

Black Dot Fungicide Screening Trial (200 Series)

Location: Field 4 - Browerville, MN
Plot design: 4 rows X 30 feet X 4 replications, RCBD

Planting date: April 25, 2003
Row width: 36 inches
Seed spacing: 14 inches

Soil Temp: 51F

Cultivar: Russet Burbank

Emergence: May 26

Fertilizer: Row Marked: lb/a (60N, 150P, 80K, 10Mg, 21S)
Sidedress: lb/a (100N), May 17
Fertigation: lb/a (30N); June 21, 29, July 4, 10, 15
(24N); July 20
(21N); July 25
(18N); July 30
Foliar (5N); July 7, 14, 21, 28, August 4

Herbicide: Sencor (0.6 lb/a) + Dual II (1.75 pt/a) pre-emergence, May 17

Insecticide: Platinum in-furrow (8 oz/a)
Dimethoate (6 oz/a); June 25
Dimethoate (4 oz/a); July 7
Asana (3 oz/a); July 21, 28
Agrimek (16 oz/a); August 8

Fungicide application dates: June 10, 17, 25, 30
July 7, 14, 21, 28
August 4, 11, 18, 25

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

Harvest: September 8, 9

Black Dot Fungicide Screening - Browerville 200 Series

Treatment	Rate	Schedule	Early Blight (% Severity)											AUDPC	RAUDPC	Black Dot (% Incidence)		AUDPC	RAUDPC
			6/16	6/24	6/30	7/7	7/14	7/21	7/28	8/4	8/15	8/22	8/18			8/22			
201 Untreated			9.2	7.2	9.4	10.7	12.5	12.8	15.1	21.8	86.3	98.6	1824.2	0.27	50.2	50.8	377.5	0.15	
202 Dithane	2.0 lb/a	full season	7.8	7.3	8.3	9.8	10.4	11.5	8.0	8.4	37.8	74.4	1090.1	0.16	6.3	11.9	58.5	0.02	
203 Bravo WS	1.5 pt/a	full season	8.7	7.3	9.2	10.3	13.1	13.9	13.0	18.1	75.3	96.8	1676.9	0.25	43.3	45.5	329.3	0.13	
204 Maxim Mz	0.25 lb/cwt	seed treatment	7.5	5.3	11.7	11.9	15.4	18.3	20.0	26.3	84.9	98.7	1950.2	0.29	42.0	45.1	321.5	0.13	
Bravo WS	1.5 pt/a	full season																	
205 Maxim Mz	0.5 lb/cwt	seed treatment	7.7	5.8	8.3	7.7	10.6	11.4	12.1	12.8	84.1	99.7	1638.8	0.24	43.0	42.2	321.0	0.13	
Bravo WS	1.5 pt/a	full-season																	
206 Quadris	6.0 oz/a	in-furrow	9.3	7.9	11.2	15.9	17.4	16.9	17.2	18.4	74.4	97.6	1815.7	0.27	37.2	38.1	280.8	0.11	
Bravo WS	1.5 pt/a	full season																	
207 Maxim Mz	0.25 lb/cwt	seed treatment	6.9	6.9	6.6	8.2	9.3	8.8	8.8	13.4	75.4	98.9	1510.0	0.23	33.9	35.9	258.4	0.10	
Quadris	6.0 oz/a	in-furrow																	
Bravo WS	1.5 pt/a	full season																	
208 Quadris	6.0 oz/a	in-furrow	7.6	8.3	11.9	16.1	16.3	17.2	16.5	17.0	68.6	96.2	1737.3	0.26	40.3	42.5	306.5	0.12	
Quadris	6.2 oz/a	2,3																	
Bravo WS	1.5 pt/a	1,4-12																	
209 Quadris	6.2 oz/a	2,3	6.7	7.2	8.4	10.1	10.4	13.1	10.9	17.6	73.0	96.6	1596.7	0.24	33.8	34.7	255.2	0.10	
Bravo WS	1.5 pt/a	1,4-12																	
210 Maxim Mz	0.25 lb/cwt	seed treatment	7.3	6.6	9.3	10.5	13.2	13.5	11.8	14.5	52.2	86.1	1380.7	0.21	18.7	21.6	145.9	0.06	
Quadris	6.0 oz/a	in-furrow																	
Quadris	6.2 oz/a	2,3																	
Bravo WS	1.5 pt/a	1,4-12																	
211 Maxim Mz	0.25 lb/cwt	seed treatment	8.4	5.8	10.8	9.7	13.1	13.4	13.1	17.8	76.3	98.4	1682.5	0.25	46.9	44.3	346.7	0.14	
Quadris	6.2 oz/a	(banded) May 29																	
Quadris	6.2 oz/a	1,2																	
Bravo WS	1.5 pt/a	3-12																	
212 Quadris	6.2 oz/a	1,3,5,7,9,11	9.4	8.0	11.9	14.8	14.8	14.6	16.1	16.9	62.5	92.0	1630.5	0.24	28.7	28.9	215.8	0.09	
Echo Zn	2.0 pt/a	2,4,6,8,10,12																	
213 Headline	6.1 oz/a	1,3,5,7,9,11	7.5	7.4	10.4	14.1	17.8	17.3	16.7	26.4	72.9	92.4	1828.4	0.27	26.0	26.3	195.5	0.08	
Echo Zn	2.0 pt/a	2,4,6,8,10,12																	
214 Headline	9.2 oz/a	1,3,5,7,9,11	7.9	7.6	10.1	12.5	12.4	11.1	13.4	15.3	47.8	79.4	1344.0	0.20	15.9	14.4	116.4	0.05	
Echo Zn	2.0 pt/a	2,4,6,8,10,12																	
215 Headline	12.3 oz/a	1,3,5,7,9,11	7.8	6.4	8.6	10.8	10.1	11.3	11.5	14.5	58.1	95.6	1425.8	0.21	17.7	20.3	137.9	0.06	
Echo Zn	2.0 pt/a	2,4,6,8,10,12																	

