

Sweet Corn

Sweet Corn Types

Sweet corn is usually described by color (yellow, bicolor, or white) and by the major genes that make it sweet. The original sweet corn (called standard, sugary, or su) contains the su1 genetic variant that makes it sweet instead of starchy like field corn. Sugary sweet corn is grown today primarily for processing and specialized markets.

A second type of sweet corn is called sugar-enhanced, sugary enhancer, EH, or se corn because it contains the se1 genetic variant that increases sugar content and makes the kernels more tender. Heterozygous se corn has one copy of the se1 mutation, and homozygous se corn has two copies of the se1 mutation, increasing its effect. Sugar-enhanced sweet corn is grown primarily for direct retail sales and local wholesale markets.

A third type of sweet corn, called supersweet, ultrasweet, extra sweet, or shrunken-2 contains the sh2 genetic variation. This type typically has a higher sugar content than sugary corn, and the sugar content does not decline rapidly after picking, so it remains sweet for several days after harvest. Kernels typically are not as tender as se corn. Supersweet types are grown for retail sales, local fresh markets, and wholesale shipping markets.

Some of the newest sweet corn varieties combine the sh2 with su and/or se genetics in new ways. Many of these new varieties have performed well in Midwestern trials and are gaining popularity. The new types are often identified by trademarked brand names and described as having enhanced eating quality. Consult with seed company representatives and sweet corn trial researchers to identify varieties suitable for your needs.

Isolation Requirements

Sweet corn flavor is affected by pollen source. All sweet corn types should be isolated from field corn pollen by 250 feet or by a 14-day difference in tasselling dates. Supersweet (sh2) varieties must be similarly isolated from sugary and sugar-enhanced types. If not isolated, kernels of both varieties will be starchy instead of sweet.

It is not essential to isolate sugar-enhanced (se) sweet corn from sugary (su) sweet corn: cross-pollination will not result in starchy kernels. However, isolation permits the full expression of sugar-enhanced traits. Likewise, to get the full benefits of new genetics, isolation is usually recommended for the new combinations of sh2 and se

or su. If complete isolation is not possible, plants should at least be isolated from pollen that will increase the proportion of starchy kernels. Refer to the table below for isolation requirements or check with your seed supplier.

To maintain color purity, isolate white corn from yellow or bi-color corn. Pollen from yellow or bi-color corn will cause some yellow kernels in white varieties. Pollen from yellow corn will lead to extra yellow kernels in bi-color varieties. Pollen from white corn will not affect yellow or bi-color varieties.

Sweet Corn Isolation Requirements ¹	
Corn Type or Brand	Isolate from these Types or Brands
Standard (su)	Shrunken-2, Xtra Tender, Gourmet Sweet
Sugar-enhanced (se)	Shrunken-2, Xtra Tender, Gourmet Sweet
TripleSweet, Synergistic	Shrunken-2, Xtra Tender, Gourmet Sweet
Shrunken-2 (sh2)	Standard, Sugar-enhanced, TripleSweet, Synergistic
Xtra Tender, Gourmet Sweet	Standard, Sugar-enhanced, TripleSweet, Synergistic

¹Isolate all types from field corn.

Spacing

Rows 30 to 40 inches apart. Plant early varieties 8 to 10 inches apart in the row, late varieties 9 to 12 inches apart in the row.

Seed 10 to 15 pounds per acre.

Fertilizing

Lime: To maintain a soil pH of 6.0 to 6.5.

Preplant: N: 60 pounds per acre. P₂O₅: 0 to 100 pounds per acre. K₂O: 0 to 150 pounds per acre. Adjust according to soil type, previous management, and soil test results for your state. For early season varieties, apply a starter fertilizer at planting. Do not exceed 80 to 100 pounds of N + K₂O per acre in the fertilizer band (2 inches to the side of the row and 2 inches below the seed). A good starter fertilizer would be 200 pounds per acre of 6-24-24, or 10 gallons of 10-34-0 or similar analysis. On sandy soils, broadcast 30 pounds or band 15 pounds of sulfur per acre.

Sidedress N: For loam or finer textured soils, apply 30 to 40 pounds N per acre when plants are 4 to 5 inches tall, and before they are 10 inches tall. If the soil organic matter content exceeds 3 percent and/or sweet corn follows a legume, this sidedressed N application could be skipped unless there has been excessive rainfall. For irrigated sandy loam soils along river areas, the N preplant application should be replaced with two sidedressings of approximately 40 pounds N per acre each: one when 4 to 5 inches tall (4th to 5th leaf), and the other at 10 inches tall (10th to 12th leaf).

Pesticide Use in Greenhouses

Before using any pesticide, always read the product label for mention of greenhouse restrictions. See Selected Information About Recommended Fungicides (page 79), Selected Information About Recommended Herbicides (page 69), and Selected Information About Recommended Insecticides (page 54).

Disease Control

Anthracnose

Recommended Products

Approach® is labeled for use at various rates. See label. 7-day PHI.

Elatus® at 5-7.3 oz. per acre. 7-day PHI.

Headline® at 6-12 fl. oz. per acre. 7-day PHI.

Headline AMP® at 10-14.4 fl. oz. per acre. 20-day PHI.

Priaxor® at 4-8 fl. oz. per acre. 7-day PHI.

RR **Quadris Flowable**® or **Satori**® at 6.0-15.5 fl. oz. per acre. 7-day PHI.

Quilt® at 10.5-14 fl. oz. per acre. 14-day PHI.

Quilt Xcel® at 10.5-14 fl. oz. per acre. 14-day PHI.

Stratego® at 10 fl. oz. per acre. 14-day PHI.

“Helminthosporium” Leaf Blight, Southern Corn Leaf Blight, Northern Corn Leaf Blight, Northern Corn Leaf Spot

Plant resistant varieties. For an up-to-date list of sweet corn hybrid reactions to prevalent diseases, visit the University of Illinois' Sweet Corn Disease Nursery website, www.sweetcorn.uiuc.edu. Or refer to the Purdue Extension bulletin, *Midwest Vegetable Trial Report*, available from The Education Store, www.edustore.purdue.edu.

