

Sweet Corn Weed Management

A. Richard Bonanno, Ph.D.

UMass Extension

rbonanno@umext.umass.edu

Introduction

The 2008-2009 version of the New England Vegetable Management Guide is available and all vegetable growers should have a copy of this publication. There are no new label changes for sweet corn since the last issue. A brief summary of the “newer” registered herbicides is provided below. All of the information that will be presented in this talk can be found in the Vegetable Management Guide. I expect that copies will be available for sale at the Conference and copies are available from all 6 New England Extension services. Members of the New England Vegetable & berry Growers will receive this publication as part of their membership.

Remember that for all pesticides in the New England Vegetable Management Guide, we have listed the resistance management group for that pesticide. These groups are not interchangeable between herbicides, fungicides, and insecticides. So a 1 in herbicides is not the same as a 1 in insecticides, for example. These resistance management groups allow an applicator to tell which pesticides are related so that, if possible, growers can rotate chemistries to avoid the incidence of resistance to that pesticide or group of pesticides.

Newer Registrations

Callisto (mesotrione) appears in the Guide for weed management in sweet corn. This product is the first sweet corn herbicide registered as a reduced risk herbicide and has the potential to improve environmental safety. Callisto provides good to excellent postemergence and preemergence control of many broadleaf weeds including velvetleaf and triazine-resistant lambsquarters

Callisto is considered to be a supplement to atrazine and a grass herbicide, it allows reduced rates of atrazine, controls triazine-resistant lambsquarters, and provides both preemergence and postemergence control of many broadleaf weed species and some small grasses. Callisto can slow the growth of corn planted in cold soil in the spring. As a result, most use in New England has been postemergence.

There are two prepacks containing Callisto. One is Lumax and one is Lexar. They are mixtures of atrazine, Callisto, and Dual II Magnum (metolachlor). For sweet corn growers in New England, Lexar has too much atrazine in it. Lumax has the right ratio, 3 quarts of Lumax provides 6 oz of Callisto, 1.5 pt Dual, and 0.75 lb atrazine. Because of cold soil issues with Callisto, use of Lumax makes more sense later in the season when soils are warmer and corn growth is much faster.

Remember that Permit is no longer available in New England for weed management in sweet corn. The sweet corn registration has been combined with all the other vegetable labels on the Sandea label. In 2007, there were reports of crop injury when Sandea was applied over the top of corn either alone or tank-mixed with Callisto. This injury is from Callisto being sprayed into the whorl. Injury symptoms are ear malformations and restrictions. Anytime the corn is over 6" height, it is best to use drop nozzles to avoid crop injury.

Aim (carfentrazone) is also registered in corn for postemergence control of annual weeds including pigweed, lambsquarters, and velvetleaf. The rate range is 0.33 to 0.67 lb/acre. Add a non-ionic surfactant at 1 qt/100 gal of spray. If corn is over 8" high, drop nozzles must be used. Some speckling of the corn foliage might occur.

The new formulation on the market for paraquat is Gramoxone Inteon. This formulation is designed to be safer to the user. However it is still restricted use and the signal word is still "Danger". Gramoxone Inteon contains an "alginate" which is made from seaweed and slows absorption into the bloodstream. There is also an alerting agent that smells like decaying grass, and emetic and purgative, and a green dye. The new formulation also comes with some rate changes. With the old formulation (Gramoxone Max) the rate range was 1.7 to 2.7 pints per acre. Rates for the new formulation are 2.5 to 4 pints/acre.

When tank mixing pesticides, always be sure to use the right mixing order to avoid issues. The mixing order is Wettable Powders (WP), Dry Flowables (DF) or Water-dispersible Granules (WDG), Water-dispersible liquids (AS), Emulsifiable Concentrates (EC), Water-soluble Liquids (S), and Surfactants.

All growers should take pesticide safety seriously. Read and follow all label directions, follow the Worker Protection Standards including the REI. Keep adequate records and wear all required personal protective equipment (PPE). Always strive to keep yourself, your family, and your employees safe.