bacterium, <i>Burkholderia rinojensis</i> . The active ingredient is ‘Heat Killed’ <i>Burkholderia rinojensis</i> .
Counter 15G	7 lb	*Apply in furrow as row treatment. DO NOT exceed 8.7 lb/A regardless of row spacing. ALS-inhibiting herbicides should not be used if Counter 15G has been applied to the corn at planting. <b>REI is 48 hours. REI increases to 72 hours in areas where average rainfall is less than 2" a year. Do not graze or cut for forage within 30 days of treatment.</b>
Counter 20G	5.25 lb	Apply in-furrow as row treatment. DO NOT exceed 6.5 lb/A regardless of row spacing. ALS-inhibiting herbicides should not be used if Counter 20G has been applied to the corn at planting. <b>REI is 48 hours. REI increases to 72 hours in areas where average rainfall is less than 2" a year. Do not graze or cut for forage within 30 days of treatment.</b>
PONCHO VOTiVO (seed treatment)		PONCHO VOTiVO is a systemic insecticide and biological seed treatment for use on corn to control insect pests and plant pathogenic nematodes listed on the label to include lance, root-knot, stubby-root, stunt, and sting nematodes.
<i>fluopyram</i> Velum	3 fl oz/A	
<i>fluopyram + prothioconazole</i> Propulse	8 fl oz	In-furrow spray for Velum or Propulse during planting directed on or below the seed. Tank mixes with Propluse and some fertilizers and micronutrients have been problematic and should generally be avoided. <b>REI: 12 hours PHI: 14 days</b>
Telone II	3 gal	Apply Telone II at least 7 days prior to planting by injecting 12" below the soil surface. <b>REI is 5 days post application.</b>

\*NOTE: Granules should be incorporated for best results.

# FIELD CORN DISEASE CONTROL

Bob Kemerait, Extension Plant Pathologist

CORN

PEST	FUNGICIDE	MOA	AMOUNT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
Southern Corn Leaf Blight, Northern Corn Leaf Blight, Common Rust and Southern Rust	NOTE: Growers do not need to apply fungicides to control common rust as this disease causes little damage. However, southern rust, especially in severe years, can cause heavy yield losses. Southern corn Rust was severe in 2020. For best results, fungicide applications should be initiated before disease enters the field or as soon as southern rust is detected after careful scouting. Use of fungicides to manage southern corn leaf blight is rarely needed in recent years. However, 2008 and 2009 were severe years for northern corn leaf blight. With the emergence of northern corn leaf blight as an important disease of corn in Georgia beginning in 2008, growers should recognize that fungicides can be an effective tool to minimize losses associated with this disease. 2018 was a severe year for southern corn leaf blight. For best results, fungicide applications for management of northern corn leaf blight and southern corn leaf blight may need to be made as early as the V8–V10 growth stages. When varieties which are very susceptible to these diseases are planted, fungicides may not always adequately protect the corn crop.				
	<i>azoxystrobin</i> AzoxyStar	11	6–15.5 fl oz	—/ 7D	Do not apply AzoxyStar within 7 days of harvest. <b>Maximum rate is 123 fl oz/A/season.</b>
	<i>azoxystrobin</i> Quadris	11	9.2–15.4 fl oz	4 H/ —	Do not apply Quadris within 7 days of harvest. <b>Maximum rate is 123 fl oz/A/season.</b>
	<i>azoxystrobin + propiconazole</i> Quilt	11 + 3	7–14 fl oz/A	12 H/ —	Do not apply Quilt within 30 days of harvest. <b>Maximum rate is 56 fl oz/A/season.</b>
	<i>azoxystrobin + propiconazole</i> Quilt Xcel		10.5–14 fl oz		Do not apply Quilt Xcel within 30 days of harvest. <b>Maximum rate is 56 fl oz/A/season.</b>
	<i>azoxystrobin + propiconazole</i> Cover XL		10.5–14 fl oz		Do not apply Cover XL within 30 days of harvest.
	<i>benzovindiflupyr (solatenol) + azoxystrobin + propiconazole</i> Trivapro	7 + 3 + 11	13.7 fl oz	12 H/ 7 D	Trivapro: Maximum total—47 fl oz/year. DO NOT ADD an adjuvant or crop oil after the V8 stage and prior to the VT stage.
	<i>flutriafol</i> Xyway LFR	3	7.6–15.2 fl oz		At-plant application, no more than 0.228 lb ai/year, no more than one application per year. Diseases: labeled for SCLB, NCLB, Grey Leaf Spot, common rust, smut.
	<i>flutriafol</i> TopGuard	3	5–7 fl oz	12 H/ 7 D	Restricted Entry Interval (REI): The REI for detasselling field corn and popcorn grown for seed is 5 days. The REI for all other activities is 12 hours. Pre-harvest Interval: Do not apply within 7 days of harvest.
	<i>flutriafol + azoxystrobin</i> TopGuard EQ	3 + 11	5–7 fl oz	12 H/ 7 D	Restricted Entry Interval (REI): The REI for detasselling field corn and popcorn grown for seed is 5 days. The REI for all other activities is 12 hours, Pre-harvest Interval: Do not apply within 7 days of harvest.
	<i>fluoxastrobin</i> Evito 480 SC	11	2–5.7 fl oz	12 H/ —	Apply a maximum of 2 applications of Evito 480SC. Do not apply Evito after the R4 (early dough) stage or within 30 days of harvest. <b>Maximum rate is 22.8 fl oz/A/season.</b>
	<i>fluoxastrobin + tebuconazole</i> Evito T	11 + 3	4–9 fl oz	12 H/ 7 D	Do not apply Evito after the R4 (early dough) stage or within 36 days of harvest. <b>Maximum rate is 18 fl oz/A/season.</b>
	<i>fluoxastrobin + tetraconazole</i> Zolera FX	3 + 11	4.4–6.8 fl oz	12 H/ 30 D	Maximum of one application allowed per season. Do not apply with an adjuvant between the V8 and VT growth stages. Do not apply after R3 (brown silk) growth stage.
	<i>flutriafol + fluoxastrobin</i> Fortix	3 + 11	4–6 fl oz	12 H/ —	Apply a maximum of two applications per season no later than growth stage R4 (early dough stage). Do not apply Fortix within 80 days of harvest or through chemigation. <b>Maximum rate is 12 fl oz/A/season.</b>
<i>flutriafol + fluoxastrobin</i> Preemptor	3 + 11	4–6 fl oz	12 H/ —	Do not use an adjuvant after the V8 stage and prior to the VT stage of corn. An adjuvant may be used at any other growth stage. Restricted Entry Interval (REI) for detasselling is 5 days. The REI for all other activities is 12 hours. Pre-Harvest Interval: Do not apply Preemptor SC Fungicide within 30 days of harvest (grain, seed, forage, or stover)	
<i>picoxystrobin</i> Approach	11	3–4 fl oz + 6–12 fl oz	12 H/ —	There should be no more than 2 sequential applications of Approach before shifting to a fungicide of a different mode of action. The 3–4 fl oz/A rate is for early season disease suppression (V3–V7) while the 6–12 fl oz/A rate is typically applied between the VT and R3 growth stages. Do not apply Approach within 7 days of grain harvest or 0 days before harvest for foliage. <b>Maximum rate is 36 fl oz/A/season.</b>	

PEST	FUNGICIDE	MOA	AMOUNT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
Southern Corn Leaf Blight, Northern Corn Leaf Blight, Common Rust and Southern Rust <i>(continued)</i>	<i>picoxystrobin + cyproconazole</i> Approach Prima	11 + 3	3.4 fl oz + 3.4–6.8 fl oz	12 H/ —	There should be no more than two sequential applications of Approach Prima before shifting to a fungicide of a different mode of action. The 3.4 fl oz/A rate is for early season disease suppression (V3–V7) while the 3.4–6.8 fl oz/A rate is typically applied between the VT and R3 growth stages. Do not apply Approach Prima within 30 days of grain harvest or 21 days before harvest for foliage. <b>Maximum rate is 6.8 fl oz/A/season.</b>
	<i>propiconazole</i> Tilt	3	2–4 fl oz	12 H/ —	Do not apply Tilt within 30 days of harvest. <b>Maximum rate is 16 fl oz/A/season.</b> For management of northern corn leaf blight and southern corn leaf blight, it is recommended to not apply <i>propiconazole</i> alone.
	<i>prothioconazole + trifloxystrobin + fluopyram</i> Delaro Complete	3 + 11 + 7	8.0–12.0 fl oz	12 H/ 14 D	Do not apply more than 24 fl oz/A/year of Delaro Complete.
	<i>pyraclostrobin</i> Headline	11	9–12 fl oz	12 H/ —	Do not apply Headline within 7 days of harvest. Maximum rate is 72 fl oz/A/season.
	<i>pyraclostrobin + fluxapyroxad</i> Priaxor	7 + 11	4–8 fl oz	12 H/ 21 D	Priaxor is a combination of <i>fluxapyroxad</i> and <i>pyraclostrobin</i> . Do not apply within 21 days of harvest to field corn and make no more than 2 applications per season. <b>Maximum rate is 16 fl oz/A/season.</b>
	<i>pyraclostrobin + mefentrifluconazole</i> Veltyma	11 + 3	7–10 fl oz	12H/ 21D	Do not apply more than 20 fl oz/A of Veltyma per year.
	<i>pyraclostrobin + mefentrifluconazole + fluxapyroxad</i> Revytek	11 + 3 + 7	8–15 fl oz		Do not make more than 2 applications per year and do not apply more than 30 fl oz/year.
	<i>pyraclostrobin + metconazole</i> Headline AMP	11 + 3	10 fl oz	12 H/ —	Maximum rate is 57.6 fl oz/A/season. Do not apply Headline AMP within 20 days of harvest for grain or within 7 days of harvest for forage/silage.
	<i>tebuconazole</i> 3.6F	3	4–6 fl oz	12 H/ Grain 36 D Forage/silage 21 D	Do not apply <i>tebuconazole</i> within 21 days of harvest for forage or within 36 days of harvest for grain. For management of northern corn leaf blight and southern corn leaf blight, it is recommended to not apply <i>tebuconazole</i> alone.
	<i>tebuconazole + azoxystrobin</i> Custodia	3 + 11	9–12.9 fl oz	12 H/ 21 D	Apply in a protective spray schedule or when weather conditions favor disease. Apply on a 7–14 day schedule. Do not use an adjuvant or crop oil after V* stage and prior to VT. <b>Maximum rate is 51.7 fl oz/A/season.</b>
	<i>tetraconazole</i> Domark 230 ME	3	4–6 fl oz	12 H/ 21 D	Do not apply more than 6 fl oz/A in order to reduce the potential for resistance. Do not make more than one application of Domark per year. Do not apply Domark after corn growthstage 3 (milk). Do not use adjuvants in sprays made between V8 and VT growthstage.
	<i>tetraconazole + azoxystrobin</i> Affiance Brixen	3 + 11	10–17 fl oz 13–19 fl oz	12 H/ 7 D Silage 21 D	<b>Maximum rate is 17.06 fl oz/A/year.</b> Limit of 2 applications per year. Early applications: V4–V8. Regular applications: V8–R3 (do not apply with adjuvants between V8 and VT). Do not apply after R3 (brown silk). Can be applied in chemigation (0.1–0.25"). Do not harvest for silage within 21 days of application. Do not apply after R3 (milk stage).
	<i>trifloxystrobin + propiconazole</i> Stratego	11 + 3	10–12 fl oz	12 H/ —	Do not apply Stratego within 30 days of harvest. <b>Maximum rate is 24 fl oz/A/season.</b>
	<i>trifloxystrobin + prothioconazole</i> Stratego YLD	11 + 3	4–5 fl oz	12 H/ —	Stratego YLD should not be applied to field corn within 14 days of harvest. Maximum rate is 10 fl oz/A/season.