Recommended Products

Approach® is labeled for use at various rates. See label. 7-day PHI.

Bravo®, **Echo**®, **Equus**®, and **Initiate 720**® are labeled for use at various rates. Note that rates vary for different diseases. 14-day PHI.

Dithane®, **Manzate**®, and **Penncozeb**® are labeled at various rates. 7-day PHI.

Elatus® at 5-7.3 oz. per acre. 7-day PHI.

Headline® at 6-12 fl. oz. per acre. 7-day PHI.

Headline AMP® at 10-14.4 fl. oz. per acre. 20-day PHI.

Priaxor® at 4-8 fl. oz. per acre. 7-day PHI.

Propimax EC® at 2-4 fl. oz. per acre. 14-day PHI.

RR **Quadris Flowable**®, or **Satori**® at 6.0-15.5 fl. oz. per acre. 7-day PHI.

Quilt® at 7-14 fl. oz. per acre. 14-day PHI.

Quilt Xcel® at 10.5-14 fl. oz. per acre. 14-day PHI.

Stratego® at 10 fl. oz. per acre. 14-day PHI.

Tebuconazole products (**Monsoon**®, **Orius 3.6F**®, **Onset 3.6L**®, **Tebuzol 3.6F**®, **Toledo 3.6F**®, or **Vibe**®) at 4-6 fl. oz. per acre. 7-day PHI.

Tilt® at 2-4 fl. oz. per acre. 14-day PHI.

Rust

Plant rust-resistant hybrids — see the University of Illinois' Sweet Corn Disease Nursery website, www.sweetcorn.uiuc.edu, or the Purdue Extension bulletin *Midwest Vegetable Trial Report*, available from The Education Store at www.edustore.purdue.edu.

A new race of the rust fungus capable of overcoming resistance in many sweet corn hybrids has been observed in the Midwest for the past several years. Sweet corn hybrid resistance to rust will depend on the hybrid's particular Rp-resistant gene, its general (background) resistance, and the race(s) of the rust fungus prevalent in the planting.

Recommended Products

Approach® is labeled for use at various rates. See label. 7-day PHI.

Bravo®, **Echo**®, and **Equus**® are labeled for use at various rates. 14-day PHI.

Elatus® at 5-7.3 oz. per acre. 7-day PHI.

Headline® at 6-12 fl. oz. per acre. 7-day PHI.

Headline AMP® at 10-14.4 fl. oz. per acre. 20-day PHI.

Dithane®, **Manzate**®, and **Penncozeb**® are labeled for use at various rates. 7-day PHI.

Monsoon 3.6F®, **Toledo 3.6F**®, or **Onset 3.6F**® at 4-6 fl. oz. per acre. 7-day PHI.

RR This is a reduced-risk pesticide. See page 37 for details.

Priaxor® at 4-8 fl. oz. per acre. 7-day PHI.

Propimax EC®, **Propiconazole 3.6EC**®, or **Propiconazole 41.8%EC** at 4 fl. oz. per acre. 14-day PHI.

RR **Quadris Flowable**®, or **Satori**® at 6.0-9.0 fl. oz. per acre. 7-day PHI.

Quilt® at 10.5-14 fl. oz. per acre. 14-day PHI.

Quilt Xcel® at 10.5-14 fl. oz. per acre. 14-day PHI.

Stratego® at 10 fl. oz. per acre. 14-day PHI.

Tilt® at 4 fl. oz. per acre. 14-day PHI.

Smut

Some hybrids tend to have fewer smut infections. Use past experience to choose successful hybrids. Avoid mechanical damage to corn plants. Try to avoid plant stresses that affect pollen production and silk emergence.

Stewart's Wilt

Plant wilt-resistant hybrids — see the University of Illinois' Sweet Corn Disease Nursery website, www.sweetcorn.uiuc.edu, or the Purdue Extension bulletin *Midwest Vegetable Trial Report*, available from The Education Store at www.edustore.purdue.edu.

Use an insecticide or seed treatment to control flea beetles. Insecticide treatments are more likely to be necessary in seasons following a mild winter.

Virus Diseases (maize dwarf mosaic, chlorotic dwarf, wheat streak mosaic)

Plant resistant or tolerant varieties — see the University of Illinois' Sweet Corn Disease Nursery website, www.sweetcorn.uiuc.edu, or the Purdue Extension bulletin *Midwest Vegetable Trial Report*, available from The Education Store at www.edustore.purdue.edu.

Control Johnsongrass and volunteer wheat.

Weed Control

For specific weeds controlled by each herbicide, check Relative Effectiveness of Herbicides for Vegetable Crops (page 68).

Rates provided in the recommendations below are given for overall coverage. For band treatment, reduce amounts according to the portion of acre treated.

Atrazine Restrictions

Many herbicides labeled for corn contain atrazine. Observe the following restrictions on atrazine from all sources:

1. On highly erodible soils with low residue, do not apply more than 1.6 lbs. a.i. atrazine per acre before corn emerges.

2. On all soils, do not apply more than 2 lbs. a.i. atrazine per acre in one application.
3. On all soils, do not apply more than 2.5 lbs. a.i. atrazine per acre per year.
4. Check www.atrazine-watershed.info or call (800) 365-3014 for additional local restrictions on the use of any material containing atrazine.
5. Water-quality setbacks. See labels for detailed information. Do not apply within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers, or within 200 feet around natural or impounded lakes and reservoirs. On highly erodible slopes, the 66 foot buffer must be seeded to a crop or grasses to provide cover. On tile-outletted terraced fields, one of the following must be done: (1) do not apply within 66 feet of standpipes, (2) no setback buffer around tile inlets, but immediately incorporate it to a depth of 2-3 inches in the entire field, or (3) no setback buffer around tile inlets, but maintain high crop surface residue such as in no-till systems.

