

## 2014 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:** May 27, 2014  
**Row width:** 36 inches  
**Seed spacing:** 14 inches  
**Cultivar:** Ranger Russet  
**50% Emergence:** June 18

**Fertilizer:** Broadcast: 61#N, 206#K, 30#S, 1.5#B; May 17  
Starter: 29#N, 100#P; May 27

**Herbicide:** Prowl (2 pts/a) + Matrix (1.5 oz/a); June 16

**Insecticide:** Admire Pro (8.7 oz/a); IF at plant  
Coragen (5 oz/a); July 28  
Asana (9 oz/a); August 8  
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  $2.9 \times 10^3$  conidia / ml. This suspension was applied to the outside two rows of each four-row plot at a rate of 102 ml/ row on the evening of July 29 using custom ATV spray equipment. A second inoculation was made on the evening of August 12 at the concentration of  $3.5 \times 10^3$  conidia / ml at the rate of 100 ml / row.

**Treatment application dates:** July 11, 15, 23, August 1, 5, 14, 20, 27, Sept 3, 11

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

**Vinekill:** Rotobeat; October 3

**Harvest:** October 3 - 5

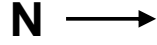


1508	Reason + Bond + Dithane Serenade Optimum Luna Tranquility + Dithane Scala + Dithane	6.9 fl oz / a + 0.1 % v/v + 2 lbs / a 0.5 lbs / a 9 fl oz / a + 2 lbs / a 7 fl oz / a + 2 lbs / a	1,3   2,4,6,8-10 5  7	7 day	0.00	0.01	0.67	0.53	0.79	0.22	0.20	0.51	0.91	6.22	21.56	54.06	410.65	0.053	492.09
1509	Reason + Bond + Serenade ASO Serenade ASO Luna Tranquility + Serenade ASO Scala + Serenade ASO	6.9 fl oz / a + 0.1 % v/v + 2 qt / a 2 qt / a 9 fl oz / a + 2 qt / a 7 fl oz / a + 2 qt / a	1,3   2,4,6,8-10 5  7	7 day	0.00	0.03	1.21	2.34	0.61	1.33	1.49	2.03	10.95	21.94	44.69	66.25	842.95	0.109	491.55
1510	Reason + Bond + Serenade Optimum Serenade Optimum Luna Tranquility + Serenade Optimum Scala + Serenade Optimum	6.9 fl oz / a + 0.1 % v/v + 0.5 lbs / a 0.5 lbs / a 9 fl oz / a + 0.5 lbs / a 7 fl oz / a + 0.5 lbs / a	1,3   2,4,6,8-10 5  7	7 day	0.00	0.01	0.18	0.38	0.48	0.56	0.61	0.54	2.57	12.25	47.81	58.75	664.46	0.086	482.79