# FIELD CORN WEED CONTROL

Eric P. Prostko, Extension Agronomist—Weed Science

CORN

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>PREEMERGENCE</b>					
<i>acetochlor</i> Warrant 3ME	15	48 oz	1.125	12 H/ Grazing or Forage 40 D	<b>Can be applied PRE or POST (up to 30" tall corn).</b> Provides residual control for more annual grasses, except Texas panicum, and certain broad weeds. Under cool, wet weather conditions, stunting or crop injury expressed as malformed, knotted, twisted top growth may occur. Do not apply Warrant if these conditions are forecast within 10 days of application. Warrant may be tank-mixed with <i>atrazine</i> or <i>glyphosate</i> or Liberty. For the following soil types, do not apply Warrant within 50 feet of any well where the depth to groundwater is 30 feet or less: sands < 3% OM; These restrictions do not apply for areas more than 50 feet from a well or if groundwater is more than 30 feet below land surface. Warrant has no POST activity. <b>Before using Warrant PRE, check with seedsman about potential hybrid sensitivity.</b>
<i>metolachlor</i> Stalwart C Parallel Me-Too-Lachlor-II	15	16–21 oz	1–1.33	24 H/ Grazing or Forage 30 D	<b>Can be applied PPI, PRE, or POST (up to 40" tall).</b> With PPI/PRE applications, a formulation that contains a crop safener is preferred. Controls (residual) most annual grasses (except Texas panicum) and certain broadleaf weeds. Fair to good control of yellow nutsedge. Under cool, wet weather conditions, stunting or crop injury expressed as malformed, knotted, twisted top growth may occur. Corn normally outgrows early season injury. <i>Metolachlor</i> may be tank-mixed with <i>atrazine</i> , <i>glyphosate</i> , or Liberty.
<i>S-metolachlor</i> Dual Magnum 7.62E Dual II Magnum 7.64E Cinch 7.64E	15	16–21 oz	0.96–1.27	24 H/ Grazing or Forage 30 D	Available in several premixes with <i>atrazine</i> (Bicep II Magnum, Cinch ATZ, Lexar, Lumax, Parallel Plus, Stalwart Xtra). In UGA field trials, the generic formulations of <i>metolachlor</i> (Parallel, Stalwart, Me-Too-Lachlor) have not provided the same length of residual control of certain weeds as similar rates of Dual Magnum formulations. When applied POST, a maximum rate of 2 pt/A can be used. The total amount of <i>metolachlor</i> that can be applied in a single season cannot exceed 3.33 pt/A on coarse soil types. <b>Before using Dual PPI or PRE, check with seedsman about potential hybrid sensitivity.</b>
<i>atrazine</i> 4L 80W 90DG	5	32–80 oz 20–50 oz 18–44 oz	1–2.5	12 H/ Grazing 21 D Forage 60 D	<b>Can be applied PPI, PRE, or POST (12" tall).</b> Good to excellent control of most annual broadleaf weeds. Does not usually provide adequate control of Texas panicum or fall panicum. <i>Atrazine</i> will often fail to provide extended control of crabgrass and late season control of sicklepod and morningglories. <i>Atrazine</i> may be tank-mixed with Liberty, <i>glyphosate</i> , <i>metolachlor</i> , <i>acetochlor</i> , or <i>pyroxasulfone</i> . Do not use more than 2.5 lbs ai/A/year of <i>atrazine</i> . When using <i>atrazine</i> formulations other than 4L, use equivalent rates: 1 qt 4L equals 1.25 lb 80W or 1.1 lb 90 DF.
<i>pyroxasulfone</i> Zidua 85WG Zidua 4.17SC	15	1.5 oz/A 2.5 oz/A	0.079	12 H/ —	Can be applied PRE, or early post-emergence (V4 stage). Provides residual control of certain annual grasses and broadleaf weeds including Palmer amaranth. Can be tank-mixed with <i>atrazine</i> , <i>glyphosate</i> , and Liberty. <b>When applying Zidua PRE, use the low rate (1.5 oz/A) on coarse soils. No more than 2.75 oz/A can be applied per year on coarse soils.</b> Pre-slurry in water before mixing into larger spray tank. <b>Before using Zidua PRE, check with seedsman about potential corn hybrid sensitivity. In recent UGA research, PRE applications of Zidua (pyroxasulfone) were more injurious than Dual or Warrant, thus POST applications would be preferred over PRE applications.</b>
<i>pyroxasulfone</i> + <i>fluthiacet</i> Anthem Maxx 4.3SC	15 + 14	2.5–3.0 oz	0.082–0.098 + 0.002–0.003	12 H/ Grain 70 D Stover 70D Forage 30 D	<b>Can be applied PRE and/or early post-emergence (V4 stage).</b> Provides residual control of certain annual grasses and broadleaf weeds. Can be tank-mixed with <i>atrazine</i> , <i>glyphosate</i> , or Liberty. <b>On coarse textured soils, use the 2.5 oz/A rate.</b> No more than 4.5 oz/A/year total can be applied on coarse soils. POST applications will cause leaf burn/speckling. Rotation restrictions for 3.25 oz/A or less: corn and soybean—0 months; grain sorghum—6 months; cotton—2 months; peanut—4 months; wheat—1 month. <b>Before using Anthem Maxx, check with seedsman about potential hybrid sensitivity. Rain-free period is 1 hour. In recent UGA research, PRE applications of pyroxasulfone were more injurious than Dual or Warrant, thus POST applications would be preferred over PRE applications.</b>

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>PREEMERGENCE (continued)</b>					
<i>dimethenamid-P</i> Outlook 6EC	15	12.8 oz	0.60	12 H/ 40 D	Can be applied PPI, PRE, POST (12" tall corn) or lay-by (12–36" tall corn). Will provide residual control of certain annual grasses and pigweed. Two applications per season are permitted (14 days apart) with no more than 24 oz/A/season (total). Provides control very similar to other Group 15 herbicides such as <i>s-metolachlor</i> , <i>acetochlor</i> , and <i>pyroxasulfone</i> .
<b>CHEMIGATION</b>					
<i>metolachlor</i> Stalwart C Parallel Me-Too-Lachlor-II	15	Refer to PRE section for rates		24 H/ —	May be applied by injection through center pivot irrigation systems. Use at normal rates recommended for conventional methods of application. Apply after planting but before crop emergence. Requires proper system calibration and safety devices (check valves, cutoff switches, etc.) to provide effective weed control and prevent environmental contamination. In some UGA field trials, the generic formulations of <i>metolachlor</i> (Parallel, Stalwart, Me-Too-Lachlor) have not provided the same length of residual control of certain weeds as similar rates of Dual Magnum formulations.
<i>S-metolachlor</i> Dual Magnum Dual II Magnum Cinch	15	Refer to PRE section for rates		24 H/ —	
<i>dimethenamid-P</i> Outlook 6EC	15	12.8 oz	0.60	12H	
<b>POSTEMERGENCE: OVER-THE-TOP</b>					
<i>atrazine</i> 4L 80W 90DG	5	32–64 oz 20–40 oz 18–36 oz	1–2	12 H/ Grazing 21 D Forage 60 D	Refer to herbicide table and label for specific information. Use low rate for broadleaf weeds. Use high rate for mixed infestations of grasses and broadleaf weeds. Application with crop oil or crop oil concentrate (1% v/v) will improve control. Can be applied up to 12" tall corn. Poor control may result on sicklepod more than 2" tall and on grasses beyond the 2-leaf stage. Do not apply with fluid fertilizer. If no <i>atrazine</i> was applied pre-emergence, apply no more than 2 lb/ai/A. If a pre-emergence treatment was used, do not exceed a total of 2.5 lb/ai/A/calendar year. <b>Rain-free period is 2 hours.</b>
<i>pendimethalin</i> Prowl/Pendimax 3.3EC Prowl H20 3.8 ACS + <i>atrazine</i> 4L	3 + 5	29–38 oz 32 oz + 48–64 oz	0.75–1 0.95 + 1.5–2	24 H/ —	Refer to herbicide table and label for specific product. Apply over-the-top after corn emergence but when weeds are less than 1" tall. For control of seedling grasses apply when no more than ½" tall. Consistency of control is contingent on timing of rainfall or irrigation after application. Do not use with fluid fertilizers after crop emergence. <i>Pendimethalin</i> or tank-mixtures including <i>pendimethalin</i> may cause crop injury expressed as restricted root growth and crop stunting. Potential for injury is greatest on sand or loamy sand soils under cool, wet conditions. Plant corn at least 1.5" deep when using <i>pendimethalin</i> . Can be applied up to 12" tall corn. <b>Tank-mix with <i>glyphosate</i> (RR hybrids) or Liberty (LL hybrids).</b>
<i>bentazon</i> Basagran/Broadloom 4SC	6	24–32 oz	0.75–1	48 H/ Grazing 12 D	Controls yellow nutsedge, cocklebur, bristly starbur, and certain other broadleaf weeds. Adjust rate according to weed size as noted on the label. A second application within 7–10 days will often be required for yellow nutsedge control. Add a crop oil concentrate at 1% v/v. <b>Rain-free period is 4 hours.</b>
<i>carfentrazone</i> Aim 2EC	14	0.50–1 oz	0.008–0.016	12 H/ Leaf Collars 14 D	For the control of pigweed, annual morningglory species (except smallflower), and tropical spiderwort. Can be applied over the top of corn until the V8 stage of growth. Aim will cause crop injury in the form of leaf speckling and necrosis but this injury will not affect yield.  Use in combination with a crop oil concentrate at 1% v/v (1 gal/100 gal). Aim can be tank-mixed with <i>glyphosate</i> (RR corn hybrids only), 2,4-D, <i>atrazine</i> , and Accent. Refer to label for a more complete list of approved tank-mixes.  <b>Rain-free period is 6–8 hours.</b>

■ FIELD CORN WEED CONTROL

CORN

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>POSTEMERGENCE: OVER-THE-TOP (continued)</b>					
2,4-D amine 3.8 lb/gal	4	8–16 oz	0.24–0.48	48 H/ 7 D	Refer to herbicide table and label for specific product. May be applied over-the-top of the crop and weeds until corn is 5–8" tall. Use only as a directed spray after corn is 8" tall. Do not apply after tassels appear. No spray additive is required. Corn is most subject to injury if it is rapidly growing and if soil moisture and temperature conditions are high or from over-the-top applications. If soil moisture levels and temperatures are high, use no more than 0.25 lb/ai/A. To minimize drift hazards where 2,4-D sensitive crops are present, use <i>amine</i> formulations and observe drift control precautions noted on label.
<i>pendimethalin</i> Prowl/Pendimax 3.3EC Prowl H20 3.8 ACS trifluralin 4 lb/gal	3	19–29 oz 24 oz 16–24 oz	0.5–0.75 0.71 0.5–0.75	24 H/ —	<b>CULTI-SPRAY TECHNIQUE (Post-emergence Incorporated)</b> These treatments will provide residual control of annual grasses, including Texas panicum. <b>They will not control existing grasses.</b> They should be used to augment other weed control tactics. When using either of the treatments, the following steps must be followed: The herbicides must be applied to weed-free soil. Corn brace roots must be protected by soil thrown to the base of the stalk with a sweep or rolling cultivator prior to application. The herbicides can be applied over-the-top or post-directed, depending on corn size. A shallow, follow-up cultivation is required after application to minimize herbicide loss. Rainfall or irrigation amounts of 0.5–1" can be used instead of mechanical cultivation. Apply <i>Pendimethalin</i> when the corn is at least 4" tall until layby. Apply <i>trifluralin</i> when the corn is in the 2 true leaf stage until it reaches 30" in height.
<i>dicamba</i> Banvel (4 lb/gal) Clarity Sterling Vision, etc.	4	8 oz 8 oz 8 oz 8 oz	0.25	24 H/ Grazing or Forage—milk stage or later	May be applied either over-the-top up to 8" corn then as a directed spray. Directed sprays are less likely to result in crop injury or drift hazards and will improve weed coverage in larger corn. Refer to label. Do not use crop or petroleum oils. <b>DO NOT</b> apply after corn is 36" tall or within 15 days of tassel emergence, whichever occurs first. Where <i>dicamba</i> -sensitive crops such as cotton, soybeans, tobacco, and vegetables are near treatment area, observe the following precautions to minimize drift hazards: 1. Use coarse sprays and spray pressure of less than 20 psi. 2. Apply only as a directed spray. 3. <b>DO NOT</b> apply if maximum daily temperature is expected to exceed 85° F. 4. <b>DO NOT</b> apply if winds exceed 5 mph and are blowing in the direction of the sensitive crop. <b>Rain-free period is 4 hours.</b>



HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>POSTEMERGENCE: OVER-THE-TOP (continued)</b>					
<i>dicamba + diflufenzopyr + isoxadifen</i> Status 56WDG	4 + 19	5–10 oz	0.125–0.25 + 0.05–0.10 0.175–0.350	24 H/ Grain 72 D Forage 32 D	Will control many annual broadleaf weeds. Include a NIS at 0.25% v/v and AMS at 5–17 lbs/100 gal. Can be applied from 4" tall corn (V2) to 36" tall corn (V10). Status can also be tank-mixed with Round Up or Liberty when used on RR or LL corn hybrids only. The normal use rate when tank-mixed with these herbicides is 5 oz/A. Status should not be tank-mixed with Dual Magnum, Harness, Outlook, Surpass, Lorsban, 2,4-D, or Stinger. Rotational crops can be planted 120 days after application with the following exception: When Status is applied at 5 oz/A or less and field receives at least 1" of rainfall or irrigation, the following crops can be planted 30 days after application: alfalfa, cereal grain crops, cotton, grain sorghum, and soybeans. Field corn can be re-planted 7 days after application. Pre-slurry in water before mixing into larger spray tank.  <b>Rain-free period is 4 hours.</b>
<i>halosulfuron</i> Profine Sanda 75 DF	2	0.67 oz	0.032	12 H/ Forage 30 D	Controls many annual broadleaf weeds and nutsedge. Can be applied over-the-top from spike stage through layby stage of corn. Use higher rates for nutsedge control and larger weeds. Can be tank-mixed with Banvel, Accent, 2,4-D, Buctril, Beacon, and atrazine. The use of a non-ionic surfactant or crop oil is recommended. May be applied in a split application but do not exceed 2.67 oz/A/year. Rotational restrictions include the following: barley, oats, rye, wheat—2 months; cotton—4 months; peanuts—6 months; soybeans—9 months; onions—18 months. Refer to product label for additional crop rotation information. Pre-slurry in water before mixing into larger spray tank. <b>DO NOT use Sandea/Permit</b> if an OP soil insecticide (i.e. Counter) was used in-furrow.  <b>Rain-free period is 4 hours.</b>
<i>nicosulfuron</i> Accent 75G Accent Q 54.5 WG (includes crop safener)	2	0.67 oz 0.9 oz	0.031	4 H/ Forage 30 D	Controls many annual and perennial grasses, including johnsongrass. <b>DO NOT</b> apply to corn treated with Counter insecticide due to severe crop injury or mortality. Can be applied over-the-top of corn up to 20" tall or before the V6 stage (whichever is more restrictive) and post-directed up to 36" tall. A nonionic surfactant (0.25% v/v) or crop oil concentrate (1% v/v) is required. Do not apply Accent within 7 days to corn treated with foliar-applied organophosphate insecticides or with herbicides containing bentazon or 2,4-D. <b>DO NOT</b> apply organophosphate insecticides within 3 days after applying Accent. Refer to manufacturer's label for sprayer cleanup. <b>DO NOT</b> apply within 30 days of harvest. Accent Q formulation contains a crop safener ( <i>isoxadifen</i> ). Rotational restrictions include the following: soybeans—0.5 months; winter wheat, barley, rye—4 months; oats—8 months; cotton, sorghum, peanuts, tobacco—10 months. Pre-slurry in water before mixing into larger spray tank.  <b>Rain-free period is 4 hours.</b>
<i>nicosulfuron + rimsulfuron + crop safener</i> Steadfast Q 37.7WDG	2	1.5 oz	0.024 + 0.012	4 H/ Forage 30 D	Can be applied over-the-top of corn up to 20" tall and exhibiting up to and including 6 leaf collars. When tank-mixed with atrazine, can only be applied to corn that is 12" tall or less. Use in combination with a NIS at 0.25% v/v or COC at 1% v/v + ammonium-nitrogen fertilizer (2 qt/A UAN or 2 lb/A AMS). <b>Do not tank-mix with Basagran, 2,4-D, Lorsban, parathion, and malathion. Do not use on corn that was previously treated with Counter, Lorsban, and Thimet.</b> Rotational Restrictions: field corn—0 months; soybeans—15 days; small grains—4 months; cotton—10 months; sorghum/peanut—10 months (soil pH < 6.5). Steadfast Q contains a crop safener ( <i>isoxadifen</i> ). Recent results from UGA research suggests that a 1X rate of Steadfast Q applied to ALS-sensitive field corn hybrids (i.e. DKC62-08 and DKC64-69) can cause up to 4.7% yield losses when applied under weed-free conditions. Pre-slurry in water before mixing into larger spray tank.  <b>Rain-free period is 4 hours.</b>

FIELD CORN WEED CONTROL

CORN

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>POSTEMERGENCE: OVER-THE-TOP (continued)</b>					
<i>mesotrione</i> Callisto 4SC	27	3 oz	0.094	12 H/ Forage, Grain or Stover 45 D	May be useful for the post-emergence control of escaped Palmer amaranth (pigweed) in situations where 2,4-D use would be undesirable or <i>glyphosate</i> , ALS, or <i>triazine</i> -resistance is suspected. Callisto will also provide residual control. Apply before Palmer amaranth exceeds 5" in height. <b>Do not use if the corn has been treated with a soil application of Counter or Lorsban.</b> Corn may be treated up to 30" tall or the 8-leaf stage of growth. Use in combination with a COC (1% v/v) and UAN (2.5% v/v) or AMS (8.5 lb/100 gal). When applied POST, Callisto can be tank-mixed with the following herbicides: <i>atrazine</i> ; Accent; Basagran; Bicep II Magnum; Buctril; Moxy; <i>glyphosate</i> ; Liberty; Steadfast Q. <b>Do not apply Callisto POST in a tank-mix with EC grass herbicides (i.e Dual Magnum, Outlook). Do not tank-mix with carbamate or organophosphate insecticides.</b> Rotational restrictions: field corn, grain sorghum—0 months; small grains and sugarcane—4 months; soybeans, cotton, peanuts, sunflowers, canola, tobacco—10 months; other crops—18 months. Temporary bleaching may occur under extreme weather conditions or when the crop is suffering from stress. Sold in various pre-mixes with <i>atrazine</i> + Dual Magnum (Lexar, Lumax). <b>Rain-free period is 1 hour.</b> Callisto does not provide effective control of Texas panicum or sicklepod. Callisto Xtra is a pre-mix formulation of Callisto (0.5 lb/gal) + <i>atrazine</i> (3.2 lb/gal). Callisto GT is a pre-mix formulation of Callisto (0.38 lb ai/gal) + Touchdown (3.8 lb ai/gal).
<i>tembotrione</i> + <i>crop safener</i> Laudis 3.5SC	27	3 oz	0.082	12 H/ Forage 45 D	May be useful for the post-emergence control of escaped Palmer amaranth (pigweed) in situations where 2,4-D use would be undesirable, or <i>glyphosate</i> , ALS, or <i>triazine</i> -resistance is suspected. Apply post-emergence to field corn from emergence to V8 stage of growth. Two applications can be made if needed (14 days apart). Can be tank-mixed with the following herbicides: <i>atrazine</i> , Liberty, Define, <i>glyphosate</i> , Accent, Option, Steadfast, Buctril. Recent UGA research has indicated that Laudis can also be tank-mixed with residual grass herbicides such as Prowl, Dual Magnum, Warrant, Zidua, Anthem Max, and Outlook. But, tank-mixes with Dual Magnum/Outlook/Anthem Max have increased crop injury (transient). Use a methylated seed oil (MSO) at 1% v/v and nitrogen (1.5 qt/A UAN or 1.5 lb/A AMS). <b>Rain-free period is 1 hour.</b> Crop rotation restrictions: small grains—4 months; soybeans—8 months; cotton and sorghum—10 months; peanut—12 months. In some UGA field trials, Laudis has not been as effective as Accent ( <i>nicosulfuron</i> ) in controlling Texas panicum. Laudis can be used in fields previously treated with in-furrow applications of Counter.
<i>topramezone</i> Impact/Armezon 2.8SC	27	0.75 oz	0.016	12 H/ 45 D	May be most useful in areas where <i>atrazine</i> -resistant Palmer amaranth is a problem. Can be applied post-emergence until 45 days before harvest. Tank-mix with <i>atrazine</i> , <i>glyphosate</i> (RR corn), or Liberty (LL corn). Use in combination with MSO or COC at 1% v/v and 1.25% v/v UAN or AMS (8.5-17 lb/100 gal water). Rotation restrictions: wheat—3 months; cotton, peanut, soybean, sorghum, sunflower—9 months; tobacco—18 months. Impact can be used in fields previously treated with in-furrow applications of Counter. <b>Armezon Pro is a pre-mix of Armezon + Outlook (dimethenamid-p). Rain-free period is 1 hour.</b>
<i>topramezone</i> + <i>atrazine</i> Impact Z 4.26SC	27 + 5	8–10.7 oz	0.016–0.021 + 0.25–0.33	12 H/ 45 D	May be of use in fields where <i>atrazine</i> -resistant Palmer amaranth is a problem. Can be applied up until corn is 12" tall. Can be tank-mixed with Liberty (LL corn) or <i>glyphosate</i> (RR corn) and/or additional <i>atrazine</i> . Impact Z can be used in fields previously treated with in-furrow applications of Counter. Use with a NIS @ 0.25% v/v (1 qt/100 gal). Crop rotation restrictions: cotton, peanut, sorghum, soybean, wheat—9 months. <b>Rain-free period is 4 hours.</b>
<i>thiencarbazone</i> + <i>tembotrione</i> + <i>crop safener</i> Capreno 3.45SC	2 + 27	3 oz/A	0.013 + 0.0675	12 H/ 45 D	Contains same active ingredient as Laudis. Apply post-emergence for the control of Palmer amaranth and certain annual grasses such as crabgrass and Texas panicum. Capreno can be applied over-the-top from V1–V6 stage of growth and post-directed from V6–V7 stage of growth. Can be tank-mixed with <i>atrazine</i> , <i>glyphosate</i> (RR corn), or Liberty (LL corn). Use in combination with a COC at 1% v/v and 1.5 qt/A UAN or 1.5 lb/A AMS. <b>Do not use on field corn treated with OP soil insecticides.</b> Recent results from UGA research suggests that a 1X rate of Capreno applied to ALS-sensitive field corn hybrids (i.e. DKC62-08 and DKC64-69) can cause up to 4.7% yield losses when applied under weed-free conditions. Crop rotation restrictions: wheat—4 months; cotton, soybean, sorghum—10 months; peanut—11 months; tobacco—12 months, canola—18 months. <b>Rain-free period is 1 hour.</b> Capreno contains a crop safener ( <i>isoxadifen</i> ).