Burndown or Directed/Shielded Applications Broadleaves and Grasses

Recommended Products

Gramoxone SL 2.0® at 2-4 pts. per acre. Use 1 qt. COC or 4-8 fl. oz. of NIS per 25 gals. of spray solution. Apply before or after seeding but before crop emerges. Or use 1-2 pts. of Gramoxone Inteon 2L® and apply between rows using hooded or shielded sprayers, or wait until corn is more than 10 inches tall and apply between rows using directed spray that reaches no higher than 3 inches up the corn stalk. Corn plants contacted by spray may be injured or killed. RUP.

Glyphosate products at 0.75-3.75 lbs. acid equivalent (ae) per acre. Use formulations containing 3 lbs. ae per gal. (4 lbs. isopropylamine salt per gal.) at 1-5 qts. per acre, or formulations containing 4.5 lbs. ae per gal. (5 lbs. potassium salt per gal.) at 0.66-3.3 qts. per acre. Broadcast before or after seeding but before crop emerges; or after corn is 12 inches tall, apply up to 0.75 lb. ae between crop rows with hooded sprayers. Use low rate for annuals and higher rates for perennials. See label for suggested application volume and adjuvants. 7-day PHI.

Preemergence Broadleaves and Grasses

Recommended Products

Acetochlor products including:

Breakfree 6.4EC® at 1.5-3.75 pts. per acre.

Degree 3.8ME® at 2.75-5.5 qts. per acre.

Harness 7EC® at 1.5-3.0 pts. per acre.

Surpass 6.4EC® at 1.5-3.75 pts. per acre.

TopNotch® at 2-3 qts. per acre.

Breakfree ATZ® (acetochlor + atrazine 3.0 + 2.25 ai) at 2.2-3.4 qts. per acre.

Breakfree ATZ Lite® (acetochlor+atrazine 4.0 + 1.5 ai) at 1.6-3.0 qts. per acre.

Degree Xtra® (acetochlor + atrazine 2.7 + 1.34 ai) at 2.9-3.7 qts. per acre.

FulTime® (acetochlor + atrazine 2.4 + 1.6 ai) at 2.5-5.0 qts. per acre.

Harness Xtra 5.6L® (acetochlor + atrazine 3.1 + 2.5 ai) at 1.4-3 qts. per acre.

Harness Xtra® (acetochlor + atrazine 4.3 + 1.7 ai) at 1.8-3.3 qts. per acre.

Keystone® (acetochlor + atrazine 3.0 + 2.25 ai) at 2.2-3.4 qts. per acre, or **Keystone LA**® (acetochlor + atrazine 4.0 + 1.5 ai) at 1.6-3.0 qts. per acre.

Do not apply postemergence. Use lower rates on coarse soils with low organic matter. Apply before planting and incorporate, or apply after planting before sweet corn emerges. May be mixed with atrazine or simazine. See label for details. Do not apply to light textured soils specified in the label where ground water is at 30 ft. or less. *RUP*.

Acuron 3.34SC® at the following rates:

Soils with <3% organic matter: 2.5 qts. per acre.

Soils with ≥ 3% organic matter: 3.0 qts. per acre.

For control of most broadleaf and grass weeds. Control may be reduced on soils with >10% organic matter. Do not apply after sweet corn has emerged or severe crop injury may occur. 18-month replant restriction for all crops except corn types (no restrictions); small grains (4 months); dry beans, potato, and soybean (10 months). Contains atrazine so state restrictions for atrazine apply. 45-day PHI for grazing and forage. *RUP*.

Alachlor products containing 4 lbs. a.i. per gal. at 2-3.25 qts. per acre. Use lower rates on coarse soils with low organic matter. Apply before planting and incorporate, or apply after planting before corn emerges. May be mixed with atrazine, see label for details. *RUP*.

Atrazine products at 1-2 lbs. active ingredient (a.i.) per acre. Use 4L formulations at 1-2 qts. per acre, or 90W formulations at 1.1-2.2 lbs. per acre. To control small,

emerged broadleaves, include 1 qt. of COC per acre. Apply before planting and incorporate, after planting before corn emerges, or after emergence before corn is 12 inches tall. Potential for carryover in soil and injury to following crops. Consult label for details. Do not exceed 1.6 lbs. a.i. per acre before corn emerges on highly erodible soils with low residue; do not exceed 2.5 lbs. a.i. total per acre per year. *RUP*.

Anthem ATZ® for processing and fresh market sweet corn at the following rates:

Soils with <3% organic matter: 1.75-3 pts. per acre depending on soil texture (check label).

Soils with >3% organic matter: 1.75-4 pts. per acre depending on soil texture (check label).

For control of many broadleaf and grass weeds. Do not make more than 1 application to spring corn. See label for crop rotation intervals. 45-day PHI.

Anthem Maxx® for processing and fresh market sweet corn at the following rates:

Soils with <3% organic matter: 3.5-5.5 fl. oz. per acre depending on soil texture (check label).

Soils with >3% organic matter: 3.5-6.5 fl. oz. per acre depending on soil texture (check label).

For control of many broadleaf and grass weeds. Do not make more than 1 application to spring corn. See label for crop rotation intervals.. 40-day PHI.

Define 60DF® at 12-21 oz. per acre, or **Define SC**® at 15-25 fl. oz. per acre. Do not apply postemergence. Use lower rates on coarse soils with low organic matter. Apply before planting and incorporate, or apply after planting before sweet corn emerges. May be tank-mixed with atrazine or simazine. See labels for details.

Dimethenamid-P (1.7 lbs. a.i. per gallon) **plus atrazine** (3.3 lbs. a.i. per gallon) products at 2.5-4.6 pts. per acre — including the following: Guardsman Max®, Commit ATZ®, and Establish ATZ®. Or Dimethenamid-P (2.25 lbs. a.i. per gallon) plus atrazine (2.75 lbs. a.i. per gallon) products at 2.0 to 3.5 pts. per acre — including the following: G-Max Lite®, Commit ATZ Lite®, and Establish ATZ Lite®. Use low rates on coarse soils with low organic matter. Apply before planting and incorporate, or after planting before corn emerges, or after emergence before corn is 12 inches tall. Rates may be reduced if corn will be cultivated or full-season control is not needed. If multiple applications are made, do not exceed maximum rate per acre per year. 50-day PHI. *RUP*.