Treatment	Rate	Schedule	Early Blight (% Severity)											AUDPC	RAUDPC	Black Dot (% Incidence)		AUDPC	RAUDPC
			6/16	6/24	6/30	7/7	7/14	7/21	7/28	8/4	8/15	8/22	8/18			8/22			
216 Gem	6.0 oz/a	1,3,5,7,9,11	7.4	8.6	12.0	10.8	12.8	12.5	14.8	18.2	64.4	94.1	1597.9	0.24	29.9	31.8	227.9	0.09	
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
217 Reason +	8.2 oz/a +	1,3,5,7,9,11	6.9	7.6	7.8	10.7	10.0	10.0	8.3	16.6	65.6	94.4	1474.3	0.22	35.9	40.4	278.2	0.11	
Bond	0.1 % v/v																		
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
218 Gem	8.0 oz/a	1,3,5,7,9,11	7.6	5.8	12.4	12.1	12.7	14.2	15.6	18.1	58.1	85.9	1523.8	0.23	31.7	30.8	235.8	0.09	
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
219 Tanos +	8.0 oz/a +	1,3,5,7,9,11	8.6	6.3	10.9	12.3	13.0	16.5	17.3	18.9	64.3	91.3	1631.2	0.24	27.3	28.7	207.5	0.08	
Dithane	1.5 lb/a																		
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
220 Tanos +	10.0 oz/a +	1,3,5,7,9,11	8.3	5.1	11.3	12.9	16.3	16.1	12.4	13.1	60.3	92.9	1532.5	0.23	23.2	28.4	184.5	0.07	
Dithane	1.5 lb/a																		
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
221 Topsin M +	1.0 lb/a +	1,3,5,7	7.9	8.1	7.5	8.8	11.1	11.5	12.3	12.7	51.9	88.9	1334.7	0.20	20.8	24.7	163.6	0.07	
Penncozeb 75DF	2.0 lb/a																		
Penncozeb 75DF	2.0 lb/a	2,4,6																	
Bravo Zn	2.0 pt/a	8-12																	
222 Topsin M +	0.5 lb/a +	1-7	6.7	6.6	7.3	8.1	10.0	9.3	7.2	9.3	42.2	82.5	1114.5	0.17	13.5	17.5	109.2	0.04	
Penncozeb 75DF	2.0 lb/a																		
Bravo Zn	2.0 pt/a	8-12																	
223 Endura +	2.5 oz/a +	1,3,5,7,9,11	6.4	6.0	6.0	8.7	8.4	8.9	6.1	4.5	20.8	75.5	823.0	0.12	9.4	15.1	82.0	0.03	
Headline	6.0 oz/a																		
Echo Zn	2.0 pt/a	2,4,6,8,10,12																	
224 Amistar WG	2.0 oz/a	in-furrow	6.6	7.3	10.1	11.7	14.8	15.6	21.5	24.3	78.6	96.6	1854.8	0.28	40.6	40.6	304.4	0.12	
Bravo WS	1.5 pt/a	full season																	
225 Amistar WG	2.0 oz/a	1,3,5,7,9,11	7.6	8.4	13.1	16.3	15.1	16.4	18.6	22.5	81.9	95.8	1916.3	0.29	33.3	37.3	257.7	0.10	
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
226 Blocker 4F	5.0 pt/a	in-furrow	6.9	6.7	8.6	10.5	13.2	14.1	14.3	16.4	57.8	95.1	1496.3	0.22	23.5	23.5	176.6	0.07	
Bravo Zn	2.0 pt/a	full season																	
227 Blocker 4F	5.0 pt/a	2	7.3	7.2	7.6	10.4	9.5	9.6	7.5	8.6	51.3	85.3	1224.8	0.18	19.6	24.2	156.4	0.06	
Bravo Zn	2.0 pt/a	1,3-12																	
228 Blocker 4F	5.0 pt/a	in-furrow	8.1	7.2	11.1	11.4	11.2	11.1	10.0	13.7	47.8	80.2	1296.4	0.19	15.1	18.3	119.7	0.05	
Blocker 4F	5.0 pt/a	2																	
Bravo Zn	2.0 pt/a	1,3-12																	
LSD _{P=0.05}			NS	1.8	2.8	3.1	3.5	4.1	4.6	5.7	12.8	8.5	525.2	0.08	14.1	13.0	141.8	0.06	

