Crimson Clover Fungicide Trials – 2004

Purpose: To obtain data on the efficacy of Flint and Quadris for control of sclerotinia crown rot and wilt, *Sclerotina trifoliorum*, in crimson clover. This data and data from similar trials conducted in 1999 and 2001 will be used to support a request for a 24c Special Local Need label for the use of Flint and Quadris in crimson clover. Additional fungicides Omega, Headline and two rates of Endura were added later to the trial.

Procedure: Three trial sites were established during February 2004, in fall planted crimson clover fields in Washington County. Flint, Quadris, Omega and the industry standard, Rovral, were applied at all three sites on 3/3/04. Trial sites were monitored approximately every two weeks for development of sclerotinia. By 4/15, two of the sites had developed no symptoms of disease and were terminated. Some sclerotinia was found at the site near Forest Grove, yet there was no difference in occurrence or severity of disease between the untreated check and the treatments, which suggested that there was no remaining effect from the initial application. This site was retained for retreating. One new site with significant infection levels was found near Laurel and plots were established at that site. The Laurel site was treated on 5/3 and the Forest Grove site was treated on 5/4, both with an expanded number of fungicides. Final evaluations were made at these sites on 5/31. Evaluations consisted of counting dead and infected stems per foot of row at two locations within each plot. The average number of stems per foot of row at the Laurel site was 27.8. The average number of stems per foot of row at the Forest Grove site was 29.2.

Results: Dead and infected stems per foot of row (total of two locations/plot) at the Laurel site.

Treatments	R1	R2	R3	R4	Total	Ave.
1) Untreated Check	8	23	19	31	81	10.1
2) Quadris @ 10 oz/ac.	4	1	11	4	20	2.5
3) Flint @ 2 oz/ac.	10	1	8	2	21	2.6
4) Omega @ 8 oz/ac.	8	4	3	2	17	2.1
5) Rovral @ 2 pts/ac	6	4	5	6	21	2.6
6) Headline @ 9 oz/ac.	17	10	4	9	40	5.0
7) Endura @ 2.5 oz/ac.	13	5	22	2	42	5.3
8) Endura @ 5.0 oz/ac.	3	2	7	3	15	1.9

Crimson Clover Fungicide Trials – 2004

Results: Dead and infected stems per foot of row (total of two locations/plot) at the Forest Grove site.

Treatments	R1	R2	R3	R4	Total	Ave.
1) Untreated Check	31	8	27	26	92	11.5
2) Quadris @ 10 oz/ac.	13	12	9	10	44	5.5
3) Flint @ 2 oz/ac.	28	23	19	22	92	11.5
4) Omega @ 8 oz/ac.	9	6	3	4	22	2.8
5) Rovral @ 2 pts/ac	4	4	12	4	24	3.0
6) Headline @ 9 oz/ac.	2	2	4	22	30	3.8
7) Endura @ 2.5 oz/ac.	6	12	11	15	44	5.5
8) Endura @ 5.0 oz/ac.	2	9	8	6	25	3.1
9) Untreated Check #2	7	19	32	20	78	9.8

Discussion: Volunteer arrowleaf clover became a weed problem at the Forest Grove trial site creating a very dense, heavy, vegetative mat in most plots. This may account for higher levels of infestation/poorer control at Forest Grove, especially in the Flint treated plots. The average infection levels in portions of the Untreated Check plots at both sites approached 50% (10.1 to 11.5 infected stems per foot of row compared to 27.8 to 29.2 total stems per foot of row).

Although this trial initially focused on Flint and Quadris, Omega and the high rate of Endura provided the best control when both sites are considered. Results show a rate response at both sites from Endura i.e., better control @ 5.0 oz/ac. than @ 2.5 oz/ac.

This group of test chemicals represents products from four different fungicide families. Alternate use of products from different chemical families provides the best method of avoiding resistance to disease.

Conclusion: All fungicides in this trial reduced the incidence of sclerotinia when compared to the Untreated Check. Results at both trial sites indicate that Omega applied @ 8 oz/ac. and Endura applied @ 5 oz/ac. provided the most significant and consistent control of sclerotinia crown rot and wilt in crimson clover grown for seed.