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>POSTEMERGENCE: OVER-THE-TOP (continued)</b>					
<i>nicosulfuron + mesotrione + crop safener</i> Revolin Q 51.2DG	2 + 27	3.4–4 oz	0.031–0.036 + 0.078–0.092	12 H/ Grain 70 D Forage 45 D	Before using Revulin Q, check with seed supplier for corn hybrid tolerance information. Can be applied post-emergence in field corn that is < 20" tall or up to and including the V5 stage of growth. Can be applied post-directed to corn that is 20–30" tall or in the V6–V7 stage. Use in combination with a COC at 1% v/v. Can tank-mix with <i>glyphosate</i> (RR corn), Liberty (LL corn), or <i>atrazine</i> . Crop rotation restrictions: winter cereals—4 months; cotton, sorghum, soybeans—10 months; peanut, tobacco—18 months. <b>DO NOT use Revulin Q if an OP soil insecticide (i.e. Counter) was used in-furrow.</b> Revulin Q contains a crop safener ( <i>isoxadifen</i> ). <b>Rain-free period is 4 hours.</b> Revulin Q is very useful in fields with a known history of <i>glyphosate</i> and/or <i>atrazine</i> resistant Palmer amaranth. Revulin Q may cause temporary crop bleaching.
<i>S-metolachlor + atrazine + mesotrione + bicyclopyrone</i> Acuron 3.44ZC	5 + 15 + 27	48 oz/A	0.80 + 0.375 + 0.09 + 0.02	24 H/ Grain 60 D Forage 45 D	Apply early postemergence in combination with <i>glyphosate</i> (RR hybrids) or Liberty (LL hybrids) for the improved control of both broadleaf and grass weeds. Can be applied up to 12" tall corn. No adjuvants are required when using a "loaded" formulation of <i>glyphosate</i> . NIS can be used with "unloaded" <i>glyphosate</i> formulations. AMS is the only adjuvant that can be added when used in combination with Liberty. Do not use Acuron if Counter has been applied in-furrow.  Crop rotation restrictions are as follows: field corn, sweet corn = 0 months; small grains = 4 months; cotton, peanut, soybean, sorghum = 10 months.  <b>Rain-free period = none listed on label. Would suggest at least 1 hour or more.</b>
<i>tolpyralate</i> Shieldex 3.33SC	27	1-1.35 oz	0.026-0.035	12 H/ Grain 45 D Forage/Silage 21 D	Apply POST up to V6 stage or 20" tall whichever is more restrictive. May cause temporary/transient crop bleaching. No more than 2 applications can be made (14 days apart). Can be tank-mixed with <i>atrazine</i> , Roundup, or Liberty. Use in combination with NIS (0.25% v/v) or COC (1% v/v). Can be used where Counter was applied in-furrow. Crop rotation restrictions: wheat/rye/oats/barley/ryegrass = 3 months; cucurbits/green bean/snap bean/peanut/cotton/sorghum/soybean/sunflower/tomato = 9 months. <b>Rain-free period = 1 hour.</b>
<b>POSTEMERGENCE-HERBICIDE TOLERANT HYBRIDS—PLEASE NOTE: Herbicide selection should not be the dominant factor in determining varietal selection. Consult your local Extension personnel or seed dealer when choosing a hybrid(s) that is best adapted for your area and farming operation.</b>					
<i>glufosinate</i> Liberty 280 2.34SL Interline 2.34SL Kong 2.34SL	10	22–32 oz	0.402–0.585	12 H/ Grain 70 D Forage 60 D	<b>USE ONLY ON "LIBERTY-LINK" CORN HYBRIDS. APPLICATIONS OF LIBERTY TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY AND/OR CROP DEATH.</b> Can be applied post-emergence from crop emergence until the V6 stage of growth. For corn 24"–36" tall, only apply Liberty with drop nozzles and avoid spraying directly into the whorl or leaf axils. Broad-spectrum material with limited systemic activity. Possesses no soil residual activity. Effective on a number of grassy weeds including Texas panicum and several broadleaf species including sicklepod and morningglories. Thorough coverage is essential—use with at least 15–20 gallons water/A. Should be tank-mixed with <i>atrazine</i> for broader spectrum and more consistent control. No major rotation restrictions exist with Liberty. Liberty is weak on arrowleaf sida. Do not apply more than 2 applications of Liberty (≥ 7 day interval). Do not apply more than 64 oz/A of Liberty on corn per growing season. <b>Applications of Liberty should be made between dawn and 2 hours before sunset for optimum weed control and with pressure/nozzles that produce medium to coarse droplets. Rain-free period is 4 hours.</b> Generic formulations of glufosinate are also available including Kong and Interline. Generic formulations of <i>glufosinate</i> should be used with caution because limited data has been collected by UGA.
<i>glyphosate + S-metolachlor</i> Sequence 5.25EW	15	32–40 oz	0.56–0.70 + 0.75–0.94	24 H/ Grain 50 D Forage 30 D	<b>FOR USE ONLY ON ROUNDUP READY CORN HYBRIDS. APPLICATIONS OF GLYPHOSATE TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY.</b> Can be applied from corn emergence until corn plants reach 30" in height. Do not exceed 2.5 pts/A in a single application or 5 pts total/A/year. Very effective for the control of tropical spiderwort if applied before the weed exceeds 1". Can be tank-mixed with <i>atrazine</i> for improved broadleaf weed control.
<i>glyphosate + S-metolachlor + atrazine</i> Expert 4.88SC	15 + 5	80–120 oz	0.63–0.94 + 1.09–1.63 + 1.34–2	24 H/ Forage 30 D	<b>FOR USE ONLY ON ROUNDUP READY CORN HYBRIDS. APPLICATIONS OF GLYPHOSATE TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY AND/OR CROP DEATH.</b> Expert can be applied over-the-top of RR corn up until a maximum corn height of 12".

FIELD CORN WEED CONTROL

CORN

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS															
		AMOUNT OF FORMULATION	LBS AI/A																	
<b>POSTEMERGENCE: OVER-THE-TOP (continued)</b>																				
<b>POST-EMERGENCE-HERBICIDE TOLERANT HYBRIDS—PLEASE NOTE: Herbicide selection should not be the dominant factor in determining varietal selection. Consult your local Extension personnel or seed dealer when choosing a hybrid(s) that is best adapted for your area and farming operation.</b>																				
<i>glyphosate + S-metolachlor + mesotrione</i> Halex GT 4.389 lb/gal	9 + 15 + 27	58–64 oz	0.941-1.568 + 0.941-1.568 + 0.094-0.105	24 H/ Forage, Grain or Stover 45 D	<b>FOR USE ONLY ON ROUNDUP READY CORN HYBRIDS.</b> Can be applied from corn emergence up until 30" or 8 leaf stage of growth. <i>Atrazine</i> can be tank-mixed with Halex if desired. Add a NIS at 0.25% v/v + AMS at 8.5–17 lb/100 gallons of water. Do not use Halex GT if OP insecticides have been used at planting. Rotation restrictions: corn—0 months; grain sorghum (Concep treated)—0 months; barley, oats, wheat, rye—4 months; cotton, peanuts, soybeans, sunflowers, tobacco—10 months; canola—12 months. Halex GT may cause temporary crop bleaching and buggy-whipping. Check with seedsman for potential corn hybrid tolerance issues. <b>Rain-free period is 1 hour.</b> Mixing sequence/order is critical with Halex GT in order to prevent problems. Consider the following mixing order: 1) fill tank ½ to ½ with clean water and start agitation; 2) add AMS if needed; 3) add NIS; 4) Add <i>atrazine</i> if needed; 5) add Halex GT; 6) add other EC products if needed but EC formulations will increase crop injury; 7) fill tank with remaining amount of clean water. To minimize injury potential from Halex GT avoid applications during cool/wet periods (< 50 F).															
<i>glyphosate + S-metolachlor + mesotrione + bicyclopyrone</i> Acuron GT 4.295CZ	15 + 9 + 27 + 27	60 oz	0.94 + 0.94 + 0.094 + 0.045	12 H/ 45 D	<b>ONLY FOR USE ON GLYPHOSATE-RESISTANT CORN HYBRIDS!</b> Can be applied POST up until V8 stage or 30" tall (most restrictive). Include a NIS (0.25% v/v) and AMS (8.5–17 lbs/100 gals. May cause temporary/transient crop bleaching. Can be tank-mixed with <i>atrazine</i> (up to 12" tall corn), or dicamba (up to 8" tall corn, post-direct after that). <b>Do not</b> use if Counter was applied in-furrow for soil insect/nematode control. <b>Do not</b> tank-mix with EC formulated grass herbicides (i.e. Dual Magnum, Outlook). Do not apply an OP insecticide within 7 days before/after Acuron GT. Crop rotation restrictions: small grains = 4.5 months; cotton/peanut/soybean/ sorghum = 10 months. <b>Rain-free period = x.</b> Consider the following mixing order: 1) fill tank ½ with clean water and start agitation; 2) add AMS if needed; 3) add NIS; 4) Add <i>atrazine</i> if needed; 5) add Acuron GT; and 6) fill tank with remaining amount of clean water. To minimize injury potential from Acuron GT, avoid applications during cool/wet periods (< 50 F).															
<i>glyphosate</i> Numerous trade names 3 lb ae/gal 3.73 lb ae/gal 4 lb ae/gal 4.17 lb ae/gal 4.50 lb ae/gal 4.80 lb ae/gal 5 lb ae/gal	9	32 oz 26 oz 24 oz 23 oz 22 oz 20 oz 19 oz	0.75 ae	4 H/ Grain 50 D Forage 50 D	<b>FOR USE ONLY ON ROUNDUP READY CORN HYBRIDS. APPLICATIONS OF GLYPHOSATE TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY AND/OR CROP DEATH.</b>  Can be tank-mixed with <i>atrazine</i> , Dual, Harness, Harness Xtra, Micro-Tech, Bullet, Partner, or Permit herbicides. Various formulations of <i>glyphosate</i> are available. Not all formulations of <i>glyphosate</i> are labeled for use on RR corn hybrids. Please refer to specific product label. Sequence is a pre-mix of <i>glyphosate + S-metolachlor</i> . Expert is a pre-mix of <i>glyphosate + S-metolachlor + atrazine</i> . Halex GT is a pre-mixture of <i>glyphosate + S-metolachlor + mesotrione</i> . <b>Allow a minimum of 10 days between in-crop applications.</b>  <b>USE RATE TABLE (lb ae/A):</b> <table style="margin-left: 20px;"> <thead> <tr> <th></th> <th>RR2–Corn</th> <th>RR-Corn</th> </tr> </thead> <tbody> <tr> <td>Normal Application Rate</td> <td>0.75</td> <td>0.75</td> </tr> <tr> <td>Maximum Application Rate</td> <td>1.12</td> <td>0.75</td> </tr> <tr> <td>Maximum Total In-Crop Rate</td> <td>2.25*</td> <td>1.50*</td> </tr> <tr> <td>Application Timing</td> <td>Up to V8 or 30" 30–48" (drops)</td> <td>Up to V8 or 30"</td> </tr> </tbody> </table>		RR2–Corn	RR-Corn	Normal Application Rate	0.75	0.75	Maximum Application Rate	1.12	0.75	Maximum Total In-Crop Rate	2.25*	1.50*	Application Timing	Up to V8 or 30" 30–48" (drops)	Up to V8 or 30"
	RR2–Corn	RR-Corn																		
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HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>POSTEMERGENCE-DIRECTED</b>					
<i>ametryn</i> Evik 80DF	6	1.25–2 lb	1–1.6	12 H/ Grazing 30 D Forage 30 D	Apply only as a directed spray to corn. Minimum corn height: <i>ametryn</i> 12", <i>linuron</i> 15", <i>paraquat</i> 10". Spray to cover weeds no more than 3–4" tall. Where rate range is given, use lower rate when weeds are no taller than 2" and higher rate for weeds up to 4" tall. Use a nonionic surfactant to improve spray coverage of weeds ( <i>ametryn</i> and <i>linuron</i> —0.5% v/v; <i>paraquat</i> —0.25% v/v).
<i>linuron</i> 4L 50DF	7	1.25–1.5 lb 1.25–1.50 pt	0.63–0.75	24 H/ 57 D	<b>DO NOT</b> apply Evik ( <i>ametryn</i> ) within 3 weeks of tasseling. With <i>paraquat</i> arrange nozzles to spray no higher than lower 3" of stalks.  Use Aim for the control of annual morningglory, pigweed, and tropical spiderwort. Add a COC at 1% v/v (1 gal/100 gal). Avoid directing the spray into the whorl of the plant. Aim provides no residual control.
<i>paraquat</i> 2 lb/gal 3 lb/gal	22	16–32 oz 11–21 oz	0.25–0.50	12 H/	When using Evik post-directed in field corn, consider the following: 1) Apply in 20 GPA
<i>carfentrazone</i> Aim 2EC	14	0.5–1.9 oz	0.08–0.031	12 H/ (before 14 leaf collars)	2) Pre-slurry before mixing 3) Purchase new product 4) <b>Strong</b> sprayer agitation is required  Any person who intends to use paraquat must be a certified applicator and successfully complete an EPA approved training program ( <a href="https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators">https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators</a> ).
<b>MINIMUM TILLAGE</b>					
<i>paraquat</i> 2 lb/gal 3 lb/gal	22	30–60 oz 20–40 oz	0.47–0.94	24 H/ —	Use with a nonionic surfactant (0.25% v/v for contact kill of emerged annual weeds. <i>Paraquat</i> will not adequately control horseweed, swinecress, purslane speedwell, or curly dock. Apply prior to, during, or after planting, but prior to crop emergence. Use 20–60 gallons of spray solution to assure good spray coverage. Use higher GPA for heavier weed infestations and where crop residue or stubble is dense. <i>Paraquat</i> does not provide residual control. <i>Paraquat</i> can be tank-mixed with <i>atrazine</i> , Dual, Warrant, Zidua, or Anthem. Can also be tank-mixed with <i>atrazine</i> , 2,4-D, or Aim to improve burndown weed control. However, if 2,4-D is used, corn planting must be delayed for 7–14 days.  Any person who intends to use paraquat must be a certified applicator and successfully complete an EPA approved training program ( <a href="https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators">https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators</a> ).
<i>glyphosate</i> Numerous trade names 3 lb ae/gal 3.73 lb ae/gal 4 lb ae/gal 4.17 lb ae/gal 4.50 lb ae/gal 4.80 lb ae/gal 5 lb ae/gal	9	16–128 oz 13–103 oz 12–96 oz 11.7–92 oz 11–85 oz 10–80 oz 10–77 oz	0.38–3 ae	4 H/	Use 0.38–1.13 lbs ae/A for control of most emerged annual grasses and broadleaf weeds. Use 1.5–3 lbs ae/A for control of perennial grasses and broad leaf weeds. Apply with 10–40 gal water/A immediately before, during or after planting, but before crop emergence. As stubble, crop residue or weed density increases, GPA and <i>glyphosate</i> rate should be increased (refer to label). <b><i>Glyphosate</i> tank mixtures are not recommended for bermudagrass or johnsongrass control in minimum tillage systems.</b> Weed kill from <i>glyphosate</i> treatments applied as a tank mixture with residual herbicides has not been as consistent as when <i>glyphosate</i> and pre-emergence herbicides are applied separately. Can be tank-mixed with <i>atrazine</i> , <i>dicamba</i> , 2,4-D, or Aim to improve burndown weed control. However, if 2,4-D is used, corn planting must be delayed for 7-14days.
<i>glufosinate</i> Liberty 280 2.34SL Kong Interline	10	22–29 oz	0.40–0.53	12 H/	To kill emerged annual grasses and weeds, apply during or after planting, but before crop emerges. Liberty will not provide adequate burndown control of small grains. Very effective for burndown control of volunteer peanuts. Can be tank-mixed with <i>glyphosate</i> or 2,4-D. Generic formulations of <i>glufosinate</i> are also available including Kong and Interline. Generic formulations of <i>glufosinate</i> should be used with caution because limited data has been collected by UGA.

