ONTOARIO SUGAR BEET GROWERS’ ASSOCIATION
RESEARCH SUMMARY RESULTS

THE DEVELOPMENT OF PEST MANAGEMENT STRATEGIES FOR INSECTS AND PLANT DISEASES IN SUGARBEETS - 2001

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RHIZOCTONIA CROWN ROT

CONTROL OF EARLY RHIZOCTONIA CROWN ROT IN SUGARBEETS
BAS 500 and QUADRIS 250SC applied at the 8 leaf stage reduced the number of plants dying from Rhizoctonia crown rot infections. Only BAS 500 applied later at row closure maintained the plant population while plant losses were recorded at that time of application in the QUADRIS 250SC and the control plots. Application of both BAS 500 and QUADRIS 250SC applied both at the 8 leaf and at row closure provided significant control of Cercospora leaf spot well after the application observed into September. The level of Cercospora leaf spot control was higher with BAS 500.

COMMERCIAL FIELD EVALUATION FOR THE CONTROL OF RHIZOCTONIA CROWN ROT IN SUGARBEETS
The level of Rhizoctonia crown rot was extremely low in all eleven sugarbeet fields surveyed. As a consequence there were no treatment effects. Cercospora leaf spot incidence at the time of evaluations were low also in many fields however those fields that had any sort of foliage disease pressure showed treatment effects. In field #8, where Cercospora disease pressure was the highest, both HEADLINE 250EC and QUADRIS applied at row closure provide a level of control greater than the earlier fungicide applications at the 8 leaf stage. A similar trend, that being a reduction of Cercospora leaf spot when fungicides were applied at row closure, especially with HEADLINE 250EC, was observed in fields 2, 4, 5 and 6.

CERCOSPORA LEAF SPOT

REGISTERED FUNGICIDES FOR THE CONTROL OF CERCOSPORA LEAFSPOT IN SUGAR BEETS
The most effective and consistent treatments for the control of Cercospora leafspot in sugarbeets were the spray combination of SENATOR 70WP + DITHANE DG 75%NT and using PENNCOZEB 75DF alone. There were a number of other effective fungicides including KOCIDE 101, CUPRIFIX DF20% and DITHANE M-45. The remaining treatments including the wettable formulation of PENNCOZEB 80WP, DITHANE DG 75%NT and KOCIDE 101 with the surfactant ASSIST were less effective with MANZATE 200DF the least effective in controlling Cercospora leafspot in sugarbeets this year.
EVALUATION OF CANDIDATE FUNGICIDES FOR THE CONTROL OF CERCOSPORA LEAFSPOT IN SUGARBEETS

Outstanding control of Cercospora leafspot in sugarbeets was observed with alternate sprays of EMINENT 125 SL and HEADLINE 250 EC, EMINENT 125 SL alternated with a tank mix combination of SENATOR 70WSB + DITHANE DF 75% NT, and both of HEADLINE 250EC and FLINT 50WG applied alone. The addition of the surfactant ASSIST did not seem to make any significant improvement for the control of Cercospora leafspot nor differences in the rates of HEADLINE. Apparently even the lowest rate proved to be very effective. Products that were less effective, although significantly better than the control, were QUADRIS 250SC, BRAVO ULTREX 82.5 DG and FOLICUR 3.6 F.

INITIAL SPRAY APPLICATION TIMING FOR CERCOSPORA LEAFSPOT CONTROL IN SUGARBEETS

Under dry summer conditions the initial spray applications could have been delayed until August 2, when the Disease Severity Values had accumulated a value of 70. Initiating sprays earlier, such as on July 2, or 16 or when first symptom appeared this year on July 11, provided excellent control of Cercospora leafspot however additional sprays were applied that were unnecessary. Delaying the initial spray application until August 15 or as calculated by TomCast a disease severity value of 86, resulted in higher levels of Cercospora disease on the sugarbeet foliage.

Growers would do well to use the weather timed spray program modified for use in sugarbeets using the initial spray criteria of between 55 and 70 Disease Severity Values.

TIMING OF SUBSEQUENT SPRAY APPLICATIONS FOR CERCOSPORA LEAFSPOT CONTROL IN SUGARBEETS

The most critical spray date of application was on 55 Disease Severity Values on July 20 with the combination spray of SENATOR 70 WSB + DITHANE DF 75% NT. This single application was as effective as multiple spray applications. The growing season was dry however Cercospora Leafspot did increase later on in the season yet with this one application of a very effective combination fungicide outstanding control was achieved. It is critical to note that control was not achieved using this single spray date using the less effective Cercospora fungicide DITHANE DF 75% NT. Considerably more applications of DITHANE DF 75% NT would be necessary beyond the two applied in this trial to effectively keep Cercospora Leafspot under control even in a low disease pressure situation. The combination SENATOR 70 WSB + DITHANE DF 75% NT is an extremely effective fungicide treatment for the control of Cercospora Leafspot and using the weather timed models the number of applications can be reduced significantly depending on the weather.