Lexar® or **Lexar EZ**® at 3 or 3.5 qts. per acre; or **Lumax**® at 2.5 or 3 qts. per acre; or **Lumax EZ**® at 2.7 or 3.25 qts.

per acre. Use low rate on soils with organic matter less than 3%. Apply up to 14 days before planting or apply after planting before corn emerges. To control emerged broadleaves include COC at 1% v/v or NIS at 0.25% v/v. Note organophosphate insecticide precautions. Lexar® and LexarEZ® contain 1.74 lbs. s-metolachlor, 0.22 lb. mesotrione and 1.74 lb. atrazine per gallon. Lumax® contains 2.68 lbs. s-metolachlor, 0.268 lb. mesotrione and 1 lb. atrazine per gallon. LumaxEZ® contains 2.49 lbs. s-metolachlor, 0.249 lb. mesotrione, and 0.94 lb. atrazine per gallon. Do not use these products if topramezone (such as Impact®) or other products containing mesotrione (such as Callisto®) have been or will be applied the same growing season. Do not exceed 3.5 qts. of Lexar® or LexarEZ® per acre per year. Do not exceed 3 qts. of Lumax® per acre per year. Do not exceed 3.25 qts. of LumaxEZ® per acre per year. 60-day PHI. RUP.

Outlook® at 10-21 fl. oz. per acre. Use lower rate on coarse soils low in organic matter. Apply before planting and incorporate, or after planting before corn emerges, or after emergence before corn is 12 inches tall. Apply preemergence for best activity. Do not exceed 21 fl. oz. of Outlook® per acre per year. 50-day PHI.

Prowl H2O® at 2- 4 pts. per acre. Use low rates on coarse soils with low organic matter. Apply after planting before corn emerges, or after emergence until corn is 20-24 inches tall or shows 8 leaf collars. Plant corn at least 1.5 inches deep and make sure seed is well covered. Use drop nozzles and directed spray for post applications, if necessary, to get spray to soil. Do not apply both pre- and postemergence.

s-metolachlor products containing 7.6 lbs. a.i. per gal. at 1-2 pts. per acre — including the following: Brawl®, Brawl II®, Dual Magnum®, Dual II Magnum®, Charger Basic®, and Cinch®. Use lower rate on coarse soils. Apply before planting and incorporate, or apply after planting before corn emerges. May also be applied as a directed spray between rows when corn is 5-40 inches tall. Incorporate to control nutsedge. May be mixed with atrazine, see label for details. Do not exceed 3.9 pts. per acre per year.

s-metolachlor (2.4 lbs. per gallon) **plus atrazine** (3.1 lbs. per gallon) products at 1.3-2.6 qts. per acre — including the following: Bicep II Magnum®, Cinch ATZ®, and Charger Max ATZ®. Or s-metolachlor (3.33 lbs. per gallon) plus atrazine (2.67 lbs. per gallon) at 0.9-2.2 qts. per acre — including the following: Bicep Lite II Magnum®, Cinch ATZ Lite®, Charger Max ATZ Lite®. Use low rates on coarse soils with low organic matter. Apply before planting and incorporate, or after planting

before corn emerges, or after emergence before corn is 5 inches tall. May also be applied as a directed spray between rows when corn is 5-12 inches tall. Do not exceed 3.2 qts. per acre per year of products with 3.1 lbs. atrazine per gallon. Do not exceed 3.75 qts. per acre per year of products with 2.67 lbs. atrazine per gallon. 30-day PHI. RUP.

Zidua® at 1.0-4 oz. per acre. Apply before or after planting and before crop emergence, or at spiking up to V4 (4 leaf collars visible). May be incorporated. Will not control emerged weeds. May be tank-mixed or applied sequentially with many other products. Seed at least 1 inch deep. Do not exceed 2.75 oz. per acre per season on coarse soils. Do not exceed 5 oz. per acre per season on other soils. 37-day PHI.

Preemergence Broadleaves

Recommended Products

RR Callisto® at 6-7.7 fl. oz. per acre. Processing and fresh market varieties. Some varieties may be severely injured. Adding atrazine at 0.75 lb a.i. per acre will improve weed control. Peas are very sensitive to Callisto®, observe rotation and drift management recommendations. Note organophosphate insecticide precautions. Not recommended if products containing mesotrione (e.g., Lexar® or Lumax®) or topramezone (e.g., Impact®) have been (or will be) applied to crop. Do not exceed 0.24 lb. mesotrione per acre per year (7.7 fl. oz. Callisto®) from all sources. 45-day PHI.

Postemergence Grasses and Broadleaves

Recommended Products

Accent Q® at 0.45-0.90 oz. per acre. Use 1 qt. of COC or 8 fl. oz. of NIS per 25 gals. of spray solution. Apply broadcast or with drop nozzles on corn up to 12 inches tall or up through 5 leaf collars. For corn 12-18 inches tall use drop nozzles. Do not apply to corn more than 18 inches tall or showing 6 leaf collars or more. Cultivars differ in sensitivity to this herbicide; get information on cultivars prior to use. Not recommended for use on corn previously treated with Counter®, Lorsban®, or Thimet® insecticides.

Impact 75DG® at 0.5-0.75 oz. per acre. Apply with 1.0-1.5% v/v COC or MSO, with UAN at 1.25-2.5 % v/v, or with AMS at 8.5-17 lbs. per acre. Tank-mixing with atrazine will improve efficacy and spectrum of weed species controlled. Not recommended to be tank-mixed with, or applied sequentially to products that contain mesotrione (Callisto® products). 45-day PHI.