■ FIELD CORN WEED CONTROL

CORN

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>MINIMUM TILLAGE (continued)</b>					
<i>flumioxazin</i> Valor SX 51WG Outflank Panther Rowel	14	2 oz	0.064	12 H/ —	<p><b>Use only on no-till or minimum tillage fields where last year's crop residue has not been incorporated into the soil.</b> Tank-mix with <i>glyphosate</i> or <i>paraquat</i> to improve burndown control of certain weeds. Will also provide residual control of many broadleaf weeds including pigweed and Florida beggarweed. Corn can be planted 7 days after application if a minimum of 25% of the soil surface is covered with the residue of the preceding crop and a minimum of 0.25" of rainfall has occurred between application and planting. If cover is &lt; 25%, corn can be planted in 14 days after application in fields where last year's crop residue has not been incorporated into the soil. Do not irrigate from emergence to 2-leaf stage. Corn planted in other tillage systems should not be planted for at least 30 days after application. Pre-slurry in water before mixing into a larger spray tank.</p> <p><b>Although labeled, UGA weed scientists do not recommend that Valor be used prior to planting field corn. Field corn is the only major row crop in GA where PPO herbicides are not over-used.</b></p> <p>Valor EZ and Panther SC are liquid formulations of <i>flumioxazin</i>. Red Eagle Flumioxazin is a newer generic dry formulation. <b>Limited data has been collected by UGA weed scientists with Valor EZ, Panther SC, and Red Eagle so these formulations should be used with caution.</b></p>
<i>carfentrazone</i> Aim 2EC	14	0.5–1 oz	0.008–0.016	12 H/	Tank-mix with <i>glyphosate</i> or <i>glufosinate</i> for the improved control of large morningglories. Corn can be planted immediately.
<i>pyraflufen</i> ET 0.208EC	14	0.5–2 oz	0.0008–0.003	12 H/ Silage 50 D Grain or Stover 90 D	Tank-mix with <i>glyphosate</i> or <i>glufosinate</i> for the improved control of large morningglories. Corn can be planted immediately.
<i>2,4-D amine</i> Various trade names—3.8 lb/gal	4	16 oz	0.475	48 H/	Very effective for cutleaf evening primrose control. Can be tank-mixed with other burndown herbicides. Corn can be planted in 7–14 days after application. When using Enlist One formulation, all labeled restrictions must be followed (nozzle type, boom height, wind speed, buffer zones, etc.)
<i>2,4-D choline</i> Enlist One (3.8 lb ai/gal)					Users of Enlist One must have attended UGA's Using Pesticides Wisely (UPW) Training.
<i>thifensulfuron + tribenuron</i> FirstShot SG 50SG	2	0.5–0.80 oz	0.008–0.013 + 0.008–0.013	12 H/ —	Tank-mix with <i>glyphosate</i> , <i>paraquat</i> , or Liberty for improved control of broadleaf weeds. Corn can be planted in 14–21 days depending upon soil type. (21 days for sand, loamy sands, or sandy loams).
<i>dicamba</i> Banvel Clarity Diablo Rifle Sterling, etc. 4SL	4	8 oz 8 oz 8 oz 8 oz 8 oz	0.25	24 H/ Grazing or Forage—milk stage or later	Apply in combination with either Liberty, <i>glyphosate</i> , or <i>paraquat</i> in fields where maretail/ horseweed is a problem. There is no plant-back restriction for field corn following a burndown application of <i>dicamba</i> . Corn must be planted at least 1.5" deep. <b>Rain-free period is 4 hours.</b> Pay attention to nearby sensitive broadleaf crops such as cotton, peanut, soybean, and vegetables.

HERBICIDE	MOA	BROADCAST RATE/ACRE		REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
		AMOUNT OF FORMULATION	LBS AI/A		
<b>BURNDOWN CONTROL OF RR FIELD CORN (REPLANTING)</b>					
<i>clethodim</i> SelectMax/TapOut 0.97EC Clethodim 2EC	1	6 oz 3 oz	0.045		For the control of an existing stand of RR field corn or volunteer RR field corn (up to 12" tall) prior to replanting field corn. Use a NIS (0.25% v/v) + AMS (2.5 lbs/A). <b>Corn can be replanted in 6 days.</b>
<b>HARVEST AID</b>					
<i>2,4-D</i> Numerous trade names 3.8 lb/gal	4	1–2 pt	0.48–0.96	48 H/ 7 D	Apply by air or high clearance equipment when corn reaches the hard dough stage to suppress, control or decrease seed production of cocklebur, jimsonweed, ragweed, or vines that interfere with harvesting. Observe drift control precautions noted for post-emergence use of <i>2,4-D</i> . No adjuvant is recommended. Wait 5-7 days after application before harvesting.
<i>glyphosate</i> Numerous trade names 3 lb ae/gal 3.73 lb ae/gal 4 lb ae/gal 4.17 lb ae/gal 4.50 lb ae/gal 4.80 lb ae/gal 5 lb ae/gal	9	32 oz 26 oz 24 oz 23 oz 22 oz 20 oz 19 oz	0.75 ae	4 H/ 7 D	Apply 7 days before harvest when kernel moisture is less than 35% and after black layer formation. Avoid drift onto sensitive crops. <b>Do not use on corn grown for seed if hybrid is not RR Corn 2.</b> Not all formulations of <i>glyphosate</i> may be labeled for use as a harvest aid. Please refer to the specific product label.
<i>carfentrazone</i> Aim 2EC	14	1.6–1.9 oz	0.025–0.030	12 H/ 3 D	Apply for the defoliation/desiccation of annual morningglories and pigweed. Use a COC at 1% v/v. Can be applied aerially or by ground. Do not apply within 3 days of harvest. Do not graze corn stover until 14 days after application.
<i>paraquat</i> 3 lb/gal 2 lb/gal	22	13–21 oz 19–32 oz	0.30–0.50	24 H/ 7 D	Application must be made at least 7 days before harvest. Apply after the corn is mature and black layer has formed at the base of the kernels. Add a NIS at 0.25% v/v (1 qt/100 gals). Can be applied aerially or by ground.  Any person who intends to use <i>paraquat</i> must be a certified applicator and successfully complete an EPA approved training program ( <a href="https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators">https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators</a> ).
<i>sodium chlorate</i> Defol 5 (others)		154 oz	6.0	12 H/ 14 D	Apply 5 days prior to black layer (¾ milk line). Use with COC (1% v/v) or NIS (0.25% v/v). Can be applied by air (5–7 GPA) or ground (10–20 GPA). Use as a harvest aid to desiccate trashy weeds in early maturing corn. Use the low dilution rates when weeds are small and the crop canopy is fairly open. Desiccation of morningglory and other vines may be erratic. DO NOT graze treated fields or feed fodder, forage, or residual grain within 14 days of application. <i>Sodium chlorate</i> works better if applied when temperatures are above 60°F.

■ FIELD CORN WEED CONTROL

CORN

**SUGGESTED HERBICIDE PROGRAMS FOR THE POST-HARVEST CONTROL OF TROPICAL SPIDERWORT:**

**OPTION 1:** *2,4-D amine* 3.8SL at 24 oz/A followed by *2,4-D amine* 3.8SL at 24 oz/A or *paraquat* 2SL (various formulations) at 32 oz/A or *paraquat* 3SL (various formulations) at 21 oz/A + COC at 1% v/v or Aim 2EC at 1.5 oz/A + COC at 1% v/v 14–21 days later.

**OPTION 2:** *paraquat* 2SL (various formulations) at 32 oz/A or *paraquat* 3SL (various formulations) at 21 oz/A + COC at 1% v/v followed by *paraquat* 2SL (various formulations) at 32 oz/A or *paraquat* 3SL (various formulations) at 21 oz/A + COC at 1% v/v 14–21 days later.

