

AGRONOMIC CROPS

CORN INSECT CONTROL

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| PEST | MATERIAL AND FORMULATION | AMOUNT PER ACRE or PER 1000 FT OF ROW | LB. ACTIVE INGREDIENT PER ACRE | REMARKS AND PRECAUTIONS |
|---|---|---|---|---|
| <p>Recommendations list single active ingredients and common brand names. Numerous mixtures also are registered for use on field corn. Users should check the mixture label for specific active ingredients, rates and precautions.</p> | | | | |
| <p><u>Preplant treatment for soil insects</u></p> | <p><u>chlorpyrifos</u> Lorsban, Chlorpyrifos, Chlorfos, others 4E</p> <p><u>bifenthrin</u> Brigade, Capture, Discipline, Fanfare, others (2EC)</p> | <p>4 pt.</p> <p>3 - 4 fl. oz.</p> | <p>2.0</p> <p>0.047 - 0.062</p> | <p>May not provide complete protection if population pressure is great.</p> <p><u>Use chlorpyrifos</u> for grubs, wireworms, seed corn maggot, and S. com rootworm. Broadcast using 20 gpa before planting and immediately incorporate into top 2 - 4 inches of soil. Plant crop as soon as possible after treatment.</p> <p><u>Use bifenthrin</u> for grubs, wireworms, seedcorn maggot, and cutworms. Broadcast using 20 gpa before planting and immediately incorporate into top 3 inches of soil. Plant crop as soon as possible after treatment. May be tank mixed with preplant herbicides.</p> |
| <p><u>Soil Insects: At-planting:</u> wireworm, grubs, S. corn rootworm, seed corn maggot, fire ants</p> <p>(Also see sections for billbugs, cutworms, lesser cornstalk borer, and mid-season rootworms for these pests)</p> | <p>At-Planting</p> <p><u>bifenthrin</u> Brigade, Capture, Fanfare, Discipline, others 2EC, Capture LFR Capture 1.15G, similar products</p> <p><u>chlorpyrifos</u> Lorsban, Chlorpyrifos, Chlorfos, others 4E</p> <p>Lorsban 15G, similar products</p> <p>Counter 15G</p> <p>Force 3G</p> <p>Furadan 4F, LFR</p> <p>Regent 4SC</p> <p>Seed Treatments Cruiser 250 (5FS) Cruiser 1250 (5FS)</p> <p>Poncho 250 Poncho 1250</p> | <p>0.15 - 0.3 fl. oz./ 1000 ft of row</p> <p>6.4 - 8.0 oz /1000 ft</p> <p>2.4 fl. oz./1000 ft or 2 pt / acre</p> <p>8 oz / 1000 ft</p> <p>6 - 8 oz./1000 ft</p> <p>5 oz./1000 ft</p> <p>2.5 fl. oz./1000 ft</p> <p>0.24 fl. oz./1000 ft row</p> <p>0.25 mg (ai)/seed 1.25 mg (ai)/seed</p> <p>0.25 mg (ai)/seed 1.25 mg (ai)/seed</p> | <p>0.0023-0.0046 / 1000 ft</p> <p>Varies with row spacing</p> <p>Varies 1.0</p> <p>Varies</p> <p>Varies</p> <p>Varies</p> <p>Varies</p> <p>Varies</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> | <p>All 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 sob, poor soil conditions for seedling growth, and late-planted corn.</p> <p>NOTE: Rates are for 1000 ft of row in 30-40 inch rows. Per acre rates vary with row spacing; See labels for per acre rates for specific row spacing and for row spacings less than 30 inches apart.</p> <p>NOTE: Apply Counter 15G as a T-band or in-furrow. Counter will interact with ALS inhibiting herbicides like Accent, Beacon, Option to cause severe plant injury. See corn weed section of this handbook and product labels for specific herbicide interactions and precautions.</p> <p>NOTE: 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.</p> <p>NOTE: Apply Furadan 4F in-furrow for best results. Furadan also will suppress seedling infestations of aphids and leafhopper virus-disease vectors. LFR can be mixed with liquid fertilizer.</p> <p>NOTE: Apply Lorsban 15G at planting as a T-band or in-furrow. For wireworms apply in-furrow or use an insecticide seed treatment with T-band applications. Lorsban 15G is compatible with ALS inhibitor herbicides. See corn weed section of this handbook and product labels for specific herbicide interactions and precautions.</p> <p>NOTE: Apply Force 3G and bifenthrin products as a T-band or in-furrow. Force and bifenthrin do not interact with ALS herbicides.</p> <p>NOTE: Regent 4SC must be applied in-furrow using a liquid-injection system or sprayed in-furrow with flat-fan nozzles oriented with the row furrow.</p> <p>NOTE: 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.</p> |

CORN INSECT CONTROL (continued)

| PEST | MATERIAL AND FORMULATION | AMOUNT PER ACRE or PER 1000 FT OF ROW | LB. ACTIVE INGREDIENT PER ACRE | REMARKS AND PRECAUTIONS |
|---|--|---|---|---|
| <p><u>Soil Insect Mid-season:</u> Western corn rootworm</p> | <p>At-Planting Treatment Counter 15G</p> <p>Force 3G</p> <p>Furadan 4F</p> <p>Lorsban 15G</p> <p>Regent 4SC</p> <p>Bt-resistant corn (YieldGard-rootworm) (Herculex - RW)</p> <p>Cultivation Time Treatments Counter 15G</p> <p>Force 3G</p> <p>Furadan 4F</p> <p>Lorsban 4E</p> | <p>6 - 8 oz./1000 ft</p> <p>5 oz./1000 ft</p> <p>2.5 fl. oz./1000 ft</p> <p>8 oz./1000 ft</p> <p>0.24 fl. oz./1000 ft</p> <p>Insecticide produced in plant</p> <p>8 oz./1000 ft</p> <p>4 - 5 oz./1000 ft.</p> <p>2 pt.</p> <p>3 pt.</p> | <p>varies</p> <p>varies</p> <p>varies</p> <p>varies</p> <p>varies</p> <p></p> <p>varies</p> <p>varies</p> <p>1.0</p> <p>1.5</p> | <p>Western corn rootworm can be a problem in non-rotated corn in northern and central Georgia.</p> <p><u>At-Planting Treatments:</u> Apply at-planting in a 6 to 7 inch 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 <u>no</u> incorporation is obtained with the press wheel, use Furadan, Lorsban, or Counter in-furrow at indicated rates.</p> <p>NOTE: 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>NOTE: Rates are for 30 to 40 inch 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 per acre. See label for narrow rows. NOTE: Regent 4SC must be applied in-furrow using a liquid-injection system or sprayed in-furrow with flat-fan nozzles oriented with the row furrow.</p> <p><u>Cultivation Time treatments:</u> Apply Counter in a 7-inch band over the row of seedling plants and lightly incorporate into soil. Counter can not be used if already applied at planting. See label for detailed instructions. Apply Force 3G by placing granules at the base of plants on both sides of the row and cover with 2 to 3 inches of soil. For liquid formulations of Lorsban and Furadan, apply as a directed spray on both sides of base of the plants in front of the cultivator shovels. Proper application is critical for good control. Rates indicated are 40 inch rows.</p> <p>NOTE: 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><u>Soil Insects:</u> Billbug, Sugarcane beetle</p> | <p>At-Planting Treatment Counter 15G</p> <p>Furadan 4F</p> <p>Poncho 1250</p> <p>Cruiser 1250</p> <p>Post-emergence treatments <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (ICS) Proaxis 0.5</p> | <p>8 oz./1000 ft</p> <p>2.5 fl. oz./1000 ft</p> <p>1.25 mg (ai)/seed</p> <p>1.25 mg (ai)/seed</p> <p>1.92 fl. oz.</p> <p>3.84 fl. oz.</p> <p>3.84 fl. oz.</p> | <p>varies with row spacing</p> <p>varies with row spacing</p> <p>-</p> <p>-</p> <p>0.03</p> <p>0.03</p> <p>0.015</p> | <p>Beetles feed on seedling plants at or below soil line causing dead or dead-hearted plants. Generally problems worse in reduced tillage, when a winter cover crop is use. Billbugs are often associated with nutgrass infestation and sugarcane beetle is often associated with bahiagrass infestation.</p> <p><u>At-Planting treatments:</u> Apply Counter as a T-band application. Furadan should be injected in-furrow for best results. Poncho 1250 and Cruiser 1250 are available only as a commercial seed treatment.</p> <p>NOTE: 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><u>Post-emergence control:</u> Stand loss of 5 to 10% justifies control. Direct liquid sprays at base of plant using at least 25 gal/acre of spray.</p> |

CORN INSECT CONTROL (continued)

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|---|---|---------------------------------------|--------------------------------|---|
| Soil Insects Lesser cornstalk borer | Preplant <u>chlorpyrifos</u> Lorsban 4E, Chlorpyrifos, Chlorfos, others 4E | 6 pt. | 3.0 | Lesser cornstalk borer larvae tunnel into the seedling plant below the soil line causing dead or dead-hearted plants. Larvae spin silken tube at plant base. Hot, dry conditions, clean tillage, and late planting favor infestations. Difficult to control ; at-planting treatments are most effective. <u>Preplant</u> : broadcast before planting and immediately incorporate into top 4-6 inches of soil. Plant crop as soon as possible after treatment. Do not graze for forage within 14 days of application. <u>At-Planting</u> : Apply as a T-band and incorporate around seed. <u>Post-emergence</u> : Direct spray 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. NOTE : Systemic seed treatments and Bt traits also may provide some useful suppression. |
| | At-planting <u>chlorpyrifos</u> Lorsban 15G, similar products | 8 oz / 1000 ft | Varies with row spacing | |
| | Lorsban 4E, Chlorpyrifos, Chlorfos, others 4E | 2.4 fl. oz. / 1000 ft or 2 pt / acre | Varies 1.0 | |
| | Post-emergence <u>chlorpyrifos</u> Lorsban 4E, similar products | 2 pt | 1.0 | |
| | <u>lambda cyhalothrin</u> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1.0 | 1.92 fl. oz. 3.84 fl. oz. | 0.03 0.03 | |
| | <u>gamma cyhalothrin</u> Proaxis 0.5 | 3.84 fl. oz. | 0.015 | |
| Aphids (foliar treatments) | <u>esfenvalerate</u> Asana XL, Adjourn (0.66EC) | 5.8 - 9.6 fl. oz. | 0.03 - 0.05 | 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. NOTE: Poncho and Cruiser seed treatment as applied at planting for soil insect control will control aphids on seedling corn for up to 30 days after planting. Furadan 4F injected in-furrow at planting also will control aphids up to 30 days after planting. |
| | <u>bifenthrin</u> Brigade, Capture, Discipline, others 2EC | 2.1 - 6.4 fl. oz. | 0.033 - 0.01 | |
| | Dimethoate 2.67EC Dimethoate 4E, 400 | 1 to 1.5 pt. 0.67 to 1 pt. | 0.33 - 0.5 0.33 - 0.5 | |
| | <u>methyl parathion</u> Methyl 4EC PennCap-M 2FM | 0.5 pt 2 to 3 pt. | 0.25 0.5 - 0.75 | |
| Armyworm - True (See fall armyworm in whorl) | Baythroid XL (1.0EC) | 1.6 - 2.8 fl. oz. | 0.0125 - 0.022 | Reduced tillage and grassy weeds favor infestations. Bt-resistant corn effectively prevents most seedling and whorl stage defoliation by caterpillars. See seed dealer for refuge requirements of Bt corn hybrids. <u>Seedling plants</u> , treat if 25% of plants show defoliation including window-paning type defoliation and larvae are present. Treat within 48 hours. <u>Whorl stage plants</u> , treat when 30% of the plants are infested. Use ground equipment and apply at least 20 gallons of finished spray per acre directed down into the whorls. Nozzles with large droplet size will aid in control. NOTE : Bt corn borer traits, especially YieldGard-CB, may not prevent whorl damage by armyworms, fall armyworms and corn earworms under high pressure. |
| | <u>bifenthrin</u> Brigade, Capture, Discipline, others 2EC | 2.1 - 6.4 fl. oz. | 0.033 - 0.01 | |
| | <u>Bt-trait corn</u> (YieldGard-Corn borer) (Herculex-CB) | Insecticide produced in plant | | |
| | Decis 1.5EC | 1.5 - 1.9 fl. oz. | 0.012 - 0.018 | |
| | Intrepid 2F | 4 - 8 fl. oz. | | |
| | Lannate 2.4LV Lannate 90SP | 0.75 - 1.5 pt. 0.25 - 0.5 lb. | 0.445 0.445 | |
| | <u>chlorpyrifos</u> Lorsban, Chlorpyrifos, other brands 4E | 2 pt. | 1.0 | |
| | <u>methyl parathion</u> Methyl 4EC PennCap-M 2FM | 0.5 pt. 2 - 3 pt. | 0.25 0.5 - 0.75 | |
| | Tracer 4SC | 2 - 3 pt. | 0.062 - 0.093 | |