Laudis 3.5SC® at 3 oz. per acre. Apply with 1% v/v MSO plus 8.5 lbs. of AMS per 100 gals. of spray solution. COC is less efficacious than MSO but can be used

instead of MSO when broadleaves are the main target and conditions for control are excellent. Tank-mixing with atrazine will improve efficacy and spectrum of weed species controlled.

Revulin Q 52.2 WDG® at 3.4 to 4.0 oz. per acre with NIS after emergence until 12 inches tall or 5 leaf-collar stage. Use drop nozzles for corn between 12 and 18 inches tall. Do not apply to sweet corn taller than 18 inches or at 6 leaf-collar stage or later. Do not use AMS or UAN adjuvants. Because of the adjuvant restrictions, better results will be obtained when applied to smaller weeds. Can use COC under dry conditions to improve weed control, but may increase crop injury. 18-month replant restriction for all crops except field corn (4 months); popcorn, sweet corn, soybean, and potato (10 months). Possible hybrid sensitivity. 45-day PHI.

Roundup PowerMax® or **Roundup WeatherMax**® at 0.66-3.3 qts. per acre before corn emerges, or at 16-22 fl. oz. per acre after corn has emerged. *Roundup Ready*® sweet corn only. Other corn will be killed. May be tank-mixed with several preemergence or postemergence herbicides labeled for corn. Use of other herbicides with residual activity is recommended if Roundup® is used. Postemergence applications may be made over the top of corn through the 8 leaf-collar stage (V-8) or until corn is 30 inches tall. Drop nozzles are recommended if corn is more than 24 inches tall, and must be used if corn is more than 30 inches tall to prevent spraying into whorls. Do not apply to corn more than 30 inches tall if it has reached the reproductive stage. Do not exceed 3.3 qts. per acre prior to crop emergence. Do not exceed 44 fl. oz. per acre in a single application in the crop. Do not exceed 4.1 qts. per acre per growing season from emergence through crop height of 48 inches. Do not exceed 5.3 qts. per acre for all applications. 7-day PHI. 30-day PHI if corn is harvested for forage or grain.

Postemergence Broadleaves

Recommended Products

2, 4-D formulations at the following rates:

Amine formulations at 0.25-0.75 lb. a.i. per acre.

4L formulations at 0.5-1.5 pts. per acre.

Use lower rates on annual weeds and higher rates on perennial weeds in the bud stage. Use drop nozzles if corn is more than 8 inches tall. Do not apply to open whorls or within 2 weeks of tasseling through harvest. Avoid drift onto other vegetable crops. Can cause severe injury to some varieties.

Aim EC® at 0.5 fl. oz. per acre. Use 8 fl. oz. of NIS per 25 gals. of spray solution. Apply to weeds up to 4 inches tall and apply up to the 14 leaf-collar stage of sweet corn. To reduce injury, the label requires using drop nozzles or

other directed sprayers to minimize application to the whorl. Do not exceed 2 fl. oz. of Aim EC® per acre per season.

Anthem ATZ® at 1.5-3 pts. per acre depending on soil texture (check label). *For processing sweet corn only when used postemergence.* For control of several broadleaf weeds. Apply from crop emergence through V4 growth stage. Most broadleaf weeds need to be less than 4 inches tall. Add an adjuvant such as a NIS or a silicone-based surfactant at 8 fl. oz. per 25 gals. of spray solution, or add COC or MSO at 1-2 pts. per acre for best activity. In addition to an adjuvant, you can add UAN at 1-2 qts. per acre or spray grade AMS at recommended-use rates to the spray solution. Before applying to corn, confirm that your line has Anthem® selectivity with your seed company or supplier to avoid injury to sensitive lines. Avoid postemergence application when crop foliage is wet or prior to or after a rain because a crop response can occur. However, the crop will recover. Do not apply if crop is under stress and do not irrigate within 4 hours of a postemergence application. Do not make more than 1 application to spring corn. See label for crop rotation intervals. 45-day PHI.

Anthem Maxx® at 2.5-6 fl. oz. per acre depending on soil texture (check label). *For processing sweet corn only when used postemergence.* For control of several broadleaf weeds. Most broadleaf weeds need to be less than 2 inches tall. Add an adjuvant such as a NIS or a silicone-based surfactant at 8 fl. oz. per 25 gals. of spray solution, or add COC or MSO at 1-2 pts. per acre for best activity. In addition to an adjuvant, you can add UAN at 1-2 qts. per acre or spray grade AMS at recommended-use rates to the spray solution. Before applying to corn, confirm that your line has Anthem® selectivity with your seed company or supplier to avoid injury to sensitive lines. Avoid postemergence application when crop foliage is wet or prior to or after a rain because a crop response can occur. However, the crop will recover. Do not apply if crop is under stress and do not irrigate within 4 hours of a postemergence application. Do not make more than 1 application to spring corn. See label for crop rotation intervals. 40-day PHI.

Bentazon products at 0.75-1 lb. a.i. per acre. Use 4L formulations at 0.75-1 qt. per acre. Use 1 qt. of COC per acre. Apply to small weeds. Also controls nutsedge. Do not apply to corn that is stressed because injury may result. Combine with atrazine to broaden weed control spectrum.

Cadet® at 0.6-0.9 fl. oz. per acre. *For processing sweet corn only.* Apply from 2 collars to tasseling. Controls velvetleaf and several other broadleaves. May be tank-mixed with labeled postemergence herbicides. Add COC or NIS. Do not exceed 1.25 fl. oz. per acre per year. 40-day PHI.

Callisto® at 3 oz. per acre. Processing and fresh market varieties. Some varieties may be severely injured. Include NIS at 0.25% v/v or COC at 1.0% v/v. Adding NIS is preferable to COC to reduce crop injury. COC will improve weed control under dry conditions. Do not add UAN or AMS. Adding atrazine at 0.25-0.5 lb. of a.i. per acre will improve weed control. Peas are very sensitive to Callisto®; observe rotation and drift management recommendations. Note organophosphate insecticide precautions. Not recommended if products containing mesotrione (e.g., Lexar® or Lumax®) or topramezone (e.g., Impact®) have been (or will be) applied to crop. Do not exceed 0.24 lb. mesotrione per acre per year (7.7 fl. oz. Callisto®) from all sources. 45-day PHI.