**OPTION 3:** Aim 2EC at 1.5 oz/A + COC at 1% v/v followed by Aim 2EC at 1.5 oz/A + COC at 1% v/v 14–21 days later.

**METOLACHLOR AND S-METOLACHLOR PRODUCTS**

TRADE NAME	ACTIVE INGREDIENT	LBS/GAL	CORN SAFENER	COMPANY
Brawl	<i>S-metolachlor</i>	7.62	none	Tenkoz
Brawl II	<i>S-metolachlor</i>	7.64	<i>benoxacor</i>	Tenkoz
Charger Basic	<i>S-metolachlor</i>	7.62	none	Agrilience
Charger Max	<i>S-metolachlor</i>	7.64	<i>benoxacor</i>	Agrilience
Cinch	<i>S-metolachlor</i>	7.64	<i>benoxacor</i>	DuPont
Dual Magnum	<i>S-metolachlor</i>	7.62	none	Syngenta
Dual II Magnum	<i>S-metolachlor</i>	7.64	<i>benoxacor</i>	Syngenta
EverpreX	<i>S-metolachlor</i>	7.62	none	DuPont
Me-Too-Lachlor	<i>metolachlor</i>	8.0	none	Drexel
Me-Too-Lachlor II	<i>metolachlor</i>	7.8	<i>dichlormid</i>	Drexel
Medal	<i>S-metolachlor</i>	7.62	none	Syngenta
Mocassin	<i>S-metolachlor</i>	8.0	none	UPI
Parallel	<i>metolachlor</i>	7.8	<i>benoxacor</i>	Adama
Parallel PCS	<i>metolachlor</i>	8.0	none	Adama
Parrlay	<i>metolachlor</i>	8.0	none	Monsanto
Stalwart	<i>metolachlor</i>	8.0	none	SipCam
Stalwart C	<i>metolachlor</i>	7.8	<i>dichlormid</i>	SipCam



## PREPACKAGED TANK-MIXES FOR FIELD CORN

See manufacturer's label for specific rates and application uses.

PRODUCT NAME	ACTIVE INGREDIENTS (LBS AI/GAL OR % AI)
Acuron	<i>S</i> -metolachlor (2.14) + atrazine (1.0) + mesotrione (0.24)+ bicyclopyrone (0.06)
Acuron GT	glyphosate (2.0) + <i>S</i> -metolachlor (2.0) + mesotrione (0.2) + bicyclopyrone (0.095)
Anthem Maxx	pyroxasulfone (4.174) + fluthiacet (0.126)
Armezon Pro	topramezone (0.1) + dimethenamid-p (5.25)
Axiom	flufenacet (54.4%) + metribuzin (13.6%)
Axiom AT	flufenacet (19.6%) + metribuzin (4.9%) + atrazine (50.5%)
Balance Flexx	isoxaflutole (2.0) + cyprosulfamide
Basis	rimisulfuron (50%) + thifensulfuron (25%)
Basis Gold	rimisulfuron (1.34%) + nicosulfuron (1.34%) + atrazine (82.44%)
Bicep	metolachlor (3.33) + atrazine (2.67)
Bicep II	metolachlor (3.23) + atrazine (2.67) + benoxacor
Bicep Lite II	metolachlor (2.3) + atrazine (1.67) + benoxacor
Bicep II Magnum	<i>S</i> -metolachlor (2.4) + atrazine (3.1) + benoxacor
Bicep Lite II Magnum	<i>S</i> -metolachlor (3.33) + atrazine (2.67) + benoxacor
Breakfree ATZ	acetochlor (3.0) + atrazine (2.25) + dichlormid
Breakfree ATZ Lite	acetochlor (4.0) + atrazine (1.50) + dichlormid
Bullet	alachlor (2.5) + atrazine (1.5)
Callisto Xtra	atrazine (3.2) + mesotrione (0.5)
Camix	mesotrione (0.33) + <i>S</i> -metolachlor (3.34) + benoxacor

PRODUCT NAME	ACTIVE INGREDIENTS (LBS AI/GAL OR % AI)
Capreno	thiencarbazone (0.57) + tembotrione (2.88) + isoxadifen
Celebrity Plus	dicamba (4.6.6%) + diflufenzopyr (18.1%) + nicosulfuron (10.6%)
Charger Max ATZ	<i>S</i> -metolachlor (2.4) + atrazine (3.1) + benoxacor
Charger Max ATZ Lite	<i>S</i> -metolachlor (3.33) + atrazine (2.67) + benoxacor
Cinch ATZ	<i>S</i> -metolachlor (2.4) + atrazine (3.1) + benoxacor
Cinch ATZ Lite	<i>S</i> -metolachlor (3.33) + atrazine (2.67) + benoxacor
Corvus	thiencarbazone (0.75) + isoxaflutole (1.88) + cyprosulfamide
Degree Xtra	acetochlor (2.7) + atrazine (1.34)
Distinct	diflufenzopyr (20%) + dicamba (50%)
Epic	flufenacet (48%) + isoxaflutole (10%)
Equip	foramsulfuron (30%) + idosulfuron (2%)
Exceed	primisulfuron (28.5%) + prosulfuron (28.5%)
Expert	<i>S</i> -metolachlor (1.74) + atrazine (2.14) + glyphosate (1.0)
FieldMaster	acetochlor (2.0) + atrazine (1.5) + glyphosate (0.75)
FulTime	acetochlor (2.4) + atrazine (1.6)
Guardzman	dimethenamid (2.33) + atrazine (2.67)
Guardzman Max	dimethenamid-p (1.7) + atrazine (3.3)
Halex GT	mesotrione (0.209) + <i>S</i> -metolachlor (2.09) + glyphosate (2.09)

■ FIELD CORN WEED CONTROL

CORN

**PREPACKAGED TANK-MIXES FOR FIELD CORN (*continued*)**

See manufacturer’s label for specific rates and application uses

PRODUCT NAME	ACTIVE INGREDIENTS (LBS AI/GAL OR % AI)
Harness Xtra	<i>acetochlor</i> (4.3) + <i>atrazine</i> (1.7)
Harness Extra 5.6L	<i>acetochlor</i> (3.1) + <i>atrazine</i> (2.5)
Hornet	<i>flumetsulam</i> (23%) + <i>clopyralid</i> (62.5%)
Impact Core	<i>acetochlor</i> (7.08) + <i>topramezone</i> (0.071)
Impact Z	<i>atrazine</i> (4.0) + <i>topramezone</i> (0.26)
Imperium	<i>EPTC</i> (5.6) + <i>acetochlor</i> (1.4)
Keystone	<i>acetochlor</i> (3.0) + <i>atrazine</i> (2.5)
Keystone LA	<i>acetochlor</i> (4.0) + <i>atrazine</i> (1.5)
Laddock	<i>bentazon</i> (1.66) + <i>atrazine</i> (1.66)
LandMaster	<i>glyphosate</i> (1.2) + 2,4-D (1.9)
Lariat	<i>alachlor</i> (2.5) + <i>atrazine</i> (1.5)
Lexar	<i>S-metolachlor</i> (1.74) + <i>atrazine</i> (1.74) + <i>mesotrione</i> (0.224) + <i>benoxacor</i>
Lightning	<i>imazethapyr</i> (52.5%) + <i>imazapyr</i> (17.5%)
Liberty ATZ	<i>atrazine</i> (3.3) + <i>glufosinate</i> (1.0)
Lumax	<i>S-metolachlor</i> (2.68) + <i>mesotrione</i> (0.268) + <i>atrazine</i> (1.0) + <i>benoxacor</i>
Marksman	<i>dicamba</i> (1.1) + <i>atrazine</i> (2.1)
Parallel Plus	<i>atrazine</i> (2.8) + <i>metolachlor</i> (2.7) + <i>benoxacor</i>
Prequel	<i>rimsulfuron</i> (15%) + <i>isoxaflutole</i> (30%)
Priority	<i>carfentrazone</i> (12.5%) + <i>halosulfuron</i> (50.0%)

PRODUCT NAME	ACTIVE INGREDIENTS (LBS AI/GAL OR % AI)
Propel ATZ	<i>dimethenamid-p</i> (1.7) + <i>atrazine</i> (3.3)
Propel ATZ Lite	<i>dimethenamid-p</i> (2.25) + <i>atrazine</i> (2.75)
Radius	<i>flufenacet</i> (3.57) + <i>isoxaflutole</i> (0.43)
Resolve Q	<i>rimsulfuron</i> (18.4%) + <i>thifensulfuron</i> (4.0%) + <i>isoxadifen</i>
Realm Q	<i>rimsulfuron</i> (7.5%) + <i>mesotrione</i> (31.25%) + <i>isoxadifen</i>
Resicore	<i>acetochlor</i> (2.8) + <i>mesotrione</i> (0.30) + <i>clopyralid</i> (0.19)
Revolin Q	<i>mesotrione</i> (36.8%) + <i>nicosulfuron</i> (14.1%) + <i>isoxadifen</i>
Shotgun	<i>atrazine</i> (2.25) + 2,4-D (1.0)
Sinate	<i>topramezone</i> (1) + <i>glufosinate</i> (2.47)
Stalwart Xtra	<i>atrazine</i> (3.1) + <i>metolachlor</i> (2.4) + <i>dichlormid</i>
Steadfast	<i>nicosulfuron</i> (50%) + <i>rimsulfuron</i> (25%)
Steadfast ATZ	<i>nicosulfuron</i> (2.7 %) + <i>rimsulfuron</i> (1.3 %) + <i>atrazine</i> (85.3%)
Steadfast Q	<i>nicosulfuron</i> (25.2%) + <i>rimsulfuron</i> (12.5%) + <i>isoxadifen</i>
Sterling Plus	<i>dicamba</i> (1.1) + <i>atrazine</i> (2.1)
Stout	<i>nicosulfuron</i> (67.5%) + <i>thifensulfuron</i> (5.0%)
SureStart	<i>clopyralid</i> (0.29) + <i>acetochlor</i> (0.38) + <i>flumetsulam</i> (0.12)
TripleFLEX	<i>acetochlor</i> (3.75) + <i>clopyralid</i> (0.38) + <i>flumetsulam</i> (0.12)
Yukon	<i>halosulfuron</i> (12.5%) + <i>dicamba</i> (55%)

# WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

Eric P. Prostko, Extension Agronomist—Weed Science

	SUTAN	ERADICANE	MICRO-TECH LASSO	ANTHEM MAXX ZIDUA	OUTLOOK	AATREX ATRAZINE	DUAL' CINCH	HARNESS SURPASS TOPNOTCH DEGREE WARRANT	SIMAZINE	PYTHON
	PPI		PRE							
PERENNIAL WEEDS										
johnsongrass (rhizome)	F	F-G	P		P	P	P	P	P	P
nutsedge, purple	G-E	G-E	P	P	P	P	P	P	P	P
nutsedge, yellow	G-E	G-E	F	P	F	P	F-G	F	P	P
ANNUAL GRASSES										
broadleaf signalgrass	G	G	F-G	F-G	F-G	P	F-G	G	P	P
crabgrass	E	E	E	G-E	E	G	E	E	G	P
crowfootgrass	E	E	E	G-E	E	G	E	E	G	P
fall panicum	E	E	E	G-E	E	P	E	E	G	P
goosegrass	E	E	E	G-E	E	G	E	E	G	P
johnsongrass (seedling)	E	E	P		P	P	P	P	P	P
sandbur	E	E	F-G	G-E	F-G		F-G	F-G	G	P
Texas panicum	G-E	G-E	P-F	F	P-F	P	P-F	P	P	P
annual ryegrass				G			G		E	P
BROADLEAF WEEDS										
bristly starbur			P		P	G	P	P	G	E
burcucumber			P		P	P-F	P	P	F	P
citronmelon			P		P	G	P	P	F	
cocklebur			P		P	G-E	P	P	G	E
cowpea			P		P	E	P	P	G	
crotalaria			P		P	G-E	P	P	G	
croton, tropic			P		P	G	P	P	G	
Florida beggarweed			F		P	E	F	F	G	F-G
Florida pusley	G-E	G-E	G-E	G	G-E	E	G-E	G-E	G	G

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown.

