

2026/2027
Mid-Atlantic Commercial Vegetable
Production Recommendations



F. Commodity Recommendations

Pesticide Use Disclaimer

THE LABEL IS THE LAW

A pesticide applicator is legally bound by the labeling found on and with the pesticide container in their possession. Before using a pesticide, check and always follow the labeling distributed with the product at the point of sale for legally enforceable rates and use restrictions and precautions.

Although labels are available on the Internet from electronic label services such as Proagrica's CDMS (<https://www.cdms.net/>), Greenbook (<https://www.greenbook.net/>), or Agworld DBX powered by Agrian (<https://www.agrian.com/labelcenter/results.cfm>) the information contained in these electronic labels may not be identical to the labeling distributed with the product. **Please be advised that these electronic label services provide use disclaimers, and in some cases legally binding *User Agreements* assigning ALL liability to user of service.** (See section D 3.1. Labels and Labeling for more detail.)

Guide to the Recommended Pesticide Tables in the Following Crop Sections:

1. Pesticides are listed by **group number or code based on chemical structure and mechanism of action**, as classified by the Herbicide Resistance Action Committee (HRAC, <https://hracglobal.com>) for herbicides, the Insecticide Resistance Action Committee (IRAC, <https://irac-online.org>) for insecticides, and the Fungicide Resistance Action Committee (FRAC, <https://www.frac.info/>) for fungicides. **In this guide, if the group number or code is in bold font, there are resistance concerns for the product.**
2. **Restricted use pesticides** are marked with a * in the Tables. These products may only be used by certified and/or licensed pesticide applicators, and when stated on the label, those making applications under their direct supervision. Some labels may restrict use solely to certified and/or licensed applicators. (See section D 3.2.1 Restricted Use Classification Statement for more detail).
3. **In addition to the pesticide products listed in the Commodity Recommendations below, other formulations or brands with the same active ingredient(s) may be commercially available. ALWAYS CHECK THE LABELING ON THE PRODUCT CONTAINER ITSELF:**
 - a) to ensure a pesticide is labeled for the same intended use,
 - b) to ensure the pesticide is labeled for the desired crop,
 - c) for differences in application rates and % active ingredient(s), and
 - d) additional restrictions.
4. All pesticide recommendations contained in this document are prescribed for spray applications to a **broadcast area of 1 acre** (43,560 square feet). **Adjust the rate accordingly for banded applications** (See section E 1.3. Calibrating Granular Applicators) **or for chemigation** (check labels for amounts per 1,000 feet).
5. Check the physical product label for and do not exceed the maximum amount of pesticide *per application* and the maximum number of applications *per year*.
6. **Bee Toxicity Rating (Bee TR):** N=nontoxic; L=minimum impact on bees; M=moderately toxic, can be used if dosage, timing, and method of application are correct, but should NOT be applied directly to the crop if bees are present; H=highly toxic, severe losses expected, -- = data not available.
7. In accordance with the USDA National Organic Program, the Organic Materials Research Institute (OMRI) maintains a directory of all products that OMRI has determined are allowed for use in organic production, processing, and handling. These products are catalogued online in the **OMRI Products List** (see <https://www.omri.org/omri-lists>).

If you are having a **medical emergency** after using pesticides, always **call 911** immediately.



In Case of an Accident

- Remove the person from exposure
- Get away from the treated or contaminated area immediately
- Remove contaminated clothing
- Wash with soap and clean water
- Call a physician and/or the National Poison Control Center (1-800-222-1222).
Your call will be routed to your State Poison Control Center.
- **Have the pesticide label with you!**
- Be prepared to give the **EPA registration number** to the responding center/agency

Sweet Corn

Recommended Varieties

| Type | Variety ¹ | Relative Maturity | Kernel Type ² | Disease Resistance ³ | | | | | Bt Insect Resistance ⁴ |
|-------------------------|----------------------|--------------------|--------------------------|---------------------------------|-----|----|------|----|-----------------------------------|
| | | | | Et | Pst | Ps | MDMV | Bm | |
| Fresh Market Bicolor | Temptation | 72 | Sugary Enhanced | | | | | | |
| | Temptation II (GMO) | 72 | Sugary Enhanced | | | | | | Performance |
| | Awesome XR | 74 | Synergistic | | I | R | | | |
| | Nirvana | 74 | Augmented Shrunken | | | | | | |
| | BSS0977(GMO) | 78 | Supersweet | I | I | R | | | Attribute |
| | Xtra-Tender 278A | 78 | Augmented Shrunken | I | I | | | I | |
| | Montauk | 79 | Synergistic | I | I | | | | |
| | Obsession | 79 | Augmented Shrunken | I | I | R | | | |
| | Obsession II (GMO) | 79 | Augmented Shrunken | I | I | R | | | Performance |
| | BC0805 (GMO) | 82 | Synergistic | | | I | | I | Attribute |
| | Providence | 82 | Synergistic | | | R | | I | |
| | Serendipity | 82 | Synergistic | | | | | I | |
| Delectable | 84 | Sugary Enhanced | I | I | R | R | | | |
| Fresh Market White | Natalie | 72 | Supersweet | | | R | | | |
| | Nicole | 72 | Supersweet | | | R | R | | |
| | Endurance MXR | 73 | Augmented Shrunken | | | R | R | | |
| | Eden RMN | 75 | Augmented Shrunken | I | | R | R | | |
| | 7401 IMP | 75 | Supersweet | I | R | I | | | |
| | XTH 3174 | 76 | Augmented Shrunken | I | | | | | |
| | Seabright | 76 | Supersweet | | | R | | | |
| | Diamond Mine | 76 | Synergistic | I | | | | | |
| | Coronado | 77 | Supersweet | | | R | | | |
| | White Lightning | 77 | Supersweet | | | | R | | |
| | Xtra-Tender 378A | 78 | Augmented Shrunken | | I | | | I | |
| | Platinum XR | 78 | Augmented Shrunken | I | | R | | | |
| | Guardian XR | 80 | Supersweet | | | R | | | |
| | SV1580SC | 80 | Supersweet | I | | R | | | |
| | Mattapoisett | 80 | Synergistic | I | I | I | | | |
| Devotion | 82 | Augmented Shrunken | | I | | | | | |
| Fresh Market Yellow | Vision MXR | 73 | Augmented Shrunken | | I | R | | I | |
| | Golden Halo | 75 | Supersweet | I | | R | R | | |
| | Incredible | 82 | Sugary Enhanced | | I | R | R | | |
| Processing ⁵ | WSS7620 (white) | 82 | Supersweet | I | | R | I | I | |
| | Overland (yellow) | 84 | Supersweet | R | R | R | | I | |

¹Listed by relative maturity.

²See also: "Sweet Corn Genetics and Isolation Requirements" below.

³R=resistance; I=intermediate/partial resistance. Et=Northern Corn Leaf Blight caused by *Exserohilum turcicum*, Pst=Stewart's Wilt caused by *Pantoea stewartii*, Ps=Common Rust caused by *Puccinia sorghi*, MDMV=Maize Dwarf Mosaic Virus, Bm=Southern Corn Leaf Blight caused by *Bipolaris maydis*.

⁴Insect resistance from *Bacillus thuringiensis* transgenes is available in some varieties. Attribute varieties have the Cry1Ab gene for corn earworm and European corn borer resistance. Performance Series varieties have the Cry1A.105 and Cry2AB genes for corn earworm, European corn borer and fall armyworm resistance, as well as the transgenes conferring glyphosate resistance.

⁵Processors requirements must be considered. Consult the DE Extension Vegetable and Small Fruits Program for variety trial results at:

<http://extension.udel.edu/ag/vegetable-fruit-resources/vegetable-small-fruits-program/variety-trial-results/>.

F. Sweet Corn

Recommended Nutrients Based on Soil Tests

In addition to using the table below, check the suggestions on rate, timing, and placement of nutrients in your soil test report and chapter B Soil and Nutrient Management. Your state’s soil test report recommendations and/or your farm’s nutrient management plan supersede recommendations found below.

| Sweet Corn ^{1,2} | N (lb/A) | Soil Phosphorus Level | | | | Soil Potassium Level | | | | Nutrient Timing and Method |
|---------------------------|---------------------|--------------------------------------|-----|------------|------------------|-------------------------|-----|------------|------------------|---------------------------------------|
| | | Low | Med | High (Opt) | Very High | Low | Med | High (Opt) | Very High | |
| | | P ₂ O ₅ (lb/A) | | | | K ₂ O (lb/A) | | | | |
| Fresh Market | 125-175 | 160 | 120 | 80 | 0 ^{3,4} | 160 | 120 | 80 | 0 ^{3,4} | Total nutrient recommended |
| | 40-60 ⁵ | 120 | 100 | 60 | 0 ³ | 120 | 100 | 60 | 0 ³ | Broadcast and disk-in |
| | 20 | 40 | 20 | 20 | 0 ^{3,4} | 40 | 20 | 20 | 0 ^{3,4} | Band-place with planter |
| | 50-100 ⁵ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Sidedress when corn is 12 inches tall |
| Processing | 150-200 | 160 | 120 | 80 | 0 ^{3,4} | 160 | 120 | 80 | 0 ^{3,4} | Total nutrient recommended |
| | 55-80 | 120 | 100 | 60 | 0 ³ | 120 | 100 | 60 | 0 ³ | Broadcast and disk-in |
| | 20 | 40 | 20 | 20 | 0 ^{3,4} | 40 | 20 | 20 | 0 ^{3,4} | Band-place with planter |
| | 50-100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Sidedress 2 weeks after emergence |

¹Apply 1 to 2 lb/A of boron (B) with broadcast fertilizer; see also Table B-7. in chapter B Soil and Nutrient Management. ²Apply 20-30 lb/A of sulfur (S) for most soils. ³In VA, crop replacement values of 40 lb/A of P₂O₅ and 40 lb/A of K₂O are recommended on soils testing Very High. ⁴For early planting when soil temperatures are low, band 20 lb/A P₂O₅ and 20 lb/A K₂O when soil tests are Very High to facilitate early growth. ⁵On very sandy soils, reduce the amount of N applied via broadcast application and disked-in. Instead, split N applications to include an additional split when corn is 6 in. tall of 40 lb/A of N. So, N is applied with the broadcast fertilizer, at-planting in a band, when corn is 6 in. tall, and again when corn is 12 in. tall. In NJ, consult your Extension Agent for information on the approved pre-sidedress nitrate test.

Plant Tissue Testing

Plant tissue testing can be a valuable tool to assess crop nutrient status during the growing season to aid with in-season fertility programs or to evaluate potential deficiencies or toxicities. Critical sweet corn tissue test values for most recently matured leaves at the 30-inch growth stage are: N 2.5-4 %, P 0.2-0.4 %, K 2.5-4 %, 0.5-0.8 %, Mg 0.2-0.4 % and S 0.2-0.4 %. For additional nutrients and other growth stages consult with a tissue testing laboratory or check the following University of Florida website: <https://edis.ifas.ufl.edu/publication/ep081>.