1511	Reason + Bond + Dithane Luna Tranquility + Dithane Scala + Dithane	6.9 fl oz / a + 0.1 % v/v + 2 lbs / a 9 fl oz / a 2 lbs / a 7 fl oz / a 2 lbs / a	1,3   5  7	7 day	0.00	0.00	1.07	2.58	0.48	0.59	0.64	1.83	3.59	9.06	19.81	32.94	393.82	0.051	489.01
1512	Reason + Bond + Serenade ASO Luna Tranquility + Serenade ASO Scala + Serenade ASO	6.9 fl oz / a + 0.1 % v/v + 2 qt / a 9 fl oz / a + 2 qt / a 7 fl oz / a + 2 qt / a	1,3   5  7	7 day	0.00	0.00	0.16	0.39	0.18	0.14	0.23	0.46	1.83	9.44	28.13	55.00	480.12	0.062	505.80
1513	Reason + Bond Luna Tranquility Scala	6.9 fl oz / a + 0.1 % v/v 9 fl oz / a 7 fl oz / a	1,3  5 7	7 day	0.00	0.02	0.87	2.69	0.61	1.29	0.86	1.51	6.47	20.06	40.00	53.75	711.03	0.092	482.85
1514	Elixer	1.8 lbs / a	1-10	7 day	0.00	0.01	0.31	0.21	0.33	0.26	0.47	0.49	7.04	20.94	46.25	57.50	738.94	0.096	479.11
1515	Echo Zn	1.5 pt / a	1-10	7 day	0.00	0.01	1.05	3.16	1.04	1.08	1.56	3.34	9.44	17.75	33.13	55.31	698.89	0.091	483.05
1516	Elixer Elixer + Meteor	1.8 lbs / a 1.8 lbs / a + 2 pt / a	1,3,5,7,9,10 2,4,6,8	7 day	0.00	0.00	0.18	0.52	0.30	0.22	0.29	0.43	2.28	9.25	25.31	33.75	390.54	0.051	493.12
1517	Elixer Elixer + Super Tin	1.8 lbs / a 1.8 lbs / a + 4 fl oz / a	1-6 7-10	7 day	0.00	0.02	1.52	2.43	1.10	1.00	0.55	2.94	8.69	17.19	27.50	34.38	564.64	0.073	475.36
1518	Equation	6 fl oz / a	1-10	7 day	0.00	0.01	0.68	0.96	0.59	0.43	0.89	2.56	28.75	59.25	85.13	89.63	1583.22	0.206	435.51
1519	Equation	15.5 fl oz / a	1-10	7 day	0.00	0.02	0.94	3.81	0.61	0.98	1.24	3.19	11.56	33.75	54.69	74.38	1040.85	0.135	500.18
1520	Quadris	15.5 fl oz / a	1-10	7 day	0.00	0.00	0.57	0.93	0.76	0.38	0.45	1.58	11.56	41.38	65.31	71.88	1123.18	0.146	461.78
1521	Echo Zn Headline SC Luna Tranquility Scala	2.125 pt / a 9 fl oz / a 11 fl oz / a 7 fl oz / a	1,3,4,6,10 2 5 7-9	7 day	0.00	0.01	1.18	1.54	1.19	1.54	1.36	4.31	7.94	15.63	28.56	33.44	564.61	0.073	486.78