**PPI** = Preplant soil incorporated; **PRE** = Pre-emergence (surface applied)

1. Includes all *metolachlor* products (Cinch, Dual, Dual II, Dual Magnum, Dual II Magnum). The generic formulations of *metolachlor* (Parallel, Stalwart, Me-Too-Lachlor) have not provided the same length of residual control of certain weeds as similar rates of Dual Magnum formulations in some UGA field trials.

■ WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

CORN

	SUTAN	ERADICANE	MICRO-TECH LASSO	ANTHEM MAXX ZIDUA	OUTLOOK	AATREX ATRAZINE	DUAL <sup>1</sup> CINCH	HARNESS SURPASS TOPNOTCH DEGREE WARRANT	SIMAZINE	PYTHON
	PPI		PRE							
BROADLEAF WEEDS (continued)										
jimsonweed			P		P	E	P	P	E	P
lambsquarters, common	G	G	F-G		F	E	F	F	E	E
morningglories			P		P	G	P	P	G	F-G
pigweed	G	G	G	G	G	E	G	G	E	E
ALS-resistant	G	G	G	G	G	E	G	G	E	P
glyphosate-resistant	G	G	G	G	G	E	G	G	E	E
atrazine-resistant	G	G		G	G	P	G	G	P	E
prickly sida	G	G	F-G		F	E	F	F	E	E
purslane	G	G	G		G	E	G	G	E	
ragweed, common			P		P	E	P	P	E	G
sesbania, hemp		P	P		P	F-G	P	P		
sicklepod	F	F	P		P	G	P	P	G	F-G
smartweed	P	P	P		P	G-E	P	P	G	G
tropical spiderwort				G-E	F	F	G-E			
volunteer peanuts	P	P	P	P	P	G	P	P	F	
velvetleaf			P			G	P	P		E
wild poinsettia										G
wild radish	P	P	P		P	G	P	P	F	

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown.

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WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

CORN

	EVIK	AATREX, ATRAZINE	ACCENT	BEACON	EXCEED	BASAGRAN	CALLISTO	LAUDIS	CAPRENO	STEADFAST Q	GLYPHOSATE + ACURON OR ACURON GT
<b>POSTEMERGENCE / POST-DIRECTED</b>											
<b>PERENNIAL WEEDS</b>											
johnsongrass (rhizome)	P	P	G-E	F-G	P-F	P	P			G-E	E
nutsedge, purple	G	P	P-F		P	P	P-F			P	F-G
nutsedge, yellow	G	P			P	G	P-F			P	F
<b>ANNUAL GRASSES</b>											
broadleaf signalgrass	G	P-F	G	P		P	F				E
crabgrass	E	P-F	P	P	P	P	F-G	F-G	G	F	E
crowfootgrass	E	P	G-E		P	P	P			G-E	E
fall panicum	E	P	G-E	F	P	P	P				E
goosegrass	E	P	G-E		P	P	P				E
johnsongrass (seedling)	E	P	G-E	G-E	F-G	P	P			G-E	E
sandbur	E	F	G-E		P	P	P				E
Texas panicum	G-E	P	G-E	P	P	P	P	F-G	G	G-E	E
annual ryegrasses	F-G	P-F	G			P	P				E
<b>BROADLEAF WEEDS</b>											
bristly starbur	E	E				E					G
burcucumber	F	F-G	F-G	G	G	P	P-F				E
citronmelon	G	G			F	P					G
cocklebur	F	E	P-F		G	E	G-E				G-E
cowpea	G	G				P					G
crotalaria	E	G				P					G
croton, tropic	G	G				P					G
Florida beggarweed	E	G	G	G-E		P					G-E
Florida pusley	E	G	P-F	G-E		P					F
jimsonweed	E	E	F-G		G	E	G-E				G
lamsquarters, common	E	E	F-G		G	P	G-E				G
morningglories	G	E	G-E	F	F-G	F-G	F-G				G

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown.

WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

CORN

	EVIK	AATREX, ATRAZINE	ACCENT	BEACON	EXCEED	BASAGRAN	CALLISTO	LAUDIS	CAPRENO	STEADFAST Q	GLYPHOSATE + ACURON OR ACURON GT
<b>POSTEMERGENCE / POST-DIRECTED</b>											
<b>BROADLEAF WEEDS (continued)</b>											
pigweed	E	E	G-E	G-E	G	P	G	G	G-E	G-E	G-E
ALS-resistant	E	E	P	P	P	P	G	G	G	P	G-E
glyphosate-resistant	E	E	G-E	G-E	G	P	G	G	G-E	G-E	G-E
atrazine-resistant	E	P	G-E	G-E	G	P	G	G	G-E	G-E	G-E
prickly sida	E	E	P		F-G	G	P				G
purslane	E	E				P					G
ragweed, common	E	E	P-F		G	F	F-G				G
sesbania, hemp	P-F	F-G	P-F	P	F-G	P					F
sicklepod	E	E	P-F	G	G	P	P	P	P		G-E
smartweed		G-E	G	G		G-E	G-E				G-E
tropical spiderwort	G-E	P				F-G					F
velvetleaf		E	F	F-G		G-E	E				G
volunteer peanuts	G-E	F-G	F	F	P	P	P				F
wild poinsettia											G-E
wild radish	G-E	F-G	G	G	G	F					G

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown.

	REVULIN Q	SHIELDEX	LIBERTY <sup>1</sup> , KONG, INTERLINE	GLYPHOSATE <sup>2</sup>	DICAMBA	LOROX, LINEX
<b>POSTEMERGENCE / POST-EMERGENCE DIRECTED</b>						
<b>PERENNIAL WEEDS</b>						
johnsongrass (rhizome)	G-E		P-F	E	P	P
nutsedge, purple		P	P	F-G	P	F
nutsedge, yellow		P	P	F	P	F
<b>ANNUAL GRASSES</b>						
broadleaf signalgrass	G		G	E	P	G
crabgrass	P-F	F-G	F-G	E	P	G
crowfootgrass	G		G	E	P	E
fall panicum	G	P	G	E	P	E
goosegrass	G		P	E	P	E
johnsongrass (seedling)	G-E	F	G	E	P	E
sandbur	G-E			E	P	E
Texas panicum	G		G-E	E	P	G-E
annual ryegrass	G		G	F-G	P	
<b>BROADLEAF WEEDS</b>						
bristly starbur			G-E	G	E	G
burcucumber	F-G	F	G	E	F	F
citronmelon			G	G	E	E
cocklebur	G-E	F-G	E	G	E	E
cowpea			G	G	E	G
crotalaria				G	G	E
croton, tropic			G	G	G	G
Florida beggarweed	G		G-E	G-E	G	E
Florida pusley	P-F		P-F	F	G	G

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown.

1. Liberty is only for use on Liberty-Link corn hybrids.
2. Glyphosate is only for use on Roundup Ready corn hybrids. Ratings also reflect weed control in minimum tillage applications prior to crop emergence/planting.

■ WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

CORN

	REVULIN Q	SHIELDX	LIBERTY <sup>1</sup> , KONG, INTERLINE	GLYPHOSATE <sup>2</sup>	DICAMBA	LOROX, LINEX
POSTEMERGENCE / POST-EMERGENCE DIRECTED						
BROADLEAF WEEDS (continued)						
jimsonweed	G	G-E	G	G	E	E
lambsquarters, common	G	G	E	G	E	E
morningglories	G	F	G-E	F-G	E	G
pigweeds	G-E	G-E	F-G	G-E	G-E	G
ALS-resistant	G-E	G-E	F-G	G-E	G-E	G
glyphosate-resistant	G-E	G-E	F-G	P	G-E	G
atrazine-resistant	G-E	G-E	F-G	G-E	G-E	G
prickly sida	P		P-F	G	E	G
purslane			G	G	E	G
ragweed, common	F-G	F-G	G	G	E	E
sesbania, hemp			G-E	F	E	G
sicklepod			G	G-E	E	E
smartweed	G	F-G	G-E	G-E	E	
tropical spiderwort			P-F	F	P	F
velvetleaf	G-E	E	E	G	F-G	
volunteer peanuts			G-E	F	F-G	G
wild poinsettia				G-E		
wild radish			F	G	G-E	G

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown.

1. Liberty is **only** for use on Liberty-Link corn hybrids.
2. Glyphosate is **only** for use on Roundup Ready corn hybrids. Ratings also reflect weed control in minimum tillage applications prior to crop emergence/planting.



	PARAQUAT	PROWL <sup>+</sup>	TRIFLURALIN <sup>+</sup>	STINGER	2,4-D	SANDEA	BUCTRIL	AIM
<b>POSTEMERGENCE / POST-EMERGENCE DIRECTED</b>								
<b>PERENNIAL WEEDS</b>								
johnsongrass (rhizomes)	P	P	P	P	P	P	P	P
nutsedge, purple	F	P	P	P	P	G	P	P
nutsedge, yellow	F	P	P	P	P-F	G	P	P
<b>ANNUAL GRASSES</b>								
broadleaf signalgrass	G	G	G	P	P	P	P	P
crabgrass	G	G-E	G-E	P	P	P	P	P
crowfootgrass	G	G-E	G-E	P	P	P	P	P
fall panicum	G	G-E	G-E	P	P	P	P	P
goosegrass	G	G-E	G-E	P	P	P	P	P
johnsongrass (seedling)	G	G	G	P	P	P	P	P
sandbur	G	G	G	P	P	P	P	P
Texas panicum	E	G	G	P	P	P	P	P
annual ryegrass		F	F	P		P		P
<b>BROADLEAF WEEDS</b>								
bristly starbur	G	*	*	F-G		G	G	P
burcucumber	G	P	P	P	P	P	F-G	P
citronmelon	F	*	*	F-G	E	P-F		
cocklebur	G	*	*	G-E	E	G	E	G
cowpea	G	*	*	G-E	E			
crotalaria	G	*	*	G-E	G	P		F
croton, tropic	G	*	*	G	G			G
Florida beggarweed	E	*	*	G-E	P	P	G	F
Florida pusley	F-G	G	G	F-G	G		E	F-G
jimson weed	G	*	*	G	E			G

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown. Ratings are based on average to good soil and weather conditions for herbicide performance.

\* Must be tank mixed with *atrazine* or glyphosate for post-emergence control of seedling grasses and broadleaf weeds.

+ For control of grasses and selected broadleaf weeds, these herbicides must be applied prior to weed emergence.

\*\* Aim will not effectively control smallflower morningglory

■ WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

CORN

	PARAQUAT	PROWL <sup>+</sup>	TRIFLURALIN <sup>+</sup>	STINGER	2,4-D	SANDEA	BUCTRIL	AIM
POSTEMERGENCE / POST-EMERGENCE DIRECTED								
BROADLEAF WEEDS (continued)								
lambsquarters, common	F-G	G*	G*	P	E	P-F	G	G-E
morningglories	G	*	*	P	G	P-F	G	E**
pigweeds	G	G*	G*	P	G-E	F-G	G	G-E
ALS-resistant	G	G	G	P	G-E	P	G	G-E
glyphosate-resistant	G	G	G	P	G-E	F-G	G	G-E
atrazine-resistant	G	G	G	P	G-E	F-G	G	G-E
prickly sida	F-G	*	*		G			F
purslane	G	G*	G*		G			G
ragweed, common	G	*	*	G	E	G	G	F
sesbania, hemp	P-F				G	F-G	G	
sicklepod	G	*	*	F-G	E	P	P	P
smartweed				F	P-F	F-G		G
tropical spiderwort	G-E	P	P		G-E	P		G-E
velvetleaf		P	P		G	E	G	E
volunteer peanuts	P	P	P	F-G	P	P	P	P
wild poinsettia	F-G	P	P					
wild radish	G	P	P		G	G-E	G	

Key to response symbols: E—Excellent control, weed kill 90% or above; G—Good control, weed kill 80% or above; F—Fair control, weed kill 70–79%, usually unacceptable unless supplemental chemical or cultivation practices are used; P—Poor control (<70%). If no symbol is given, weed response is unknown. Ratings are based on average to good soil and weather conditions for herbicide performance.