Pre-Sidedress Soil Nitrogen Test (PSNT)

The PSNT was developed to determine the need for sidedress nitrogen (N) on corn. The PSNT is effective for soils with loamy-texture and high organic matter or where manure has been applied. Sandy soils with low organic matter are already known to have low N availability. Contact your county Extension Agent/Educator for information on sampling and using the PSNT (NJ and PA only).

Sweet Corn Genetics and Isolation Requirements

The tenderness of corn kernels is determined by the silk parent. However, kernel sweetness is determined by both the tassel and silk parents. If sweet corn is pollinated by field corn, popcorn or by certain other sweet corn varieties starchy kernels will form on the sweet corn ear. To isolate sweet corn from incompatible corn types or varieties plant at least 500 ft away from incompatible corn or time plantings so that there is at least a 12-day difference in silking time. All sweet corn must be isolated from field corn and popcorn. Among sweet corn varieties, Sugary Isolation Group varieties must be isolated from Supersweet Isolation Group varieties to prevent the formation of starchy kernels. Within the isolation groups, varieties of different types can be isolated to maximize the quality attributes of the variety (*i.e.*, isolate sugary enhanced from synergistic within the Sugary Isolation Group) The table below includes types and common brands in each isolation group.

| Sugary Isolation Group (SU ₁) | Supersweet Isolation Group (SH ₂) |
|--|---|
| normal (sugary) sugary enhanced/sugary enhancer synergistic Sweet Breed™ Triple Sweet™ Quadsweet™ | supersweet or shrunken augmented or augmented shrunken Multisweet™ Xtra-Tender |

Seed Treatment

Request that seed be treated with fungicides, see Disease Control below. For seed corn maggot and wireworm control, see Insect Control below. Super sweet (sh₂) varieties are more difficult to establish than other types. Handle seeds gently and use plateless planters to prevent seed damage. Soil temperature and soil moisture should be optimal to reduce seed decay and obtain good stands.

Seeding and Spacing

Sow in rows 30-36 inches apart and at a depth of 1-1.5 inches. First sowing is as early as late March for warmer regions of the Mid-Atlantic, and on sandy soils, and as late as early May in cooler regions. Fresh market growers often plant successively through July to ensure continuity of supply. Use varieties that are resistant to frost and chilling injury for early plantings.

Fresh Market:

Small-eared early varieties are sown at an in-row spacing of 8-10 inches. Larger-eared mid- and late-season varieties are planted at an in-row spacing of 10-12 inches. This equates to planting densities ranging from 14,500-22,000/A.

Processing:

The recommended planting density is usually 22,000-24,000/A, though some varieties may be planted at densities of up to 30,000/A. Consult the seed company for the target density that best maximizes crop yield and quality.

Mulching

Using clear plastic mulch as a row cover can improve stands, conserve moisture, and result in earlier maturity. Corn is seeded in the usual manner except 10-20 days earlier in double rows 14 inches apart and on 5-6 ft centers. Apply herbicide and then cover with clear plastic. Using ridges between double rows or wire hoops allows space for corn seedlings to grow vertically. Allow plastic to remain over plants for 30 days after emergence, then cut and remove plastic from the field. Plants can then be grown out in the usual manner. It is recommended that the soil is tested for nematodes. If present, control measures are necessary before the above procedure can be used. Clear plastic will allow weeds to germinate and grow quickly, and preemergence herbicides should be used under the plastic. Otherwise, weeds become too large to be effectively controlled with herbicides after the plastic is removed. Use a cold-tolerant variety to avoid uneven stand and uneven vigor. Sweet corn can also be grown by planting as seed or transplants through black plastic or IRT mulch in early plantings using plastic mulch planters.

Harvest and Handling

Fresh Market:

Harvesting sweet corn at the proper stage is critical for its sweetness and tenderness. In the field, sweet corn stays in prime condition for only 1-2 days. As the ear reaches prime condition the silks begin to dry down, the husk fills out with plump kernels, and the kernels exude a milky liquid when punctured with the thumbnail. Ear tips should be filled. Sweet corn approaches maturity 18-22 days after silking and should be picked daily, preferably early in the morning at low field heat. After prime harvest time, sugars in the kernel convert to starch and the hull becomes tough. Supersweet varieties maintain sweetness longer than other varieties and extra tender varieties maintain eating quality for a longer period.

Sweet corn may be harvested by hand or mechanically. Handpicking is done by grasping the ear near the base and sharply twisting it downward. Mechanical harvesters are more efficient; however, the entire crop is picked when primary ears are ready, and any secondary ears will not be marketable.

Corn is normally piled on a wagon in the field or is put in baskets or bins and then graded/packed at a nearby packing area. Sweet corn should be trimmed uniformly to eliminate flag leaves and long shanks. If left on the ear, they will cause packaging problems and induce further moisture loss. Objectionable kernel denting may occur from a moisture loss of 2% or less. Only first-quality sweet corn devoid of defects and of uniform maturity, color, shape, and size should be selected and packed. Any ears exhibiting signs of disease or mechanical or insect damage should be discarded along with any ears that lack adequate shuck coverage.

For optimum sweetness and tenderness, sweet corn should be cooled immediately after harvest and kept near 32°F (0°C). Hydrocooling is the most efficient and effective cooling method. Corn is immersed in ice cold water, which quickly removes all field heat. Hydrocooling is recommended for sweet corn that is shipped long distance. For smaller growers and short distance shippers, ice can be added to the crate (or burlap bags) during packing;

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1 lb ice/5 lb corn is usually sufficient. Ice can also be blown on top of the crates when placed in a cooler or refrigerated truck. Sweet corn placed in cold storage before being pre-cooled will not retain freshness for nearly as long as hydrocooled or iced sweet corn.

Sweet corn for shipping is most commonly packaged in wire bound crates or perforated wax boxes. Pallet or bin boxes are sometimes used, however, corn packed in this manner will be hard to cool completely and ears will heat up in the center of the bin from respiration. Burlap bags may be used for local shipments.

Processing Sweet Corn:

Supersweet (sh₂) processing varieties have a much higher sugar content than the su or se varieties used in the past and maintain their sugar content longer after harvest. Supersweet varieties are harvested at 72-75% moisture, with harvest timing determined by the processing company.

Weed Control

THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of Chapter F. Recommended Herbicides

1. Identify the weeds in each field and select recommended herbicides. More information is available in the "Herbicide Effectiveness on Common Weeds in Vegetables" (Table E-3) in Chapter E Pest Management.
2. Minimize herbicide resistance development. Identify the herbicide mode of action group number and follow recommended good management practices; **bolded group numbers in tables below are herbicides at higher risk for selecting resistant weed populations.** Include non-chemical weed control whenever possible.

| 1. Non-Selective or Burndown | | | | | | |
|--|---|--------------------------------------|-------------------|--------------------------------------|------------|------------|
| Group | Product Name (*= Restricted Use) | Product Rate | Active Ingredient | Active Ingredient Rate | PHI (d) | REI (h) |
| 9 | Roundup PowerMax3 4.8L "Generic" glyphosate 3L | 19 to 29 fl oz/A 24 to 48 fl oz/A | glyphosate | 0.75 to 1.13 lb acid equivalent/A | -- | 4 |
| -Apply before or after seeding but before crop emergence. (Ensure planter slits are fully closed if applying after planting.) -Tank mix with other herbicides (see table below) for enhanced burndown and/or residual weed control. -Glyphosate controls many perennial weeds as well as annuals if applied when the weed is actively growing and has reached the stage of growth listed on the label. -Glyphosate may be applied in clear liquid nitrogen fertilizers and clear liquid complete-analysis fertilizers, but it may be less effective on certain annual grasses and perennials. Do not use glyphosate with suspension-type liquid fertilizers. -Repeat applications are allowed, with maximum application of 5.3 qt/A per year. | | | | | | |
| 22 | Gramoxone SL 3.0* | 1.7 to 2.7 pt/A | paraquat | 0.6 to 1 lb/A | -- | 24 |
| -Apply before or after seeding but before crop emergence. (Ensure planter slits are fully closed if applying after planting.) Tank mix with other herbicides (see table below) for enhanced burndown and/or residual weed control. Paraquat may not control established grasses. -Apply in 20 to 60 gal/A for control of emerged annual weeds. Spray coverage is essential for optimum control. -Add 16 to 32 oz non-ionic surfactant/100 gal of spray. -Phosphate-containing liquid fertilizer solutions diminish paraquat activity if used as a carrier. -Use appropriate precautions when handling paraquat to minimize exposure to the herbicide. Do not use flood jet tips larger than size 20 or spacing greater than 40 inches. -Rainfastness 30 min. -A maximum of 3 applications per year are allowed. - Restricted-use pesticide. Only certified applicators, who successfully complete the paraquat-specific training, can mix, load, or apply paraquat. Application of paraquat "under the direct supervision" of a certified applicator is no longer allowed. Required training link (https://campus.extension.org/enrol/index.php?id=2201); certified applicators must repeat training every three years. | | | | | | |

| 2a. Soil-Applied (Preplant Incorporated or Preemergence) | | | | | | |
|--|---|------------------------------|----------------------|---------------------------------------|------------|------------|
| Group | Product Name (*= Restricted Use) | Product Rate | Active Ingredient | Active Ingredient Rate | PHI (d) | REI (h) |
| 3 | Prowl 3.3EC Prowl H2O 3.8CS | 1.8 to 4 pt/A 2 to 4 pt/A | pendimethalin | 0.75 to 1.65 lb/A 0.95 to 1.9 lb/A | -- | 24 |
| -Controls several common annual grasses and broadleaves but does not control yellow nutsedge and ragweed. -Plant corn at least 1.5 inches deep to avoid Prowl injury; however most sweet corn seeds need to be seeded less than 1 inch for optimum emergence. - Do not incorporate. Must be applied after planting up until corn reaches 30 inches tall. -Preemergence applications can injure corn. Delaying application until spike stage helps maximize crop safety. -Prowl H2O and Satellite HydroCap are water-based capsule suspension formulations that provides similar weed control as the older 3.3EC product but causes less staining and odor. Other generic pendimethalin products are available. | | | | | | |

