**Wild oat control with HOE 1170 in hard red spring wheat and barley at Crookston, MN - 1998.** Durgan, Beverly R. and Jim Cameron. The objective of the this experiment was to evaluate wild oat control with HOE 1170 (fenoxaprop & safener) in combination with several broadleaf herbicides. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam soil. Following weedy fallow, the experimental area received 100 lb/A of N and was fall plowed. In the spring the experimental area was disked and harrowed. '2375' hard red spring wheat and 'Stander' barley were seeded on April 28 at rates of 1.5 and 1.75 Bu/A, respectively. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. The experimental design was a randomized complete block with three replications and plot size was 10 by 16 ft. Application date and environmental conditions are listed below. Crop injury was visually rated on June 4, June 29, and July 9. Weed control was visually rated on June 29 and July 9. Wheat yields were measured. All data are presented in Tables 1 and 2 for barley and wheat, respectively.

| | |
|---|---|
| Treatment Date | May 29 |
| Target weed or crop stage | 4-5 leaf Wioa |
| Soil Moisture | dry |
| Sky | clear |
| Wind | 10 N |
| Air Temperature (°F) | 46 |
| Rainfall before Application | |
| Week 1 (inch) | 0.00 |
| Rainfall after Application | |
| Week 1 (inch) | 0.29 |
| Week 2 (inch) | 0.93 |
| Wioa density (#/ft$^2$) | >300 |

HOE 1170 caused slight injury symptoms in barley at the second rating date. Injury was increased in the fluroxypyr tank mixes. Few injury symptoms occurred in wheat as a result of HOE 1170. Tiller caused injury to both barley and wheat at the second rating date, with the barley injury being greatest. Difenzoquat caused some early yellowing on both barley and wheat.

All HOE 1170 resulted in good to excellent wild oats control. Control was slightly lower however, when bromoxynil was included as a tank mix component. Tiller, imazamethabenz, tralkoxydim, and difenzoquat all resulted in initially fair wild oats control, but by the second rating date, control had greatly decrease.

Barley yields did not differ significantly. Wheat yield was slightly lower as a result of the poor wild oats control in the imazamethabenz treatment. Yield in the weedy check treatment was significantly lower than all the herbicide treatments in wheat.

**Table 1. Wild oat control with HOE 1170 in barley at Crookston, MN - 1998 (Durgan and Cameron).**

| Treatment | Rate | Barley Injury 6/4 | Barley Injury 6/29 | Barley Injury 7/9 | Wioa Control 6/29 | Wioa Control 7/9 | Barley Yield |
|---|---|---|---|---|---|---|---|
| | (lb ai/A) | % | % | % | % | % | Bu/A |
| Fenoxaprop & safener[1] | 0.104 | 0 | 7 | 0 | 99 | 98 | 62 |
| Fenoxaprop & safener + thifensulfuron & tribenuron[2] + NIS[3] | 0.104 + 0.013 & 0.006 + 0.25% | 0 | 10 | 0 | 99 | 99 | 64 |
| Fenoxaprop & safener + bromoxynil & MCPA ester[4] | 0.104 + 0.25 & 0.25 | 0 | 7 | 0 | 92 | 86 | 62 |
| Fenoxaprop & safener + bromoxynil | 0.104 + 0.25 | 0 | 7 | 0 | 92 | 92 | 62 |
| Fenoxaprop & safener + MCPA ester | 0.104 + 0.375 | 0 | 3 | 0 | 97 | 98 | 57 |
| Fenoxaprop & safener + fluroxypyr + thifensulfuron & tribenuron | 0.104 + 0.125 + 0.006 & 0.003 | 0 | 18 | 7 | 99 | 99 | 63 |
| Fenoxaprop & safener + fluroxypyr + clopyralid & MCPA amine[8] | 0.104 + 0.125 + 0.09 & 0.5 | 0 | 13 | 0 | 99 | 97 | 75 |
| Fenoxaprop & 2,4-D & MCPA[5] + bromoxynil | 0.09 & 0.12 & 0.37 + 0.25 | 0 | 40 | 12 | 78 | 57 | 55 |
| Imazamethabenz[6] + bromoxynil & MCPA ester + COC[7] | 0.31 + 0.25 & 0.25 + 0.5% | 0 | 0 | 0 | 68 | 13 | 51 |
| Tralkoxydim + TF8035 COC + bromoxynil & MCPA ester | 0.18 + 0.5% + 0.25 & 0.25 | 0 | 7 | 0 | 84 | 38 | 65 |
| Difenzoquat | 1.0 | 18 | 0 | 0 | 85 | 40 | 61 |
| Weedy check | | 0 | 0 | 0 | -- | -- | 45 |
| LSD (P=.05) | | 1 | 8 | ns | 8 | 10 | ns |

