

Foliar Fungicides – Standard Chemistries – Early Blight (1500 Series)

Location: Field 1 - Browerville, MN
Plot design: 4 rows X 30 feet X 4 replicates; RCBD
All four rows were sprayed; data taken from center two rows

Planting date: April 29-30, 2005
Row width: 36 inches
Seed spacing: 14 inches
Soil Temperature: 47F

Cultivar: Russet Burbank
Emergence: June 1

Fertilizer: Broadcast: 306#K, 33#Mg, 66#S;
Starter: 71#N, 142#P, 1# Zn;
Sidedress: 80#N, 1.5# B; May 24
Fertigation: 30#N; July 8, 13, 18
20#N; July 28

Herbicide: Sencor (0.6 lb/a) + Dual II (1.25 pt/a) pre-emergence; May 28
Matrix (1.5 oz/a) post-emergence; July 7

Insecticide: Platinum in-furrow (8.0 oz/a)
Baythroid (1.0 oz/a); July 12, August 1

Early blight inoculation method: Ten *A. solani* isolates with reduced-sensitivity to azoxystrobin were grown for 6-15 days on CV-8 medium. Spores were dislodged, and diluted in 0.25% gelatin to a concentration of 2.1×10^3 sp/ml. The spore solution was sprayed onto the outside two rows of each four-row plot on August 4.

Fungicide application dates: June 21, 27, July 5, 12, 20, 26
August 1, 8, 16, 23, 30

Fungicide application method: Fungicides were applied using a converted ATV.
(55 psi; 61 gpa; 11005XR nozzles)

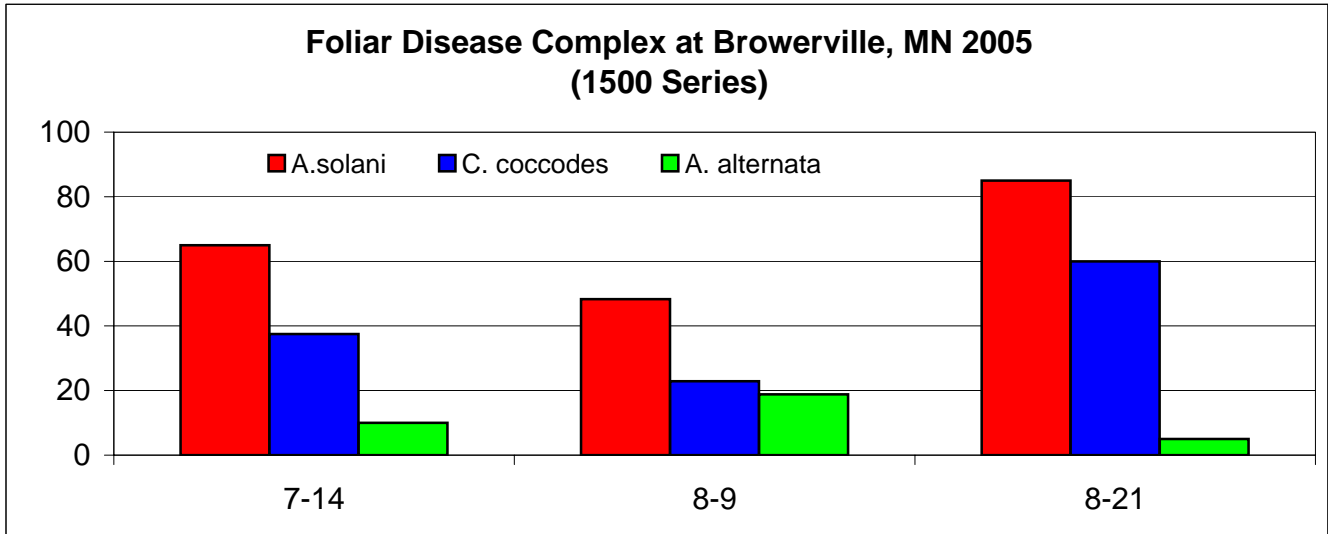
Vinekill: Rotobeat; September 9

Harvest: September 14, 15

NOTE: Despite hand selection of seed, hand cutting, and hand planting with an assist feed planter, there was significant seed piece decay this year, therefore yield results should be interpreted with great care.

Foliar Disease Complex at Browerville, MN 2005 (1500 Series)

date	A.solani	C. coccodes	A. alternata
7-14	65	37.5	10
8-9	48.3	22.9	18.8
8-21	85	60	5



NOTE: The sum of the three pathogens recovered is greater than 100% because in some cases, more than one pathogen was recovered from a single lesion.