2a. Soil-Applied (Preplant Incorporated or Preemergence) - continued next page

2a. Soil-Applied (Preplant Incorporated or Preemergence) - continued

| | | | | | | |
|---|--|--|--|--|----|----|
| 5 | Atrazine 4L* | 1.0 to 1.5 qt/A | atrazine | 1.0 to 1.5 lb/A | -- | 12 |
| <p>-Primarily controls broadleaf weeds and provides some suppression of annual grasses. Mostly used in combination with other herbicides, especially acetamides. Some prepackaged mixture examples include Bicep II Magnum*, Harness Xtra*, and Keystone NXT*.</p> <p>Atrazine Use Restrictions</p> <p>-Preplant or Preemergence: On highly erodible soils (as defined by the U.S. Natural Resources Conservation Service): -Fields where more than 30% of the soil surface is covered with plant residue at planting, apply a maximum of 2 lb/A of active ingredient as a broadcast spray. Fields where less than 30% of the soil surface is covered with plant residue at planting, apply a maximum of 1.6 lb/A of active ingredient as a broadcast spray.</p> <p>-Postemergence: If no atrazine was applied prior to crop emergence, use a maximum rate of 2 lb/A of active ingredient. If a soil-applied application was made in the same calendar year, the combined preplant or preemergence and postemergence applications may not exceed 2.5 lb/A of active ingredient.</p> <p>Safety Precautions for Using Atrazine</p> <p>-Do not mix, load, or apply within 50 ft of drinking water wells, livestock wells, agricultural drainage wells, irrigation wells, abandoned wells, or sinkholes. Do not mix or load within 50 ft of intermittent streams, perennial streams, rivers, lakes, or reservoirs.</p> <p>-Do not apply within 200 ft of lakes or reservoirs. Do not apply within 66 ft of the points where surface water runoff enters intermittent streams, perennial streams, or rivers. The 66-ft buffers should be planted to a crop or seeded with grass on highly erodible land.</p> | | | | | | |
| 15 | Dual II Magnum 7.64E | 1.0 to 2.0 pt/A | s-metolachlor | 0.96 to 1.91 lb/A | 30 | 24 |
| <p>-Dual II Magnum are similar in activity to Harness, Outlook, and Surpass NXT. Dual II Magnum contains a crop-safening agent. Primarily controls annual grasses, controls, or suppresses yellow nutsedge, and suppresses certain broadleaf weeds.</p> <p>-Use preplant incorporated to improve yellow nutsedge control. Combine with atrazine to improve control of most broadleaf weeds.</p> <p>-Also commonly sold as prepackaged mixture with atrazine: Bicep II Magnum 5.5L* at 2.1 qt/A = 1.3 pt Dual II Magnum 7.64E + 1.6 qt atrazine 4L Bicep Lite II Magnum 6L* at 1.3 qt/A = 1.13 pt Dual II Magnum 7.64E + 0.9 qt atrazine 4L Other premix includes (S-metolachlor plus Shieldex [tolpyralate]), do not apply to emerged sweet corn.</p> <p>-Other generic versions of metolachlor and s-metolachlor may be available, and may or may not be labeled for use in the crop and may or may not include the safener for corn.</p> | | | | | | |
| 15 | Harness 7E Surpass NXT 7E | 1.25 to 2.75 pt/A 1.5 to 3 pt/A | acetochlor | 1 to 2.4 lb/A 1.09 to 2.6 lb/A | -- | 12 |
| <p>-Acetochlor products can be applied preplant incorporated or preemergence but prior to weed emergence, and before corn height exceeds 11 inches. Control many annual grasses and yellow nutsedge as well as certain small-seeded broadleaves.</p> <p>-Check label for specific rate depending on soil type and organic matter. Also commonly sold as prepackaged mixture with atrazine: Harness Xtra* 5.6L at 2.5 qt/A = 2.2 pt Harness 7E + 1.6 qt atrazine 4L Degree Xtra* 4.04ME at 3 qt/A = 4.3 pt Degree 3.8ME + 1 qt atrazine 4L Keystone NXT* 5.6SE at 2.5 qt/A = 2.2 pt Surpass NXT 7E + 3 pt atrazine 4L</p> <p>-Other products and formulations may be available, including the premix Restraint (acetochlor plus Shieldex [tolpyralate]). Do not apply Restraint to emerged corn.</p> | | | | | | |
| 15 | Outlook 6E | 10 to 21 fl oz/A | dimethenamid | 0.47 to 0.98 lb/A | 50 | 12 |
| <p>-Outlook is similar in activity to Dual, and Harness. -Primarily controls annual grasses, controls, or suppresses yellow nutsedge, and suppresses certain broadleaf weeds. Local data has shown sweet corn injury with Outlook applied preemergence on coarse-textured soils. Outlook may be applied preemergence on up to 12-inch-tall corn prior to weed emergence.</p> <p>-Incorporation improves control of yellow nutsedge.</p> | | | | | | |
| 15 | Zidua 85WG Zidua SC 4.17L Anthem Flex Anthem Maxx 4.3SE | 1.5 to 4oz/A 1.75 to 6.5 fl oz/A 3.5 to 6 fl oz/A 3 to 6 fl z/A | pyroxasulfone (± carfentrazone or fluthiacet) | 0.06 to 0.21 lb/A 0.06 to 0.21 lb/A 0.1 to 0.17 0.1 to 0.2 lb/A | 37 | 12 |
| <p>-Zidua contains the single active ingredient pyroxasulfone. Anthem Flex contains carfentrazone (Aim) and Anthem Maxx contains fluthiacet (Cadet). However, carfentrazone or fluthiacet do not provide any residual weed control. Pyroxasulfone has annual grass activity similar to Dual, Harness, Outlook, Surpass, etc., but also provides good control of several annual broadleaves. These herbicides can be applied preplant (surface or incorporated) up to 45 d before planting or preemergence. Rates can be adjusted for soil type or 2-pass application programs. Corn must be planted at least 1 inch deep.</p> <p>-These herbicides can be tank mixed with atrazine or other corn herbicides to broaden weed control spectrum.</p> <p>-Do not apply Anthem Flex or Anthem Maxx on coarse-textured soils, or medium-textured soils with less than 2% organic matter.</p> <p>-Stunting has been observed with pyroxasulfone on coarse-textured soils. -Prepackaged mixture that also contain pyroxasulfone for pre- and postemergence use: Maverick 2.04SC at 14 fl oz/A = 2.3 fl oz/A Zidua SC + 2.9 fl oz/A Callisto 4SC + 2.4 fl oz/A Stinger 3S</p> | | | | | | |
| 27 | Callisto 4SC | 5.3 to 7.7 fl oz/A | mesotrione | 0.166 to 0.24 lb/A | 45 | 12 |
| <p>-Primarily controls common lambsquarters and many other annual broadleaf weeds, including triazine resistant biotypes, but Callisto is weak on ragweed and morningglory species. Typically combined with other herbicides to improve control of grasses and broaden broadleaf spectrum. (See comments under Lumax, Lexar, and Acuron for more details about these prepackaged mixtures.) Other premixes with mesotrione include Calibra, Coyote, and Maverick.</p> <p>-Cold weather that slows corn growth will also retard recovery from injury following preemergence treatments.</p> <p>-Sweet corn varieties differ in sensitivity to mesotrione. -Severe crop injury may occur if an organophosphate or carbamate insecticide is applied within 7 days of Callisto. -See the sweet corn section of the Callisto label for additional use precautions.</p> | | | | | | |

2a. Soil-Applied (Preplant Incorporated or Preemergence) - continued next page

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2a. Soil-Applied (Preplant Incorporated or Preemergence) - continued)

| | | | | | | |
|---|--|--|---|--|----|----|
| 27, 15, 5 | Lexar EZ 3.7SC* Lumax EZ 3.67SC* Acuron 3.44SC* Acuron Flexi 3.26SC | 3 to 3.5 qt/A 2.7 to 3.25 qt/A 2.5 to 3 qt/A 2 to 2.25 qt/A | mesotrione + s-metolachlor + atrazine (± bicyclopyrone) | 2.78 to 3.24 lb/A 2.48 to 2.98 lb/A 2.15 to 2.58 lb/A 1.63 to 1.83 lb/A | 45 | 24 |
| <p>-Lexar EZ and Lumax EZ are mixtures of s-metolachlor (Dual II Magnum), mesotrione (Callisto), and atrazine. -Acuron contains the same active ingredients as Lumax/Lexar with the addition of another Group 27 herbicide, bicyclopyrone. In general, it controls a broader weed spectrum and is better on ragweed, cocklebur, and annual morningglory, and effective on many annual broadleaves and some grasses compared to Lumax/Lexar. -The typical use rates in all tillage systems are 3 qt/A Lexar EZ, 2.7 qt/A Lumax EZ, and 2.5 qt/A Acuron. These products may be applied broadcast on up to 12-inch-tall corn, but prior to annual grass emergence. -Do not apply more than 3.5 qt/A Lexar EZ, 3.25 qt/A Lumax EZ, 3 qt/A Acuron or 2.25 qt/A Acuron Flexi per growing season. -Sweet corn varieties differ in sensitivity to mesotrione. -Do not apply Lexar, Lumax, or Acuron early POST if the corn was treated with Counter insecticide. -Do not tank mix Lexar, Lumax, or Acuron with organophosphate (OP) or carbamate insecticides and apply as a foliar POST application. Do not make a foliar POST application of any OP or carbamate insecticide within 7 days before or 7 days after a Lexar EZ, Lumax EZ, or Acuron application, or severe corn injury may occur. Corn, soybeans, small grains, and sorghum may be planted in the spring following Lexar EZ, Lumax EZ, or Acuron application. Zemax is similar to Lumax EZ but contains no atrazine. The typical use rate is 2 qt/A. -Do not apply any of these herbicides postemergence in sweet corn.</p> | | | | | | |
| 27, 15, 5 | Storen | 2.1 to 2.4 qt/A | mesotrione + s-metolachlor + pyroxasulfone + bicyclopyrone | 0.163 to 0.186 lb/A 1.14 to 1.61 lb/A 0.08 to 0.09 lb/A 0.039 to 0.045 lb/A | 45 | 24 |
| <p>-Improved fall panicum control compared to Lexar, Acuron products -Broadleaf weed control is improved with the addition of atrazine. -See comments for individual products in this table. -Do not apply to emerged sweet corn.</p> | | | | | | |

2b. Application Timing for Use of Soil-Applied Herbicides on Emergence Corn

| Herbicide (*=Restricted Use) | Timing | Premix Herbicides (*=Restricted Use) | Timing |
|---------------------------------|------------------------------|---|-----------------|
| Prowl 3.3 E / Prowl H20 | up to 24 inches or V8* | Bicep* | up to 12 inches |
| Atrazine* | before corn is 12 inches | Harness Xtra* | not allowed |
| Dual II Magnum | up to 40 inches | Keystone NXT* | not allowed |
| Harness 7E | before corn is 12 inches | Acuron* | not allowed |
| Surpass NXT | not allowed | Acuron Flexi | not allowed |
| Outlook | before corn is 12 inches | Lexar* | not allowed |
| Zidua | up to V4 stage | Lumax* | not allowed |
| Anthem Flex / Anthem Max | through the V4 stage | Storen | not allowed |
| Callisto | up to 30 inches or 8 leaves* | Maverick | Up to V6 |

*Use whichever criteria is more restrictive

3a. Postemergence

| Group | Product Name (*=Restricted Use) | Product Rate | Active Ingredient | Active Ingredient Rate | PHI (d) | REI (h) |
|--|------------------------------------|--------------|---------------------|------------------------|------------|------------|
| 2 | Accent Q 54.5WG | 0.9 oz/A | nicosulfuron | 0.031 lb/A | -- | 4 |
| <p>-Apply as a broadcast or with drop nozzles as a directed spray as an early postemergence rescue treatment to control emerged annual grasses. Treat sweet corn with a broadcast spray or with drop nozzles as a directed spray up to 18 inches tall or up to and including 6 leaf collars (V6). -Do not treat sweet corn more than 18 inches tall to control many annual grasses and certain annual broadleaf weeds. -Tank mix with atrazine to increase the spectrum of weeds controlled. -Add nonionic surfactant to be 0.25% of the spray solution (1 qt/100 gal of spray solution). -Accent Q is safe to apply to certain varieties but injures or kills others. Contact your DuPont Crop Protection Sales Representative for information on local sweet corn varieties that have been evaluated for tolerance to Accent Q. -Do not use if organophosphate (OP) insecticides have been applied to the crop or tank mix with bentazon (Basagran) or the risk of crop injury may increase. -Do not tank mix with 2,4-D otherwise grass control will be reduced. -Accent Q is an ALS inhibitor, Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. -Do not make more than one application of Accent Q per year. The following prepackaged mixture also contains nicosulfuron: Revulin Q 51.2WG at 4 oz/A= 1.1 oz/A Accent Q 54.5WG + 3 fl oz/A Callisto 4SC -Rainfastness is 4 h.</p> | | | | | | |

