
Seed-Piece Treatments for Insect Control in Potatoes

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Tops-MZ-Gaucho is a new seed treatment produced by Gustafson LLC. This product enables potato growers to apply both an insecticide, Gaucho (Bayer Corp.), and a fungicide (Tops-MZ) prior to planting. Both Gaucho and the conventional in-furrow insecticide Admire 2F (Bayer Corp.) contain the active ingredient imidacloprid, which is one of the most effective insecticides for controlling Colorado potato beetle (CPB). The cost of Tops-MZ-Gaucho is comparable on a per acre basis to that of Admire 2F at standard labeled rates. Tops-MZ-Gaucho, however, can be applied during routine commercial seed cutting and treating operations, whereas the application of Admire 2F requires the use of in-furrow application equipment.

In the 2001 growing season at the Eastern Shore Agricultural Research and Extension Center near Painter, VA, we evaluated Gaucho and Admire for control of Colorado potato beetle (CPB) on 'Superior' Irish potatoes. The test consisted of three treatments: 1) Potato seed pieces treated with Tops-MZ-Gaucho at the labeled rate of 0.75 lb of formulated product/100 lb of potato seed pieces; 2) Admire 2F applied in-furrow at 16 fl oz/acre, or 1.1 fl oz/1000 row feet; and 3) Untreated check (Tops-MZ only). The seed pieces were hand-planted on 9 April in small plots following commercial row spacing guidelines.

Weekly beetle counts taken throughout the season indicated that both Tops-MZ-Gaucho and Admire 2F provided complete, season-long CPB control (see table). Both treatments produced equal, commercially acceptable Grade A (US no.1) tuber yields that were significantly greater than those in the untreated check.

Another seed treatment product, Platinum (Syngenta Crop Protection, Inc.), will be available for use in the 2002 potato season. Previous studies at the Eastern Shore AREC have indicated that thiamethoxam, the active ingredient of Platinum, provides CPB control equal to that of imidacloprid. Like Tops-MZ-Gaucho, Platinum is also available as a blend called Platinum Ridomil Gold, for disease and insect protection in one.

Although both thiamethoxam and imidacloprid provide excellent potato beetle control, they are also both in the neonicotinoid class of chemistry, which must be taken into account in resistance management. In other words, rotating Admire with Gaucho or Platinum is not a sound resistance management strategy for Colorado potato beetle. We plan to further evaluate these seed treatment products again on potatoes in 2002.

Table 1. Results of Colorado potato beetle insecticide trial conducted on 'Superior' Irish potatoes at the Eastern Shore AREC near Painter, VA in 2001.

Treatment	Rate/acre	CPB /10 stems on 24 May	
		Small larvae	Large larvae
Admire 2F	16 fl oz	0.00 b	0.00 b
Tops-MZ-Gaucho	0.75 lb/100 lb seed	0.00 b	0.00 b
Check		49.67 a	83.00 a
P > 0.05, LSD			

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