

XXI. EVALUATION OF FUNGICIDES FOR CONTROL OF FOLIAR AND SOILBORNE DISEASES OF PEANUT (TAREC Research farm)

A. PURPOSE: To determine the importance of fungicide selection and sequences in programs for disease management

B. EXPERIMENTAL DESIGN:

1. Four randomized complete blocks separated by 10-ft alleyways
2. Two, 35-ft rows per plot with 36-in. row spacing
3. Seeding rate of four seed/ft of row

C. APPLICATION OF TREATMENTS: Foliar sprays of fungicides were applied with three, D₃23 nozzles/row delivering 15 gal/A. The initial application was applied at flowering (R₁) and thereafter according to the Va. Peanut Leaf Spot Advisory Program until beginning maturity (R₇).

D. TREATMENT AND RATE/A:

1. Untreated check
2. Echo 720SC 1.5 pt (1st, 2nd, 3rd, 4th, 5th spray)
3. SA-120301 7 fl oz/A (1st, 2nd, 3rd, 4th spray)
Echo 720SC 1.5 pt/A (5th spray)
4. Folicur 430SC 5.2 fl oz + Absolute 500SC 3.5 fl oz/A (1st, 3rd spray)
Folicur 430SC 7.2 fl oz (2nd, 4th spray)
Echo 720SC 1.5 pt (5th spray)
5. Folicur 430SC 5.2 fl oz + Absolute 500SC 3.5 fl oz/A (1st, 3rd spray)
Folicur 430SC 7.2 fl oz + Echo 720SC 1 pt (2nd, 4th spray)
Echo 720SC 1.5 pt/A (5th spray)
6. Headline 250EC 9 fl oz (1st, 3rd spray)
Folicur 430SC 7.2 fl oz (2nd, 4th spray)
Echo 720SC 1.5 pt (5th spray)
7. Folicur 3.6F 7.2 fl oz (1st, 2nd spray)
Headline 250EC 9 fl oz (3rd spray)
Echo 720SC 1.5 pt (4th, 5th spray)
8. Abound 2.08SC 12 fl oz (1st, 3rd spray)
Folicur 3.6F 7.2 fl oz (2nd, 4th spray)
Echo 720SC 1.5 pt (5th spray)
9. Folicur 3.6F 7.2 fl oz (1st, 2nd spray)
Abound 2.08SC 12 fl oz (3rd spray)
Echo 720SC 1.5 pt (4th, 5th spray)
10. Stratego 14 fl oz (1st, 3rd spray)
Folicur 3.6F 7.2 fl oz (2nd, 4th spray)
Echo 720SC 1.5 pt (5th spray)
11. Folicur 3.6F 7.2 fl oz (1st, 2nd spray)
Stratego 14 fl oz (3rd spray)
Echo 720SC 1.5 pt (4th, 5th spray)

E. ADDITIONAL INFORMATION:

1. Location: TAREC Research Farm, Hare Rd., Suffolk
2. Crop history: Corn 2004; Peanut 2003, Corn 2002
3. Planting date and cultivar: 18 May 2005, VA 98R

4. Soil fertility report:

pH.....	5.9
Ca	209ppm
Mg	23 ppm
P	31 ppm
K.....	34 ppm
Zn	0.5 ppm
Mn	2.2 ppm
Soil type	Kenansville loamy sand
5. Herbicide:
 - Pre-plant - Prowl 1 pt/A (31 Mar)
 - Pre-emergence - Dual II Magnum 1 pt + Strongarm 0.23 fl oz/A (19 May)
 - Post-emergence – Poast Plus 2 pt + ChemOil 1 pt/A (21 Jul)
6. *Cylindrocladium* black rot control: Vapam 7.5 gal/A (19 Apr)
7. Insecticide: Temik 15G 7 lb/A in furrow (18 May)
 - Orthene 97S 6 oz/A (7 Jun)
 - Lorsban 11 lb/A (27 Jun)
8. Acaricide: Danitol 6 fl oz/A (29 Aug)
9. Additional crop management:
 - a. Liquid boron 1 qt/A (31 Mar)
 - b. Liquid Mn 1 qt/A (20 Jun)
 - c. Landplaster: Peanut Maker 1500 lb/A (22 Jun)
 - d. Irrigation: ca. 1 in. (24 Jun, 11 Aug, 2 Sep, 13 Sep)
10. Harvest date: 26 Oct 2005

Table 79. Incidence of early leaf spot in fungicide-treated plots.

