
Weed Control: What's New and Effective?

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Sweet corn growers have several weed management options available to them. Because of the highly effective herbicide options, vegetable growers can take the opportunity to reduce weed-seed pressure by rotating their fields to sweet corn and maximizing control during the sweet corn year. In addition to the herbicides registered, many growers still combine timely cultivations with herbicides. Remember to always keep cultivation shallow, cultivate when weeds are small, and orient the rows to minimize soil erosion during times of heavy rainfall.

Over the past year, there have been new registrations and label changes which have occurred for weed management in sweet corn. This article will cover the basics. Please check both the herbicide labels as well as the current *New England Vegetable and Management Guide* for additional information.

Remember the label is the final authority. As with all new registrations, growers should gain experience with these products before using them on a wide scale.

New registrations

Permit (halosulfuron) 75%

WSG. $\frac{2}{3}$ to 1.33 ounces per acre

(0.032 to 0.063 pounds a.i. per acre). This herbicide provides postemergence control of many weed species which are not under drought stress. It is rainfast in four hours. Use a non-ionic surfactant at a rate of one to two quarts per 100 gallons spray or a crop oil concentrate at one gallon per 100 gallons spray. Control varies with type and size of weed. Species listed on the label include redroot pigweed, pokeweed, common ragweed, Pennsylvania smartweed, common sunflower, velvetleaf, wild mustard, yellow nutsedge, and wild radish. Do not cultivate for seven days after application. Most vegetables can be planted within 12 months of application except crucifers, carrots, leeks, onions, lettuce, beets, and spinach. Some sweet corn varieties may be injured by Permit and no reliable list of susceptible varieties has yet been developed. Regular sugary varieties do not appear to be more tolerant than se (sugar enhanced) types or sh² (supersweet types). Initially, this herbicide should be used on a small scale to control problem weeds such as nutsedge, ragweed, and velvetleaf. Other postemergent options continue to exist. These include Aatrex (atrazine), Basagran (bentazon), Formula 40 (2, 4-D), Lorox (linuron), and Evik (ametryn). Atrazine, Basagran, and 2, 4-D have been the most commonly used.

Prowl (pendimethalin) 3.3 EC. 1.8 to 4.8 pints per acre (0.75 to 1.9 pounds a.i. per acre). Apply pre-emergence only after seeding. DO NOT incorporate into the soil. A broadleaf herbicide such as atrazine, Bladex, or simazine should also be used to control broadleaf weeds. If this herbicide is moved into the seed zone, there is potential for crop injury. Some basic suggestions for minimizing the potential for crop injury are to plant in a firm seedbed, plant corn at least 1.5" deep, plant into moisture rather than dry soil, do not mix Prowl with liquid fertilizers, and avoid sandy soils. If the soil is dry, consider irrigating or waiting for rainfall prior to application. If heavy rains follow an application of Prowl in dry soil, the herbicide can move to the seed zone and cause crop injury. Specific weeds for which this herbicide should be considered include triazine-resistant lambsquarters and velvet-leaf. Growers may consider a lower rate of Prowl in addition to using a broadleaf herbicide and another grass herbicide such as Dual Magnum, Lasso, Frontier, or Eradicane.

Frontier (dimethenamid) 6 EC. 16 to 32 ounces per acre (0.75 to one pound a.i. per acre). Apply preplant surface, PPI, PRE, or POST (corn can be up to 18" tall). A split application can be

used. Frontier will not control emerged weeds. Some sweet corn varieties may be injured by Frontier and no reliable list of susceptible varieties has yet to be developed. Frontier has activity which is similar to Dual Magnum and Lasso. It offers an alternative for rotational purposes. Growers should gain some experience before widespread use on the farm.

Modified registrations

Bladex (cyanazine) 4L. One quart per acre (one pound a.i. per acre) is a new maximum rate. Apply after seeding, but before crop emergence. Bladex is weak on most grasses but excellent on many broadleaf species. The last year for use is 2002. Observe all label precautions related to tractor cabs and applicator safety.

CyPro (atrazine + cyanazine) DF. This is a formulated prepack

of atrazine and Bladex (cyanazine). This cannot be used postemergence in sweet corn because of the Bladex which can seriously injure or kill emerged sweet corn. It should be used in combination with a grass herbicide such as Dual Magnum, Lasso, Prowl, Eradicane or Frontier. The use rate for this product for 2001 and 2002 is 1.5 pound per acre (one pound a.i. per acre cyanazine and 0.32 pound a.i. per acre atrazine). Depending on the weed pressure, additional atrazine at planting, cultivation, or a postemergence application of atrazine, Basagran, 2, 4-D, Permit, Lorox, or Evik may be needed.

Dual Magnum and Dual II Magnum (metolachlor) 7.6 EC. 13 to 27 ounces per acre (0.77 to 1.6 pounds a.i. per acre). Can be applied at planting or up to 5" corn. Apply to weed free soil. Dual

Magnum has excellent activity on grasses and is weak on lambsquarters. These formulations replace Dual and Dual II. The "II" is a safener which may lessen the potential for crop injury in cold soils. Basically, the activity of the Magnum formulation is the same as with the old Dual but the use rates are lower. When these products occur in prepacks with atrazine, they are called Bicep and Bicep II.

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