3a. Postemergence - continued next page

3a. Postemergence - continued

| | | | | | | |
|--|----------------------------|----------------------------------|---------------|---------------------|----|----|
| 2 | Sandea 75DF Permit 75DF | 0.5 to 0.66 oz/A | halosulfuron | 0.023 to 0.031 lb/A | 30 | 12 |
| <p>-Apply to control yellow nutsedge and broadleaf weeds, including common cocklebur, redroot pigweed, smooth pigweed, ragweed species, and velvetleaf. Sandea/Permit applied postemergence will not control common lambsquarters or eastern black nightshade and will only suppress morningglory species. -Spray before corn reaches 8" in height or use drop nozzles when corn is over 8" tall to avoid spraying the foliage and into the whorl. -Always add nonionic surfactant to be 0.25% of the spray solution (1 qt/100 gal). -Corn varieties may vary in sensitivity to Sandea. Use caution when treating new varieties. Do not apply to "Jubilee". -Do not use if organophosphate (OP) insecticides have been applied to the crop, or the risk of crop injury may increase. -Sandea is an ALS inhibitor, Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. -Rainfastness is 4 h.</p> | | | | | | |
| 4 | 2,4-D amine 4L | 0.5 to 1.0 pt/A | 2,4-D amine | 0.25 to 0.5 lb/A | 45 | 48 |
| <p>-Apply after corn and weeds emerge. Use drop nozzles when corn is over 8" tall to avoid spraying the foliage or into the whorl. -Warm, wet weather at application may increase the possibility of crop injury. Use the lower recommended rate under these conditions. -Delay cultivation for 8-10 days after treatment to avoid damaging corn due to temporary brittleness sometimes caused by 2,4-D. -Sweet corn varieties differ in 2,4-D tolerance. Super sweet varieties may be more sensitive than other varieties. Injury will be less when the minimum recommended rate is used. Use with caution on new varieties. At high rates, 2,4-D may cause temporary injury to corn. -Do not apply from tasseling to dough stage. Ester formulations, although labeled, are more subject to volatilization and movement to sensitive crops and are not recommended. Rainfastness is 6 to 8 h.</p> | | | | | | |
| 4 | Starane Ultra 2.8L | 0.4 pt/A | fluroxypyr | 0.14 lb/A | 31 | 12 |
| <p>-Apply in 1 or 2 applications to control certain annual and perennial broadleaf weeds when sweet corn is less than V5 growth stage. -Starane Ultra has a limited control spectrum but the label lists weeds such as chickweed, cocklebur, ragweed, purslane, bindweed, dogbane, morningglory, and velvetleaf. Starane can cause poor development of brace roots. Rainfastness is 1 h. -Maximum Starane Ultra application per year: 0.7 pt/A and no more than 2 applications per crop season.</p> | | | | | | |
| 4 | Stinger 3SL | 5.3 to 10.5 fl oz/A | clpyralid | 0.125 to 0.25 lb/A | 30 | 12 |
| <p>-Apply in 1 or 2 applications to control certain annual and perennial broadleaf weeds when sweet corn is less than 18 inches tall. -Stinger controls weeds in the Composite and Legume plant families. Common annuals controlled include galinsoga, ragweed species, common cocklebur, groundsel, pineappleweed, clover, and vetch. Perennials controlled include Canada thistle, goldenrod species, aster species, and mugwort (wild chrysanthemum). Stinger is very effective on small seedling annual and emerging perennial weeds less than 2-4 inches tall but is less effective and takes longer to work when weeds are larger. -Use 5.3 fl oz/A to control annual weeds less than 3 inches tall. Increase the rate to 5.3 to 10.5 fl oz/A to control larger annual weeds. Apply the maximum rate of 10.5 fl oz/A, in 1 or split into 2 applications to suppress or control perennial weeds. -Spray additives are not needed or required by the label and are not recommended. Observe follow-crop restrictions, or injury may occur from herbicide carryover. -Rainfastness is 6 h. Maximum Stinger application per year: 10.5 fl oz/A. -Prepackaged mixture that also contain clopyralid for postemergence use: Maverick 2.04SC at 14 fl oz/A = 2.3 fl oz/A Zidua SC + 2.9 fl oz/A Callisto 4SC + 2.4 fl oz/A Stinger 3S</p> | | | | | | |
| 5 | Atrazine 4L* | 1.0 to 2.0 qt/A | atrazine | 1.0 to 2.0 lb/A | -- | 12 |
| <p>-Primarily controls broadleaf weeds. Apply postemergence when weeds are less than 2 inches tall. Add oil concentrate to be 1% of the spray solution. Do not apply if corn is greater than 12" tall -Do not exceed the maximum rate per acre per year listed on the label for your soil's erodibility class. -ATRAZINE RESTRICTIONS: Refer to "Atrazine Use Restrictions" in the Soil-applied section above. -When this and other atrazine treatments are used, do not double-crop during this season. Cover crops after corn are satisfactory providing the recommended rate of atrazine is not exceeded. Mold-board plowing before planting grain or vegetables the following spring will minimize the risk of atrazine residue injury. See label for specific crop rotation restrictions. -Rainfastness is 1 to 2 h.</p> | | | | | | |
| 6 | Basagran 4L Basagran 5L | 1 to 2.0 pt/A 0.8 to 1.6 pt/A | bentazon | 0.5 to 1.0 lb/A | -- | 48 |
| <p>-See label for susceptible broadleaf weeds; results are better when weeds are young. Basagran will provide partial control of yellow nutsedge. Basagran will not control grasses or pigweeds. Cultivation within 10-14 days will increase control. Rainfastness is 4 h.</p> | | | | | | |
| 14 | Aim 2EC | 0.5 fl oz/A | carfentrazone | 0.008 lb/A | -- | 12 |
| <p>-Apply before corn reaches 8 inches in height to control seedling broadleaf weeds including pigweeds, common lambsquarters, morningglory species, eastern black nightshade, and velvetleaf. Aim will not control ragweed species nor Palmer amaranth. -Tank mix with atrazine at reduced rates or another broadleaf weed herbicide to increase the spectrum of weeds controlled. Do not tank mix with Basagran due to concerns for crop safety. Always add nonionic surfactant to be 0.25% of the spray solution (1.0 qt/100 gal of spray solution). Expect to see speckling on the crop foliage after application. Initially the injury may appear to be substantial, but it is not systemic, and corn outgrows the injury rapidly. -Variety sensitivity to Aim may vary. Use caution when treating new varieties. Weather conditions may affect the degree of injury observed. Injury may be more severe during periods of warm, cloudy weather with high humidity and plentiful soil moisture when corn growth is rapid and "soft." To reduce the risk of crop injury, use drop nozzles when corn is over 8 inches tall to avoid spraying the foliage and into the whorl. Rainfastness is 1 h.</p> | | | | | | |
| 14 | Cadet 0.91EC | 0.6 to 0.9 fl oz/A | fluthiacet | 0.004 to 0.006 lb/A | 40 | 12 |
| <p>-Apply before corn is 48 inches tall or prior to tasseling. While Cadet has a wide application window, it will only control weeds less than 2 inches tall, except velvetleaf which is very sensitive to Cadet. Cadet should not be tank mixed with Basagran due to concerns of crop safety. See comments for carfentrazone above. Rainfastness is 1 h.</p> | | | | | | |

