

2013 Early Blight Standard Foliar Fungicides (1500 Series)

Location: Inkster, ND
Plot design: 4 rows X 30 feet X 4 replicates; RCBD
All four rows were sprayed; foliar disease data taken from the center two rows.

Planting date: June 12, 2013
Row width: 36 inches
Seed spacing: 14 inches
Cultivar: Ranger Russet
50% Emergence: July 4

Fertilizer: Broadcast: 61#N, 200#K, 30#S; June 3
Starter: 29#N, 100#P; June 12

Herbicide: Prowl (2 pts/a) + Sencor (0.3 lb/a) + Matrix (1.5 oz/a); July 1

Insecticide: Admire Pro (8.7 oz/a); IF at plant
Reaper (12 oz/a) + Activator 90 (2 pt/100 gal); August 8
Kaiso (2 oz/a); August 22
Blackhawk (3.3 oz/a); August 27

Objective: To determine the efficacy of standard fungicide chemistries and fungicide programs for the control of early blight caused by *Alternaria solani*.

Early blight inoculation method: Four *A. solani* isolates, two containing the F129L mutation and two wild-type were grown under constant light for 2 weeks on CV-8 medium. Conidia were dislodged and diluted in 0.25% gelatin to a concentration of 8.7×10^2 conidia / ml. This suspension was applied to the outside two rows of each four-row plot at a rate of 121 ml/ row on the evening of August 5 using custom ATV spray equipment. A second inoculation was made on the evening of August 19 at the concentration of 2.8×10^3 conidia / ml at the rate of 112 ml / row.

Treatment application dates: July 19, 25, August 1, 8, 14, 20, 27, Sept. 2, 9

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

Vinekill: Rotobeat; October 8

Harvest: October 8

2013 Early Blight Foliar Standard Fungicides - Inkster Series 1500

Treatment		Rate	Schedule	Foliar Disease (% Severity)											AUDPC	RAUDPC	Yield (cwt/a)
				7/17	7/25	8/1	8/7	8/13	8/19	8/26	9/3	9/10	9/17	9/24			
1501	Non-treated	-	-	0.00	0.37	0.33	0.59	0.34	2.03	3.75	6.72	24.69	67.81	90.63	1066.86	0.155	417.57
1502	Bravo Zn	2.125 pt / a	1,2,4,6,8,9,10	0.00	0.08	0.17	0.18	0.26	0.33	1.63	3.24	2.94	5.06	21.06	172.69	0.025	454.41
	Priaxor	4 fl oz / a	3														
	Scala +	7.0 fl oz / a +	5														
	Manzate	2.0 lb / a															
	Revus Top	7.0 fl oz / a	7														
1503	Bravo Zn	2.125 pt / a	1,2,4,6,8,9,10	0.00	0.33	0.31	0.55	0.37	1.57	2.74	4.53	5.50	7.13	8.06	191.32	0.028	483.88
	Luna Tranquility +	9.0 fl oz / a +	3														
	Manzate	2.0 lb / a															
	Scala +	7.0 fl oz / a +	5														
	Revus Top	7.0 fl oz / a	7														
1504	Reason +	6.9 fl oz / a +	1,3	0.00	0.06	0.16	0.08	0.06	0.26	1.04	2.11	2.38	2.16	4.25	74.31	0.011	496.01
	Bond +	0.1 % v/v +															
	Dithane	2.0 lb / a															
	Echo Zn	1.3 pt / a	2														
	Echo Zn	2.125 pt / a	4,6,8-10														
	Luna Tranquility +	9.0 fl oz / a +	5														
	Dithane	2.0 lb / a															
	Scala +	7.0 fl oz / a +	7														
1505	Reason +	6.9 fl oz / a +	1,3	0.00	0.41	0.48	0.34	0.59	3.00	4.61	4.92	5.19	7.00	7.75	215.31	0.031	452.96
	Bond +	0.1 % v/v +															
	Dithane	2.0 lb / a															
	Echo Zn	1.3 pt / a	2														
	Echo Zn	2.125 pt / a	4,6,8-10														
	Luna Tranquility +	11.2 fl oz / a +	5														
	Dithane	2.0 lb / a															
	Scala +	7.0 fl oz / a +	7														
1506	Reason +	6.9 fl oz / a +	1,3	0.00	0.08	0.15	0.18	0.09	0.27	1.74	2.53	2.49	3.53	15.56	133.61	0.019	438.65
	Bond +	0.1 % v/v +															
	Dithane	2.0 lb / a															
	Echo Zn	1.3 pt / a	2														
	Echo Zn	2.125 pt / a	4,6,8-10														
	Scala +	7.0 fl oz / a +	5														
	Dithane	2.0 lb / a															
	Luna Tranquility +	11.2 fl oz / a +	7														
1507	Echo Zn	2.125 pt / a	Full season	0.00	0.36	0.28	0.37	0.26	0.79	3.15	4.47	6.47	9.31	16.00	237.10	0.034	452.08
1508	Manzate	2 lb / a	Full season	0.00	0.03	0.12	0.06	0.21	0.48	0.93	1.34	2.56	5.06	13.13	122.18	0.018	463.47

1509	Headline + Manzate	6.0 fl oz / a + 2.0 lb / a	1	0.00	0.51	0.24	0.47	0.24	1.06	0.93	2.58	4.09	5.72	6.56	134.97	0.020	489.53
	Bravo Zn	2.125 pt / a	2,3,4,6,7,8,10														
	Endura + Manzate	2.5 oz / a + 2.0 lb / a	5														
	Scala + Manzate	7.0 fl oz / a + 2.0 lb / a	9														
1510	Echo Zn	2.125 pt / a	1,2,4,6,8,9,10	0.00	0.04	0.13	0.14	0.10	0.33	1.48	1.63	2.30	3.22	8.44	96.23	0.014	480.86
	Headline + Manzate	9 fl oz/a + 2 lb / a	3														
	Endura + Manzate	3 oz/a + 2 lb / a	5														
	Scala + Manzate	7 fl oz / a + 2 lb / a	7														
LSD _{P = 0.05}				NS	0.27	0.14	0.28	0.31	1.37	2.19	2.02	3.89	4.40	8.46	129.25	0.019	39.63