Treatment, rate/A and application date *	% leaf spot **		
	Aug 5	Sep 1	Oct 10
Untreated check	0.5	16.3 a	85.0 a
Echo 720SC 1.5 pt (7/5, 7/21, 8/4, 8/19, 9/7)	0.1	0.1 b	0.1 b
SA-120301 7 fl oz (7/5, 7/21, 8/4, 8/19)			
Echo 720SC 1.5 pt (9/7)	0.1	0.1 b	0.5 b
Folicur 430SC 5.2 fl oz			
+ Absolute 500SC 3.5 fl oz (7/5, 8/4)			
Folicur 430SC 7.2 fl oz (7/21, 8/19)			
Echo 720SC 1.5 pt (9/7)	0.0	0.3 b	0.6 b
Folicur 430SC 5.2 fl oz			
+ Absolute 500SC 3.5 fl oz/A (7/5, 8/4)			
Folicur 430SC 7.2 fl oz			
+ Echo 720SC 1 pt (7/21, 8/19)			
Echo 720SC 1.5 pt/A (9/7)	0.1	0.1 b	0.1 b
Headline 250EC 9 fl oz (7/5, 8/4)			
Folicur 430SC 7.2 fl oz (7/21, 8/19)			
Echo 720SC 1.5 pt (9/7)	0.1	0.1 b	0.4 b
Folicur 3.6F 7.2 fl oz (7/5, 7/21)			
Headline 250EC 9 fl oz (8/4)			
Echo 720SC 1.5 pt (8/19, 9/7)	0.1	0.0 b	0.1 b
Abound 2.08SC 12 fl oz (7/5, 8/4)			
Folicur 3.6F 7.2 fl oz (7/21, 8/19)			
Echo 720SC 1.5 pt (9/7)	0.1	0.3 b	1.0 b
Folicur 3.6F 7.2 fl oz (7/5, 7/21)			
Abound 2.08SC 12 fl oz (8/4)			
Echo 720SC 1.5 pt (8/19, 9/7)	0.0	0.3 b	0.1 b
Stratego 14 fl oz (7/5, 8/4)			
Folicur 3.6F 7.2 fl oz (7/21, 8/19)			
Echo 720SC 1.5 pt (9/7)	0.0	0.3 b	1.0 b
Folicur 3.6F 7.2 fl oz (7/5, 7/21)			
Stratego 14 fl oz (8/4)			
Echo 720SC 1.5 pt (8/19, 9/7)	0.0	0.1 b	0.1 b
LSD	n.s.	4.5	4.3

* Fungicides were applied at the R₁ growth stage (flowering) and thereafter according to the Va. Peanut Leaf Spot Advisory Program until beginning maturity (R₇).

** Leaf spot rating scale: 0=none; 100=spots on all leaflets.

Means followed by the same letter(s) in a column are not significantly different according to Fisher's Protected LSD test (P=0.05). "n.s." = not significant.

Table 80. The effect of fungicide treatments on incidence of *Cylindrocladium* Black Rot (CBR), numbers of yellowed/dead plants, severity of defoliation and the yield of peanut.

Treatment, rate/A and application date ¹	CBR ² (Aug 5)	Yellowed/ dead plants ² (Oct 10)	% defolia- tion ³ (Oct 10)	Yield ⁴ (lb/A)
Untreated check	0.3	27.3	53.8 a	2145 c
Echo 720SC 1.5 pt (7/5, 7/21, 8/4, 8/19, 9/7).....	0.3	29.0	0.1 b	2684 bc
SA-120301 7 fl oz (7/5, 7/21, 8/4, 8/19)				
Echo 720SC 1.5 pt (9/7)	0.5	35.0	0.1 b	3316 ab
Folicur 430SC 5.2 fl oz + Absolute 500SC 3.5 fl oz (7/5, 8/4)				
Folicur 430SC 7.2 fl oz (7/21, 8/19)				
Echo 720SC 1.5 pt (9/7)	0.5	29.0	0.1 b	3408 ab
Folicur 430SC 5.2 fl oz + Absolute 500SC 3.5 fl oz/A (7/5, 8/4)				
Folicur 430SC 7.2 fl oz + Echo 720SC 1 pt (7/21, 8/19)				
Echo 720SC 1.5 pt/A (9/7)	0.0	29.8	0.1 b	3526 ab
Headline 250EC 9 fl oz (7/5, 8/4)				
Folicur 430SC 7.2 fl oz (7/21, 8/19)				
Echo 720SC 1.5 pt (9/7)	0.0	26.8	0.3 b	3105 a-c
Folicur 3.6F 7.2 fl oz (7/5, 7/21)				
Headline 250EC 9 fl oz (8/4)				
Echo 720SC 1.5 pt (8/19, 9/7)	0.0	23.5	0.1 b	3105 a-c
Abound 2.08SC 12 fl oz (7/5, 8/4)				
Folicur 3.6F 7.2 fl oz (7/21, 8/19)				
Echo 720SC 1.5 pt (9/7)	0.3	23.8	0.1 b	4079 a
Folicur 3.6F 7.2 fl oz (7/5, 7/21)				
Abound 2.08SC 12 fl oz (8/4)				
Echo 720SC 1.5 pt (8/19, 9/7)	0.0	30.0	0.1 b	3460 ab
Stratego 14 fl oz (7/5, 8/4)				
Folicur 3.6F 7.2 fl oz (7/21, 8/19)				
Echo 720SC 1.5 pt (9/7)	0.0	29.3	0.1 b	3250 ab
Folicur 3.6F 7.2 fl oz (7/5, 7/21)				
Stratego 14 fl oz (8/4)				
Echo 720SC 1.5 pt (8/19, 9/7)	0.0	24.0	0.1 b	3342 ab
LSD	n.s.	n.s.	6.5	1008

¹ Fungicides were applied at the R₁ growth stage (flowering) and thereafter according to the Va. Peanut Leaf Spot Advisory Program until beginning maturity (R₇).

² Number of symptomatic plants per plot. Yellowed/dead plants were likely CBR but lacked distinguishing characteristics of the disease.

³ Defoliation rating scale: 0=none; 100=no leaves on plants.

⁴ Yields are weight of peanuts with 7% moisture. Peanuts were dug on 17 Oct and harvested on 26 Oct.

Means followed by the same letter(s) in a column are not significantly different according to Fisher's Protected LSD test (P=0.05), except the LSD for yield (P=0.07). Arcsine transformation of percentage data was made in analysis to determine statistical significance. "n.s." = not significant.