Treatment	Rate	Schedule	Total Yield (cwt/a)	Market Yield (cwt/a)	10 oz. & over (%)			6 - 9 oz. (%)			>6oz. (%)	2 in./4oz. (%)		Total Smalls (%)	Unusables (%)				Specific Gravity
					US No. 1	US No. 2	Total	US No. 1	US No. 2	Total		US No. 1	US No. 2		Total	Undersize	Serious Hollow	Other	
216 Gem	6.0 oz/a	1,3,5,7,9,11	465.9	382.2	7.1	1.9	9.0	32.5	3.6	36.1	45.1	34.1	2.9	37.0	18.0	16.3	0.2	1.5	1.077
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
217 Reason +	8.2 oz/a +	1,3,5,7,9,11	460.9	364.6	8.1	1.8	9.9	24.6	3.4	27.9	37.9	37.0	4.2	41.2	20.9	19.4	0.0	1.6	1.077
Bond	0.1 % v/v																		
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
218 Gem	8.0 oz/a	1,3,5,7,9,11	453.6	352.6	5.8	2.7	8.5	23.9	4.2	28.1	36.6	35.2	6.0	41.2	22.3	20.0	0.2	2.0	1.076
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
219 KP481 +	8.0 oz/a +	1,3,5,7,9,11	444.1	363.1	7.4	0.7	8.1	29.8	4.9	34.7	42.8	34.4	4.7	39.0	18.2	16.6	0.0	1.7	1.079
Dithane	1.5 lb/a																		
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
220 KP481 +	10.0 oz/a +	1,3,5,7,9,11	464.3	379.3	8.1	2.3	10.4	30.6	3.2	33.8	44.2	33.9	3.6	37.5	18.3	16.4	0.0	1.9	1.077
Dithane	1.5 lb/a																		
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
221 Topsin M +	1.0 lb/a +	1,3,5,7	479.1	398.1	9.9	2.6	12.4	28.8	6.2	35.0	47.5	31.0	4.6	35.6	16.9	15.1	0.0	1.8	1.077
Penncozeb 75DF	2.0 lb/a																		
Penncozeb 75DF	2.0 lb/a	2,4,6																	
Bravo Zn	2.0 pt/a	8-12																	
222 Topsin M +	0.5 lb/a +	1-7	493.5	395.4	9.5	2.7	12.2	28.0	6.2	34.2	46.4	26.5	7.2	33.7	19.9	15.5	1.1	3.3	1.077
Penncozeb 75DF	2.0 lb/a																		
Bravo Zn	2.0 pt/a	8-12																	
223 Endura +	2.5 oz/a +	1,3,5,7,9,11	526.2	442.9	11.1	2.6	13.6	30.5	5.7	36.2	49.9	30.2	4.2	34.3	15.8	12.9	0.0	3.1	1.079
Headline	6.0 oz/a																		
Echo Zn	2.0 pt/a	2,4,6,8,10,12																	
224 Amistar WG	2.0 oz/a	in-furrow	442.8	351.9	5.8	1.1	6.9	26.1	3.2	29.3	36.2	39.2	4.1	43.3	20.5	19.0	0.0	1.5	1.078
Bravo WS	1.5 pt/a	full season																	
225 Amistar WG	2.0 oz/a	1,3,5,7,9,11	451.1	360.1	7.0	1.5	8.6	25.1	4.2	29.3	37.9	37.8	4.2	42.0	20.2	19.0	0.0	1.2	1.078
Bravo WS	1.5 pt/a	2,4,6,8,10,12																	
226 Blocker 4F	5.0 pt/a	in-furrow	466.6	374.7	7.4	1.4	8.8	27.6	3.5	31.1	39.9	36.1	4.4	40.4	19.7	17.9	0.0	1.8	1.077
Bravo Zn	2.0 pt/a	full season																	
227 Blocker 4F	5.0 pt/a	2	454.3	363.5	9.0	2.8	11.7	26.0	4.9	30.9	42.6	30.8	6.6	37.4	20.0	17.8	0.0	2.2	1.077
Bravo Zn	2.0 pt/a	1,3-12																	
228 Blocker 4F	5.0 pt/a	in-furrow	429.7	323.4	5.1	0.8	5.9	22.2	4.8	27.0	32.9	34.8	7.6	42.4	24.7	21.3	0.5	2.8	1.078
Blocker 4F	5.0 pt/a	2																	
Bravo Zn	2.0 pt/a	1,3-12																	
LSD _{P=0.05}			46.8																