[1] HOE 1170.
[2] Premix = Harmony Extra 75DF.
[3] NIS = Class Preference nonionic surfactant.
[4] Premix = Bronate 4E.
[5] Premix = Tiller 2.77E.
[6] Assert LC 2.5E.
[7] COC = Class Crop Oil Concentrate.
[8] Premix = Curtail M 2.77E.

**Table 2. Wild oat control with HOE 1170 in hard red spring wheat at Crookston, MN - 1998 (Durgan and Cameron).**

| Treatment | Rate | Wheat Injury 6/4 | Wheat Injury 6/29 | Wheat Injury 7/9 | Wioa Control 6/29 | Wioa Control 7/9 | Wheat Yield |
|---|---|---|---|---|---|---|---|
| | (lb ai/A) | % | % | % | % | % | Bu/A |
| Fenoxaprop & safener[1] | 0.104 | 0 | 0 | 0 | 98 | 96 | 34 |
| Fenoxaprop & safener + thifensulfuron & tribenuron[2] + NIS[3] | 0.104 + 0.013 & 0.006 + 0.25% | 0 | 3 | 0 | 99 | 97 | 34 |
| Fenoxaprop & safener + bromoxynil & MCPA ester[4] | 0.104 + 0.25 & 0.25 | 0 | 0 | 0 | 91 | 85 | 38 |
| Fenoxaprop & safener + bromoxynil | 0.104 + 0.25 | 0 | 0 | 0 | 92 | 88 | 40 |
| Fenoxaprop & safener + MCPA ester | 0.104 + 0.375 | 0 | 0 | 0 | 95 | 94 | 37 |
| Fenoxaprop & safener + fluroxypyr + thifensulfuron & tribenuron | 0.104 + 0.125 + 0.006 & 0.003 | 0 | 3 | 0 | 99 | 97 | 33 |
| Fenoxaprop & safener + fluroxypyr + clopyralid & MCPA amine[8] | 0.104 + 0.125 + 0.09 & 0.5 | 0 | 7 | 0 | 99 | 97 | 38 |
| Fenoxaprop & 2,4-D & MCPA[5] + bromoxynil | 0.09 & 0.12 & 0.37 + 0.25 | 0 | 10 | 0 | 75 | 55 | 32 |
| Imazamethabenz[6] + bromoxynil & MCPA ester + COC[7] | 0.31 + 0.25 & 0.25 + 0.5% | 0 | 0 | 0 | 70 | 13 | 26 |
| Tralkoxydim + TF8035 COC + bromoxynil & MCPA ester | 0.18 + 0.5% + 0.25 & 0.25 | 0 | 0 | 0 | 85 | 37 | 35 |
| Difenzoquat | 1.0 | 18 | 3 | 0 | 75 | 38 | 32 |
| Weedy check | | 0 | 0 | 0 | -- | -- | 17 |
| LSD (P=.05) | | 1 | 5 | ns | 10 | 12 | 7 |

[1] HOE 1170.
[2] Premix = Harmony Extra 75DF.
[3] NIS = Class Preference nonionic surfactant.
[4] Premix = Bronate 4E.
[5] Premix = Tiller 2.77E.
[6] Assert LC 2.5E.
[7] COC = Class Crop Oil Concentrate.
[8] Premix = Curtail M 2.77E.