3a. Postemergence - continued next page

F. Sweet Corn

3a. Postemergence - continued

| | | | | | | |
|--|-------------------------------|--|-------------|--|----|----|
| 27 | Callisto 4SC | 3.0 fl oz/A | mesotrione | 0.094 | 45 | 12 |
| <p>-Primarily controls common lambsquarters and many other annual broadleaf weeds, including triazine resistant biotypes, but Callisto is weak on ragweed and morningglory species.</p> <p>-Always add nonionic surfactant to be 0.25% of the spray solution (1 qt/100 gal of spray solution), but do not add oil concentrate, liquid fertilizer, or ammonium sulfate (AMS), or tank mix Callisto and bentazon (Basagran), or severe crop injury may be observed. Temporary minor injury, appearing as whitening of the new foliage, may occur. The crop will quickly outgrow minor injury with no effect on yield or earliness.</p> <p>-Tank mix with 0.25 to 1.0 lb ai/A of atrazine for improved control and to broaden the spectrum of weed control. Research results support the use of at least 0.5 lb ai/A of atrazine. Do not apply tank mixes of Callisto and atrazine to corn greater than 12 inches tall.</p> <p>-Sweet corn varieties differ in sensitivity to mesotrione. Most varieties may exhibit slight injury symptoms. Certain varieties are tolerant while others exhibit more noticeable injury. No variety was severely injured by the recommended rates applied with nonionic surfactant.</p> <p>-Do not tank mix Callisto with organophosphate or carbamate insecticides or apply if the crop was treated with Counter, or severe crop injury may occur. See the sweet corn section of the Callisto label for additional use precautions.</p> <p>-Prepackaged mixture that also contain mesotrione for postemergence use: Revulin Q 51.2WG at 4 oz/A = 1.1 oz/A Accent Q 54.5WG + 3 fl oz/A Callisto 4SC Calibra or Coyote = S-metolachlor plus mesotrione. Maverick 2.04SC at 14 fl oz/A = 2.3 fl oz/A Zidua SC + 2.9 fl oz/A Callisto 4SC + 2.4 fl oz/A Stinger 3S</p> <p>-Rainfastness is 1 h.</p> | | | | | | |
| 27 | Shieldex 400SC (3.33SC) | 1.0 to 1.35 fl oz | tolpyralate | 0.026 to 0.035 lb/A | 35 | 12 |
| <p>-Primarily controls common lambsquarters and many other annual broadleaf weeds, including triazine resistant biotypes, but Shieldex is weak on morningglory species.</p> <p>-Label recommends methylated seed oil over nonionic surfactant or crop oil concentrate. Use MSO at 0.5 to 1% of the spray solution (0.5 to 1 gal/100 gal of spray solution); NIS at 0.25 to 0.5% (1 to 2 qt/100 gal of spray solution); COC at 1% (1 gal/100 gal of spray solution). Use 2.5 gal/100 gal of liquid fertilizer or ammonium sulfate (AMS) at 8.5 lb/100 gal.</p> <p>-Tank mix with 0.25 to 1.0 lb ai/A of atrazine for improved control and to broaden the spectrum of weed control. Research results support the use of at least 0.5 lb ai/A of atrazine. Do not apply tank mixes of Shieldex and atrazine to corn greater than 12 inches tall.</p> <p>-Shieldex rotation to snap beans, peas, cucurbits, and other vegetables is 9 to 12 months, refer to label.</p> <p>-Do not apply more than two applications during the growing season; applications should be separated by 14 days; maximum rate of 2.7 fl oz/yr. Rainfastness is 1 h.</p> | | | | | | |
| 27 | Armezon 2.8SC Impact 2.8SC | 0.75 to 1.0 fl oz/A 0.75 to 2.0 fl oz/A | topramezone | 0.016 to 0.022 lb/A 0.016 to 0.044 lb/A | 45 | 12 |
| <p>-Note that maximum rates differ between Armezon and Impact.</p> <p>-Apply postemergence to control many annual broadleaf weeds, including common lambsquarters and triazine-resistant broadleaf weed biotypes, and annual grasses. Impact/Armezon will control/suppress crabgrass and most other annual grass species but may not control certain grass species or grasses larger than the maximum recommended size when treated. Most broadleaf weeds should be treated before they are 6 inches tall and grass weeds should be treated before they are 2 inches tall. Use the higher recommended rate to suppress or control panicum species or in rescue applications where the target weeds have grown beyond the size indicated on the label.</p> <p>-Add oil concentrate (COC) to be 1% of the spray solution (1 gal/100 gal of spray solution). In addition, the label requires N fertilizer, liquid or ammonium sulfate (AMS).</p> <p>-Tank mix with 0.25 to 1.0 lb ai/A of atrazine for improved control and to broaden the spectrum of weed control. Research results support the use of at least 0.5 lb ai/A of atrazine. Do not apply tank mixes of Impact/Armezon and atrazine to corn greater than 12 inches tall.</p> <p>-Local research has not seen issues with postemergence application if mesotrione (e.g., Callisto, Lumax, Lexar, Acuron) was used preemergence; however not all sweet corn hybrids have been tested. -Do not tank mix with Callisto. -Impact/Armezon has an 18-month replant restriction for most vegetables.</p> <p>-Armezon: do not apply more than 1 fl oz/A during the growing season. Impact: do not apply more than 2 fl oz/A during the season.</p> <p>-Rainfastness is 1 h.</p> <p>-Prepackaged mixture that also contains topramezone: Armezon PRO 5.35EC at 24 fl oz/A = 0.76 fl oz/A Armezon 2.85SC (or Impact) + 18 fl oz/A Outlook 6E</p> | | | | | | |
| 27 | Laudis | 3.0 fl oz/A | tembotrione | 0.082 lb/A | -- | 12 |
| <p>-Apply postemergence to control many annual broadleaf weeds, including common lambsquarters and triazine-resistant broadleaf weed biotypes, and many annual grasses. Laudis will control/suppress most annual grass species but may not control certain grass species or grasses larger than the maximum recommended size when treated. Fall panicum is not controlled. Most broadleaf weeds should be treated before they are 6 inches tall and grass weeds should be treated before 2 inches in height and before V7 sweet corn growth stage.</p> <p>-Add methylated seed oil (MSO) or concentrate (COC) to be 1% of the spray solution (1.0 gal/100 gal of spray solution). In addition, the label requires the addition of N liquid fertilizer (1.5 qt/A) or ammonium sulfate (AMS) (1.5 lb/A).</p> <p>-Tank mix with 0.25 to 1.0 lb ai/A of atrazine for improved control and to broaden the spectrum of weed control. Research supports the use of at least 0.5 lb ai/A of atrazine. Do not apply tank mixes of Laudis and atrazine to corn greater than 12 inches tall.</p> <p>-Local research has not seen issues with postemergence application if mesotrione (e.g., Callisto, Lumax, Lexar, Acuron) was used preemergence; however not all sweet corn hybrids have been tested.</p> <p>-Do not tank mix with Callisto. -Laudis has up to an 18-month replant restriction for many vegetables.</p> <p>-Rainfastness is 1 h. Do not apply more than 1 application per growing season</p> | | | | | | |

| 3.b. Postemergence for Herbicide Resistant Sweet Corn Varieties ONLY! | | | | | | |
|---|---|----------------------------|------------------------------|-----------------------------------|------------|------------|
| Group | Product Name (*=Restricted Use) | Product Rate | Active Ingredient | Active Ingredient Rate | PHI (d) | REI (h) |
| 1 | Poast 1.5EC | 0.75 to 1.5 pt/A | sethoxydim | 0.15 to 0.3 lb/A | 30 | 12 |
| <p>-USE ONLY ON "POAST PROTECTED" SWEET CORN! Other sweet corn varieties will be severely injured or killed.</p> <p>-Use 1% crop oil concentrate (COC) at 1% v/v (1 gal/100 gal of spray solution).</p> <p>-The use of COC may increase the risk of crop injury when hot or humid conditions prevail. To reduce the risk of crop injury, omit additives or switch to nonionic surfactant (NIS) when grasses are small and soil moisture is adequate.</p> <p>-Use lower labeled rates for annual grass control and higher labeled rates for perennial grass control.</p> <p>-Yellow nutsedge, wild onion, wild garlic, and broadleaf weeds will not be controlled.</p> <p>-Controls many annual and certain perennial grasses. For best results, treat annual grasses when they are actively growing, before tillers are present. Control may be reduced if grasses are large or under hot dry weather conditions.</p> <p>-Repeated applications may be necessary to control certain perennial grasses. If repeat applications are necessary, allow 14 days between applications. -Do not tank mix with or apply within 2 to 3 days of any other pesticide, unless labeled, as this may increase the risk of crop injury or reduce the control of grasses. Rainfastness is 1 h.</p> <p>-Do not exceed more than 3pt/A Poast per season. -Refer to Poast label for additional application guidelines.</p> | | | | | | |
| 9 | Roundup PowerMax3 4.8L (or other labeled generic formulation) | 15 to 20 fl oz/A | glyphosate | 0.56 to 0.75 lb acid equivalent/A | 30 | 4 |
| <p>-USE ONLY ON "ROUNDUP READY" SWEET CORN! Other sweet corn varieties will be severely injured or killed.</p> <p>-When sweet corn is 30 to 48 inches tall, apply only using a ground application fitted with drop nozzles.</p> <p>-Apply before weeds exceed 4 inches in height. Treat 3-4 weeks after planting when growing conditions are favorable. Perennial weeds must be treated at the proper growth stage to obtain effective control (see label for application time and rate).</p> <p>-Tank mix glyphosate with Dual II Magnum for residual annual grass control and atrazine for residual annual broadleaf control.</p> <p>-Rainfastness is 6 h. Observe all rate restrictions and Pre-harvest Intervals for all products. Do not apply more than 40 fl oz/A in a single application and before 48" tall corn and more than 3.8 qt/A total of all in-crop applications.</p> | | | | | | |
| 10 | Liberty Ultra 1.76L Scout 2.34L Interline 2.34L | 14.7 fl oz/A 22 fl oz/A | L-glufosinate glufosinate | 0.2 lb/A 0.4 lb/A | 50 | 4 |
| <p>-USE ONLY ON "LIBERTY LINK" (ATTRIBUTE OR ATTRIBUTE II) SWEET CORN! Other sweet corn varieties will be severely injured or killed. Controls many annual broadleaves and grasses. Apply before weeds exceed 3 inches tall and corn reaches V6 growth stage. Include ammonium sulfate (AMS) at 1.5-3 lb/A in the spray mixture.</p> <p>-Sinate is a prepackaged mixture of Impact 2.8SC plus glufosinate 2.34L. -Use at least 15 gal/A spray volume and medium to coarse spray nozzles. -Tank mix with other labeled sweet corn herbicides to broaden control spectrum and for residual control.</p> <p>-Rainfastness is 4 h.</p> <p>-Do not apply more than 22 fl oz/A (14.7 fl oz/A Liberty Ultra) in a single application and 44 fl oz/A (29 fl oz/A Liberty Ultra) per year.</p> <p>-Before applying Liberty Ultra consult EPA's Bulletin Live! Two at https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins for specific restrictions developed to protect endangered species and their habitats. In addition, read the label for potential runoff/erosion and drift mitigation measures for fields within 1000 feet of unmanaged areas; as well as buffers up to 100 feet to limit drift from ground applications or 400 feet for aerial applications. See product label for complete details. The most recent mitigation menus are available at https://www.epa.gov/pesticides/mitigation-menu.</p> | | | | | | |

| 4. Other Labeled Herbicides These products are labeled but limited local data are available; and/or are labeled but not recommended in our region due to potential crop injury concerns. | | |
|---|--------------------------------------|-----------------------------|
| Group | Product Name (*=Restricted Use) | Active Ingredient |
| 14 | Sharpen (processing sweet corn only) | saflufenacil |
| 14,15 | Verdict (processing sweet corn only) | saflufenacil + dimethenamid |

Insect Control

THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of Chapter F.

Note: For premixes, the group number (representing the mode of action) and active ingredient that contributes the most to control is generally listed first. In some cases, only one ingredient in a premix provides control.

Insect pest management in sweet corn typically occurs in five separate phases:

- 1) preventive measures at the time of seed purchase such as selecting a Bt hybrid and/or pretreated with a commercially applied insecticide seed treatment;
- 2) at-planting insecticide applications for soil pests;
- 3) managing early seedling pests up to V6,
- 4) managing whorl stage corn for lepidopteran pests; and
- 5) ear protection.

1) Preventive Control

***Bt* Plant Incorporated Protectants in Sweet Corn**

All Bt sweet corn hybrids (see table below), regardless of whether single or pyramided traits, provide 100% protection against European corn borer, thus no insecticides are needed during the whorl or tasseling stages, or even during silking if this pest is the only concern. Although localized resistance concerns are emerging, Cry1Ab continues to control European corn borer in the Mid Atlantic. Corn earworm and fall armyworm are more tolerant to the Cry proteins. Attribute® II and Attribute® Plus hybrids (Syngenta Seeds) which contain the highly effective Vip3A protein currently provide nearly 100% control of fall armyworm and corn earworm. Bt hybrids will not control sap beetles, stink bugs, and silk feeding by corn rootworm adults which can reduce pollination. Because of this pest complex, insecticide sprays may be needed to ensure fresh market quality.

| Trait Package and associated Bt proteins | Hybrid, Sugar gene¹, Color | Insects controlled | Herbicide Tolerance |
|--|--|--|--|
| Seminis Performance Series (Cry1A.105 + Cry2Ab2 + Cry3Bb1) | Anthem XR II, sh2, bicolor Devotion II, sh2, white Obsession II, sh2, bicolor Passion II, sh2, yellow Starfighter II, sh2, white SV9010SA, sh2, bicolor SV9012SD, sh2, yellow SV9014SB, syn, bicolor Temptation II, se, bicolor Tigershark II, sh2, bicolor | Common stalk borer Southern cornstalk borer European corn borer Fall armyworm Sugarcane borer Southwestern corn borer Northern corn rootworm larvae | Glyphosate (Roundup Ready, RR) |
| Syngenta Attribute I Series (Cry1Ab) | BC0528, syn, bicolor BC0805, syn, bicolor BSS0977, sh2, bicolor | European corn borer Sugarcane borer Southwestern corn borer | Glufosinate (Liberty Link, LL) |
| Syngenta Attribute II Series (Cry1Ab + Vip3A) | Matriarch, sh2, bicolor Patron, sh2, bicolor Protector, sh2, yellow Quick Trip, syn, bicolor Remedy, syn, bicolor Revision, syn, bicolor | Black cutworm Common stalk borer Corn earworm European corn borer Fall armyworm Sugarcane borer Southwestern corn borer True armyworm Western bean cutworm | Glyphosate (Roundup Ready, RR) Glufosinate (Liberty Link, LL) |
| Syngenta Attribute Plus Series (Cry1Ab + Vip3A) | BSS0761, sh2, bicolor Crown, sh2, yellow Milky Way, syn, white Patriarch, sh2, bicolor | Black cutworm Common stalk borer Corn earworm European corn borer Fall armyworm Sugarcane borer Southwestern corn borer True armyworm Western bean cutworm | Glufosinate (Liberty Link, LL) |

