

VEGETABLE CROP HERBICIDES: REGISTRATION AND RESEARCH UPDATE

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Research was conducted in the 2008 growing season to evaluate potential herbicides in several vegetable crops. The intent of this paper is to provide an update on these research projects and new labels available for the 2009 growing season. As always, check and read the label prior to any herbicide use.

Asparagus. It is unusual for a minor acreage crop such as asparagus to receive three new herbicide registrations in a single year, two of which have resulted in use labels. Callisto (mesotrione) has recently been labeled for use on asparagus as either a spring or post-harvest application. 3.0 – 7.7 fl oz/A may be applied prior to spear emergence or post-harvest (after final harvest), or both. If applying a split application it is important to remember that a maximum of 7.7 fl oz/A may be applied in a single year. If applying post-harvest the label specifies to minimize contact with the emerged spears/ferns to improve soil and emerged weed coverage. Be sure to follow the label for surfactant requirements to improve the activity on emerged weeds. Chateau has also been labeled for use on established asparagus with a restriction of no more than 6 oz/A per single application and no more than 6 oz/A per season. Chateau must be applied to dormant asparagus no sooner than 14 days before spear emergence or some scoring will result.

Snap bean. Over 30 current and potential herbicide programs were evaluated in snap bean in Arlington, Wisconsin. In particular, Reflex (fomesafen) was evaluated alone and in combination with current herbicides in anticipation of the recent snap bean label. Weed control was excellent where Reflex was applied, and snap bean yield was comparable to the hand-weeded check. Reflex may be applied preemergence or pre-plant surface applied; however, rate is dependent upon your location. Reflex herbicide is prohibited from use in some areas of Wisconsin so be sure to consult a label to determine if it can be used in your area.

Table beets. Research continued to identify potential herbicides that would expand the weed control spectrum in table beets. Nortron (ethofumesate) was labeled for the 2008 growing season. After planting and prior to weed emergence, apply Nortron at 60 fl oz/A. Nortron may also be applied postemergence at rates of 5.25 fl oz/A for beets with two to four leaves and at rates of 10.5 fl oz/A for beets with six to eight leaves. Seasonal use maximum for Nortron is 96 fl oz/A. Also labeled for the 2009 growing season is Alphanex (desmedipham) for postemergence control of early germinating broadleaf weeds. Apply Alphanex after beets have reached the two leaf stage. Do not add wetting agents or other spray adjuvants when applying Alphanex.

Transplanted cabbage. Goal (oxyfluorfen) has been labeled on transplanted cole crops for many years. In 2009, GoalTender is also labeled. Although both Goal and GoalTender must be applied prior to transplanting, GoalTender is a water based formulation, which may be safer to the crop if the herbicide is mechanically moved from the soil to transplant leaves. GoalTender is a 4 lb ai/gallon formulation so rates are generally about ½ of the equivalent Goal rates. Research continued in 2008 to evaluate the prospective PPO-inhibitor mode of action herbicide Chateau (flumioxazin; not currently labeled) in transplanted cabbage. Chateau provides residual control or suppression of several broadleaf and grass weed species that are problematic in cabbage production. Chateau was evaluated at three experimental use rates (1, 2, and 4 oz product/A) and

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at two application timings (immediately post-transplant and 8 days post-transplant). Some injury was observed from Chateau applications in 2008, but can generally be attributed to the excessive rainfall after application. Soils remained completely saturated for several days from a rain event that occurred shortly after transplanting. Common lambsquarters, redroot pigweed, velvetleaf, and yellow foxtail control was excellent where Chateau was applied. Season-long weed control did not result from any herbicide treatments due to the excessive rainfall.

Onions. Similar to cole crops, GoalTender (oxyfluorfen) has also been labeled for early postemergence application in seeded onions. The intent again is for the water based formulation to have enhanced crop safety over the solvent formulation of Goal 2XL. Butril (bromoxynil) has added a preemergence label for use on muck soils only. Butril is to be applied at least 3 to 4 days prior to onion emergence and rainfall or irrigation shortly before emergence may cause some injury.

Carrots. Studies were conducted to evaluate several unregistered or recently labeled herbicides in an effort to expand the number of options available to carrot growers. Prowl H₂O (pendimethalin) was recently labeled for preemergence use on carrots. In 2 years of field research, Prowl H₂O resulted in greater than 80% suppression of the parasitic weed dodder in the central sands. Additionally, Dual Magnum (available only through an indemnified 24c Special Local Needs label) was evaluated preemergence followed by Lorox (linuron) postemergence. In 2008, no injury was observed where either Prowl H₂O or Dual Magnum were applied preemergence and followed by Lorox postemergence.