1522	Echo Zn Headline SC Priaxor Scala	2.125 pt / a 9 fl oz / a 6 fl oz / a 7 fl oz / a	1,3,4,6,10 2 5 7-9	7 day	0.00	0.01	0.18	0.54	0.45	0.43	0.37	0.46	5.50	12.81	35.00	38.75	528.51	0.069	465.70
1523	Confidential				0.00	0.04	1.18	1.72	0.44	0.91	1.35	2.68	7.28	19.06	31.06	52.19	646.25	0.084	505.07
1524	Confidential				0.00	0.00	0.19	0.88	0.62	0.29	0.17	0.30	5.81	17.19	38.75	52.19	634.65	0.082	472.46
1525	Dithane	2 lbs / a	Full Season	7 day	0.00	0.03	1.43	1.77	0.44	0.52	0.63	2.53	7.59	16.19	38.44	48.44	659.97	0.086	508.45
1526	Echo Zn Headline SC Quash + Induce Scala	2.125 pt / a 9 fl oz / a 2.5 oz / a + 0.25 % v/v 7 fl oz / a	1,3,4,6,8-10 2 5 7	7 day	0.00	0.01	0.31	0.64	0.54	0.37	0.33	0.39	6.63	15.94	31.69	46.38	563.19	0.073	480.80
1527	Echo Zn Headline SC Endura Scala	2.125 pt / a 9 fl oz / a 2.5 oz / a 7 fl oz / a	1,3,4,6,8-10 2 5 7	7 day	0.00	0.04	1.81	2.06	0.47	0.76	0.65	1.43	7.72	21.56	35.31	47.50	671.53	0.087	491.00
1528	Echo Zn Quash + Dithane	2.125 pt / a 2.5 oz / a + 2 lbs / a	1,3,4,6,8-10 2,5,7	7 day	0.00	0.03	0.16	0.42	0.27	0.29	0.28	0.48	3.26	8.41	16.81	34.06	333.64	0.043	507.91
1529	Echo Zn Headline SC Quash + Dithane Scala	2.125 pt / a 9 fl oz / a 2.5 oz / a + 2 lbs / a 7 fl oz / a	1,3,4,6,8-10 2 5 7	7 day	0.00	0.00	1.59	2.58	0.70	1.41	1.01	3.41	8.66	16.38	31.88	40.63	619.33	0.080	493.60
1530	Echo Zn Quash + Dithane Luna Tranquility Scala	2.125 pt / a 2.5 oz / a + 2 lbs / a 11.2 fl oz / a 7 fl oz / a	1,3,4,6,8-10 2 5 7	7 day	0.00	0.00	0.60	0.27	0.36	0.32	0.31	0.87	2.47	5.56	15.06	17.00	241.53	0.031	506.34
1531	Echo Zn Headline SC Luna Tranquility Quash + Dithane	2.125 pt / a 9 fl oz / a 11.2 fl oz / a 2.5 oz / a + 2 lbs / a	1,3,4,6,8-10 2 5 7	7 day	0.00	0.01	1.08	2.80	1.12	2.77	1.43	3.78	3.59	8.25	10.81	20.25	322.10	0.042	513.16
1532	Echo Zn Headline SC Luna Tranquility Scala Quash + Dithane	2.125 pt / a 9 fl oz / a 11.2 fl oz / a 7 fl oz / a 2.5 oz / a + 2 lbs / a	1,3,4,6,8 2 5 7 9,10	7 day	0.00	0.03	0.18	0.39	0.17	0.28	0.23	1.34	1.41	4.26	9.63	13.56	173.83	0.023	504.35
1533	Echo Zn	2.125 pt / a	Full Season	7 day	0.00	0.00	1.21	2.38	1.01	1.35	1.46	3.80	7.59	21.06	42.31	55.88	774.64	0.101	463.77
1534	Echo Zn Headline + Dithane Luna Tranquility + Dithane Scala + Dithane	2.125 pt / a 9 fl oz/a + 2 lb / a 11.2 fl oz / a + 2 lb / a 7 fl oz / a + 2 lb / a	1,3,4,6,8,9,10 2 5 7	7 day	0.00	0.00	0.20	0.48	0.32	0.14	0.23	0.47	3.47	12.94	25.56	39.06	444.98	0.058	482.61
LSD <sub>P</sub> = 0.05					NS	0.04	0.68	1.07	0.58	0.69	0.74	1.44	4.81	8.11	12.57	12.82	376.65	0.049	37.89

# 2014 Early Blight Foliar Standard Fungicides

## Inkster Series 1500



Rep IV

6151	1510
1151	1508
2251	1528
3251	1516
5151	1518
3351	1534
3051	1526
1251	1522
6051	1520
1351	1512
1051	1524
5251	1506
3151	1514
9051	1502
7051	1532
6251	1530
7151	1504

Rep III

5051	1530
6051	1520
5251	1512
2251	1514
3051	1528
7151	1524
3351	1506
3251	1504
6251	1502
5151	1526
1351	1508
1051	1534
6151	1516
1151	1532
3151	1522
7051	1518
1251	1510

Rep II

7151	1508
3351	1534
5151	1524
1351	1510
1051	1532
6051	1512
6151	1516
7051	1520
9051	1506
5251	1514
6251	1518
2251	1530
3251	1528
3051	1522
1251	1526
1151	1504
3151	1502

Tower 5

Rep I

5251	1514
3051	1528
6251	1534
3151	1526
3251	1512
1151	1502
1251	1504
3351	1530
2251	1522
7151	1506
5051	1516
1351	1532
6051	1508
7051	1518
5151	1510
6151	1520
1051	1524