

USING HERBICIDE-RESISTANT CORN HYBRIDS TO ESTABLISH AN ALFALFA COVER CROP

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Recent introductions of herbicide-resistant corn hybrids in New York offer opportunities for corn growers to produce silage corn with little erosion, and to reduce herbicide and tillage inputs. These opportunities result from the possibility of growing an alfalfa cover crop in corn. A common rotational practice in N.Y. is to grow 3 to 4 years of corn, followed by 3 to 4 years of alfalfa. In the proposed system, alfalfa would be seeded at the start of the last year of corn in each cycle, would grow as a cover crop during the season, and would continue growth after corn silage harvest. Though this system has been tried in the past, one seemingly insurmountable difficulty was the lack of ability to control weeds, either chemically or culturally, without damage to either the corn or the alfalfa crop. The introduction of some herbicide-resistant corn hybrids means that weeds can now be controlled by herbicides which are naturally safe on legumes and safe on the resistant corn hybrids.

In the IR experiment conducted at Aurora, no herbicide treatment resulted in silage yields as high as the pre-emergence control (19.0 T/A at 35% dry matter). The best-yielding treatments were Exceed (16.6 T/A), Lightning (16.3 T/A), Firstrate (14.5 T/A) and Beacon (14.8 T/A). However, at Valatie, all treatments yielded statistically as well as the pre-emergence control (14.7 T/A), with Beacon being the highest yielding treatment (13.8 T/A). In SR corn, the experimental treatment (Poast Plus and Buctril: 13.5 T/A) yielded as well as the control (17.9 T/A) though the difference would obviously be of concern to growers despite statistical insignificance. Similarly, in GR corn, Liberty-treated plots (12.1 T/A) were not significantly lower-yielding than the pre-emergence control (18.3 T/A), but the difference would be important to growers if not statisticians.

Treatments with the best hay yields from the 1998 experiment included Raptor, Beacon, and Exceed. Exceed and Beacon, therefore, appear to be the most promising treatments in that both corn yields and alfalfa yields are higher than for other treatments.

Next year alfalfa from this experiment will be cut as hay and evaluated. The best weed control treatments have real potential to make seedling alfalfa a manageable and economical cover crop in corn. Though this cropping system is risky (drought and alfalfa competition caused corn silage crop failure at Aurora in 1999), it appears that some treatments exist which might be useful in farm situations. We are considering on-farm trials using Exceed, Beacon, and perhaps another treatment in 2001.