Callisto Xtra® at 20-24 fl. oz. per acre. Apply with 8 fl. oz. of NIS or 1 qt. of COC per 25 gals. spray solution. Apply after corn emerges and before corn is 12 inches tall. Also controls large crabgrass. Cultivars differ in sensitivity to this herbicide; get information on cultivars prior to use. Do not use on corn previously treated with Lorsban® or Counter® insecticides, or within 7 days of treatment with any organophosphate or carbamate insecticide. Contains 0.5 lb. of mesotrione and 3.2 lbs. of atrazine per gal. Do not exceed 0.24 lb. mesotrione or 2.5 lbs. atrazine per acre per year from all sources. Maximum one application per year. 45-day PHI.

Halosulfuron products, including **Sandea**® or **Permit**®, at 2/3-1 oz. per acre. Apply over the top or with drop nozzles from the spike through layby stages. Has some soil residual activity. A second application of 2/3 oz. per acre may be made only with drop nozzles aimed to avoid application into whorls. Do not exceed 2 applications per 12-month period. 30-day PHI.

Starane 1.5L® at 0.66 pt. per acre, or **Starane Ultra 2.8L**® at 0.4 pt., per acre. Apply broadcast or as a directed spray to corn that has up to 4 fully exposed leaf collars. Use directed spray when corn is beyond the 4-leaf collar stage. For volunteer potato, can apply preplant to emerged potato followed by a second application postemergence to emerged potato. 31-day PHI.

Stinger 3L® at 0.33-0.66 pt. per acre. Spray on actively growing weeds before corn is 18 inches tall. Controls primarily composites and nightshade. Wait 21 days between applications. Do not exceed 0.66 pt. per crop per year. 30-day PHI.

Topramezone products at the following rates:

Impact® at 0.5-0.75 fl. oz. per acre. Do not exceed 0.75 fl. oz. per acre.

Armezon® at 0.5 to 1.0 fl. oz. per acre. Do not exceed 1.0 fl. oz. per season.

Add MSO or COC and urea ammonium nitrate (UAN), ammonium phosphate (10-34-0), or ammonium sulfate. See specific label for additive rates as they vary slightly between products. Not recommended if products containing mesotrione have been or will be applied to crop. 45-day PHI.

Postemergence Grasses

Recommended Products

Poast® at 0.75-1.5 pts. per acre. *Poast Protected*® varieties only — will kill other crops. Use 1 pt. Dash®, 1.5 pts. MSO, or 2 pts. COC per acre. UAN or AMS are optional, see label. For use only on Poast®-tolerant sweet corn varieties. Such varieties are clearly labeled. May repeat applications up to 3.0 pts. Poast® total per acre per season. 30-day PHI.

Insect Control

Seedcorn Maggots, Seedcorn Beetles, Wireworms

Plant seed that has been treated with an insecticide prior to planting. Use diazinon, Cruiser®, or Poncho®. Follow label directions.

Although most sweet corn seed has been treated with a fungicide, it is seldom treated with an insecticide to prevent seed and seedling damage.

Recommended Products

Aztec 2.1G® at 6.7 oz. per 1,000 linear ft. of row. Apply in furrow in a 7-inch band over the row and behind the planter shoe in front of the press wheel. Incorporate with tines or drag chains. *RUP*.

Brigade® (2EC) at 0.15-0.3 fl. oz. per 1,000 linear ft. of row. Apply in furrow or T-band. May be applied in conjunction with pop-up fertilizers. Also controls cutworms and grubs. Do not exceed 0.1 lb. a.i. per acre per season at plant application. 30-day PHI.

Capture LFR® at 0.2-0.78 fl. oz. per 1,000 linear ft. of row at planting. See label. *RUP*.

Force CS® at 0.46-0.57 fl. oz. per 1,000 linear ft. of row at planting. See label. *RUP*.

Lorsban® (15G) at 8 oz. per 1,000 linear ft. of row. Do not exceed 13 lbs. per acre per crop.

Corn Rootworm Larvae

If few or no rootworm beetles were present in the field the previous year, then there is little chance of a damaging infestation. If you grew sweet corn in a field

the previous year and followed a regular spray schedule during silking, then there is little chance of a damaging infestation.

Recommended Products

Aztec 2.1G® at 6.7 oz. per 1,000 linear ft. of row. Apply in a 7-inch band over the row and behind the planter shoe in front of the press wheel. Incorporate with tines or drag chains. *RUP.*

Brigade® (2EC) at 0.3 fl. oz. per 1,000 linear ft. of row. Apply in a minimum of 3 gals. of finished spray as a 5- to 7-inch band over an open seed furrow (T-band). Do not exceed 0.1 lb. a.i. per acre per season at plant application. 30-day PHI. *RUP.*

Capture LFR® at 0.39-0.98 fl. oz. per 1,000 linear ft. of row at planting. Apply in furrow or T-band. See label. *RUP.*

Counter 15G® at 6-8 oz. per 1,000 linear ft. of row. Do not exceed 1 application per acre per crop. *RUP.*

Force 3G® at 4-5 oz. per 1,000 linear ft. of row. Apply as a T-band or in furrow. Do not exceed 1 application per crop. *RUP.*

Force CS® at 0.46-0.57 fl. oz. per 1,000 linear ft. of row at planting. Apply as a T-band or in furrow. See label. Do not exceed 1 application per crop. *RUP.*

Lorsban® (15G) at 8 oz. per 1,000 linear ft. of row. Apply as a T-band over an open seed furrow behind the planter shoe and ahead of the press wheel. Do not exceed 13 lbs. per acre per crop.