CORN INSECT CONTROL (continued)

| PEST | MATERIAL AND FORMULATION | AMOUNT PER ACRE or PER 1000 FT OF ROW | LB. ACTIVE INGREDIENT PER ACRE | REMARKS AND PRECAUTIONS |
|-------------------------|---|--|--|---|
| Armyworm - True (Cont.) | <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 1.28 - 1.92 fl. oz. 2.56 - 3.84 fl. oz. 2.56 - 3.84 fl. oz. | 0.02 - 0.03 0.02 - 0.03 0.01 - 0.015 | |
| Chinch bug | At-planting Poncho 250 Poncho 1250 Cruiser 250 Cruiser 1250 Counter 15G Post-emergence Decis 1.5EC Furadan 4F <u>chlorpyrifos</u> Lorsban, Chlorpyrifos, other brands 4E <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 0.25 mg (ai)/seed 1.25 mg (ai)/seed 0.25 mg (ai)/seed 1.25 mg (ai)/seed 6 - 8 oz/1000 ft 1.9 fl. oz. 1 pt. 2 pt. 1.92 fl. oz. 3.84 fl. oz. 3.84 fl. oz. | - - - - varies within row width 0.022 0.5 1.0 0.03 0.03 0.015 | At-planting treatments: Poncho 250 and Cruiser 5FS as applied at planting for soil insect control may suppress chinch bugs for up to 25 days after planting. Poncho 1250 may control chinch bugs for several weeks after planting. Counter 15G for suppression of light to moderate infestations. Post-emergence treatments: 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. |
| Cutworms | <u>esfenvalerate</u> Asana XL, Adjourn (0.66EC) Baythroid XL (1.0EC) <u>bifenthrin</u> Bifenthrin, Capture, Discipline, Fanfare 2EC Decis 1.5EC <u>chlorpyrifos</u> Lorsban, Chlorpyrifos, other brands 4E Mustang MAX, Respect (0.8EC) Permethrin, others 3.2EC <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 5.8 - 9.6 fl. oz. 0.8 - 1.6 fl. oz. 3.2 - 6.4 fl. oz. 1.5 - 1.9 fl. oz. 2 pt. 2.8 - 4.0 fl. oz. / acre or 0.16 fl. oz. / 1000 ft 4 to 8 fl. oz. 1.28 - 1.92 fl. oz. 2.56 - 3.84 fl. oz. 2.56 - 3.84 fl. oz. | 0.03 - 0.05 0.0065 - 0.0125 0.05 - 0.10 0.012 - 0.018 1.0 0.014 - 0.025 - 0.1 - 0.2 0.02 - 0.03 0.02 - 0.03 0.01 - 0.015 | Several species including black, dingy and variegated cutworms. Reduced tillage conditions, plant residue, winter cover crops and winter grassy weeds favor infestation. Pre-plant 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. At planting apply insecticide as a band or T-band over the row. Check label for specific banding directions. Poncho 1250 as applied at planting for soil insect control also will reduce cutworm damage. After emergence treat if 5% of seedling show feeding or cutting damage. Apply as band over the row. For broadcast sprays, use ground equipment with at least 20 gal per acre finished spray for thorough coverage. Bt-corn: Herculex Bt corn may provide suppression of cutworm damage in seedling corn. YieldGard - corn borer Bt corn is generally not effective against cutworms. |

CORN INSECT CONTROL (continued)

| PEST | MATERIAL AND FORMULATION | AMOUNT PER ACRE or PER 1000 FT OF ROW | LB. ACTIVE INGREDIENT PER ACRE | REMARKS AND PRECAUTIONS |
|--|---|--|---|---|
| Fall armyworm, Corn earworm, other armyworms (In whorls) | <u>esfenvalerate</u> Asana XL, Adjourn (0.66EC) Baythroid XL (1.0EC) <u>Bt-trait corn</u> (YieldGard-Corn borer) (Herculex-CB) <u>chlorpyrifos</u> Lorsban, Chlorpyrifos, other brands (4E) Lannate 2.4LV Lannate 90SP Tracer 4SC <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 9.6 fl. oz. 2.8 fl. oz. Insecticide produced in plant 2 pt. 1.5 pt. 0.5 lb. 2 - 3 pt. 1.6 - 1.92 fl. oz. 3.2 - 3.84 fl. oz. 3.2 - 3.84 fl. oz. | 0.05 0.022 - 1.0 0.445 0.445 0.062 - 0.093 0.02 - 0.03 0.02 - 0.03 0.01 - 0.015 | <p>"BUDWORMS" IN WHORL: Most infestations are fall armyworms. Small larvae feed on leaves before moving to the whorl. Most difficult to control in the whorl. Do not base treatment solely on defoliation, verify that larvae are present. NOTE: For large infestations in whorl, tank mix an OP (Lannate, chlorpyrifos) and a pyrethroid (esfenvalerate, Baythroid, lambda or gamma cyhalothrin) insecticides for best results.</p> <p>Seedling plants, treat if 25% of plants show defoliation including window-paning type defoliation and larvae are present. Treat within 48 hours.</p> <p>Whorl-stage plants, treat when 30% of the plants in the field are infested. Use ground equipment and apply at least 20 gallons of finished spray per acre directed down into the whorls. Nozzles with large droplet size will aid in control.</p> <p>NOTE: Bt corn borer traits, especially YieldGard-CB, may not prevent whorl damage by fall armyworms, armyworms and corn earworms under high pressure.</p> <p>NOTE: Tracer is most effective against small larvae.</p> |
| Corn earworms, Fall armyworms (In ears) | Do not treat <u>Bt-trait corn</u> (YieldGard VT Triple PRO) | Insecticide produced in plant | | <p>EARWORMS (Corn earworm, Fall armyworm in ears): Difficult to control. Usually not economical to keep these insects out of the ears using insecticides. Requires multiple applications two or three days apart during silking to prevent larvae establishment in ears. A new Bt-trait in YieldGard VT Triple PRO will partly reduce infestation and ear/kernel damage by corn earworm and fall armyworm. Other Bt traits usually are not effective in preventing ear damage.</p> |
| European corn borer, Southwestern corn borer | <u>esfenvalerate</u> Asana XL, Adjourn (0.66EC) <u>bifenthrin</u> Bifenthrin, Capture, Discipline, Fanfare, others 2EC <u>Bt-trait corn</u> (YieldGard-Corn borer) (Herculex-CB) Furadan 4F Intrepid 2F <u>chlorpyrifos</u> Lorsban, Chlorpyrifos, other brands 4E <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 7.8 - 9.6 fl. oz. 3.2 - 6.4 fl. oz. Insecticide produced in plant 1.5 - 2 pt. 4 - 8 fl. oz. 2 pt. 1.6 - 1.92 fl. oz. 3.2 - 3.84 fl. oz. 3.2 - 3.84 fl. oz. | 0.04 -0.05 0.033 - 0.01 - 0.75 - 1.0 0.06 - 0.12 1.0 0.025 - 0.03 0.025 - 0.03 0.0125 - 0.015 | <p>EUROPEAN CORN BORER: Difficult to control with insecticides; 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 with when the corn is in the early-tasseling stage and moths are active in the field.</p> <p>SOUTHWESTERN CORN BORER: 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>NOTE: Bt-com borer traits are very effective against 1st and 2nd generations of both borer species. See seed dealer for refuge requirements of Bt corn hybrids.</p> |

CORN INSECT CONTROL (continued)

| PEST | MATERIAL AND FORMULATION | AMOUNT PER ACRE or PER 1000 FT OF ROW | LB. ACTIVE INGREDIENT PER ACRE | REMARKS AND PRECAUTIONS |
|--|---|--|--|---|
| Grasshoppers | <u>esfenvalerate</u> Asana XL, Adjourn (0.66EC) Baythroid XL (1.0EC) Decis 1.5EC Furadan 4F <u>chlorpyrifos</u> Lorsban, Chlorpyrifos, other brands 4EC <u>zeta-cypermethrin</u> Mustang MAX, Respect (0.8EC) <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 5.8 - 9.6 fl. oz. 2.1 - 2.8 fl. oz. 1.5 fl. oz. 0.25 - 0.5 pt. 0.5 to 1 pt. 2.72 - 4.0 fl. oz. 1.28 - 1.92 fl. oz. 2.56 - 3.84 fl. oz. 2.56 - 3.84 fl. oz. | 0.03 - 0.05 0.0165 - 0.022 0.018 0.125 - 0.5 0.25 - 0.5 0.017 - 0.025 0.02 - 0.03 0.02 - 0.03 0.01 - 0.015 | Generally a problem in reduced tillage and along field margin. Products listed are most effective against small to medium sized nymphs. Adults are difficult to kill. |
| <u>Beetle Adults:</u> Cereal Leaf beetles, Flea beetles, Japanese beetle, Corn rootworm adults | Baythroid XL (1.0EC) <u>bifenthrin</u> Bifenthrin, Capture, Fanfare, others 2.0 Decis 1.5EC Mustang MAX, Respect (0.8EC) Permethrin, others 3.2EC Sevin 80S Sevin XLR Plus, 4F <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) Proaxis 0.5 | 1.6 - 2.8 fl. oz. 3.2 - 3.8 fl. oz. 1.5 - 1.9 fl. oz. 2.72 - 4.0 fl. oz. 0.4 - 0.8 fl. oz. 1.25 - 2.5 lb. 1 - 2 qt. 1.28 - 1.92 fl. oz. 2.56 - 3.84 fl. oz. 2.56 - 3.84 fl. oz. | 0.0125 - 0.022 0.05 - 0.06 0.018 - 0.022 0.017 - 0.025 0.1 - 0.2 1.0 - 2.0 1.0 - 2.0 0.02 - 0.03 0.02 - 0.03 0.01 - 0.015 | <u>LEAF FEEDING</u> 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. <u>SILK FEEDING</u> 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 ½ inch of the ear tip. |
| Mites | <u>bifenthrin</u> Bifenthrin, Capture, Fanfare, others 2EC Comite II Dimethoate 2.67EC Dimethoate 4E, 400 Oberon 2SC | 5.12 - 6.4 fl. oz. 2.5 - 3 3/8 pt. Tank mix with bifenthrin at 0.5 lb (AI) per acre 5.7 - 8.5 fl. oz. | 0.08 - 0.10 1.875 - 2.53 0.087 - 0.13 | MITES: Treat if infestations become widespread, leaf discoloration is evident, and 1 to 2 lower leaves are dying. <u>Bifenthrin</u> products: use 6.4 fl. oz. rate alone OR use 5.1 fl. oz. rate tank mixed with dimethoate at 0.5 lb (AI) per acre. <u>Comite II</u> : Only apply to dry foliage. Do not tank mix; do not use an oil-based surfactant. See table for additional restrictions. <u>Oberon</u> : Use 8.5 fl. oz. rate for large infestations. A NIS adjuvant is beneficial. |

