

WEED MANAGEMENT RESEARCH IN BEETS, CARROTS, SWEET CORN, AND SNAP BEANS--2010

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BEETS and CARROTS. One trial was conducted in each crop. Both trials were focused on new and old herbicides for preemergence weed control. In the carrot trial we continued to evaluate preemergence use of Lorox to enable adding New York to the current national label. Applied alone, rates were 1, 2, and 3 lb/A and virtually no injury occurred. The 1 lb rate required a subsequent post-application for continued weed control. Other preemergence herbicides used for comparison were Dual Magnum, Prowl H₂O, Caparol, saflufenacil, V-10206, and Bolero. Of these, only the saflufenacil caused injury and this injury was significant. All of the preemergence treatments (except the 2 and 3 lb rates of Lorox) did require a second postemergence application of Lorox. Due to early August flooding in the field, the crop could not be harvested.

In beets we're struggling to identify new, potential herbicides. Additionally, the IR-4 program has been told by the EPA that they will be moving in the direction of not accepting residue trials for older products in specialty crops. Companies are being asked to re-test older products as the current testing procedures are much more accurate (and difficult) these days than in the past; testing costs are prohibitive. The products chosen for the 2010 trial were a mixture of older products that are not labeled on beets at this time. Due to heavy rains that occurred as the crop was emerging, the degree of injury observed (stand loss), even in registered products, was significant in virtually all treatments. Yields were significantly reduced in all cases except with the standard, Dual Magnum + Pyramin.

PEAS. Three trials were conducted in 2010: continued evaluations of preemergence use of Sharpen (saflufenacil) and Reflex, and an antagonism study to determine the effect of herbicide tank-mixtures on weed control. The antagonism trial was cancelled due to a lack of decent weed emergence. This trial is now in progress in the greenhouse.

One of the preemergence trials evaluated Sharpen, new formulations of Devrinol, and other registered products, Prowl H₂O and Dual Magnum. Sharpen at 2 and 3 fl.oz/A caused 23 and 40% initial stunting but did not cause yield losses. Similarly, the 2 pt rates of both Dual Magnum and Reflex caused considerable early stunting, but in neither case did this impact yields. Registration for the use of saflufenacil on peas will be added to the label (Sharpen) soon. The New York DEC is in the process of reviewing the national label and it is expected that it will be registered in the state in early 2011. It is not likely that the use in peas will be available until 2012.

In the second preemergence trial, multiple rates of Reflex (0.25 to 2 pts/A) were applied preemergence alone, and two rates (1 and 1.5 pt) were applied with 1 and 1.3 pt of Dual Magnum. Also in this trial were two new products, Spartan and V-10206. None of the rates of Reflex, applied alone, caused any noticeable injury. Slight injury occurred when 1.5 pt Reflex was applied with 1.3 pt Dual Magnum. The high rate of

Spartan initially caused 22% stunting, but this was virtually outgrown by 5/20. Based on current information, Syngenta is expecting Reflex registration for peas in early 2012.

SWEET CORN. This is the third year of trials that evaluated five new herbicides that are currently registered or soon to be registered on field corn. The products used were Cadet, Capreno, Fierce, Huskie, and Sharpen. Trials in 2008 and 2009 on the varieties 'Bonus', 'Overland', and 'Temptation' showed virtually no injury response to the new products. In 2010, all five herbicides were used at expected 1x and 2x rates on five fresh market [Sweet Ice, Honey N' Pearl, Augusta, Brocade, Silver Queen] and three processing [GH4927, Bonus, Overland] varieties. Corn maturation ranged from 74 to 92 days.

Trial results were somewhat more variable in 2010 than in the preceding years. None of the eight varieties were notably injured by the 1x rates of Fierce or Huskie. While the 2x rates of these two herbicides caused unacceptable early injury (>20%), yields were unaffected. Sharpen did not significantly injure or reduce yields at either tested rate. The 1x rate of Cadet caused little injury except in the fresh market varieties Honey N' Pearl (76 day) and Augusta (79 day). However, the 2x rate of Cadet injured all varieties except Sweet Ice (74 day) and Brocade (82 day). Capreno caused unacceptable (>20%) injury in all eight varieties and yields of the 2x rate were frequently reduced. Of the eight tested varieties, Bonus, Overland, and Silver Queen had no injury or yield reductions with the 1x rates of any of the five herbicides.

Although New York trial results have generally shown relatively good sweet corn tolerance over the years, the variability in 2010 was disturbing to company representatives. Similar variability has also been seen in other areas of the country. Thus, at this time, the companies are not planning register these herbicides in sweet corn.

SNAP BEANS. The new and currently registered preemergence herbicides that were evaluated on snap bean 'Hystyle' included: Spartan, V-10206, V-10142, Valor and Caparol. These were compared with Dual Magnum, Prowl H₂O, and Reflex. Significant early and sustained injury was seen with the high rate of Spartan, Chateau, and the 2x rates of Dual Magnum combined with Caparol. The injury led to reduced yields with the latter two products but not with Spartan. Despite lack of visible injury with V-10206, yields were significantly lower than the handweeded check. The most complete weed control and highest yields were obtained with the Dual Magnum + Reflex program.

Caparol registration for snap beans and other crops is currently in process. The manufacturer of Chateau, V-10206, and V-10142, Valent, is currently concerned about variable crop tolerances that have been seen across the US and is not willing to move forward with registrations on snap beans at this time.