Early Blight Foliar Standard Commercial Fungicides Browerville Series 1500

Treatment	Rate	Schedule	% Emergence	Early Blight (%Severity)											AUDPC	RAUDPC	Total Yield (cwt/a)	
				6/28	7/7	7/14	7/21	7/27	8/3	8/10	8/17	8/24	8/31	9/7				
1501 Untreated	-	-	62.9	0.05	0.21	1.4	3.5	4.9	11.3	21.3	51.3	92.0	97.4	99.3	2326.9	0.328	374.1	
1502 Manzate Pro Stick	1.0 lb / a	1-3	63.8	0.16	0.35	0.6	1.9	3.6	8.3	10.8	30.9	70.6	95.1	98.2	1897.5	0.267	395.9	
Manzate Pro Stick	2.0 lb / a	4-9																
Echo Zn	2.125 pt / a	10-11																
1503 Dithane	1.0 lb / a	1-3	65.0	0.22	0.26	0.8	1.0	3.1	6.0	7.3	17.4	55.6	89.0	96.6	1600.7	0.225	372.0	
Dithane	2.0 lb / a	4-9																
Echo Zn	2.125 pt / a	10-11																
1504 Tanos +	6.0 oz / a +	1,3,5	70.8	0.04	0.20	0.3	1.8	2.9	5.6	11.5	28.8	63.8	93.8	97.6	1799.3	0.253	414.2	
Manzate	1.5 lb / a	2,4,6-11																
Manzate	2.0 lb / a																	
1505 Manzate	2.0 lb / a	1,2,4,6-11	66.7	0.33	0.53	1.1	1.4	3.1	6.5	8.8	27.5	55.0	91.6	98.2	1711.4	0.241	402.9	
Tanos +	6.0 oz / a +	3,5,7																
Manzate	1.5 lb / a																	
1506 Tanos +	6.0 oz / a +	1,3	67.5	0.01	0.18	0.5	1.3	2.5	5.8	8.5	32.3	62.9	87.9	97.3	1752.4	0.247	389.1	
Manzate	1.5 lb / a	2,4-11																
Manzate	2.0 lb / a																	
1507 Manzate	2.0 lb / a	1-4,6,8,10,11	61.7	0.09	0.39	0.6	1.2	3.5	6.4	9.8	31.6	66.3	95.6	98.4	1850.1	0.261	401.2	
Tanos +	6.0 oz / a +	5,7,9																
Manzate	1.5 lb / a																	
1508 Manzate	2.0 lb / a	1-4,6,8-11	69.6	0.01	0.30	0.5	1.9	3.9	6.6	12.3	32.2	60.3	93.1	98.3	1818.7	0.256	421.4	
Tanos +	6.0 oz / a +	5,7																
Manzate	1.5 lb / a																	
1509 Quadris Opti	1.6 pt / a	1,3	67.9	0.03	0.18	0.9	2.6	3.8	6.3	9.1	21.5	41.6	79.8	97.1	1497.3	0.211	330.8	
Dithane	2.0 lb / a	2,4,6,8,10																
Bravo Zn	2.125 pt / a	5,7,9,11																
1510 Quadris +	6.2 fl oz / a +	1,6	64.6	0.03	0.06	0.6	1.7	2.4	5.4	7.3	15.3	30.5	84.1	93.6	1355.9	0.191	421.9	
Dithane	2.0 lb / a	2,3,5,7,9-11																
Bravo Zn	2.125 pt / a																	
Endura +	2.5 oz / a +																	4,8
Dithane	2.0 lb / a																	

Treatment	Rate	Schedule	% Emergence	Early Blight (%Severity)											AUDPC	RAUDPC	Total Yield (cwt/a)
				6/28	7/7	7/14	7/21	7/27	8/3	8/10	8/17	8/24	8/31	9/7			
1511 Quadris + Dithane Bravo WS	6.2 fl oz / a + 1.5 lb / a 1.5 pt / a	1,3,5,7,9,11 2,4,6,8,10	68.3	0.33	0.30	1.1	2.7	4.0	8.1	13.3	36.6	75.0	94.9	98.5	1995.3	0.281	395.8
1512 Quadris + Bravo WS Dithane	6.2 fl oz / a + 1.0 pt / a 2.0 lb / a	1,3,5,7,9,11 2,4,6,8,10	68.3	0.03	0.14	0.2	1.0	2.1	7.1	10.1	24.1	44.1	83.4	94.1	1533.6	0.216	410.9
1513 Amistar + Bravo WS Dithane	2.0 oz / a + 1.0 pt / a 2.0 lb / a	1,3,5,7,9,11 2,4,6,8,10	65.4	0.33	0.73	1.3	2.5	3.9	9.6	14.9	27.2	56.3	91.4	97.7	1795.3	0.253	380.0
1514 Dithane Tanos + Bravo WS Endura + Bravo WS	2.0 lb / a 6.0 fl oz / a 1.0 pt / a 2.5 oz / a 1.0 pt / a	1,2,4,6,8,10,11 3,7 5,9	66.7	0.04	0.38	0.5	1.4	2.2	4.4	6.1	13.6	30.4	80.8	92.6	1301.3	0.183	403.5
1515 Dithane Scala + Echo Zn Dithane	2.0 lb / a 7.0 fl oz / a + 1.3 pt / a 2.0 lb / a	1 2,4 3,5-11	62.5	0.21	0.20	0.4	1.3	3.0	7.2	9.9	23.6	53.8	90.8	97.8	1672.6	0.236	411.2
1516 Dithane Scala + Echo Zn	2.0 lb / a 7.0 fl oz / a + 1.3 pt / a	1-6,8,10,11 7,9	62.5	0.01	0.22	0.6	1.5	4.2	6.3	10.4	25.9	51.9	89.4	96.7	1668.9	0.235	369.1
1517 Dithane Reason + Bond+ Dithane Echo Zn	2.0 lb / a 4.0 fl oz / a + 0.1% v/v + 2.0 lb / a 2.125 pt / a	1,2,4,6 3,5,7 8-11	65.4	0.09	0.48	0.7	1.1	2.5	4.8	8.1	22.0	39.4	85.0	96.3	1484.5	0.209	388.8
1518 Echo Zn Reason + Bond+ Dithane Scala + Dithane	2.125 pt / a 4.0 fl oz / a + 0.1% v/v + 2.0 lb / a 7.0 fl oz / a + 2.0 lb / a	1,3,5,7,9-11 2,6 4,8	69.6	0.02	0.14	0.5	0.6	1.4	3.8	10.8	19.9	43.4	88.0	94.9	1510.6	0.213	393.2

