PUBLICATIONS
1993

FIELD DAY REPORT - 1993

Texas A&M University Agricultural Research and Extension Center at Overton

Texas Agricultural Experiment Station
Texas Agricultural Extension Service

Overton, Texas

May 28, 1993

Research Center Technical Report 93-1

ROSE FUNGICIDE TRIALS 1992

H. Brent Pemberton, George L. Philley and William E. Roberson

Background. A permanent block of 1800 rose plants was established in March 1992 to use in trials of new compounds, application frequencies, and spray techniques for control of black spot (*Diplocarpon rosae*) and powdery mildew (*Sphaerothera pannosa* var. *rosae*). Attention will be given to less frequent applications and environmentally compatible compounds. Two cultivars were planted. 'Peace' was chosen because of its susceptibility to black spot. 'Mr. Lincoln' is not as susceptible to black spot as 'Peace', but is more susceptible to powdery mildew than 'Peace'.

Fungicide treatments were initiated on 15 May. A defoliation rating of 1-10 (0-100%) was assigned to indicate loss of foliage due to black spot infection. A black spot rating of 1-10 corresponding to 0-100% of canopy infected with black spot was also taken. The amount of the canopy infected included the portion lost due to defoliation from the disease. Powdery mildew symptoms were found only in trace amounts so no data were taken.

Research Findings. Black spot was prevalent all season long. Control plants were heavily infected and defoliated by August. 'Peace' plants were found to be more susceptible to black spot than 'Mr. Lincoln' plants as the disease developed earlier on 'Peace' plants (data not shown).

Cyproconazole gave excellent control at the lowest rate tested when applied on 14-day intervals (Table 1). With a 28-day interval, control was not season-long. Alternating every 14 days with Dithane M-45 or Funginex did not improve control provided by Cyproconazole at the low rate. These additional treatments were inconsequential with the higher rates of Cyproconazole because excellent control was achieved at both the medium and high rates tested. No phytotoxicity was observed in any of the plots.

Funginex, Dithane M-45 or combinations of the two did not give satisfactory season-long control on 'Peace' plants. Combination treatments performed better on 'Mr. Lincoln' plants. Banner at 5 oz/100 gallons applied every 7 days gave reasonable control on 'Mr. Lincoln', but not 'Peace'. Other treatments with Banner at lower rates or longer frequencies were unacceptable (data not shown). Other treatments that were unacceptable included baking soda, summer oil, Terraguard, and Fluazinam (data not shown).

Application. The best fungicide tested for black spot control was Cyproconazole which resulted in season-long control using a 28 day spray interval. This represents a potentially significant savings in labor and chemical over current practices. Cyproconazole is not cleared for use on roses or any other crops at this time but is in the developmental stages.

Table 1. Disease and defoliation ratings for Rose Fungicide Trial 1992.

Treatment		Spray Interval	Mr. Lincoln 17 November Ratings		Peace 17 November Ratings	
			Disease[z]	Defoliation[y]	Disease	Defoliation
1.	Untreated Control		8.5	8.63	8.75	8.88
2.	Cyproconazole 0.088 lbs/ac	14 days	1.00	1.50	1.00	3.50
3.	Cyproconazole 0.088 lbs/ac	28 days	3.75	5.13	6.38	7.00
4.	Cyproconazole 0.088 lbs/ac Dithane M45® 1.5 lbs/100 gals	14 days alternately	4.38	4.63	5.88	6.25
5.	Cyproconazole 0.088 lbs/ac Funginex® 0.14 lbs/100	14 days alternately	2.38	2.63	5.13	6.88
6.	Cyproconazole 0.176 lbs/ac	14 days	1.00	1.63	1.00	2.25
7.	Cyproconazole 0.176 lbs/ac	28 days	1.50	2.75	1.50	4.33
8.	Cyproconazole 0.176 lbs/ac Dithane M45® 1.5 lbs/100 gal	14 days alternately	1.13	1.63	2.13	4.63
9.	Cyproconazole 0.176 lbs/ac Funginex® 0.14 lbs/100 gals	14 days alternately	1.00	1.75	1.00	3.50
10.	Cyproconazole 0.352 lbs/ac	14 days	1.00	1.88	1.00	1.63
11.	Cyproconazole 0.352 lbs/ac	28 days	1.00	1.75	1.00	2.63
12.	Cyproconazole 0.352 lbs/ac Dithane M45® 1.5 lbs/100 gals	14 days alternately	1.00	1.50	1.00	2.38
13.	Cyproconazole 0.352 lbs/ac Funginex® 0.14 lbs/100 gals	14 days alternately	1.00	1.50	1.00	3.00
14.	Funginex® 0.14 lbs/100 gals	7 days	6.50	6.50	7.13	6.63
15.	Funginex® 0.20 lbs/100 gals	7 days	5.88	6.38	7.00	6.13
16.	Funginex® 0.10 lbs/100 gals + Dithane M45® 0.75 lbs/100 gals	7 days tank-mix	5.25	3.63	6.63	6.63
17.	Funginex® 0.20 lbs/100 gals + Dithane M45® 1.5 lbs/100 gals	7 days tank-mix	2.75	1.63	5.38	6.00
18.	Dithane M45® 1.5 lbs/100 gals	7 days	6.63	6.63	8.00	7.75
19.	Dithane M45® 0.75 lbs/100 gals	7 days	7.63	7.38	8.38	7.63
20.	Banner® 5 oz/100 gals	7 days	4.63	6.38	6.88	7.25

[z]Based on a scale of 1-10, 1 = no blackspot, 10 = all leaves infected and heavy defoliation.
[y]Based on a scale of 1-10, 1=0-10% defoliation, 10=91-100% defoliation.