CORN INSECT CONTROL (continued)

| PEST | MATERIAL AND FORMULATION | AMOUNT PER ACRE or PER 1000 FT OF ROW | LB. ACTIVE INGREDIENT PER ACRE | REMARKS AND PRECAUTIONS |
|--|---|--|--------------------------------|---|
| Stink bugs | Baythroid XL (1.0EC) | 1.6 - 2.8 fl. oz. | 0.0125 - 0.022 | <u>SEEDLING STAGE</u> : Treat if 5 % of seedling plants have damage and stink bugs are present. Poncho 250 and 1250 will suppress stink bug damage to seedlings for a few weeks after planting. |
| | <u>bifenthrin</u> Bifenthrin, Capture, Discipline, Fanfare 2EC | 3.2 - 3.8 fl. oz. | 0.05 - 0.06 | <u>EAR STAGE</u> : Corn is most sensitive to stink bug injury during ear formation before silking. Treat if 25% (1/4) of plants in the ear zone are infested with stink bugs. |
| | Decis 1.5EC | 1.5 - 1.9 fl. oz. | 0.018 - 0.022 | <u>KERNEL FILL</u> : During kernel filling bugs feed through the husk damaging individual kernels. Treat if 50% (1 / 2) of ears are infested. |
| | <u>methyl parathion</u> Methyl 4EC Pennacp-M 2FM | 1 pt. 2 - 3 pt. | 0.5 0.5 - 0.75 | NOTE : Use pyrethroids (Baythroid, Capture, Decis, Mustang, Karate, Warrior, Proaxis) if southern green stink bug is present. These products are less effective against brown stink bug. |
| | Mustang MAX, Respect (0.8EC) | 3.2 - 4.0 fl. oz. | 0.02 - 0.025 | NOTE : Do not apply methyl parathion during pollen shed. |
| | <u>lambda/gamma cyhalothrin</u> Karate Z 2.08 Warrior, Lambda T, Silencer, others (1CS) | 1.6 - 1.92 fl. oz. 3.2 - 3.84 fl. oz. | 0.025 - 0.03 0.025 - 0.03 | NOTE : Bidrin as used on cotton is not registered for use on corn. |
| | Proaxis 0.5 | 3.2 - 3.84 fl. oz. | 0.0125 - 0.015 | |
| Thrips | Seedling control Cruiser Extreme 250 | 0.25 mg (ai)/seed | - | Treat if field is heavily infested and leaves emerging from the tassel show excessive damage. Rarely causes economic damage on field corn. Seed treatments provide suppression only. |
| | Poncho 250 | 0.25 mg (ai)/seed | - | |
| | Foliar treatment Lorsban, Chlorpyrifos, other brands (4E) | 1 - 2 pt. | 0.5 - 1.0 | |
| <p><u>Bt-TRAITS FOR CORN BORERS, ARMYWORMS and EARWORMS:</u> Genetically engineered to produce an insecticidal protein derived from the naturally-occurring insect pathogen <i>Bacillus thuringiensis</i> (Bt). Two types are available, YieldGard - Corn Borer and Herculex - CB. Toxin expression is season-long and throughout the plant and is effective against lepidopteran caterpillars such as European corn borer, Southwestern com borer, and seedling and whorl infestations by true armyworm, fall armyworm and corn earworm. Herculex - CB also is helpful in preventing cutworm damage. Bt corn borer traits may not prevent whorl damage by armyworms and fall armyworms under high pressure. Bt corn borer traits are only <u>partly</u> effective in preventing ear/kernel damage by corn earworm and fall armyworm. NO MORE THAN 50% of corn acreage on a farm can be planted with Bt –corn borer type corn varieties. Refuge must be planted at the same time as the Bt hybrid. Check with seed supplier for additional resistant management restrictions.</p> <p><u>Bt-TRAITS FOR CORN ROOTWORMS:</u> Hybrids containing Bt toxin for control of mid-season corn rootworms may be available in some areas. Two types are available, YieldGard – rootworm or Herculex - RW. Some hybrids may be stacked with both Bt-corn borer and Bt-rootworm traits. Mid-season rootworms are only a problem in continuous corn. Bt-rootworm traits are effective against mid-season rootworms but is NOT effective on seedlings against southern com rootworm or other soil insects. Currently all corn seed with Bt-rootworm traits is treated with a systemic seed treatment, such as Poncho 250 or Cruiser 5FS. Refuge requirement for hybrids with Bt-rootworm traits is 20% of acreage on a farm. Check with seed supplier for additional resistant management restrictions.</p> | | | | |

CORN INSECT CONTROL (continued)

INSECTICIDE USE RESTRICTIONS FOR FIELD 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 |
|---------------------|--|-----------------------|-----------------------------------|--|--|--|
| bifenthrin | Brigade, Capture, Bifenthrin, Discipline, Fanfare (2E) | 30 | 30 | 24 | 19.2 fl. oz. | |
| carbofuran | Furadan 4F | 30 | 30 | 14 days | 2 applications | Do not treat seed corn |
| carbaryl | Sevin | 48 | 14 | 12 | 8 qt. | |
| chlorpyrifos | Lorsban 15G | 35 | 14 | 12 | 13.5 lbs. | |
| chlorpyrifos | Lorsban 4E, generics | 35 | 14 | 24 | 15 pt. | |
| clothianidin | Poncho 600 sold as Poncho 250 and Poncho 1250 | - ¹ | - ¹ | 0 | seed treatment | Commercially applied; See label for plant back restrictions |
| (beta) cyfluthrin | Baythroid XL (1.0EC) | 21 | 0 21 for fodder | 12 | 11.2 fl. oz (4 applications) | Only 1 application from early dent to 21 days before harvest |
| deltamethrin | Decis 1.5EC | 21 | 12 21 for fodder | 12 | 8.1 fl. oz. (5 applications) | Do not apply less than 21 days apart |
| dimethoate | Dimethoate | 42 | 14 | 48 | 3 applications | Do not apply during pollen shed |
| esfenvalerate | Asana XL, Adjourn | 21 | - ¹ | 12 | 48 fl. oz. | Do not apply more than 0.25 lb (ai) per acre per season |
| fipronil | Regent 4SC | 90 | 90 | 0 | 1 application at-planting | In-furrow application only; Do not apply through any type of irrigation system; See label for crop plant-back restrictions |
| gamma cyhalothrin | Proaxis 0.5 | 21 | 21 | 24 | 0.96 pt. | See label for additional restrictions |
| lambda cyhalothrin | Warrior, Silencer (1.0) Karate Z (2.08) | 21 | 21 | 24 | 0.96 pt. 0.48 pt. | See label for restrictions |
| methoxyfenozone | Intrepid 2F | 21 | 21 | 4 | 64 fl. oz. | |
| methyl parathion | Methyl 4EC Penncap M | 12 | 12 | 96 | - ¹ | Do not apply during pollen shed |
| permethrin (foliar) | Permethrin | 30 | 0 | 12 | 24 fl. oz. | |
| methomyl | Lannate 2.4LV, 90SP | 0 | 3 | 48 | 2.25 lb ai | |
| phorate | Phorate, Thimet 20G | 30 ² | 30 | 48 | 1 application; 6.5 lbs/acre | Do not apply in-furrow or after cultivation |
| propargite | 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 Use Restrictions for Field Corn chart continued on next page.

CORN INSECT CONTROL (continued)

INSECTICIDE USE RESTRICTIONS FOR FIELD 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 |
|-------------------|----------------------|-----------------------|-----------------------------------|--|--|--|
| spinosad | Tracer 4SC | 28 | 7 | 4 | 6 fl oz | |
| spiromesifen | Oberon 2SC | 30 | 5 | 12 | 17.0 fl. oz. and 2 applications | Use at least 10 GPA by ground and 5 GPA by air. |
| terbufos | Counter 15G | 30 ² | 30 ² | 48 | 6.5 lbs. | Make only one application |
| tefluthrin | Force 3G | - ¹ | - ¹ | 0 | 1 application | Granules must be incorporated into soil |
| thiamethoxam | Cruiser 5FS | - ¹ | -- | 12 | Seed treatment | Commercially applied; see label for plant back restrictions. Some formulations may contain fungicides. |
| zeta-cypermethrin | Mustang MAX, Respect | 30 | 60 | 12 | 16 fl oz | |

¹Not listed.

²Not listed for at-planting application.

FIELD CORN DISEASE CONTROL

Bob Kemerait, Extension Plant Pathologist

| Pest | Fungicide and Formulation | Amount Per Acre | Remarks and Precautions |
|---|---------------------------|---------------------|--|
| Southern Corn Leaf Blight, Northern Corn Leaf Blight | | | NOTE: Except in very severe years, for example when leaf blights affect field corn in early growth stages, we find little benefit in improving yields with fungicide applications. 2008 was a severe year for northern corn leaf blight. |
| | Headline | 9.0 - 12.0 fl oz/A | Do not apply Headline within 7 days of harvest. |
| | Quadris | 9.2 - 15.4 fl oz/A | Do not apply Quadris within 7 days of harvest. |
| | Quilt | 7.0 - 14.0 fl oz/A | Do not apply Quilt after the silking growth stage. |
| | Stratego | 10.0 - 12.0 fl oz/A | Do not apply Stratego after the silking growth stage. |
| | Tilt | 2.0 - 4.0 fl oz/A | Do not apply Tilt after the silking growth stage. |
| Southern Rust, Common Rust | | | Note 1: 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. For best results, fungicide applications should be initiated before disease enters the field or as soon as southern rust is detected after careful scouting.. |
| | | | Note 2: Quadris and Stratego are specifically labeled for control of common rust; however in field trials in Georgia, they were effective against southern rust as well. |
| | Headline | 6.0 - 9.0 fl oz/A | Do not apply Headline within 7 days of harvest. |
| | Quadris (common rust) | 6.2 - 9.2 fl oz/A | Do not apply Quadris within 7 days of harvest. |
| | Quilt | 10.5 - 14 fl oz/A | Do not apply Quilt after the silking growth stage. |
| | Stratego (common rust) | 7.0 - 10.0 fl oz/A | Do not apply Stratego after the silking growth stage. |
| | Tilt | 4 fl oz/A | Do not apply Tilt after the silking growth stage. |

CORN NEMATODE CONTROL

Bob Kemerait, Extension Plant Pathologist

| CHEMICAL | OZ./1000 FT. OF ROW | REMARKS AND PRECAUTIONS |
|-------------|---------------------|--|
| Counter 15G | 8 | *Apply in furrow or in 7 in. band as row treatment. DO NOT exceed 8.7 pounds per acre regardless of row spacing. ALS-inhibiting herbicides should not be used if Counter 15G has been applied to the corn at planting. |
| Mocap 15G | 12-16 | *Apply in 12 to 15-inch band as row treatment. DO NOT apply Mocap in-furrow with seed. |
| Furadan 4F | 2.5 | Apply at planting directly into the seed furrow. |
| Telone II | 3 gal/A | Apply Telone II at least 7 days prior to planting by injecting 12 inches below the soil surface. |

*NOTE: Granules should be incorporated for best results.

FIELD CORN WEED CONTROL

Eric P. Prostko, Extension Agronomist - Weed Science

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|---|---|---|---|
| | AMOUNT OF FORMULATION | LBS ACTIVE INGREDIENT/A | |
| PRE-PLANT SOIL INCORPORATED | | | |
| butylate + safener (Sutan+) 6.7E or | 4.75 - 7.33 pts | 3.97 - 6.14 | Incorporate these herbicides 2 to 3" deep into the soil immediately after application. Use higher rate (7.33 pts/A) for suppression of bermudagrass and johnsongrass. Cultivation and/or postemergence herbicide treatments will be required to control escaped weeds. Can be tank-mixed with atrazine for additional broadleaf weed control. NOTE: Repeated use of these herbicides can increase levels of herbicide degrading soil microorganisms. This can result in short-term or reduced weed control. MOA = 8. |
| EPTC + safener (Eradicane) 6.7E | 4.75 - 7.33 pts | 3.97 - 6.14 | |
| PREEMERGENCE | | | |
| acetochlor (Harness) 7EC (Surpass) 6.4EC (Harness) 20G (TopNotch) 3.2ME (Degree) 3.8ME (Breakfree) EC | 1.5 - 3.0 pts 2.0 pts 6.0 - 10.0 lbs 2-3 qts 2.25-4.25 pts 1.5 - 2.5 pts | 1.3 - 2.6 1.6 1.2 - 2.0 1.6-2.4 1.06-2.02 | Controls most annual grasses (except Texas panicum) and certain small-seeded broadleaf weeds. Acetochlor can be tank-mixed with other broadleaf materials (atrazine) for improved weed spectrum. Only rotate to small grains, soybeans, or corn - 12 month restriction for other crops for Harness, 18 month restriction for Surpass. Acetochlor is restricted for use in the Piedmont regions only. Available in several pre-mixes with atrazine (Harness Extra, FullTime, Degree Xtra, Keystone, BreakFree ATZ). Can be applied up to 11" tall corn. MOA = 15. |
| alachlor (Micro-Tech 4ME) | 2.0 -2.75 qts | 2.0 - 2.75 | Controls most annual grasses (except Texas panicum) and certain broadleaf weeds. Under cool, wet weather conditions, stunting or crop injury expressed as malformed, knotted, twisted top growth may occur. Corn normally outgrows early season injury. Alachlor may be tank-mixed with atrazine or simazine. Alachlor can be applied up to 5" tall corn. Available in several pre-mixes with atrazine (Bullet, Lariat). MOA = 15. |
| metolachlor (Stalwart C, Parallel, Me-Too-Lachlor-II) S-metolachlor (Dual Magnum) 7.62E (Dual II Magnum) 7.64E (Cinch 7.64E) | 1.0 -1.33 pts 1.0 - 1.33 pts 1.0 - 1.33 pts 1.0 - 1.33 pts | 1.0 - 1.33 0.96 - 1.27 | Controls 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. Metolachlor may be tank-mixed with atrazine or simazine. Metolachlor can be applied up to 40" tall corn. Available in several premixes with atrazine (Bicep II Magnum, Cinch ATZ, Lexar, Lumax, Parallel Plus, Stalwart Xtra). 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. MOA = 15. |
| dimethenamid-p (Outlook/Propel) 6L | 10 -16 ozs | 0.47 - 0.75 | Rate is dependent on soil texture, organic matter, and CEC. Controls most annual grasses (except Texas panicum) and certain broadleaf weeds. Under cool, wet conditions, stunting or crop injury expressed as malformed, knotted, twisted growth may occur. Dimethenamid may be tank-mixed with atrazine or simazine. Dimethenamid can be applied up to 12" tall corn. Available in several premixes with atrazine (Guardsman, Guardsman Max). MOA = 15. |