Treatment	Rate	Schedule	% Emergence	Early Blight (%Severity)												AUDPC	RAUDPC	Total Yield (cwt/a)
				6/28	7/7	7/14	7/21	7/27	8/3	8/10	8/17	8/24	8/31	9/7				
1528 Echo Zn	2.125 pt / a	1,3,5,7,9-11	69.2	0.02	0.32	0.4	0.6	1.6	3.0	7.3	12.3	27.9	92.0	96.6	1355.3	0.191	400.4	
Tanos +	6.0 oz / a +	2,6																
Dithane	2.0 lb / a																	
Endura +	2.5 oz / a +	4,8																
Dithane	2.0 lb / a																	
1529 Bravo Zn	2.125 pt / a	Full Season	69.2	0.11	0.27	1.6	2.4	4.2	8.5	12.8	32.8	60.9	89.9	97.3	1831.9	0.258	389.4	
1530 Bravo Zn	2.125 pt / a	1,2,4,6,8,10,11	69.2	0.06	0.10	0.4	1.0	2.2	7.3	13.1	30.9	59.1	96.3	98.6	1816.1	0.256	397.9	
Quadris +	6.2 fl oz / a +	3,5,7,9																
Dithane	1.5 lb / a																	
1531 Penncozeb 75DF	2.0 lb / a	Full Season	71.7	0.06	0.59	1.8	2.6	3.9	6.9	13.9	28.1	67.2	95.4	98.0	1883.5	0.265	401.3	
1532 Penncozeb 4FL	1.5 qt / a	Full Season	62.9	0.01	0.14	0.4	0.6	2.3	5.5	12.3	27.8	66.9	93.9	97.8	1809.7	0.255	408.7	
1533 Penncozeb 4FL	1.5 qt / a	1,3,5,7,9,11	66.3	0.11	0.31	1.4	3.7	3.6	8.6	11.2	31.7	65.9	93.6	99.1	1883.8	0.265	392.8	
Bravo Zn	2.125 pt / a	2,4,6,8,10																
1534 Bravo Zn	2.125 pt / a	1,2,4,6-11	64.6	0.00	0.11	0.3	2.4	3.8	5.1	9.6	27.8	62.1	94.1	97.8	1776.0	0.250	384.4	
Tanos +	6.0 oz / a +	3																
Dithane	1.5 lb / a																	
Endura +	5.5 oz / a	5																
Dithane	1.5 lb / a																	
1535 Bravo Zn	2.125 pt / a	1,2,4,6,8-11	67.9	0.23	0.41	0.9	1.2	2.0	3.2	6.6	13.9	31.7	79.4	96.5	1312.1	0.185	389.6	
Tanos +	6.0 oz / a +	3																
Dithane	1.5 lb / a																	
Endura +	2.5 oz / a +	5																
Dithane	1.5 lb / a																	
Scala +	7.0 fl oz / a +	7																
Dithane	1.5 lb / a																	
1536 Bravo Zn	2.125 pt / a	1,2,4,6-8,10,11	65.0	0.08	0.11	0.3	0.8	1.9	3.3	6.6	15.1	27.8	86.6	95.6	1330.3	0.187	416.7	
Tanos +	6.0 oz / a +	3																
Dithane	1.5 lb / a																	
Endura +	2.5 oz / a +	5																
Dithane	1.5 lb / a																	
Scala +	7.0 fl oz / a +	9																
Dithane	1.5 lb / a																	
LSD _{P=0.05}			NS	0.23	0.30	0.6	1.2	1.7	2.3	3.6	8.5	15.3	8.4	3.8	358.9	0.051	41.8	