Treatment	Rate	Schedule	Market Yield (cwt/a)	Processor #1		Difference from Untreated (\$/a)	Processor #2		Difference from Untreated (\$/a)	Processor #3		Difference from Untreated (\$/a)
				\$/cwt	Gross \$/a		\$/cwt	Gross \$/a		\$/cwt	Gross \$/a	
216 Gem Bravo WS	6.0 oz/a 1.5 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	382.2	5.30	2023.79	75.69	4.64	1773.45	176.34	4.97	1898.43	126.01
217 Reason + Bond Bravo WS	8.2 oz/a + 0.1 % v/v 1.5 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	364.6	5.27	1919.38	-28.72	4.36	1589.46	-7.65	4.81	1754.24	-18.18
218 Gem Bravo WS	8.0 oz/a 1.5 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	352.6	5.19	1828.25	-119.86	4.32	1523.24	-73.87	4.75	1675.57	-96.85
219 KP481 + Dithane Bravo WS	8.0 oz/a + 1.5 lb/a 1.5 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	363.1	5.31	1926.30	-21.81	4.56	1655.78	58.67	4.93	1790.86	18.44
220 KP481 + Dithane Bravo WS	10.0 oz/a + 1.5 lb/a 1.5 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	379.3	5.30	2008.60	60.49	4.60	1744.96	147.85	4.95	1876.59	104.17
221 Topsin M + Penncozeb 75DF Penncozeb 75DF Bravo Zn	1.0 lb/a + 2.0 lb/a 2.0 lb/a 2.0 pt/a	1,3,5,7 2,4,6 8-12	398.1	5.29	2103.98	155.88	4.72	1879.06	281.94	5.00	1991.32	218.90
222 Topsin M + Penncozeb 75DF Bravo Zn	0.5 lb/a + 2.0 lb/a 2.0 pt/a	1-7 8-12	395.4	5.23	2065.97	117.86	4.64	1834.66	237.55	4.93	1950.11	177.69
223 Endura + Headline Echo Zn	2.5 oz/a + 6.0 oz/a 2.0 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	442.9	5.37	2376.12	428.01	4.82	2134.74	537.63	5.09	2255.21	482.78
224 Amistar WG Bravo WS	2.0 oz/a 1.5 pt/a	in-furrow full season	351.9	5.27	1852.74	-95.36	4.28	1506.12	-90.99	4.77	1679.26	-93.17
225 Amistar WG Bravo WS	2.0 oz/a 1.5 pt/a	1,3,5,7,9,11 2,4,6,8,10,12	360.1	5.28	1899.44	-48.66	4.38	1577.16	-19.95	4.83	1738.12	-34.30
226 Blocker 4F Bravo Zn	5.0 pt/a 2.0 pt/a	in-furrow full season	374.7	5.27	1972.79	24.69	4.44	1663.67	66.56	4.85	1818.04	45.62
227 Blocker 4F Bravo Zn	5.0 pt/a 2.0 pt/a	2 1,3-12	363.5	5.25	1906.75	-41.36	4.56	1657.73	60.61	4.90	1782.05	9.63
228 Blocker 4F Blocker 4F Bravo Zn	5.0 pt/a 5.0 pt/a 2.0 pt/a	in-furrow 2 1,3-12	323.4	5.17	1670.27	-277.83	4.14	1338.80	-258.31	4.65	1504.38	-268.04