| | | |
|---|--|--|
| flufenacet + metribuzin (Axiom) 68DF | 13-22 ozs 0.44-0.75 + 0.11- 0.19 0.55-0.94 | Provides annual grass and small-seeded broadleaf control similar to acetochlor, alachlor, and metolachlor. Specific use rate dependent upon soil texture and organic matter. Corn should be planted 1-1.5" deep. Can be tank-mixed with atrazine for improved control of broadleaf weeds. Corn and soybeans can be planted anytime after an application of Axiom. A 12 month rotation restriction exists for the following crops: rye, sorghum, wheat, cotton, peanuts, and tobacco. Rotational restriction for onions is 18 months. Refer to metribuzin (Sencor) label for additional rotational information. Available in premix with atrazine (Axiom AT). MOA = 15 + 5. |
|---|--|--|

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|--|--|-------------------------------------|--|
| | AMOUNT OF FORMUL ATION | LBS ACTIVE INGREDI ENT/A | |
| PREEMERGENCE (cont'd) | | | |
| atrazine (numerous trade names) 80W 90DG 4L | 2.5 - 3.0 lbs 2.25 - 2.66 lbs 2.0 - 2.5 qts | 2.0 - 2.4 2.0 - 2.4 2.0 - 2.5 | Refer to herbicide table and label for specific product. Good to excellent control of most annual broadleaf weeds. Does not usually provide adequate control of Texas panicum or fall panicum. Atrazine will often fail to provide extended control of crabgrass and late season control of sicklepod and morningglories. Atrazine may be tank-mixed with metolachlor, alachlor, simazine. Do not use more than 2.5 lbs ai/A/year of atrazine. MOA = 5. |
| simazine (numerous trade names) 80W 90DG 4L | 2.5 - 3.0 lbs 2.2 - 2.6 lbs 2.0 - 2.5 qts | 2.0 - 2.4 2.0 - 2.3 2.0 - 2.5 | Refer to herbicide table and label for specific product. Similar to atrazine but requires more rainfall for activation and is generally less effective in control of certain broadleaf weeds. Good control of crabgrass and fall panicum. Simazine may be tank-mixed with atrazine, alachlor or metolachlor. MOA = 5. |
| flumetsulam (Python) 80 WDG | 0.80-0.89 oz | 0.04-0.045 | Python may be used preplant, preemergence or at the spike stage of corn for broadleaf weed control. Can be mixed with atrazine and other materials labeled for use on field corn to increase weed control spectrum. May be followed with corn, soybeans or wheat. Rotational restrictions for the following year include peanuts and small grains - 4 months, canola - 26 months, cotton - 18 months, tobacco - 9 months. Refer to label for additional rotation restrictions. Due to possible crop injury, flumetsulam cannot be used when Counter (terbufos) or Thimet (phorate) insecticides are applied. All other soil insecticides should be applied in a T-band or band to avoid potential crop injury. This precaution applies to all prepackaged tank-mixtures that contain flumetsulam (Hornet) Use on soils with less than 1.5% OM may result in crop injury. MOA = 2. |
| CHEMIGATION | | | |

| | |
|--|---|
| <p>alachlor (Micro-Tech 4ME) metolachlor (Stalwart C, Parallel, Me-Too-Lachlor-II) s-metolachlor (Dual Magnum, Dual II Magnum, Cinch) butylate + safener (Sutan+ 6.7E) pendimethalin (Prowl 3.3 EC) EPTC + safener (Eradicane 6.7E)</p> | <p>Maybe applied to 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. 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.</p> |
|--|---|

POSTEMERGENCE: OVER-THE-TOP

| | | |
|---|--|---|
| <p>atrazine (numerous trade names) 80W 90DG 4L</p> | <p>1.88- 2.5 lbs 1.67 - 2.22 lbs. 1.5 - 2.0 qts.</p> | <p>1.5 - 2.0</p> <p>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 qt/A) will improve control. Can be applied up to 12" tall corn. Poor control may result on sicklepod more than 2 in. tall and on grasses beyond the 2-leaf stage. Do not apply with fluid fertilizer. If no atrazine was applied preemergence, apply no more than 2.0 lb/ai/A. If a preemergence treatment was used, do not exceed a total of 2.5 lbs/ai/A calendar year. MOA = 5.</p> |
| <p>pendimethalin (Prowl/Pendimax 3.3EC) (Prowl H₂O 3.8 ACS) + atrazine (numerous trade names) 4L*</p> | <p>1.8 - 2.4 pts 2 pts + 1.5 - 2.0 qts</p> | <p>0.75 - 1.0 0.95 + 1.5 - 2.0</p> <p>Refer to herbicide table and label for specific product. Apply over-the-top after corn emergence but when weeds are less than 1 in. tall. For control of seedling grasses apply when no more than 1/2 in. tall. Consistency of control is contingent on timing of rainfall or irrigation after application. Do not use with fluid fertilizers after crop emergence. Pendimethalin or tank mixtures including pendimethalin 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 in. deep when using pendimethalin. Can be applied up to 12" tall corn. MOA = 3 + 5.</p> |

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|--|---------------------------------|-----------------------------------|---|
| | AMOUNT OF FORMUL ATION | LBS ACTIVE INGREDI ENT/A | |
| POSTEMERGENCE: OVER-THE-TOP (cont.) | | | |
| bentazon (Basagran) 4SC | 1.5 - 2.0 pts | 0.75 - 1.0 | 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 to 10 days will often be required for yellow nutsedge control. Add a crop oil concentrate at 1 qt/A. Rain-free period is 4 hours. MOA = 6. |
| bromoxynil (Buctril) 2EC | 1.0 - 1.5 pts | 0.25 - 0.38 | Can be applied in corn from the 4 th leaf stage until tassel emergence. Controls cocklebur, bristly starbur, morningglories, and certain other broadleaf weeds when less than 3 in. tall. Adjust rate according to weed size and species as noted on label. Temporary corn leaf scorch may occur. Spray additives can cause increased leaf burn. Available in premix with atrazine (Buctril + Atrazine). Rain-free period is 1 hour. MOA = 6. |
| carfentrazone (Aim 2EC) | 0.50 - 1.0 ozs | 0.008 - 0.016 | 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 @ 1% v/v (1 gal/100 gals). Aim can be tank-mixed with glyphosate (GR corn hybrids only), 2,4-D, atrazine, and Accent. Refer to label for a more complete list of approved tank-mixes. Rain-free period is 6 to 8 hours. MOA = 14. |
| 2,4-D (numerous trade names) 3.8 lb/gal | 0.5 - 1.0 pt | 0.24 - 0.48 | Refer to herbicide table and label for specific product. May be applied over-the-top of the crop and weeds until corn is 5 to 8 in. tall. Use only as a directed spray after corn is 8 in. 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 amine formulations and observe drift control precautions noted on label. MOA = 4. |

| | | |
|---|--|---|
| <p>pendimethalin (Prowl/Pendimax 3.3EC) (Prowl H₂O 3.8 ACS)</p> <p>trifluralin (numerous trade names) 4 lb/gal</p> | <p>1.2 - 1.8 pts 1.5 pts</p> <p>0.5 - 0.75 0.71</p> <p>1.0 - 1.5 pts</p> <p>0.5 - 0.75</p> | <p>CULTI-SPRAY TECHNIQUE (Postemergence Incorporated)</p> <p>These treatments will provide <u>residual</u> control of annual grasses, including Texas panicum. <u>They will not control existing grasses.</u> They should be used to augment other weed control tactics. When using either of the treatments, the following steps must be followed.</p> <ol style="list-style-type: none"> 1. The herbicides must be applied to weed-free soil. 2. Corn brace roots must be protected by soil thrown to the base of the stalk with a sweep or rolling cultivator prior to application. 3. The herbicides can be applied over-the-top or post-directed, depending on corn size. 4. A shallow, follow-up cultivation is required after application to minimize herbicide loss. Rainfall or irrigation amounts of 0.5-1.0" can be used instead of mechanical cultivation. 5. Apply pendimethalin when the corn is at least 4" tall until layby. Apply trifluralin when the corn is in the 2 true leaf stage until it reaches 30" in height. MOA = 3. |
| <p>dicamba (Banvel, Clarity, Sterling, Vision) 4 lb/gal</p> | <p>8 ozs</p> <p>0.25</p> | <p>May be applied either over-the-top up to 8 in. 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. DO NOT apply after corn is 36 in. tall or within 15 days of tassel emergence, whichever occurs first. Where dicamba-sensitive crops such as cotton, soybeans, tobacco and vegetables are near treatment area, observe the following precautions to minimize drift hazards.</p> <ol style="list-style-type: none"> 1. Use coarse sprays and spray pressure of less 20 psi. 2. Apply only as a directed spray. 3. DO NOT apply if maximum daily temperature is expected to exceed 85°F. 4. DO NOT apply if winds exceed 5 mph and are blowing in the direction of the sensitive crop. <p>Rain-free period is 4 hours. MOA = 4.</p> |

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|--|--------------------------|--|--|
| | AMOUNT OF FORMULATION | LBS ACTIVE INGREDIENT/A | |
| POSTEMERGENCE: OVER-THE-TOP (cont.) | | | |
| dicamba + diflufen zopyr + isoxadifen (Status) 56WDG | 5 - 10 ozs | 0.125-0.25 + 0.05-0.10 0.175-0.350 | Will control many annual broadleaf weeds. Include a NIS @ 0.25% v/v and AMS @ 5-17 lbs/100 gals. Can be applied from 4" tall corn (V2) to 36" tall corn (V10). Status can also be tank-mixed with Roundup 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, 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, soybeans. Field corn can be replanted 7 days after application. Rain-free period is 4 hours. MOA = 4 + 19. |
| clopyralid (Stinger/Spur) 3.0 lb/gal | 4 - 8 oz | 0.094 - 0.19 | Controls many annual broadleaf weeds including ragweed, sicklepod, cocklebur, and pigweeds. Can be used from emergence through 24 inch tall corn. May cause severe injury to in-bred lines or breeding stock. Rotational restrictions include: soybeans, canola, grain sorghum, sweet corn - 10.5 months, cotton and all other crops - 18 months. MOA = 4. |
| halosulfuron (Permit, Sandea) 75 DF | 0.67 - 1.33 oz | 0.032 - 0.063 | 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/acre/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. Rain-free period is 4 hours. MOA = 2. |
| primisulfuron + prosulfuron (Exceed) 57 DF | 1.0 oz. | 0.018 + 0.018 0.036 | Provides postemergence and residual control of many annual broadleaf weeds and certain grasses. Apply after corn reaches 4 inches in height and before 48 inches. Refer to label for specific weed sizes but as a general rule apply before weeds reach greater than 4-6 inches high. The use of a non-ionic surfactant or crop oil is recommended. May be tank-mixed with Banvel, 2,4-D, Beacon, atrazine, Buctril, or Accent. DO NOT apply to corn treated with Counter insecticide due to severe crop injury or mortality. Do not apply Exceed within 7 days to corn treated with foliar applied organophosphate insecticides. Do not plant cereal grains within 3 months; soybeans, canola, cotton, or tobacco within 10 months after application. DO NOT USE EXCEED ON PIONEER 3085, 30F33 and 30F34. MOA = 2. |
| nicosulfuron (Accent) 75DF | 0.67 oz | 0.031 | Single Application Controls many annual and perennial grasses, including johnsongrass. DO NOT 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 inches tall or before the V6 stage (whichever is more restrictive) and post-directed up to 36 inches tall. A nonionic surfactant (0.25% v/v) or crop oil concentrate (1% v/v) is required. Refer to manufacturer's label for additive rates. Do not apply Accent within 7 days to corn treated with foliar applied organophosphate insecticides or with herbicides containing bentazon or 2,4-D. DO NOT apply organophosphate insecticides within 3 days after applying Accent. Refer to manufacturer's label for sprayer cleanup. DO NOT apply within 30 days of harvest. Split Application For hard to control weeds, two applications of 0.67 oz/A can be applied 14 to 28 days apart. Follow all precautions listed for single application. DO NOT exceed 1.3 ozs/A/yr. Rotational restrictions include the following: soybeans - 0.5 months; winter wheat, barley, rye - 4 months; oats - 8 months; cotton, sorghum, peanuts, tobacco - 10 months. Rain-free period is 4 hours. MOA = 2. |