Mocap 15G® at 8 oz. per 1,000 linear ft. of row. Apply in band over closed seed furrow and incorporate with tines or drag chains. Do not place in the furrow or in direct contact with the seed. Do not exceed 1 application per acre per crop. *RUP.*

Thimet 20G® at 4.5-6 oz. per 1,000 linear ft. of row. Place in a 7-inch band over the row behind the planter shoe and in front of or behind the press wheel and lightly incorporate. *RUP.*

Warrior II® (2.08EC) at 0.33 oz. per 1,000 linear ft. of row. Apply in furrow or as a 5- to 7-inch band. Do not exceed 7.68 fl. oz. per acre per season. 7-day PHI. *RUP.*

Corn Leaf Aphid

Heavy corn leaf aphid infestations are often limited to early-season plantings that develop on late whorl to early-tassel sweet corn. During this time, several beneficial organisms (including lady beetles, minute pirate bugs, and parasitoids) will keep these infestations in check.

Although infestations can exceed 100 aphids per plant on more than 50% of the plants, pollination is rarely affected. Fresh market growers may need to spray to avoid aphid colonies on the husks or sticky honeydew (excreted by aphids) on the husks. Choose products that will control both caterpillar pests (corn earworm, European corn borer, fall armyworm) and aphids if both are a problem.

Recommended Products

RR **Assail 30SG**® at 2.1-2.9 oz. per acre. Do not exceed 2 applications per season. 1-day PHI.

Lannate LV® (2.4WSL) at 0.75-1.5 pts. per acre. Do not exceed 6.3 lbs. a.i. per acre per crop. 0-day PHI for ears. 3-day PHI for forage. *RUP.*

Corn Rootworm Adults

Most of the insecticides listed below for control of European corn borer, corn earworm, and armyworms also control corn rootworm beetles. Those that do not control corn rootworm beetles are Coragen®, Entrust®, Intrepid®, and Radiant®.

Corn rootworm adults may prevent pollination by feeding on green silks. Treat when silks are being clipped.

Cutworms

Recommended Products

Ambush® (2SC) at 6.4-12.8 fl. oz. per acre. Do not exceed 76 fl. oz. per acre per season. 1-day PHI. *RUP.*

Asana XL® (0.66EC) at 5.8-9.6 fl. oz. per acre. Do not exceed 96 fl. oz. per acre per season. 1-day PHI. *RUP.*

Baythroid XL® (1EC) at 0.8-1.6 fl. oz. per acre. Do not exceed 28 fl. oz. per acre per season. 0-day PHI. *RUP.*

Brigade® (2EC) at 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. 1-day PHI. *RUP.*

Lorsban 4E® at 1-2 pts. per acre. Most effective when soil is moist. If ground is dry, cloddy, or crusty, shallow incorporation before (or soon after) treatment may improve control. 21-day PHI. *RUP.*

Mustang Maxx® (0.8EC) at 2.24-4.0 fl. oz. per acre. Do not exceed 24 fl. oz. per acre per season. 3-day PHI. *RUP.*

Pounce 25WP® at 6.4-12.8 oz. per acre. Do not exceed 4.8 lbs. per acre per season. 1-day PHI.

Warrior II® (2.08EC) at 1.28-1.92 fl. oz. per acre. Do not exceed 30.72 fl. oz. per acre per season. 1-day PHI. *RUP.*

RR This is a reduced-risk pesticide. See page 37 for details.

 May be acceptable for use in certified organic production. Check with your certifier before use.

European Corn Borer, Corn Earworm, Fall Armyworm

European Corn Borer Threshold

More than 10 moths per night in a black light traps while corn is in late whorl stage.

Corn Earworm Threshold

More than 10 moths per night in pheromone traps while green silks are present. If no field corn in the area is silking, moths will lay eggs primarily on silking sweet corn. In this situation, use a threshold of 1-3 moths per pheromone trap per night.

Fall Armyworm Threshold

Moths being caught in pheromone traps or larval damage present while corn is in late whorl stage.

Recommended Products

Ambush® (2SC) at 6.4-12.8 oz. per acre. Do not exceed 76 fl. oz. per acre per season. Control is poor when temperatures are above 90°F. 1-day PHI. *RUP.*

Asana XL® (0.66EC) at 5.8-9.6 fl. oz. per acre. *Corn earworm only.* Do not exceed 96 fl. oz. per acre per season. 1-day PHI. *RUP.*

Baythroid XL® (1EC) at 1.6-2.8 fl. oz. per acre. Do not exceed 28 fl. oz. per acre per season. 0-day PHI. *RUP.*

Besiege® at 6-10 fl. oz. per acre. Do not exceed 31 fl. oz. per acre per season. 1-day PHI. *RUP.*

Blackhawk® at 1.67-3.3 oz. per acre. 1-day PHI.

Brigade® (2EC) at 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. 1-day PHI. *RUP.*

RR Coragen® (1.67SC) at 3.5-5 fl. oz. per acre. Do not exceed 15.4 fl. oz. per acre per season. 1-day PHI.

Entrust® (2SC) at 1.5-6 fl. oz. per acre. More effective for European corn borers than corn earworms. Do not exceed 29 fl. oz. per acre per season. Also see labels for Entrust® WP. Observe resistance management restrictions. 1-day PHI.

Grizzly Too® (2.08 EC) at 0.96-1.60 fl. oz. per acre. Do not exceed 30.72 fl. oz. per acre per season. 1-day PHI.

RR Intrepid 2F® at 4-16 fl. oz. per acre. *European corn borer only.* Do not exceed 64 fl. oz. per acre per season. 3-day PHI.

Lannate LV® (2.4WSL) at 0.75-1.5 pts. per acre. *European corn borer only.* Do not exceed 21 pts. per acre per crop. 0-day PHI for ears. 3-day PHI for forage. *RUP.*

Larvin 3.2L® at 20-30 fl. oz. per acre. Do not exceed 300 fl. oz. per acre per season. 0-day PHI. *RUP.*

Mustang Maxx® (0.8EC) at 2.8-4.0 fl. oz. per acre. Do not exceed 24 fl. oz. per acre per season. 3-day PHI. *RUP.*

Pounce 25WP® at 6.4-12.8 oz. per acre. Do not exceed 4.8 lbs. per acre per season. Control is poor when temperatures are above 90°F. 1-day PHI.