¹Sugar gene abbreviations: su= standard sugary, sh2= shrunken-2 supersweet, se = sugary enhanced (heterozygous or homozygous), syn = synergistic combinations of other sugar genes (e.g., Triplesweet)



Table modified with permission from the Handy Bt Trait Table for Sweet Corn published and posted by Ben Phillips and Chris DiFonzo, Michigan State University and hosted online by Pat Porter, Texas A&M (QR code or <https://www.texasinsects.org/bt-corn-trait-table.html>)

Insecticidal Seed Treatments

| Commercially Applied Seed Treatments Only | | |
|---|---------------------------------|---------------------------------------|
| Group | Product Name (*=Restricted Use) | Active Ingredient(s) |
| 4A | Cruiser 5FS | thiamethoxam |
| 4A | Gaucho 600 | imidacloprid |
| 4A | Poncho 600 | clothianidin |
| 4A + 6 | Avicta Complete Corn 250* | abamectin + thiamethoxam |
| 4A + 11B | Poncho Votivo | clothianidin + <i>Bacillus firmus</i> |
| 28 | Lumivia | chlorantraniliprole |

2) At-Planting Insecticide Applications for Soil Pests**Seedcorn Maggots (SCM), Wireworms (WW), and White Grubs (WG)**

These insects can attack germinating corn seeds and the early developing roots. Early season control can be achieved with either commercially treated seed or in-furrow insecticide treatments. Larger white grubs may not be completely controlled with most seed treatments. Rescue treatments applied post-planting are not effective.

| At planting soil-applied treatment. Apply one of the following formulations: | | | | | | |
|--|--------------------------------------|---|-------------------------------------|-----------|-----------|--------|
| Group | Product Name (*=Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1B | Counter 20G SmartBox® system* | 4.5 to 6.0 oz/1000 row ft | terbufos | see label | see label | H |
| 3A | Force 3G, Force 3G SmartBox® system* | 4.0 to 5.0 oz/1000 row ft | tefluthrin | n/a | 48 | H |
| 3A | Brigade eVo* Capture LFR* | 0.3 fl oz/1,000 row ft 3.4 to 17.0 fl oz/A - at plant 4.0 to 5.3 fl oz/A - PPI, PRE | bifenthrin | 30 | 12 | H |
| 3A+28 | Elevest* | 9.6 to 14.1 fl oz/A | bifenthrin + chlorantraniliprole | 1 | 12 | H |
| 30 | Nurizma 2.5SC | 0.05 to 0.07 fl oz/1000 row ft | broflanilide | AP | 12 | H |

Corn Rootworm Larvae

Western corn rootworm can be a serious pest of corn planted continuously year after year in the same field. Eggs are laid in cornfields the previous summer and hatch the following spring. Rootworm larvae can only survive on corn. The larvae prune back and tunnel into roots. Crop rotation is the most effective control for corn rootworm. Avoid planting corn after corn, cucumbers, pumpkins, or squash; rotation distance of even 3 ft is effective. Soil insecticides applied at planting aim to protect the root zone for about 6-8 weeks after application. When allowed on the label, T-band tends to be more effective than in-furrow application.

3) Seedling Pests**Corn Flea Beetles**

Corn flea beetles transmit bacterial wilt disease (also known as Stewart's wilt) and are numerous after mild winters. If possible, use hybrids resistant to bacterial wilt disease. Plants are most vulnerable to this disease in the seedling stage. Treat susceptible hybrids at spike stage when > 5% of the plants are infested with beetles. **Note: Commercially applied neonicotinoid seed treatments (Cruiser, Gaucho, or Poncho) provide early-season protection from corn flea beetle injury.**

| Apply one of the following formulations: | | | | | | |
|--|---|------------------------------|-----------------------|-----------|-----------|--------|
| Group | Product Name (*=Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Sevin XLR Plus 4 ¹ | 1.0 to 2.0 qt/A ¹ | carbaryl ¹ | see label | see label | H |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table at the end of Insect Control. | | | | | |
| 4A | Assail 30SG | 4.0 to 5.3 oz/A | acetamiprid | 7 | 12 | M |
| 4A | Assail 30SC | 3.4 to 4.5 fl oz/A | acetamiprid | 7 | 12 | M |

¹Use of carbaryl prohibited on hand harvested corn.

Cutworms

See also section E 3.1. Soil Pests - Detection and Control.

Black cutworm is a sporadic pest that can be particularly problematic in no-till situations. Cutworms can clip corn

F. Sweet Corn

seedlings killing entire plants as they crawl down a row. Use of a soil-applied insecticide for other pests such as white grubs and rootworms will provide some control of cutworms.

| For rescue treatment, apply one of the following formulations: | | | | | | |
|--|---|-------------------------------|-----------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Lannate LV 2.4WSL* ¹ | 0.75 to 1.5 pt/A ¹ | methomyl ¹ | see label | 48 | H |
| 1A | Sevin XLR Plus 4 ¹ | 2.0 qt/A ¹ | carbaryl ¹ | see label | see label | H |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table at the end of Insect Control. | | | | | |

¹Use of carbaryl prohibited on hand harvested corn.

True Armyworms

Armyworms are a sporadic pest that chew jagged holes in the edges of leaves. They are primarily a concern of seedling to early-whorl stage corn. They are active at night.

| For rescue treatment, apply one of the following formulations: | | | | | | |
|--|---|-------------------------------|------------------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Lannate LV 2.4WSL* ¹ | 0.75 to 1.5 pt/A ¹ | methomyl ¹ | see label | 48 | H |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table at the end of Insect Control. | | | | | |
| 5 | Blackhawk 36WG | 2.2 to 3.3 oz/A | spinosad | 1 | 4 | M |
| 5 | Radiant 1SC, Hemi | 3.0 to 6.0 fl oz/A | spinetoram | 1 | 4 | H |
| 18 | Intrepid 2F | 4.0 to 16.0 fl oz/A | methoxyfenozide | 3 | 4 | L |
| 18 + 5 | Intrepid Edge 3AS | 4.0 to 12.0 fl oz/A | methoxyfenozide + spinetoram | 3 | 4 | M |
| 28 | Vantacor 5SC | 1.7 to 2.5 fl oz/A | chlorantraniliprole - soil | 1 | 4 | L |
| 28 | Coragen eVo 5SC, Vantacor 5SC | 1.2 to 2.5 fl oz/A | chlorantraniliprole - foliar | 1 | 4 | L |

¹Read methomyl label restrictions regarding use on seedling stage corn and before tassel push.

Stink Bugs

Brown and brown marmorated stink bugs are less susceptible to pyrethroids than green and southern green stink bugs. Careful pyrethroid selection is advised, consult your local Cooperative Extension Service for recommendations for your area.

| Apply one of the following formulations: | | | | | | |
|--|--|--------------|----------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table below. | | | | | |

[Insecticides with suppression on the label: Assail 30SG, Assail 30SC]

4) Managing Whorl and Tassel Stage Corn

Whorl and Tassel Infestation by European Corn Borer (ECB), Corn Earworm (CEW), and Fall Armyworm (FAW) In general, caterpillar feeding during the whorl stage of development has a greater impact on early planted, short-season varieties. For FAW and ECB, apply first spray when 15% of whorl stage plants show fresh feeding signs. Additional applications may be necessary if infestation remains above 15%. For CEW, treat fields in the whorl stage if more than 30% of the plants are infested. Treat fields in the early tassel stage if more than 15% of the emerging tassels are infested with ECB, FAW, or young CEW larvae. An early tassel treatment is usually more effective than a whorl treatment because larvae are more exposed to the chemicals. Thorough spray coverage in whorls and on plants is essential; direct spray over the plants so that it penetrates leaf whorls. For foliar spray applications, 50-75 gal/A is necessary for effective control. Group 3A pyrethroids may not provide complete control of FAW or CEW.

| Apply one of the following formulations: | | | | | | |
|--|--------------------------------------|-------------------------------|-------------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Lannate LV 2.4WSL* ¹ | 0.75 to 1.5 pt/A ¹ | methomyl ¹ | see label | 48 | H |
| 5 | Blackhawk 36WG | 2.2 to 3.3 oz/A | spinosad | 1 | 4 | M |
| 5 | Radiant 1SC, Hemi | 3.0 to 6.0 fl oz/A | spinetoram | 1 | 4 | H |
| 15 | Rimon 0.83EC | 6.0 to 12.0 fl oz/A | novaluron | 1 | 12 | M |
| 15+4A | Cormoran | 9.0 to 12.0 fl oz/A | novaluron + acetamiprid | 7 | 12 | M |

Whorl and Tassel Infestation - continued next page

Whorl and Tassel Infestation by European Corn Borer (ECB), Corn Earworm (CEW), and Fall Armyworm (FAW) - continued

| | | | | | | |
|--------|-----------------------------------|---------------------|---|---|-----------|---|
| 18 | Intrepid 2F | 4.0 to 16.0 fl oz/A | methoxyfenozide - ECB only | 3 | 4 | L |
| 18 + 5 | Intrepid Edge 3AS | 4.0 to 12.0 fl oz/A | methoxyfenozide + spinetoram | 3 | 4 | M |
| 22 | Avaunt 30WDG, Avaunt eVo 30WDG | 2.5 to 3.5 oz/A | indoxacarb - through tassel push only | 3 | see label | H |

¹Read methomyl label restrictions regarding use on seedling stage corn and before tassel push.

Grasshoppers

Grasshoppers may be quite conspicuous on corn feeding on leaves, but they are seldom of economic concern because they often move into corn later in the season after other grasses and plants have dried down or been harvested. Unless they are seedlings, corn plants typically can tolerate their feeding injury. Grasshoppers also are more abundant on field edges giving the impression that their pest densities are higher than they actually are across the field. Most insecticides (Group 1A, 1B, 3, or 4A) applied to other insects will also control grasshoppers.