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|---|--------------------------|--------------------------------------|--|
| | AMOUNT OF FORMULATION | LBS ACTIVE INGREDIENT/A | |
| POSTEMERGENCE OVER-THE-TOP (cont'd) | | | |
| primisulfuron (Beacon) 75WG | 0.76 oz | 0.035 | <p>Single Application Controls many annual and perennial grasses, including johnsongrass. DO NOT apply to corn treated with Counter insecticide due to severe crop injury or mortality. Apply over-the-top to 4 to 20 inch corn. A nonionic surfactant (0.25% v/v) or crop oil concentrate (1 qt/A) is required. Do not use liquid fertilizer as the spray carrier. Do not apply Beacon within 10 days to corn treated with foliarly applied organophosphate insecticides or with herbicides containing bentazon or 2,4-D. Some corn varieties may be sensitive to Beacon. Refer to manufacturer's label for a complete listing. Do not apply within 60 days of harvest for grain, 30 days for forage.</p> <p>Split Application For hard to control weeds, applications of 0.38 oz/A can be made one time prior to the corn reaching 20 in. in height and a second time prior to tassel emergence. Follow all precautions listed for single application. DO NOT exceed 0.76 oz/A/yr.</p> <p>Rain-free period is 4 hours. MOA = 2.</p> |
| nicosulfuron + rimsulfuron + atrazine (Steadfast ATZ) 89.3WDG | 14 ozs | 0.024 + 0.011 + 0.75 0.781 | <p>Very similar to Basis Gold but contains more Accent (nicosulfuron). Should only be used by growers who prefer to use and are familiar with Basis Gold. Apply to corn that is up to 12" tall. Apply with COC (1% v/v) or NIS (0.25% v/v) and ammonium nitrogen fertilizer (UAN - 2 qts/A). Can be tank-mixed with atrazine, Marksman, Banvel/Clarity, Permit, and Distinct. Can also be tank-mixed with Asana or Lannate. Do not use where the following soil insecticides have been applied : Counter, Thimet, Dyfonate, and Lorsban. DO NOT USE STEADFAST ATZ ON THE FOLLOWING PIONEER HYBRIDS: 3167, 31G20; 3085; 3055; and 30G54. If hybrids from other companies are planted, check with seedsman to determine tolerance. Rain-free period is 4 hours. MOA = 2 + 2 + 5.</p> |
| foramsulfuron (Option) 35WDG | 1.5-1.75 ozs | 0.033-0.038 | <p>Can be applied broadcast in corn from 0 to 16" or when corn is in the emergence to V5 stage of growth. Use drop nozzles when the corn is 16-36' tall. Option will provide good to excellent control of many annual grasses and johnsongrass. Must be applied with a methylated or ethylated seed oil (1.5 pts/A) and nitrogen fertilizer (28 or 32% UAN at 1.5-2 qts/A or AMS at 1.5-3.0 lbs/A). Sequential applications can be made but the total rate cannot exceed 3.5 ozs/A/season. Option can be tank-mixed with certain herbicides (atrazine, Permit, others) and insecticides (Ambush, Asana, Pounce, Warrior) but should not be applied in a nitrogen solution. Refer to label for specific tank-mix directions. DO NOT USE OPTION IF THE FOLLOWING SOIL INSECTICIDES WERE USED: COUNTER, DYFONATE, AND THIMET. Crop rotation restrictions: corn - 7 days; soybeans - 14 days; all other crops - 60 days. Option is rainfast 2 hours after application. <i>In some UGA field trials, Option has not been as consistent as Accent for the control of Texas panicum. However, corn yields have been equivalent.</i> MOA = 2.</p> |

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|---|--------------------------|----------------------------|---|
| | AMOUNT OF FORMULATION | LBS ACTIVE INGREDIENT/A | |
| POSTEMERGENCE OVER-THE-TOP (cont'd) | | | |
| mesotrione (Callisto 4SC) | 3 ozs | 0.094 | May be useful for the postemergence control of escaped Palmer amaranth (pigweed) in situations where 2,4-D use would be undesirable or glyphosate, ALS, or triazine-resistance is suspected. Callisto will also provide residual control. Apply before Palmer amaranth exceeds 5" in height. Do not use if the corn has been treated with a soil application of Counter or Lorsban. 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 lbs/100 gals). Callisto can be tank mixed with Accent, atrazine, Liberty, Lightning, Basagran, Buctril, Dual Magnum, Bicep II Magnum, Steadfast, or Warrior. Crop injury is increased when tank-mixed with EC formulations of grass herbicides such as Dual Magnum. Do not tank-mix with carbamate or organophosphate insecticides. 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 atrazine + Dual Magnum (Lexar, Lumax). Rain-free period is 1 hour. Callisto does not provide effective control of Texas panicum or sicklepod. MOA = 28. |
| tembotrione (Laudis 3.5SC) | 3 ozs | 0.082 | May be useful for the postemergence control of escaped Palmer amaranth (pigweed) in situations where 2,4-D use would be undesirable or glyphosate, ALS, or triazine-resistance is suspected. Apply postemergence 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: atrazine, Liberty, Define, glyphosate, Accent, Option, Steadfast, Buctril. Use a methylated seed oil (MSO) at 1% v/v and nitrogen (1.5 qt/A UAN or 1.5 lb/A AMS). Rain-free period is 1 hour. Crop rotation restrictions: small grains = 4 months; soybeans = 8 months; cotton = 10 months; peanut = 18 months. In UGA field trials, Laudis has not been as effective as Accent (nicosulfuron) in controlling Texas panicum. MOA = 28. |
| rimsulfuron + thifensulfuron (Resolve Q) | 1.25 oz | 0.014 + 0.0003 | Apply postemergence to corn that is up to 20" tall for the control of many annual grasses and broadleaf weeds. Will also provide some residual control. Do not apply to corn taller than 20" or exhibiting 7 or more leaf collars. Use in combination with a NIS @ 0.25% v/v (1 qt/100 gallons) + ammonium-nitrogen fertilizer (2 qt/A UAN or 2 lb/A AMS). Tank-mix with atrazine, glyphosate (RR corn) or Liberty (LL corn). Do not apply Resolve Q to corn that has been previously treated with an OP insecticide such as Counter, Lorsban, or Thimet. Rotation restrictions: field corn = 0 months; STS soybeans = 1 month; soybeans = 10 months; cotton = 10 months; wheat = 3 months; sorghum = 10 months; peanuts = 18 months. In UGA field trials, Resolve Q has not been as effective as Accent (nicosulfuron) in controlling Texas panicum. Rain-free period = 4 hours. MOA = 2 + 2. |
| 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. | | | |
| imazethapyr (Pursuit) 2AS 70DG | 4 fl oz 1.44 oz | 0.063 | USE ONLY ON CLEARFIELD CORN HYBRIDS (IR/IT). APPLICATIONS OF PURSUIT TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY AND/OR CROP DEATH!! Can be applied pre-plant incorporated, preemergence or postemergence for the control of many annual broadleaf and grass weeds. Provides good control of wild poinsettia, morningglories, and pigweeds. DO NOT tank-mix with Accent or Beacon. Do not apply within 45 days of grain or silage harvest. DO NOT apply to "IT-Corn" varieties treated with Counter or Thimet insecticides due to severe crop injury or mortality. Rotation restrictions include: 4 months - wheat; 8.5 months - field corn (other than Clearfield corn); 9.5 month - tobacco; 18 months - cotton, sorghum, sunflower, sweet corn. Consult label for further rotation restrictions. Rain-free period is 1 hour. MOA = 2. |

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|---|--------------------------|---|--|
| | AMOUNT OF FORMULATION | LBS ACTIVE INGREDIENT/A | |
| 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. (cont.) | | | |
| imazethapyr + imazapyr (Lightning) 70DG | 1.28 ozs | 0.042 + 0.014 0.056 | USE ONLY ON CLEARFIELD CORN HYBRIDS (IR/IT). APPLICATIONS OF LIGHTNING TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY AND/OR CROP DEATH. Can be applied early-postemergence from spike to 20". Provides broad-spectrum control of many annual broadleaf and grass weeds when applied at the appropriate stage of growth (<i>weeds less than 3-4" tall</i>). Must be used in combination with a non-ionic surfactant (1qt/100 gal) and a nitrogen-based fertilizer such as liquid 28% N (1-2 qts/A). Can only be applied once per growing season. Any soil insecticide can be used with IR hybrids but only Counter CR or Thimet in a banded application can be used on IT hybrids. Rotational restrictions include: 4 months - wheat, rye; 8.5 months - field corn (other than Clearfield corn); 9 months - soybeans; 9.5 months - peanuts, tobacco. Cotton can be planted 9.5 months after application only if greater than 16" of rainfall and/or irrigation occurs after application through October . If the above criteria are not met, the cotton rotation interval is 18 months. Consult label for further rotation restrictions. Rain-free period is 1 hour. MOA = 2. |
| glufosinate (Liberty) 1.67 lb/gal | 28 - 34 oz | 0.37 - 0.44 | USE ONLY ON "LIBERTY-LINK" CORN HYBRIDS. APPLICATIONS OF LIBERTY TO NON-TOLERANT HYBRIDS WILL RESULT IN SEVERE CROP INJURY AND/OR CROP DEATH!! Can be applied postemergence from the time of crop emergence until the corn has reached 24 inches in height or V7 stage. 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 20 gallons water/acre. Should be tank-mixed with atrazine for broader spectrum and more consistent control. Liberty ATZ is a premix of Liberty + atrazine. No rotation restrictions exist with Liberty. Do not apply within 70 days of harvest. Requires the use of spray grade ammonium sulfate at 3 lbs/A or 17 lbs/100 gallons. Weak on arrowleaf sida. Do not apply more than 2 applications of Liberty or exceed a total of 62 ozs/A/season. Applications of Liberty should be made between dawn and 2 hours before sunset for optimum weed control. Rain-free period is 4 hours. MOA = 10. |
| glyphosate + S-metolachlor (Sequence) 5.25 lbs/gal | 2-2.5 pts | 0.56-0.70 + 0.75-0.94 | 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!! Can be applied from corn emergence until the corn plants reach 30" in height. Do not exceed 2.5 pts/A in a single application or 5.0 pts total/A/year. Very effective for the control of tropical spiderwort if applied before the weed exceeds 1". Can be tank-mixed with atrazine for improved broadleaf weed control. MOA = 9 + 15. |
| glyphosate + S-metolachlor + atrazine (Expert) 4.88 lbs/gal | 2.5 - 3.75 qts | 0.63 - 0.94 + 1.09 - 1.63 + 1.34 - 2.00 | 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!! Expert can be applied over-the-top of RR corn up until a maximum corn height of 12". MOA = 9 + 15 + 5. |
| glyphosate + S-metolachlor + mesotrione (Halex GT) 4.389 lbs/gal | 3.6 - 4.0 pts | 0.941 - 1.568 + 0.941 - 1.568 + 0.094 - 0.105 | FOR USE ONLY ON ROUNDUP READY CORN HYBRIDS . Can be applied from com emergence up until 30" or 8 leaf stage of growth. Atrazine can be tank-mixed with Halex if desired. Add a NIS @ 0.25% v/v + AMS @ 8.5-17 lbs/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, wheat, rye = 4 months; cotton, peanuts, soybeans, sunflowers, tobacco = 10 months; MOA = 9 + 15 + 28. |

FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----------------------------------|--|----------|---------|---------|------------------|---|--|-------------------------|------|------|--------------------------|------|------|--------------------------|-------|-------|------------------|----------|----------|----------------------------|--------|--------|--------------------|--------|--|--|---------|--|
| | AMOUNT OF FORMUL ATION | LBS ACTIVE INGREDI ENT/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>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. (cont.)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| glyphosate (numerous trade names) 3.00 lb ae/gal 3.73 lb ae/gal 4.00 lb ae/gal 4.17 lb ae/gal 4.50 lb ae/gal 5.00 lb ae/gal | 0.75 ae 32 oz 26 oz 24 oz 23 oz 22 oz 19 oz | | <p>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!!</p> <p>Can be tank-mixed with atrazine, Dual, Harness, Harness Xtra, Micro-Tech, Bullet, Partner, or Permit herbicides. Various formulations of glyphosate are available. Not all formulations of glyphosate are labeled for use on RR corn hybrids. Please refer to specific product label. Sequence is a pre-mix of glyphosate + S-metolachlor. Expert is a pre-mix of glyphosate + S-metolachlor + atrazine. Halex GT is a pre-mixture of glyphosate + S-metolachlor + mesotrione. MOA = 9.</p> <table border="0"> <tr> <td>USE RATE</td> <td>RR-Corn</td> <td>RR-Corn</td> </tr> <tr> <td>TABLE (lb ae/A):</td> <td>2</td> <td></td> </tr> <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 Application Rate</td> <td>2.25*</td> <td>1.50*</td> </tr> <tr> <td>Application Rate</td> <td>Up to V8</td> <td>Up to V8</td> </tr> <tr> <td>Maximum Total In-Crop Rate</td> <td>or 30"</td> <td>or 30"</td> </tr> <tr> <td>Application Timing</td> <td>30-48"</td> <td></td> </tr> <tr> <td></td> <td>(drops)</td> <td></td> </tr> </table> <p>*1.50 lb ae/A = 64 oz/A of 4 lb ai/gal or 43 oz/A of 5.5 lb ai/gal *2.25 lb ae/A = 96 oz/A of 4 lb ai/gal or 64 oz/A of 5.5 lb ai/gal</p> | USE RATE | RR-Corn | RR-Corn | TABLE (lb ae/A): | 2 | | Normal Application Rate | 0.75 | 0.75 | Maximum Application Rate | 1.12 | 0.75 | Maximum Application Rate | 2.25* | 1.50* | Application Rate | Up to V8 | Up to V8 | Maximum Total In-Crop Rate | or 30" | or 30" | Application Timing | 30-48" | | | (drops) | |
| USE RATE | RR-Corn | RR-Corn | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TABLE (lb ae/A): | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Normal Application Rate | 0.75 | 0.75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Application Rate | 1.12 | 0.75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Application Rate | 2.25* | 1.50* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Application Rate | Up to V8 | Up to V8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Total In-Crop Rate | or 30" | or 30" | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Application Timing | 30-48" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (drops) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSTEMERGENCE-DIRECTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| ametryn (Evik) 80W | 1.25 - 2.0 lbs | 1.0 - 1.6 | Apply only as a directed spray to corn. Minimum corn height: ametryn-12 in., linuron-15 in., paraquat-10 in. Spray to cover weeds no more than 3 to 4 in. tall. Where rate range is given, use lower rate when weeds are no taller than 2 in. and higher rate for weeds up to 4 in. tall. Use a nonionic surfactant to improve spray coverage of weeds (ametryn and linuron - 0.5% v/v; paraquat - 0.25% v/v). |
| linuron (numerous trade names) 50DF 4L | 1.25 - 1.5 lbs 1.25 - 1.50 pts | 0.63 - 0.75 | DO NOT apply ametryn within 3 weeks of tasseling. With paraquat arrange nozzles to spray no higher than lower 3 in. of stalks. |
| paraquat (Gramoxone Inteon) 2.0 lb./gal (Gramoxone Max/ Firestorm/Parazone) 3.0 lb/gal | 16 - 32 ozs 11 - 21 ozs | 0.25 - 0.50 | Ametryn MOA = 6 Linuron MOA = 7 Paraquat MOA = 22 Carfentrazone MOA = 14 |
| carfentrazone (Aim 2EC) | 0.5 - 1.9 ozs | 0.08 - 0.031 | Use Aim for the control of annual morningglory, pigweed, and tropical spiderwort. Add a COC at 1% v/v (1 gal/100 gals). Avoid directing the spray in the whorl of the plant. Aim provides no residual control. |
| MINIMUM TILLAGE | | | |
| paraquat (Gramoxone Inteon) 2.0 lb/gal (Gramoxone Max/ Firestorm/Parazone) 3.0 lb/gal | 1.88 - 3.76 pts 1.25 - 2.5 pts | 0.47 - 0.94 | Use with a nonionic surfactant (0.25% v/v for contact kill of emerged annual weeds. Paraquat 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 to 60 gallons of spray solution to assure good spray coverage. Use high spray gallonage for heavier weed infestations and where crop residue or stubble is dense. Paraquat does not provide residual control. Paraquat is registered for application as a tank-mixture with the following residual herbicides and herbicide combinations: AAtrex, Atrazine, Dual + Aatrex, AAtrex + Lasso, Harness Xtra, Aatrex + Princep, Surpass. Can be tank-mixed with atrazine, 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. MOA = 22. |

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| <p>glyphosate (numerous trade names)</p> <p>3.00 lb ae/gal</p> <p>3.73 lb ae/gal</p> <p>4.00 lb ae/gal</p> <p>4.17 lb ae/gal</p> <p>4.50 lb ae/gal</p> <p>5.00 lb ae/gal</p> | <p>0.38 - 3.0 ae</p> <p>16 - 128 ozs</p> <p>13 - 103 ozs</p> <p>12 - 96 ozs</p> <p>11.7 - 92 ozs</p> <p>11 - 85 ozs</p> <p>10 - 77 ozs</p> | <p>Use 0.38-1.13 lbs ae/A for control of most emerged annual grasses and broadleaf weeds. Use 1.5-3.0 lbs ae/A for control of perennial grasses and broadleaf weeds. Apply with 10 to 40 gallons of water/A immediately before, during, or after planting, but before crop emergence. As stubble, crop residue or weed density increases, spray gallonage and glyphosate rate should be increased (refer to label). <u>Glyphosate tank mixtures are not recommended for bermuda grass or johnsongrass control in minimum tillage systems.</u> Weed kill from glyphosate treatments applied as a tank-mixture with residual herbicides has not been as consistent as when glyphosate and preemergence herbicides are applied separately. Glyphosate is registered for use as a tank-mixture with the following herbicide combinations: Lasso, Dual + atrazine, Lasso + atrazine, Harness Plus, Surpass, Lasso + simazine, Dual + simazine, atrazine + simazine, Dual + atrazine + simazine. Can be tank-mixed with atrazine, 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. MOA = 9.</p> |
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FIELD CORN WEED CONTROL (continued)

| USE STAGE/ HERBICIDE | BROADCAST RATE/ACRE | | REMARKS AND PRECAUTIONS |
|---|--------------------------|----------------------------|---|
| | AMOUNT OF FORMULATION | LBS ACTIVE INGREDIENT/A | |
| MINIMUM TILLAGE | | | |
| glufosinate (Ignite 280 SL) 2.34 lb/gal | 22-29 ozs | 0.40 - 0.53 | Apply during or after planting, but before crop emerges to kill emerged annual grasses and weeds. Ignite will not provide adequate burndown control of small grains. Very effective for burndown control of volunteer peanuts. Can be tank-mixed with glyphosate or 2,4-D. MOA = 10. |
| carfentrazone (Aim) 2EC | 0.5 - 1.0 ozs | 0.008- 0.016 | Tank-mix with glyphosate or glufosinate for the improved control of large morningglories.. Corn can be planted immediately. MOA = 14. |
| pyraflufen (ET) 0.208 lb/gal | 0.5 - 2.0 ozs | 0.001 - 0.003 | Tank-mix with glyphosate or glufosinate for the improved control of large morningglories. Corn can be planted immediately. MOA = 14. |
| 2,4-D (various trade names) 3.8 lb/gal | 1.0 pt | 0.475 | 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. MOA = 4. |
| flumioxazin (Valor SX 51WG) | 2 oz | 0.064 | Tank-mix with glyphosate 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 14 days after application. MOA = 14. |
| BURNDOWN CONTROL OF RR FIELD CORN | | | |
| clethodim (SelectMax) 0.97EC | 6 oz | 0.045 | For the control of an existing stand of RR field corn or volunteer RR field corn prior to replanting field corn. Use a NIS (0.25% v/v) + AMS (2.5 lbs/A). Corn can be replanted in 6 days. MOA = 1. |
| HARVEST AID | | | |
| 2,4-D (numerous trade names) 3.8 lb/gal | 1- 2 pt | 0.48 - 0.96 | 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 which interfere with harvesting. Observe drift control precautions noted for postemergence use of 2,4-D. No adjuvant is recommended. Wait 5-7 days after application before harvesting. MOA = 4. |

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| sodium chlorate 3 lb/gal 5 lb/gal 6 lb/gal 7.5 lb/gal | 2 gals 1.2 gals 1 gal 0.8 gals | 6.0 | Apply 14 days prior to harvest by aerial or ground equipment. Apply on warm, sunny day with high temperatures (>70° F) and humidity. Do not apply if rainfall is expected within 24 hours. More effective on grass weeds than broadleaf weeds. Dessication of morningglory and other vines may be erratic. MOA = NC. |
| glyphosate (numerous trade names) 3.00 lb ae/gal 3.73 lb ae/gal 4.00 lb ae/gal 4.17 lb ae/gal 4.50 lb ae/gal 5.00 lb ae/gal | 32 oz 26 oz 24 oz 23 oz 22 oz 19 oz | 0.75 ae | Apply 7 days before harvest when kernel moisture is less than 35% and after black layer formation. Avoid drift onto sensitive crops. Do not use on corn grown for seed if hybrid is not RR Corn 2. Not all formulations of glyphosate may be labeled for use as a harvest aid. Please refer to the specific product label. MOA = 9. |
| carfentrazone (Aim 2EC) | 1.6-1.9 ozs | 0.025-0.030 | 24(c) Special Local Need label which expires on 12/31/09. A copy of this label must be in the possession of the user at the time of application. Apply for the defoliation/dessication of annual morningglories and pigweed. Use a COC @ 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. MOA = 14. |
| paraquat (Gramoxone Max/ Firestorm/Parazone) 3 lb/gal (Gramoxone Inteon) 2 lb/gal | 0.8-1.3 pts 1.2-2.0 pts | 0.30-0.50 | 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. MOA = 22. |

*When using atrazine formulations other than 4L, use equivalent rates: 1.0 qt. 4L equal 1.25 lbs. 80W or 1.1 lbs. 90DF.

