

Section VII
Foliage & Seed Feeding Pests

**PRELIMINARY RESEARCH ON CEREAL LEAF BEETLE ECONOMIC
THRESHOLDS IN MATURING SPRING WHEAT**

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Protocol

Treatments plus rates per cwt = 4 reps in RCBD of 7 rows x 20 feet in each of 2 trials. Seeding date 4-11-2006 using Hegi Cone Seed Drill – Variety Wawawai SWSW. Emergence 4-19-2006. Treatments consisted of experimental seed treatment insecticides plus a UTC.

Abstract

Cereal Leaf Beetle larvae (*Oulema melanoplus* (L)) appeared in leaf damaging numbers by June 1, 2006 in each of 2 spring wheat trials. Both trials were rated for CLB larvae per cent per M2 at boot stage on June 15, 2006. Flag leaf loss was calculated in terms of per cent destruction of leaf surface on July 1. In an effort to estimate wheat flag leaf per cent surface lost by cereal leaf beetle larval feeding, flag leaves were sampled from a ¼ meter square area in each of 4 replicates per treatment. Length of flag leaf was measured in centimeters for each replicate and means were produced statistically by AOV. Levels of flag leaf per cent losses were broken out for each treatment, with percentages in 5 % differences. The tables show increased length in flag leaf and reduced flag leaf damage above 15% by some of the insecticide seed treatment. Effect on flag leaf reduction by mechanical means could relate to flag leaf damage and wheat yield from CLB feeding. The need for a mechanical damage experiment is obvious. From the data tables seed treatment insecticide treatments do affect flag leaf damage and flag leaf length. As a bi-product of the research, a field insectary was established on the trial site to protect the *T. julius* parasitoid wasp present in ca. 50% of the larvae collected by Terry Miller, WSU Insectary Manager.

Valent Products under test

1 UTC	
2 Gaucho 480	5 ai grams/kg/ha
3 Gaucho 480	31 “
4 V10170	5
5 V10170	10
6 V10170	30
7 V10170	50
8 V10112	10
9 V10112	30
10 V10112	50

Bayer Crop Science Products under test

1 UTC	-----
2 Raxil XT	0.160 floz/cwt
3 Gaucho 600 FS	0.128
4 Gaucho 600 FS	0.256
5 Gaucho 600 FS	0.800
6 Poncho 600 FS	0.128
7 Poncho 600 FS	0.256
8 Poncho 600 FS	0.510
9 Ga + Poncho	0.128/0.128
10 Ga + Spinosad	0.128/0.160
11 Cruiser 5 FS	0.190
12 Cruiser 5 FS	0.383
13 Lindane	1.000
14 Dividend Ext	2.000

Table 1. Valent Trial cereal leaf beetle larval damage, length of flag leaf, and leaves displaying 20 or more per cent flag leaf surface loss.

Trt	CM	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70+	Leaves	L20%>
1	11.5	11	9	2	1	1	-	-	-	2	1	3	1	-	1	1	33	30
2	11.5	15	12	5	5	2	3	1	1	1	1	1	-	1	2	-	50	26
3	13.5	15	5	2	-	-	-	-	1	-	-	1	2	3	1	-	30	27
4	14.0	21	8	10	1	1	-	1	-	1	-	1	-	1	1	1	53	11
5	12.5	25	11	5	1	1	-	-	-	-	2	-	-	1	-	-	46	13
6	14.0	15	5	4	2	2	3	-	2	-	1	4	-	-	1	-	41	36
7	15.0	37	9	5	-	-	-	-	-	-	-	-	-	1	1	-	53	4
8	14.0	35	7	1	5	1	-	-	-	1	2	-	-	-	-	-	52	8
9	15.0	24	11	1	2	-	-	-	-	1	-	-	-	-	2	-	41	7
10	15.0	14	8	7	1	2	-	3	-	4	-	-	-	-	-	-	36	25

Table 2. Bayer CS Trial cereal leaf beetle larval damage, length of flag leaf , and leaves displaying 20 or more per cent surface loss.

Trt	CM	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70+	Leaves	L20%>
1	11.5	17	6	5	5	-	-	2	-	2	1	2	-	-	1	-	41	20
2	11.5	9	13	6	4	3	1	1	5	-	-	1	1	-	-	-	44	27
3	11.5	16	7	4	3	-	2	3	2	-	-	-	2	1	1		41	27
4	14.0	25	10	6	5	-	-	-	3	-	-	-	1	-	1	-	51	10
5	14.5	4	10	6	3	-	7	-	3	3	-	2	2	2	-	-	42	45
6	15.5	12	8	5	4	3	1	-	4	-	1	-	-	-	-	-	38	24
7	15.0	8	7	6	6	-	1	3	-	2	2	2	-	1	2	-	40	33
8	16.0	4	9	7	2	-	2	-	2	-	4	1	-	1	1	-	33	33
9	17.0	16	12	8	3	2	-	5	2	-	3	1	3	-	3	-	57	33
10	16.0	15	9	8	4	-	3	-	1	-	-	-	-	-	-	-	40	10
11	14.0	14	11	4	2	1	-	2	2	-	-	-	1	1	1	-	46	17
12	15.0	21	7	5	5	1	1	3	-	-	2	-	-	-	-	-	46	15
13	11.0	17	4	3	1	-	2	1	-	-	2	-	2	1	2	2	35	34
14	10.5	9	14	2	2	2	-	3	1	-	-	-	1	-	-	1	35	23