RR Radiant SC® (1SC) at 3-6 fl. oz. per acre. Do not exceed 30 fl. oz. per acre per season. Do not make applications less than 4 days apart. 1-day PHI.

Sevin XLR PLUS® (4F) at 1.5-2 qts. per acre. Do not exceed 8 applications or 16 qts. per acre per season. Machine harvest only. 2-day PHI.

Warrior II® (2.08EC) at 1.28-1.92 fl. oz. per acre. Do not exceed 30.72 fl. oz. per acre per season. 1-day PHI. *RUP.*

Monitoring European Corn Borer and Corn Earworm

One of the keys to successfully managing European corn borers and corn earworms on sweet corn is to determine when the insects are active. European corn borers can be monitored effectively with blacklight traps and field observations, and corn earworms can be monitored with pheromone traps. When moths are being caught in the traps, it means they are laying eggs.

Corn borer eggs are laid on leaves, usually on the undersides, in the region of the ear. Larvae feed on the leaves and later may migrate to the ears (if present).

Corn earworm moths lay their eggs directly on green silks. The larvae that hatch from those eggs will follow the silks down into the tips of the ears.

Because these two insects' egg laying behavior differ, control strategies also differ. Corn borers can be controlled by spraying during the late whorl, tasselling, and silking stages. The migrating larvae should contact a lethal dose of insecticide while moving to the ear zone. Corn earworms must be controlled by directing sprays at the silks so larvae will immediately contact the insecticide after hatching.

For corn borers, treat during the late whorl stage if 20 percent or more of the plants show larval feeding. The presence of large numbers of moths in light traps also justifies treatment. One application during the late whorl stage, followed by additional treatments every five days up until seven days of harvest, usually provides adequate control.

For corn earworms, treatment is justified if fresh green silks are present and moths are being caught in pheromone traps. In general, the higher the moth catches,

the shorter the interval between sprays. If fewer than five moths are being caught per night, a five-day spray interval should be adequate. As moth catches approach 50 to 100 per night, a two- to three-day spray interval would be more appropriate. Determining the spray interval exactly depends on many factors, including how much damage you can tolerate, the crop's value, and the cost and effectiveness of the insecticide. Stop treating for corn earworms when 90 percent of the silks are brown.

Obviously, growers should not treat separately for these two pests. Some of the insecticides recommended here are effective against both species. Choose insecticides that are more effective against the particular pest that is most prevalent at the time of application. If both pests are present, choose an insecticide that will adequately control both.

Sources of Corn Earworm and European Corn Borer Traps

Kevin Poppe's Service

25738 N. 3200 East
Lexington, IL 61753
(309) 365-3651
kdpoppe99@hotmail.com

Sources of Pheromones/Traps

Gempler's

P.O. Box 270
100 Countryside Drive
Belleville, WI 53508
(800) 382-8473
www.gemplers.com

Great Lakes IPM

10220 Church Road
Vestaburg, MI 48891-9746
(989) 268-5693
www.greatlakesipm.com

Insects Limited Inc.

16950 Westfield Park Road
Westfield, IN 46074-9374
(317) 896-9300
www.insectslimited.com

Pacific Biocontrol Corporation

620 E. Bird Lane
Litchfield Park, AZ 85340
(623) 935-0512 or (800) 999-8805
www.pacificbiocontrol.com

Scentry Biologicals, Inc.

610 Central Avenue
Billings, MT 59102
(800) 735-5323
www.scentry.com

Trece Incorporated

PO Box 129
Adair, OK 74330
(866) 785-1313
www.trece.com

Flea Beetles

Plant varieties that are resistant to Stewart's wilt, which is vectored by flea beetles.

Recommended Products

Ambush® (2SC) at 6.4-12.8 oz. per acre. Do not exceed 1.2 lbs. a.i. per acre per season. 1-day PHI. *RUP.*

Asana XL® (0.66EC) at 5.8-9.6 fl. oz. per acre. Do not exceed 96 fl. oz. per acre per season. 1-day PHI.

Baythroid XL® (1EC) at 0.8-1.6 fl. oz. per acre. Do not exceed 28 fl. oz. per acre per season. 0-day PHI. *RUP.*

Brigade® (2EC) at 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. 1-day PHI. *RUP.*

Lannate LV® (2.4WSL) at 0.75-1.5 pts. per acre. Do not exceed 21 pts. per acre per crop. 0-day PHI for ears. 3-day PHI for forage. *RUP.*

Lorsban 4E® at 1-2 pts. per acre. Do not exceed 15 pts. per acre per crop. 21-day PHI. *RUP.*

Mustang Maxx® (0.8EC) at 2.24-4.0 fl. oz. per acre. Do not exceed 24 fl. oz. per acre per season. 3-day PHI. *RUP.*

Pounce 25WP® at 6.4-12.8 oz. per acre. Do not exceed 4.8 lbs. per acre per season. 1-day PHI. *RUP.*

Sevin XLR PLUS® (4F) at 1-2 qts. per acre. Do not exceed 8 applications or 16 qts. per acre per season. Machine harvest only. 2-day PHI.

Warrior II® (2.08EC) at 1.28-1.92 fl. oz. per acre. Do not exceed 30.72 fl. oz. per acre per season. 1-day PHI. *RUP.*

Stink Bugs (including Brown Marmorated Stink Bug)

Baythroid XL® (1EC) at 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. 1-day PHI. *RUP.*

Hero® at 4-10.3 fl. oz. per acre. Do not exceed 27.39 fl. oz. per acre per season. 3-day PHI. *RUP.*

Lannate LV® (2.4WSL) at 0.75-1.5 pts. per acre. Do not exceed 21 pts. per acre per crop. 0-day PHI for ears. 3-day PHI for forage. *RUP.*

Warrior II® (2.08EC) at 1.28-1.92 fl. oz. per acre. Do not exceed 30.72 fl. oz. per acre per season. 1-day PHI. *RUP.*