FIELD CORN WEED CONTROL (continued)

Suggested Herbicide Programs for the Post-Harvest Control of Tropical Spiderwort:

OPTION 1: 2,4-D amine 3.8SL @ 1.5 pt/A followed by 2,4-D amine 3.8SL @ 1.5 pt/A or Gramoxone Inteon 2SL @ 32 oz/A or Gramoxone Max/Firestorm /Parazone 3SL @ 21 oz/A + COC @ 1% v/v or Aim 2EC @ 1.5 oz/A + COC @ 1% v/v 14-21 days later

OPTION 2: Gramoxone Inteon 2SL @ 32 oz/A or Gramoxone Max/Firestorm/Parazone 3SL @ 21 oz/A + COC @ 1% v/v followed by Gramoxone Inteon 2 SL @ 32 oz/A or Gramoxone Max/Firestorm/Parazone 3SL @ 21 oz/A + COC @ 1% v/v 14-21 days later

OPTION 3: Aim 2EC @ 1.5 oz/A + COC @ 1% v/v followed by Aim 2EC @ 1.5 oz/A + COC @ 1% v/v 14-21 days later

Metolachlor and S-Metolachlor Products

| Trade Name | Active Ingredient | lbs/gal | Corn Safener | Company |
|-------------------|-------------------|---------|--------------|-----------------|
| Brawl | S-metolachlor | 7.62 | none | Tenkoz |
| Brawl II | S-metolachlor | 7.64 | benoxacor | Tenkoz |
| Charger Basic | S-metolachlor | 7.62 | none | Agrilience |
| Charger Max | S-metolachlor | 7.64 | benoxacor | Agrilience |
| Cinch | S-metolachlor | 7.64 | benoxacor | DuPont |
| Dual Magnum | S-metolachlor | 7.62 | none | Syngenta |
| Dual II Magnum | S-metolachlor | 7.64 | benoxacor | Syngenta |
| Me-Too-Lachlor | metolachlor | 8.0 | none | Drexel |
| Me-Too-Lachlor II | metolachlor | 7.8 | dichlormid | Drexel |
| Medal | S-metolachlor | 7.62 | none | Syngenta |
| Parallel | metolachlor | 7.8 | benoxacor | Makhteshim-Agan |
| Parallel PCS | metolachlor | 8.0 | none | Makhteshim-Agan |
| Parrlay | metolachlor | 8.0 | None | Monsanto |
| Stalwart | metolachlor | 8.0 | none | SipCam |
| Stalwart C | metolachlor | 7.8 | dichlormid | 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) | Product Name | Active Ingredients (lbs ai/gal or % ai) |
| Accent Gold | nicosulfuron (6.5%) + rimsulfuron (6.5%) + flumetsulam (19.1%) + clopyralid (51.7%) | Axiom | flufenacet (54.4%) + metribuzin (13.6%) |
| Accent Gold WDG | nicosulfuron (5.4%) + rimsulfuron (5.4%) + flumetsulam (15.9%) + clopyralid (51.4%) | Axiom AT | flufenacet (19.6%) + metribuzin (4.9%) + atrazine (50.5%) |
| Basis | rimsulfuron (50%) + thifensulfuron (25%) | Basis Gold | rimsulfuron (1.34%) + nicosulfuron (1.34%) + atrazine (82.44 %) |
| Bicep | metolachlor (3.33) + atrazine (2.67) | Bicep II | metolachlor (3.23) + atrazine (2.67) + benoxacor ¹ |
| Bicep Lite II | metolachlor (2.3) + atrazine (1.67) + benoxacor | Bicep II Magnum | S-metolachlor (2.4) + atrazine (3.1) + benoxacor |
| Bicep Lite II Magnum | S-metolachlor (3.33) + atrazine (2.67) + benoxacor | | |

FIELD CORN WEED CONTROL (continued)

| 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) | Product Name | Active Ingredients (lbs ai/gal or % ai) |
| Breakfree ATZ | acetoachlor (3.0) + atrazine (2.25) + dichlormid ¹ | Breakfree ATZ Lite | acetoachlor (4.0) + atrazine (1.50) + dichlormid ² |
| Bullet | alachlor (2.5) + atrazine (1.5) | Camix | mesotrione (0.33) + S-metolachlor (3.34)+ benoxacor |
| Celebrity Plus | dicamba (46.6%) + diflufenzopyr (18.1%) + nicosulfuron (10.6%) | Charger Max ATZ | S-metolachlor (2.4) + atrazine (3.1) + benoxacor |
| Charger Max ATZ Lite | S-metolachlor (3.33) + atrazine (2.67) + benoxacor | Cinch ATZ | S-metolachlor (2.4) + atrazine (3.1) + benoxacor |
| | | Cinch ATZ Lite | S-metolachlor (3.33) + atrazine (2.67) + benoxacor |
| 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 | S-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) + S-metolachlor (2.09) + glyphosate (2.09) | | |
| Harness Xtra | acetochlor (4.3) + atrazine (1.7) | Harness Extra 5.6L | acetochlor (3.1) + atrazine (2.5) |
| Hornet | flumetsulam (23%) + clopyralid (62.5%) | Keystone | acetochlor (3.0) + atrazine (2.5) |
| | | Keystone LA | acetochlor (4.0) + atrazine (1.5) |
| Imperium | EPTC (5.6) + acetochlor (1.4) | | |
| Laddock | bentazon (1.66) + atrazine (1.66) | LandMaster | glyphosate (1.2) + 2,4-D (1.9) |
| Lariat | alachlor (2.5) + atrazine (1.5) | Lexar | S-metolachlor (1.74)+ atrazine (1.74) + mesotrione (0.224) + benoxacor |
| Lightning | imazethapyr (52.5%) + imazapyr (17.5%) | Liberty ATZ | atrazine (3.3) + glufosinate (1.0) |
| Lumax | S-metolachlor (2.68) + mesotrione (0.268) + atrazine (1.0) + benoxacor | Marksman | dicamba (1.1) + atrazine (2.1) |
| Parallel Plus | atrazine (2.8) + metolachlor (2.7) + benoxacor | Priority | carfentrazone (12.5%) + halosulfuron (50.0%) |
| Propel ATZ | dimethenamid-p (1.7) + atrazine (3.3) | Radius | flufenacet (3.57) + isoxaflutole (0.43) |
| Propel ATZ Lite | dimethenamid-p (2.25) + atrazine (2.75) | | |
| Resolve Q | rimsulfuron (18.4%) + thifensulfuron (4.0%) | Stalwart Xtra | atrazine (3.1) + metolachlor (2.4) + dichlormid ² |
| Shotgun | atrazine (2.25) + 2,4-D (1.0) | Steadfast | nicosulfuron (50%) + rimsulfuron (25%) |
| | | Steadfast ATZ | nicosulfuron (2.7%) + rimsulfuron (1.3%) + atrazine (85.3%) |
| Sterling Plus | dicamba (1.1) + atrazine (2.1) | Stout | nicosulfuron (67.5%) + thifensulfuron (5.0%) |
| SureStart | clopyralid (0.29) + acetochlor (0.38) + flumetsulam (0.12) | Yukon | halosulfuron (12.5%) + dicamba (55%) |

¹Benoxacor - a safener that protects corn from metolachlor injury.

²Dichlormid - a safener that protects corn from metolachlor injury.

WEED RESPONSE TO HERBICIDES USED IN FIELD CORN

Eric P. Prostko, Extension Agronomist - Weed Science

| | Sutan | Eradicane | Micro-Tech Lasso | Axiom | Frontier Outlook | AAtrex Atrazine | Pursuit ¹ | Dual ² Cinch | Harness Surpass TopNotch Degree | simazine | Python |
|-------------------------|-------|-----------|------------------|------------------|------------------|-----------------|----------------------|-------------------------|---------------------------------|----------|--------|
| | PPI | | PRE | | | | | | | | |
| PERENNIAL WEEDS | | | | | | | | | | | |
| johnsongrass (rhizome) | F | F-G | P | | P | P | P | P | P | P | P |
| nutsedge, purple | G-E | G-E | P | P | P | P | G | P | P | P | P |
| nutsedge, yellow | G-E | G-E | F | P | F-G | P | F-G | F-G | F | P | P |
| ANNUAL GRASSES | | | | | | | | | | | |
| broadleaf signalgrass | G | G | F-G | | F-G | P | P | F-G | G | P | P |
| crabgrass | E | E | E | G-E | E | G | F | E | E | G | P |
| crowfootgrass | E | E | E | G | E | G | P | E | E | G | P |
| fall panicum | E | E | E | | E | P | P-F | E | E | G | P |
| goosegrass | E | E | E | | E | G | F | E | E | G | P |
| johnsongrass (seedling) | E | E | P | | P | P | G | P | P | P | P |
| sandbur | E | E | F-G | | F-G | | | F-G | F-G | G | P |
| Texas panicum | G-E | G-E | P-F | F | F | P | P-F | P | P | P | P |
| annual ryegrasses | | | | | | G | | | | E | P |
| BROADLEAF WEEDS | | | | | | | | | | | |
| bristly starbur | | | P | | P | G | F | P | P | G | E |
| burcucumber | | | P | P | P | P-F | | P | P | F | P |
| citronmelon | | | P | | P | G | G | P | P | F | |
| cocklebur | | | P | P | P | G-E | E | P | P | G | E |
| cowpea | | | P | | P | E | P | P | P | G | |
| crotalaria | | | P | | P | G-E | | P | P | G | |
| croton, tropic | | | P | | P | G | P | P | P | G | |
| Florida beggarweed | | | F | | P | E | P | F | F | G | F-G |
| Florida pusley | G-E | G-E | G-E | G | G-E | E | P | G-E | G-E | G | G |
| jimsonweed | | | P | | P | E | G | P | P | E | P |
| lambquarters, common | G | G | F-G | F-G | F | E | F | F | F | E | E |
| morningglories | | | P | P | P | G | G | P | P | G | F-G |
| pigweeds ³ | G | G | G | F-G ⁴ | G | E | E | G | G | E | E |
| prickly sida | G | G | F-G | | F | E | G-E | F | F | E | E |
| purslane | G | G | G | | G | E | | G | G | E | |
| ragweed, common | | | P | F | P | E | P | P | P | E | G |
| sesbania, hemp | | P | P | | P | F-G | | P | P | | |
| sicklepod | F | F | P | P | P | G | P | P | P | G | F-G |
| smartweed | P | P | P | P-F | P | G-E | G-E | P | P | G | G |
| tropical spiderwort | | | | | F | F | F-G | G-E | | | |
| volunteer peanuts | P | P | P | | P | G | P | P | P | F | |
| velvetleaf | | | P | P | P | G | G | P | P | | E |
| wild poinsettia | | | | | | | | | | | G |
| wild radish | P | P | P | | P | G | E | P | P | F | |

PPI = Preplant soil incorporated PRE = Preemergence (surface applied)

¹Weed response for Pursuit is similar for PPI and PRE applications. **Pursuit can only be used on Clearfield corn hybrids (IR/IT).**

²Includes 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.**

³Control of ALS-resistant pigweed may be less than indicated with Pursuit, Python, Accent, Option, Beacon, Exceed, Resolve Q, Permit.

⁴Palmer Amaranth control is poor.

Key to response symbols: E = Excellent control, weed kill 90 percent or above.; G = Good control, weed kill 80 percent or above; F = Fair control, weed kill less than 80%, usually unacceptable unless supplemental chemical or cultivation practices are used; P = Poor control. If no symbol is given, weed response is unknown.

WEED RESPONSE TO HERBICIDES USED IN FIELD CORN (continued)

| | Evik | Attrex, Atrazine | Accent | Basis Gold | Option | Beacon | Exceed | Basagran | Callisto | Laudis |
|--|------|---------------------|--------|---------------|--------|--------|--------|----------|----------|--------|
| PO (Postemergence/Postemergence Directed) | | | | | | | | | | |
| PERENNIAL WEEDS | | | | | | | | | | |
| johnsongrass (rhizome) | P | P | G-E | P | G-E | F-G | P-F | P | P | |
| nutsedge, purple | G | P | P-F | | | | P | P | P-F | |
| nutsedge, yellow | G | P | | | | | P | G | P-F | |
| ANNUAL GRASSES | | | | | | | | | | |
| broadleaf signalgrass | G | P-F | G | G | G | P | | P | F | |
| crabgrass | E | G | P-F | F | P-F | P | P | P | F-G | F-G |
| crowfootgrass | E | G | E | F-G | | | P | P | P | |
| fall panicum | E | G | G-E | F-G | G-E | F | P | P | P | |
| goosegrass | E | G | E | | G-E | | P | P | P | |
| johnsongrass (seedling) | E | F | G-E | G | G-E | G-E | F-G | P | P | |
| sandbur | E | F | E | | G-E | | P | P | P | |
| Texas panicum | G-E | P-F | G-E | F-G | G | P | P | P | P | F |
| annual ryegrass | F-G | F | G | | | | | P | P | |
| BROADLEAF WEEDS | | | | | | | | | | |
| bristly starbur | E | E | | | | | | E | | |
| burcucumber | F | F-G | F-G | F-G | F-G | G | G | P | P-F | |
| citronmelon | G | G | | | | | F | P | | |
| cocklebur | F | E | P-F | G | P-F | | G | E | G-E | |
| cowpea | G | G | | | | | | P | | |
| crotalaria | E | G | | | | | | P | | |
| croton, tropic | G | G | | | | | | P | | |
| Florida beggarweed | E | G | G | F | | G-E | | P | | |
| Florida pusley | E | G | P-F | F-G | | G-E | | P | | |
| jimsonweed | E | E | F-G | | F-G | | G | E | G-E | |
| lambsquarters, common | E | E | F-G | G | G | | G | P | G-E | |
| morningglories | G | E | G-E | F-G | F-G | F | F-G | F-G | F-G | |
| pigweeds | E | E | G-E | G | G | G-E | G | P | G | G |
| prickly sida | E | E | P | F-G | | | F-G | G | P | |
| purslane | E | E | | | | | | P | | |
| ragweed, common | E | E | P-F | F-G | G | | G | F | F-G | |
| sesbania, hemp | P-F | F-G | P-F | G | | P | F-G | P | | |
| sicklepod | E | E | P-F | F-G | | G | G | P | P | |
| smartweed | | G-E | G | E | P | G | | G-E | G-E | |
| tropical spiderwort | G-E | P | | | | | | F-G | | |
| velvetleaf | | E | F | G | G | F-G | | G-E | E | |
| volunteer peanuts | G-E | F-G | F | F-G | | F | P | P | P | |
| wild poinsettia | | | | | | | | | | |
| wild radish | G-E | F-G | G | | | G | G | F | | |

Key to response symbols: E = Excellent control, weed kill 90 percent or above; G = Good control, weed kill 80 percent or above; F = Fair control, weed kill less than 80%, usually unacceptable unless supplemental chemical or cultivation practices are used; P = Poor control. If no symbol is given, weed response is unknown.