Mites

Mites feed by removing fluids from plant tissue leading to lighter colored or white areas described as stippling. Extensive feeding may lead to reduced photosynthesis and reduced vigor of plants.

| Apply one of the following formulations: | | | | | | |
|--|-----------------------------------|---------------------|----------------------|------------|------------|-----------|
| Group | Product Name (*Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 6 | Agri-Mek 0.7SC ¹ | 1.75 to 3.5 fl oz/A | abamectin | 7 | 12 | H |
| 10B | Zeal 2.88SC | 2.0 to 6.0 fl oz/A | etoxazole | 21 | 12 | L |
| 23 | Oberon 2SC | 17.0 fl oz/A | spiromesifen | 5 | 12 | M |
| 23 | Oberon 4SC | 8.0 fl oz/A | spiromesifen | 5 | 12 | M |

¹Use of a non-sticker adjuvant is required.

5) Ear Protection

Corn Earworms (CEW) and Other "Worm" Pests Including European Corn Borers (ECB), Fall Armyworms (FAW), and Western Bean Cutworms (WBC)

CEW is the major pest attacking corn ears in the Mid-Atlantic U.S. Moth activity increases after mid-July and continues until first frost. One female can deposit an egg on hundreds of ears. Direct sampling for CEW, FAW, and ECB during silking is not practical. Begin treatment at early silking when 5-10% of plants are showing at least a single silk strand visible. Under heavy CEW pressure (> 10 moths per night) when caterpillars are already in the tassel consider initiating spray programs at the tassel stage. Silk sprays should continue on a schedule based on area blacklight or pheromone trap counts, geographical location, and time of year. For more precise timing of silk sprays, use blacklight and pheromone traps to determine the actual moth activity on your farm. Before mid-July, silk sprays may be required on a 3-6-d schedule. When CEW populations are heavy (> 10 moths per night), and/or later in the summer, it may be necessary to treat on a 2-3 day schedule. Applications can be terminated up to 5 d before the last harvest. **If irrigation or rain wash off the spray within 24 h** after an application, repeat treatment as soon as the foliage dries. **Note: CEW populations have developed resistance to pyrethroids (Group 3A)** which may result in inadequate control, particularly in the late season. Pyrethroids should be used with caution and rotated to other insecticide classes within a season or tank mixed with other, effective insecticides. Contact your county Extension agent or consult your state pest management newsletter for more information on these techniques.

| Apply one of the following formulations: | | | | | | |
|--|---|--|--|------------|------------|-----------|
| Group | Product Name (*Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Lannate LV 2.4WSL* | 1.0 to 1.5 pt/A | methomyl | see label | 48 | H |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table at the end of Insect Control. | | | | | |
| 5 | Blackhawk 36WDG | 2.2 to 3.3 oz/A | spinosad | 1 | 4 | M |
| 5 | Radiant 1SC, Hemi | 3.0 to 6.0 fl oz/A | spinetoram | 1 | 4 | H |
| 18 + 5 | Intrepid Edge 3AS | 4.0 to 12.0 fl oz/A | methoxyfenozide + spinetoram | 3 | 4 | M |
| 28 | Coragen Coragen eVo 5SC, Vantacor | 3.5 to 7.5 fl oz/A 1.2 to 2.5 fl oz/A | chlorantraniliprole - foliar | 1 | 4 | L |
| 28 + 3A | Besiege 1.25ZC* | 6.0 to 10.0 fl oz/A | chlorantraniliprole + lambda-cyhalothrin | 1 | 24 | H |
| 28 + 3A | Elevest 2.22SC* | 5.6 to 9.6 fl oz/A | chlorantraniliprole + bifenthrin | 1 | 12 | H |

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Corn Leaf Aphids

Corn leaf aphids are contamination concerns for sweet corn as their densities can reach extremely high numbers on corn husks leading to sticky honey dew build up and concomitant sooty mold growth on the husks, affecting marketability. Aphid outbreaks are typically caused by frequent applications of pyrethroid insecticides, which **do not** control the aphids, but rather eliminate natural enemies that consume the aphids under normal conditions. In recent years, melon aphids and bird cherry oat aphids have also reached high densities in Delmarva corn; melon aphids are less susceptible to methomyl than corn leaf aphids and bird cherry oat aphids.

| Apply one of the following formulations: | | | | | | |
|--|--------------------------------------|---------------------|--------------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A ¹ | Lannate LV 2.4WSL* | 0.75 to 1.5 pt/A | methomyl | see label | 48 | H |
| 4A | Assail 30SG | 2.1 to 2.9 oz/A | acetamiprid | 1 | 12 | M |
| 4A | Assail 30SC | 1.8 to 2.4 fl oz/A | acetamiprid | 1 | 12 | M |
| 4A + 15 | Cormoran | 9.0 to 12.0 fl oz/A | acetamiprid + novaluron | 7 | 12 | M |
| 4C + 3A | Ridgeback 1.24AS | 4.5 to 13.8 fl oz/A | sulfoxaflor + bifenthrin | 7 | 24 | H |
| 4C | Transform 50WG | 0.75 to 1.5 fl oz/A | sulfoxaflor | 7 | 24 | H |
| 4D | Sivanto Prime 1.67SL | 7.0 to 14.0 fl oz/A | flupyradifurone | 7 | 4 | M |

¹Susceptibility concerns with melon aphids.

Sap (Picnic, Dusky) Beetles

Most sap beetle infestations follow behind "worm" infestations, which create entry holes for the beetles to reach kernels to deposit their eggs. Nevertheless, on farms with a known history of sap beetle problems, an insecticide application 5-6 days after the first onset of silking is the best timing for maximum protection against these pests, which are attracted to the ear zone to lay eggs as silk tissue degrades. Begin sampling at pollen shed and treat when 5% of the ears have adults and/or eggs. Varieties with long, tight silk tubes can reduce sap beetle damage. Most insecticides used for "worm" control at silking will control these beetles. Note that **Bt hybrids will NOT control** sap beetles.

| Apply one of the following formulations: | | | | | | |
|--|--|------------------------------|-------------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Lannate LV 2.4WSL* | 0.75 to 1.5 pt/A | methomyl | see label | 48 | H |
| 1A | Sevin XLR Plus 4 ¹ | 1.0 to 2.0 qt/A ¹ | carbaryl ¹ | see label | see label | H |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table at the end of Insect Control | | | | | |
| 4A | Assail 30SG | 4.0 to 5.3 oz/A | acetamiprid | 7 | 12 | M |
| 4A | Assail 30SC | 3.4 to 4.5 fl oz/A | acetamiprid | 7 | 12 | M |
| 4A + 15 | Cormoran | 12.0 fl oz/A | acetamiprid + novaluron | 7 | 12 | M |

¹Use of carbaryl prohibited on hand harvested corn.

Silk Clipping Beetles - Corn Rootworm Adults and Japanese Beetles

High rates of silk feeding by corn rootworm beetles, Japanese beetles, and other silk-feeders can affect pollination and cause ear quality problems. For silk feeding insects, when more than 50% of ears have fresh silks cut back and the plants are still pollinating, an insecticide spray also is recommended. Note that **Bt hybrids will NOT control silk feeding** by any of these insects.

| Apply one of the following formulations: | | | | | | |
|--|---|--------------------|-------------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 1A | Lannate LV 2.4WSL* | 0.75 to 1.5 pt/A | methomyl | see label | 48 | H |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table at the end of Insect Control. | | | | | |
| 4A | Assail 30SG | 4.0 to 5.3 oz/A | acetamiprid | 7 | 12 | M |
| 4A | Assail 30SC | 3.4 to 4.5 fl oz/A | acetamiprid | 7 | 12 | M |
| 4A + 15 | Cormoran | 12.0 fl oz/A | acetamiprid + novaluron | 7 | 12 | M |

Stink Bugs

Stink bugs including the invasive brown marmorated stink bug can feed on developing ears resulting in misshapen ears, unfilled kernels, collapsed kernels, and kernels that turn dark after corn is cooked. Note that **Bt hybrids will NOT control** stink bugs. Brown and brown marmorated stink bugs are less susceptible to pyrethroids than green

and southern green stink bugs. Careful pyrethroid selection is advised, consult your local Cooperative Extension Service for recommendations for your area.

| Apply one of the following formulations: | | | | | | |
|--|--|--------------|----------------------|------------|------------|-----------|
| Group | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
| 3A | Pyrethroid insecticides registered for use on Sweet Corn: see table below. | | | | | |

[Insecticides with suppression on the label: Assail 30SG, Assail 30SC]

| Group 3A Pyrethroid Insecticides Registered for Use on Sweet Corn | | | | | | |
|--|---|--|------------|------------|-----------|--|
| Apply one of the following formulations (check if the product label lists the insect you intend to spray; the label is the law): | | | | | | |
| Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR | |
| Asana XL 0.66EC* | 5.8 to 9.6 fl oz/A | esfenvalerate | 1 | 12 | H | |
| Baythroid XL 1EC* | 0.8 to 2.8 fl oz/A | beta-cyfluthrin | 0 | 12 | H | |
| Brigade 2EC*, Brigade eVo | 2.1 to 6.4 fl oz/A | bifenthrin | 1 | 12 | H | |
| Fastac 0.83CS* | 2.2 to 3.8 fl oz/A | alpha-cypermethrin | 3 | 12 | H | |
| Hero 1.23* | 4.0 to 10.3 fl oz/A | zeta-cypermethrin + bifenthrin | 3 | 12 | H | |
| Lambda-Cy 1EC*, others | 2.56 to 3.84 fl oz/A | lambda-cyhalothrin | 1 | 24 | H | |
| Mustang Maxx 0.8* | 2.24 to 4.0 fl oz/A | zeta-cypermethrin | 3 | 12 | H | |
| Permethrin 3.2EC*, others | 4.0 to 8.0 fl oz/A | permethrin | 1 | 12 | H | |
| Tombstone 2* | 0.8 to 2.8 fl oz/A | cyfluthrin | 0 | 12 | H | |
| Warrior II 2.08CS* | 1.28 to 1.92 fl oz/A | lambda-cyhalothrin (see label for cutworm rate) | 1 | 24 | H | |
| Combo products containing a pyrethroid | | | | | | |
| Besiege 1.25ZC* | 6.0 to 10.0 fl oz/A | lambda-cyhalothrin + chlorantraniliprole (Group 28) | 1 | 24 | H | |
| Elevest 2.22SC* | 4.8 to 9.6 fl oz/A ⁺ 7.0 to 14.1 fl oz/A | bifenthrin + chlorantraniliprole (Group 28) - foliar bifenthrin + chlorantraniliprole (Group 28) - soil | 1 | 12 | H | |
| Ethos XB 1.5* | 3.4 to 17.0 fl oz/A (at plant) 4.0 to 5.3 fl oz/A (PPI) 3.4 fl oz/A (PRE) | bifenthrin + <i>Bacillus amyloliquefaciens</i> - soil | n/a | 12 | H | |
| Ethos XB 1.5* | 2.8 to 8.5 fl oz/A | bifenthrin + <i>Bacillus amyloliquefaciens</i> - foliar | 1 | 12 | H | |
| Ridgeback 1.24AS | 4.5 to 13.8 fl oz/A | bifenthrin + sulfoxaflo (Group 4C) | 7 | 24 | H | |
| Savoy 1.8EC* | 9.6 to 12.9 fl oz/A | bifenthrin + acetamiprid Group 4A) | 7 | 12 | H | |

Disease Control

THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of Chapter F. Recommended Fungicides

Nematodes

Control is very important to the production of sweet corn. See also sections E 1.5. Soil Fumigation and E 1.6 Nematode Control. Use fumigants listed in section E 1.5., or one of the following:

| Code | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
|------|--------------------------------------|---|-------------------------|------------|------------|-----------|
| 1B | Counter 20G* | see label for use directions (not for use in WV) | terbufos | AP | 48 | H |
| 1B | Mocap 15G* | see label for use directions | ethoprop | AP | 48 | H |

Seed Treatment

Request that seed be treated with one or more of the following fungicides for seedling diseases and damping-off: Allegiance, Apron XL, Dynasty, Captan, Thiram, Vitavex or Maxim XL. Seed treatment with these fungicides is especially important for preventing early season seeding diseases of Super Sweet (sh) varieties.