\* Must be tank mixed with *atrazine* or *glyphosate* for post-emergence control of seedling grasses and broadleaf weeds.

+ For control of grasses and selected broadleaf weeds, these herbicides must be applied prior to weed emergence.

\*\* Aim will not effectively control smallflower morningglory.

# WEED AND COVER CROP RESPONSE TO BURNDOWN HERBICIDES USED IN CONSERVATION TILLAGE FIELD CORN PRODUCTION SYSTEMS IN GEORGIA

Eric P. Prostko, Extension Agronomist—Weed Science

WEED	GLYPHOSATE	GLYPHOSATE + 2,4-D	GLYPHOSATE + ATRAZINE	GLYPHOSATE + VALOR***	GLYPHOSATE + DICAMBA	PARAQUAT	PARAQUAT + 2,4-D	PARAQUAT + ATRAZINE	PARAQUAT + DICAMBA	GLUFOSINATE
Carolina geranium	P	F-G	G-E	G	G	G-E	G-E	G-E	G	G-E
chickweed	E	E	G-E	E	E	E	E	E	G-E	G-E
corn spurry	G-E	G-E	G-E		G-E	F-G				
crimson clover	P-F	F	F		F-G	G	G-E	G-E	G-E	
cutleaf evening primrose	P-F	E	G-E	F-G	G	F	E	G-E	G	G-E (mature plant)
henbit	F-G	E	G-E	E	G	G	E	G-E	G-E	F
horseweed	G	G-E	G-E	G-E	G-E	F	G	G-E	G	G
red sorrel	E	E	E	E	E	E	E	E	E	P-F
ryegrass**	G	G	G-E	G	F-G	P-F	P-F	F	P-F	P
small grains	E	E	G-E	E	E	F-G	F-G	G	F-G	P-F
swinecress	F-G	G	G	F-G	F-G	P-F	F-G	F-G		G-E
volunteer peanut	F	F	F	F-G	G	P	P-F	F	G	G-E
wild radish	F-G	G-E	G-E	E	G-E	F	G-E	G-E	G	G-E (mature plant)
corn plant-back restriction	<b>0 days</b>	<b>7-14 days</b>	<b>0 days</b>	<b>7-30</b>	<b>0 days</b>	<b>0 days</b>	<b>7-14 days</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>

**Burndown rates are the following:** *Glyphosate* at 0.75 lb ae/A (22 oz/A of 4.5 lb ae/gal or 32 oz/A of 3 lb ae/gal); *paraquat* at 0.75 lb ai/A (3 pt/A of *paraquat* 2SL or 2 pt/A of *paraquat* 3SL); *glufosinate* at 0.40-0.53 lb ai/A (22-29 oz/A of Ignite 2.34SL); *atrazine* at 1.0 lb ai/A (1 qt/A of *atrazine* 4L), Valor SX 51WG at 2 oz/A; and 2,4-D amine at 0.48 lb ai /A (1 pt/A of 2,4-D Amine 3.8SL).

\*\*\* Only for use in no-till or minimum tillage fields with previous crop residue. Rotation restriction for corn in other tillage systems is 30 days (1" rainfall/irrigation is required between application and planting)

\*\* **PROGRAMS TO MANAGE GLYPHOSATE-RESISTANT ITALIAN RYEGRASS PRIOR TO PLANTING FIELD CORN**

**Fall (Mid-October to Mid-November)**—Dual Magnum at 1.33 pt/A or double disking. Add *paraquat* 2SL at 1–2 pts/A (or equivalent generic) to the Dual Magnum if the ryegrass is emerged.

**Winter (Mid-January to Mid-February)**—SelectMax or TapOut at 16 oz/A or Select/Arrow at 8 oz/A. Corn can be planted 30 days after application.

**Spring (March-April)**—*paraquat* 2SL at 3–4 pts/A (or equivalent generic) + *Atrazine* 4L at 1 qt/A. An additional application of *paraquat* can be applied 10–14 days later if control is less than desirable.

*These recommendations are based on research conducted by Drs. Jason Bond and Tom Eubanks at Mississippi State University.*

## UGA RECOMMENDED HERBICIDE PROGRAMS FOR FIELD CORN WEED CONTROL—2021

Eric P. Prostko, Extension Agronomist—Weed Science

CORN HYBRID/ SYSTEM	PREEMERGENCE	EARLY-POSTEMERGENCE <sup>1</sup> (~17–30 DAP, V3–V5 STAGE, ~279–411 GDD'S <sup>2</sup> )	LAYBY/DIRECTED (IF NEEDED)
<b>Conventional</b>	<i>Atrazine</i> <sup>3</sup> or Dual II Magnum or Warrant or Outlook	1) Prowl + <i>Atrazine</i> + Crop Oil or 2) <i>Atrazine</i> + <b>One</b> of the following: (Accent Q, Callisto, Capreno, Armezon/Impact/Impact Z, Laudis, Revulin Q, Shieldex, or Steadfast Q)	Evik
<b>Liberty-Link</b>	<i>Atrazine</i> <sup>3</sup> or Dual II Magnum or Warrant or Outlook	1) Liberty + <i>Atrazine</i> + <b>One</b> of the following: [Prowl or Dual Magnum or Warrant or Zidua or Anthem Maxx or Outlook or Acuron (48 oz/A)]	
<b>Roundup Ready</b>	<i>Atrazine</i> <sup>3</sup> or Dual II Magnum or Warrant or Outlook	1) <i>Glyphosate</i> + <i>Atrazine</i> + (Prowl or Dual Magnum or Warrant or Zidua or Anthem Maxx or Outlook) or 2) <i>Glyphosate</i> + <i>Atrazine</i> + (Callisto or Capreno or Armezon/Impact/Impact Z or Laudis or Revulin Q or Shieldex or Steadfast Q) or 3) <i>Glyphosate</i> + <i>Atrazine</i> + (2,4-D or dicamba) or 4) Acuron GT or Halex GT + <i>Atrazine</i> or 5) <i>Glyphosate</i> + Acuron (48 oz/A)	

- When using Counter (INFR) for insect and nematode control, the following herbicides should NOT be applied POST: Acuron, Callisto, Capreno, Halex GT, Revulin Q, and Steadfast Q.
- GDD's = growing degree-days from planting (50°/86° F)
- A maximum of 2.0 to 2.5 lb ai/A of *atrazine* can be applied in a single year depending upon application methods.

## POST-HARVEST (CORN) MANAGEMENT OF PALMER AMARANTH

Eric P. Prostko, Extension Agronomist—Weed Science

After corn harvest, Palmer amaranth plants that emerge up until 35 days before first frost will have the potential to produce viable seed. Consequently, these post-harvest populations should be managed up until this time using 1 or more of the following strategies:

- For plants larger than 6" in height:
  - Mowing
  - Tillage
- For plants less than 6" in height:
  - Tillage or
  - Paraquat* 2SL (various formulations) at 48 oz/A or *paraquat* 3SL (various formulations) at 32 oz/A + 2,4-D amine 3.8SC at 16–24 oz/A + COC (1.0% v/v). If cotton is nearby and drift is a concern, consider using *dicamba* @ 0.25 lb ae/A instead of 2,4-D. Delay planting of small grains for at least 24 days for each 16 oz/A of 2,4-D applied or 15 days for *dicamba*. When using *dicamba*, refer to latest product label for specific application requirements (nozzle type, boom height, tractor speed, wind speed, etc.).

- If residual control is desired and a small grain will not be planted in the fall, Dual Magnum/Stalwart, etc. at 16 oz/A can be included with the burndown treatment. Tricor 4F at 8 oz/A or Tricor 75 DF at 5.33 oz/A (*metribuzin*) can also be used for fall residual control in fields that will be planted to corn or soybeans the following spring.
- In dairy situations (i.e. no rotations with peanuts, soybeans, and cotton: and no overuse of PPO herbicides), Valor 51WG or Valor EZ 4SC (2 oz/A) can be used for the residual control of Palmer amaranth after field corn harvest. Wheat can be planted 30 days after application (need 1" rainfall/irrigation after application), cereal rye and barley can be planted 3 months after application, and ryegrass can be planted 4 months after application (with tillage). Valor can be tank-mixed with *paraquat*.

It is important to remember that viable Palmer amaranth seed can be produced within 2 weeks after pollen shed. Thus, control strategies need to be implemented before this time to be effective in reducing weed-seed rain back into a field.

# SUMMARY OF FIELD CORN HERBICIDE HARVEST RESTRICTIONS FOR SILAGE/FORAGE

Eric P. Prostko, Extension Agronomist—Weed Science

TRADE NAME	COMMON NAME(S)	SILAGE/FORAGE RESTRICTION (days)
Aatrex	<i>atrazine</i>	60
Accent Q*	<i>nicosulfuron</i>	30
Acuron*	<i>bicyclopyrone + mesotrione + S-metolachlor + atrazine</i>	60
Acuron Flexi*	<i>bicyclopyrone + mesotrione + S-metolachlor</i>	45
Acuron GT*	<i>glyphosate + S-metolachlor + mesotrione + bicyclopyrone</i>	45
Aim	<i>carfentrazone</i>	3
Anthem Maxx	<i>pyroxasulfone + fluthiacet</i>	30
Armezon	<i>topramezone</i>	45
Dual Magnum	<i>S-metolachlor</i>	30
Callisto*	<i>mesotrione</i>	45
Capreno*	<i>tembotrione + thiencazone</i>	45
Clarity	<i>dicamba</i>	After milk stage (R3)
DiFlexx	<i>dicamba</i>	45
Empyros*	<i>tolpyralate + S-metolachlor</i>	45
Empyros Triad*	<i>tolpyralate + S-metolachlor + atrazine</i>	60
Empyros Triad Flex*	<i>tolpyralate + S-metolachlor + atrazine</i>	60
Harness Max*	<i>mesotrione + acetochlor</i>	60
Halex GT*	<i>glyphosate + mesotrione + S-metolachlor</i>	45
Helmet Maxx*	<i>metolachlor + atrazine + mesotrione</i>	60
Impact	<i>topramezone</i>	45
Impact Core	<i>topramezone + acetochlor</i>	45
Impact Z	<i>topramezone + atrazine</i>	45
Katagon*	<i>tolpyralate + nicosulfuron</i>	45
Laudis	<i>tembotrione</i>	45
Lexar EZ*	<i>atrazine + S-metolachlor + mesotrione</i>	60
Liberty	<i>glufosinate</i>	60
Outlook	<i>dimethenamid-P</i>	40

\*Cannot be used if Counter (*terbufos*) was applied in-furrow for nematodes and other insect pests.

■ SUMMARY OF FIELD CORN HERBICIDE HARVEST RESTRICTIONS FOR SILAGE/FORAGE

CORN

TRADE NAME	COMMON NAME(S)	SILAGE/FORAGE RESTRICTION (days)
Prowl H2O	<i>pendimethalin</i>	21
Resicore*	<i>mesotrione + acetochlor + clopyralid</i>	45
Restraint	<i>tolpyralate + acetochlor</i>	21
Revulin Q*	<i>mesotrione + nicosulfuron</i>	45
Sandea/Permit*	<i>halosulfuron</i>	30
Shieldex	<i>tolpyralate</i>	21
Sinate	<i>glufosinate + topramezone</i>	60
Status	<i>dicamba + diflufenzopyr</i>	32
Steadfast Q*	<i>rimsulfuron + nicosulfuron</i>	30
Warrant	<i>acetochlor</i>	40
Zidua	<i>pyroxasulfone</i>	0
Weedar 64	<i>2,4-D amine</i>	7

\*Cannot be used if Counter (*terbufos*) was applied in-furrow for nematodes and other insect pests.