2007 Corn Spider Mite Miticide Trial – Montrose, CO

Bob Hammon & Melissa Franklin, Colorado State University Extension, Tri River Area, Grand Junction, CO, bob.hammon@mesacounty.us

Objective: Evaluate Onager 1E at 3 rates, ground or aerially applied, for Banks grass mite control in field corn. Treatments are listed in Table 1.

Cooperator/Plot location: Diamond F Cattle & Farm, 14231 6100 Rd, Montrose, CO 81401.

Plot layout: Treatments were applied in strips. The ground application was 80 ft wide, aerial applications were 74 ft wide. Sampling was done 50, 100, 150 & 200 paces into the center of the strips.

Ground Application: 9 July 2007; Fedler Spraying Service, Delta, CO; Hagie 2101 Sprayer with 80 ft boom equipped with drop nozzles. Application rate 20 gal/A.

Aerial Application: 11 July 2007, Olathe Spray Service, Olathe, CO. Applied at 5 gal/A with AT402B aircraft with CP03 nozzles, 0.172 orifice, 30° deflection angle and 30 PSI boom pressure. Sprays were applied half boom, with the overlap positioned in the center of the plot (Figure 1).

Sampling: Five leaves (waist level) were chosen from each plot on each sample date. Mites and eggs were brushed from the leaves onto round glass slides with a Leedom Engineering mite brushing machine.

Figure 1. Aerial and ground application to plots.

Results: All treatments had lower mite and egg counts than the untreated control. Counts in the Onager 10 oz/A aerial treatments tended to be greater than those in the Onager 8 oz/A ground or Onager 12 oz/A aerial treatments although differences were not always significant. Mite populations were increasing in Onager 12 oz/A and Comite plots in late August.

Table 1. Mite and egg counts. Data was log (X + 1) transformed before AOV. Actual means are shown. Means within a column followed by the same letter are not significantly different (LSD P<0.05)

		Sample Date						
		19-Jul	26-Jul	02-Aug	09-Aug	16-Aug	22-Aug	29-Aug
		6 ft	1st silk	Pollen shed	Blister	Milk	Dough	Dent
Treatment		**Mites per five leaves**						
Onager 8.0 oz./A	Ground	129.0	27.0 B	6.0 B	36.0 B	18.0 C	21.0 B	51.0 BC
Onager 10 oz./A	Aerial	54.0	120.0 AB	78.0 AB	111.0 B	432.0 B	513.0 AB	102.0 B
Onager 12 oz./A	Aerial	30.0	51.0 B	12.0 B	42.0 B	39.0 BC	15.0 B	0.0 D
Comite 2.25 pt./A	Aerial	30.0	48.0 B	12.0 B	42.0 B	21.0 BC	15.0 B	105.0 B
Oberon 3.5 oz./A	Aerial	18.0	42.0 B	48.0 B	15.0 B	15.0 C	24.0 B	12.0 CD
Untreated		72.0	432.0 A	1452.0 A	2196.0 A	1869.0 A	2379.0 A	4002.0 A
P-value		0.1490	0.0015	0.0006	0.0002	0.0001	0.0005	<0.0001
Treatment		**Eggs per five leaves**						
Onager 8.0 oz./A	Ground	756.0	345 C	180 D	33.0 D	3.0 B	9.0 BC	45.0 CD
Onager 10 oz./A	Aerial	603.0	1347 AB	432 BC	522.0 B	1218.0 A	1311.0 AB	201.0 BC
Onager 12 oz./A	Aerial	360.0	990 BC	276 CD	156.0 BC	45.0 B	0.0 C	9.0 DE
Comite 2.25 pt./A	Aerial	519.0	2637 AB	438 BC	99.0 CD	9.0 B	24.0 C	399.0 B
Oberon 3.5 oz./A	Aerial	204.0	1719 AB	582 B	171.0 BCD	0.0 B	15.0 BC	3.0 E
Untreated		1227.0	4470 A	5850 A	3072.0 A	3318.0 A	3030.0 A	4614.0 A
P-value		0.5998	0.0709	<0.0001	<0.0001	<0.0001	0.0002	<0.0001