Bacterial and Fungal Diseases**Leaf Blights (Northern, Southern, and Anthracnose Leaf Blights), and Leaf Spots (Gray Leaf Spot, Northern Corn Leaf Spot)**

These disease causing organisms overwinter (survive) in corn residue. Initial infection takes place on the lower leaves and progresses up the plant with persistent rain or overhead irrigation. Avoid planting continuous corn and bury residue with deep tillage immediately after harvest. For optimal control, begin sprays before symptoms appear or very early stage of symptom appearance if favorable weather for disease development persists. Regular scouting and protectant fungicides late in the season may be necessary.

| Code | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
|--|---|---------------------------------------|---|------------|------------|-----------|
| Apply one of the following protectant fungicides: | | | | | | |
| M03 | mancozeb 75DF | 1.5 lb/A | mancozeb | 7 | 24 | N |
| M05 | chlorothalonil 6F (7-day schedule, do not apply to corn to be processed) | 0.75 to 2.0 pt/A | chlorothalonil | 12 | 12 | M |
| AND rotate on a 7-14 day schedule with one of the following (do not apply the same fungicide more than twice in a row; switch to fungicides with different FRAC codes): | | | | | | |
| 3 | Tilt 3.6EC (not registered for Anthracnose) | 2.0 to 4.0 fl oz/A | propiconazole | 12 | 12 | N |
| 3 + 3 | Prosaro 421SC | 6.5 fl. oz/A (5-14 day schedule) | tebuconazole + prothioconazole | 7 | 12 | N |
| 3+7+11 | Trivapro 2.21SE | 14.5 fl oz/A | propiconazole + benzovindiflupyr + azoxystrobin | 7 | 12 | N |
| 3+7+11 | Miravis Neo | 13.7 fl oz/A | propiconazole + pydiflumetofen + azoxystrobin | 14 | 12 | N |
| 3 + 11 | Headline AMP 1.68SC | 10.0 to 14.4 fl oz/A | metconazole + pyraclostrobin | 20 | 12 | N |
| 3 + 11 | Quilt Xcel 2.2SE | 10.5 to 14 fl oz/A | propiconazole + azoxystrobin | 14 | 12 | N |
| 3 + 11 | Stratego 2.08EC (Anthracnose, GLS) | 10.0 fl oz /A | propiconazole + trifloxystrobin | 14 | 12 | N |
| 3 + 11 | Stratego YLD 4.18EC (Anthracnose, GLS) | 4.0 to 5.0 fl oz/A (5-14 d. schedule) | prothioconazole + trifloxystrobin | 0 | 12 | N |
| 3 + 11 | Veltyma 3.34SC | 7.0 to 10.0 fl oz/A | mefentrifluconazole + pyraclostrobin | 21 | 12 | N |
| 7 + 11 | Priaxor 4.17SC | 4.0 to 8.0 fl oz/A | fluxapyroxad + pyraclostrobin | 7 | 12 | N |
| M03+11 | Dexter Max (not registered for Anthracnose) | 1.6 lb/A | mancozeb + azoxystrobin | 7 | 24 | -- |
| 11 | Approach 2.08SC | 6.0 to 12.0 fl oz/A | picoxystrobin | 7 | 12 | N |
| 11 | azoxystrobin 2.08F | 9.2 to 15.5 fl oz/A | azoxystrobin | 7 | 4 | N |
| 11 | Headline 2.09EC | 9.0 to 12.0 fl oz/A | pyraclostrobin | 7 | 12 | N |

Root and Stalk Rots

Root and stalk rots are caused by several species of fungi, including *Fusarium*, *Diplodia*, and *Macrophomina*, as well as species of the oomycete *Pythium*. Some of these fungi enter through the roots and move up into the stalk, while others enter the stalk directly at the nodes. Insect damage can increase infection by facilitating entry of fungi. Use fungicide-treated seed and plant in well-drained areas. Do not exceed recommended plant densities. Keep soil fertility balanced based on soil tests. Manage insects throughout the growing season.

Rust (Common and Southern)

Rust is caused by a pathogen that blows into our region from Southern areas. In most years chemical control measures are not necessary but rust occasionally becomes troublesome on susceptible hybrids planted later in the growing season. Corn warrants spraying if infection occurs prior to the whorl stage, particularly if Southern rust is detected. Scout fields on a regular basis.

| Code | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
|---|--------------------------------------|----------------------------------|---|------------|------------|-----------|
| If pustules are observed prior to the whorl stage, apply one of the following on a 7-14 day schedule (do not apply the same fungicide more than twice in a row; switch to fungicides with different FRAC codes): | | | | | | |
| 3 + 3 | Prosaro 421SC | 6.5 fl. oz/A (5-14 day schedule) | tebuconazole + prothioconazole | 7 | 12 | N |
| 3+7+11 | Trivapro 2.21SE | 14.5 fl oz/A | propiconazole + benzovindiflupyr + azoxystrobin | 7 | 12 | N |
| 3+7+11 | Miravis Neo | 13.7 fl oz/A | propiconazole + pydiflumetofen + azoxystrobin | 14 | 12 | N |

Rust (Common and Southern) - continued next page

Rust (Common and Southern) - continued

| | | | | | | |
|--------|---|---|-----------------------------------|----|----|----|
| 3 + 11 | Headline AMP 1.68SC | 10.0 to 14.4 fl oz/A | metconazole + pyraclostrobin | 20 | 12 | N |
| 3 + 11 | Quilt Xcel 2.2SE | 10.5 to 14 fl oz/A | propiconazole + azoxystrobin | 14 | 12 | N |
| 3 + 11 | Stratego 2.08EC | 10.0 fl oz/A | propiconazole + trifloxystrobin | 14 | 12 | N |
| 3 + 11 | Stratego YLD 4.18EC | 4.0 to 5.0 fl oz/A (5-14 day schedule) | prothioconazole + trifloxystrobin | 0 | 12 | N |
| 7 + 11 | Priaxor 4.17SC | 4.0 to 8.0 fl oz/A | fluxapyroxad + pyraclostrobin | 7 | 12 | N |
| M03+11 | Dexter Max ¹ (for common rust) | 1.6 lb/A | mancozeb + azoxystrobin | 7 | 24 | -- |

¹Dexter Max is extremely toxic to some apple varieties. See label.

Smut (*Ustilago maydis*)

There is no true genetic resistance to smut in sweet corn. Resistance to *U. maydis* appears to result from morphological and phenological traits that help plants escape or limit infection. Since damaged tissue is more prone to infection, control corn borers, stink bugs, and other problematic insect pests as the first tassel appears.

Stewart's Bacterial Wilt

Use varieties resistant to Stewart's wilt listed in the sweet corn varieties table at the front of this section in areas with a history of bacterial wilt. More variety information relative to Stewart's Bacterial Wilt is available at <http://sweetcorn.illinois.edu/index.html>. Control of flea beetles is essential for effective disease management. Flea beetles transmit Stewart's wilt and are prevalent after mild winters. Use insecticide-treated seed or a recommended insecticide at seedling emergence. Treat susceptible varieties at spike stage when 5% of the plants are infested. See Insect Control Section for flea beetle control recommendations.

Tar Spot (*Phyllachora maydis*)

Corn Tar Spot is a fungal leaf disease that was first detected in the United States in 2015 in Illinois and Indiana and has since spread to multiple states. Fungicide application time may vary depending on the onset of disease, however, application during corn reproductive stage (silking-growth stage R1) has been found most effective for controlling tar spot. PHI is an important consideration since sweet corn is typically harvested at R3. Most products are compatible with corn ear worm insecticides but check labels of both products for restrictions.

| Code | Product Name (* = Restricted Use) | Product Rate | Active Ingredient(s) | PHI (d) | REI (h) | Bee TR |
|--------|--------------------------------------|----------------------|---|------------|------------|-----------|
| 3 + 7 | Lucento | 5.0 to 5.5 fl oz/A | flutriafol + bixafen | 10 | See label | N |
| 3 + 7 | Revylok | 4.5 to 6.5 fl oz/A | mefentrifluconazole + fluxapyroxad | 21 | 0.5 | -- |
| 3 + 11 | Veltyma | 7.0 to 10.0 fl oz/A | mefentrifluconazole + pyraclostrobin | 21 | 12 | N |
| 3 + 11 | Delaro 325 SC | 8.0 to 12.0 fl oz/A | prothioconazole + trifloxystrobin | See label | 24 | -- |
| 3+11+7 | Trivapro 2.21 SE | 13.7 fl oz/A | propiconazole + azoxystrobin + benzovindiflupyr | 14 | 12 | N |
| 3+11+7 | Adastrio 4.0 SC ¹ | 7.0 to 9.0 fl oz/A | flutriafol + azoxystrobin + fluindapyr | See label | See label | -- |
| 3+11+7 | Miravis Neo 2.5 SE | 13.7 fl oz/A | propiconazole + azoxystrobin + pydiflumetofen | 14 | 12 | N |
| 3+11+7 | Delaro Complete | 8.0 fl oz/A | prothioconazole + trifloxystrobin + fluopyram | See label | 12 | NA |
| 7 + 11 | Priaxor Xemium ¹ | 4.0 to 8.0 fl oz/A | fluxapyroxad + pyraclostrobin | 7 | 12 | -- |
| 7+3+11 | Revytek 3.33SC | 8.0 to 15 fl oz/A | fluxapyroxad + mefentrifluconazole + pyraclostrobin | 21 | 12 | N |
| 11 | Approach ¹ | 6.0 to 12.0 fl oz/A | picoxystrobin | 7 | 12 | N |
| 11 + 3 | Headline AMP ¹ | 10.0 to 14.4 fl oz/A | pyraclostrobin + metconazole | 7 | 12 | N |
| 11 + 3 | Topguard EQ ¹ | 5.0 to 7.0 fl oz/A | azoxystrobin+ flutriafol | 7 | 72 | -- |
| 11 + 3 | Quilt Xcel 2.2 SE ¹ | 10.5 to 14 fl oz/A | azoxystrobin+ propiconazole | 14 | 12 | N |

¹See section 2(ee) label and confirm availability in your state.

Viruses**Maize Dwarf Mosaic Virus (MDMV)**

MDMV is most likely to occur on corn planted after July 1. The virus is transmitted by aphids to sweet corn from infected weeds, especially Johnsongrass. Less frequently, the disease may be transmitted in/on seed. For control, manage weeds and aphids and plant healthy (disease free) seeds of resistant varieties for fall harvest.