WEED RESPONSE TO HERBICIDES USED IN FIELD CORN (continued)

| | Resolve Q | Pursuit ¹ | Lightning ¹ | Liberty ² | Glyphosate ³ | Banvel, Clarity | Lorox, Linex |
|-------------------------|--|----------------------|------------------------|----------------------|-------------------------|--------------------|-----------------|
| | PO (Postemergence/Postemergence Directed) | | | | | | |
| PERENNIAL WEEDS | | | | | | | |
| johnsongrass (rhizome) | | P | F | P-F | E | P | P |
| nutsedge, purple | | G | | P-F | P-G | P | F |
| nutsedge, yellow | | F | P | P-F | P-G | P | F |
| ANNUAL GRASSES | | | | | | | |
| broadleaf signalgrass | | P | | G | G-E | P | G |
| crabgrass | | P-F | G | G | G-E | P | G |
| crowfootgrass | | P-F | G | G | G-E | P | E |
| fall panicum | | P | | G-E | G-E | P | E |
| goosegrass | | P | | P | G-E | P | E |
| johnsongrass (seedling) | | F | | G | G-E | P | E |
| sandbur | | | | | G-E | P | E |
| Texas panicum | F-G | P-F | P-F | G-E | G-E | P | G-E |
| annual ryegrass | | | | G | F-G | P | |
| BROADLEAF WEEDS | | | | | | | |
| bristly starbur | | P-F | | G | G | E | G |
| burcucumber | | P | P | G | E | F | F |
| citronmelon | | F | | G | G | E | E |
| cocklebur | | E | G | E | G | E | E |
| cowpea | | P | | G | G | E | G |
| crotalaria | | | | | G | G | E |
| croton, tropic | | P | | G | G | G | G |
| Florida beggarweed | | P | | G | G | G | E |
| Florida pusley | | F-G | F-G | F-G | P-F | G | G |
| jimsonweed | | F-G | | G | G | E | E |
| lambquarters, common | | P | F | E | G | E | E |
| morningglories | | F-G | G-E | G | F-G | E | G |
| pigweeds ⁴ | G | G-E | G-E | P-F | G | E | G |
| prickly sida | | P-F | | P-F | G | E | G |
| purslane | | | | G | G | E | G |
| ragweed, common | | P | G | G | G | E | E |
| sesbania, hemp | | P | | G-E | F | E | G |
| sicklepod | | P | F | G | G | E | E |
| smartweed | | E | G-E | G-E | G-E | E | |
| tropical spiderwort | | F | F-G | P-F | P-F | P | F |
| velvetleaf | | G-E | E | E | G | F-G | |
| volunteer peanuts | | P | P | F-G | F | F-G | G |
| wild poinsettia | | | | | G-E | | |
| wild radish | | G-E | | F | G | G-E | G |

¹Pursuit and Lightning are **only** for use on Clearfield corn hybrids (IR/IT).

²Liberty is **only** for use on Liberty-Link corn hybrids.

³Glyphosate is **only** for use on Roundup Ready corn hybrids. Ratings also reflect weed control in minimum tillage applications prior to crop emergence/planting.

⁴Control of ALS-resistant pigweed may be less than indicated with Pursuit, Python, Accent, Option, Beacon, Exceed, Resolve Q, Permit.

Key to response symbols: E = Excellent control, weed kill 90 percent or above; G = Good control, weed kill 80 percent or above; F = Fair control, weed kill less than 80%, usually unacceptable unless supplemental chemical or cultivation practices are used; P = Poor control

If no symbol is given, weed response is unknown.

WEED RESPONSE TO HERBICIDES USED IN FIELD CORN (continued)

| | Gramoxone (paraquat) | Prowl ⁺ | Trifluralin ⁺ | Stinger | 2,4-D | Permit | Buctril | Aim |
|---|--|--------------------|--------------------------|---------|-------|--------|---------|-----|
| | PO (Postemergence/Postemergence Directed) | | | | | | | |
| PERENNIAL WEEDS 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 |
| ANNUAL GRASSES 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 |
| BROADLEAF WEEDS 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 | G | P | G | F |
| Florida pusley | F-G | G | G | F-G | G | | E | F-G |
| jimsonweed | G | * | * | G | E | | | G |
| 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 | 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 | G | |

Key to response symbols: E = Excellent control, weed kill 90 percent or above; G = Good control, weed kill 80 percent or above; F = Fair control, weed kill less than 80%, usually unacceptable unless supplemental chemical or cultivation practices are used; P = Poor control. 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 postemergence 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. *Control of ALS-resistant pigweed may be less than indicated with Pursuit, Python, Accent, Option, Beacon, Exceed, Resolve Q, Permit.

**Weed and Cover Crop Response to Burndown Herbicides Used in Conservation Tillage
Field Corn Productions Systems in Georgia.**

| Weed | Glyphosate | Glyphosate + 2,4-D | Glyphosate + Atrazine | Glyphosate + Valor | Paraquat | Paraquat + 2,4-D | Paraquat + Atrazine | glufosinate |
|------------------------------------|---------------|--------------------|-----------------------|--------------------|---------------|------------------|---------------------|--------------------|
| Carolina geranium | P | F-G | G-E | G | G-E | G-E | G-E | G-E |
| chickweed | E | E | G-E | E | E | E | E | G-E |
| corn spurry | G-E | G-E | G-E | | F-G | | | |
| crimson clover | P-F | F | F | | G | G-E | G-E | |
| cutleaf evening primrose | P-F | E | G-E | F-G | F | E | G-E | G-E (mature plant) |
| henbit | F-G | E | G-E | E | G | E | G-E | G-E |
| horseweed | G | E | G-E | G-E | F | G | G-E | G-E |
| red sorrel | E | E | E | E | E | E | E | P-F |
| ryegrass** | G | G | G-E | G | P-F | P-F | F | P |
| small grains | E | E | G-E | E | F-G | F-G | G | P-F |
| swinecress | F-G | G | G | F-G | P-F | F-G | F-G | G-E |
| volunteer peanut | F | F | F | F-G | P | P-F | F | G-E |
| wild radish | F-G | G-E | G-E | E | F | G-E | G-E | G-E (mature plant) |
| corn plant-back restriction | 0 days | 7-14 days | 0 days | 14 days | 0 days | 7-14 days | 0 days | 0 days |

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 Gramoxone Inteon or 2 pt/A of Gramoxone Max/Firestorm/Parazone); glufosinate at 0.42 lb ai/A (23 oz/A of Ignite 280SL or 32 oz/A of Liberty 1.67SL); 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).

** Ryegrass can be very difficult to control. The following programs are suggested: **OPTION 1** - Glyphosate at 1.125 lb ae/A (2 pt/A of 4.5 lb ae/gal or 3 pt/A of 3 lb ae/gal) + 3 pt/A of Atrazine 4L at-planting; or **OPTION 2** - Gramoxone Inteon at 30 oz/A or Gramoxone Max/Firestorm/Parazone at 20 oz/A applied 2 weeks before planting followed by Gramoxone Inteon at 30 oz/A or Gramoxone Max/Firestorm/Parazone at 20 oz/A + Atrazine 4L at 3 pt/A at-planting.

Herbicide Programs for Managing Glyphosate and ALS-Resistant Palmer Amaranth in Field Corn.¹

| Corn hybrid | Preemergence | Postemergence | Layby as needed |
|---------------|--|---|---|
| Conventional | Atrazine** | Prowl ² + Atrazine + Crop Oil | 2,4-D ⁵ or Banvel/Clarity ^{4,5} or Status ¹⁰ |
| Conventional | Bicep II Magnum ³ , or Bullet, or Guardsman, or Lariat, or Lexar | Atrazine or Banvel/Clarity ^{4,5} or 2,4-D ⁵ or Aim or Callisto or Laudis or Status ¹⁰ | 2,4-D ⁵ or Banvel/Clarity ^{4,5} or Status ¹⁰ |
| Liberty Link | Atrazine** | Liberty + atrazine ⁷ | 2,4-D ⁵ or Banvel/Clarity ^{4,5} or Status ¹⁰ |
| Liberty Link | Dual II Magnum ⁶ or Outlook or Micro-Tech | Liberty + atrazine ⁷ | 2,4-D ⁵ or Evik or Banvel/Clarity ^{4,5} or Status ¹⁰ |
| Roundup Ready | Atrazine** | glyphosate + atrazine or Banvel/Clarity ^{4,5} or Status ¹⁰ ; Expert ⁸ or Sequence ⁹ or Halex GT ¹¹ | 2,4-D ⁵ or Banvel/Clarity ^{4,5} or Status ¹⁰ |
| Roundup Ready | Bicep II Magnum ³ , or Bullet, or Guardsman, or Lariat, or Lexar at 66% normal rate | glyphosate + atrazine or Banvel/Clarity ^{4,5} or Status ¹⁰ ; Expert ⁸ or Sequence ⁹ or Halex GT ¹¹ | 2,4-D ⁵ or Banvel/Clarity ^{4,5} or Status ¹⁰ |

¹ Glyphosate- and ALS-resistant Palmer amaranth are very serious concerns. An aggressive management program is necessary to slow spread of resistant biotypes and to reduce selection pressure in areas currently not infested with resistant biotypes.

² Generic brands of Prowl (pendimethalin) are available and perform similarly.

³ Bicep II Magnum is a pre-mixture of *S*-metolachlor and atrazine. Less expensive, generic brands containing metolachlor and atrazine are available (Parallel Plus, Stalwart Xtra). These generic brands may not provide the same length of residual control as Bicep II Magnum (which contains *S*-metolachlor).

⁴ Generic brands of Banvel (dicamba dimethylamine salt) are available and perform similarly.

⁵ Use extreme caution to avoid drift to sensitive crops, such as cotton, tobacco, soybeans, and vegetables. Use only amine formulations of 2,4-D. Follow all label directions for drift management.

⁶ Generic brands containing metolachlor are available (Me-Too-Lachlor-II, Parallel, Stalwart-C). However, these generic brands may not provide the same length of residual control as Dual II Magnum (*S*-metolachlor).

⁷ Also available in a pre-mixture sold under the trade name of Liberty ATZ.

⁸ Expert is a pre-mixture of glyphosate + *S*-metolachlor + atrazine.

⁹ Sequence is a pre-mixture of glyphosate + *S*-metolachlor.

¹⁰ Status is a pre-mixture of dicamba + diflufenzopyr + isoxadifen.

¹¹ Halex GT is a pre-mixture of glyphosate + *S*-metolachlor + mesotrione

**** When atrazine is applied PRE + POST, a total of 2.5 lbs ai/A can be applied per year (2.5 qts/A of 4L or 44 ozs/A of 90DF). When atrazine is applied only POST, then a total of 2.0 lb ai/A can be applied per year (2 qts/A of 4L or 36 ozs/A of 90DF).**

