

1975 PEANUT FOLIAR DISEASE CONTROL TRIALS

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Cercospora leafspot (*Cercospora* spp.), Web blotch (*Ascochyta* spp.) and other foliar disease problems continue to plague the Oklahoma peanut grower. New chemical control programs are needed to insure that top peanut production will continue in Oklahoma. Heavy losses from foliar diseases were experienced by growers in the State because they failed to maintain a proper spray program. Web blotch and *Cercospora* leafspot caused severe damage over a large area of the State and may be responsible for a large part of the overall reported reduction in yield. Web blotch was the major foliar disease problem in the Caddo County area. The excellent harvest weather, encouraged early digging and played a major role in reducing yields.

Benlate resistant races of *Cercospora* leafspot have not been found in Oklahoma, however, to avoid the situation that developed in Georgia and Alabama, we will discourage the use of Benlate applied alone. We feel that Benlate, and other systemic fungicides have a place in our foliar disease control program on peanuts. If Benlate is to be used we would encourage growers not to use it alone, but in a combination program with other fungicides. We would also encourage growers not to use only one specific fungicide throughout the

the season; hence, they should develop a foliar disease control program alternating fungicides, or tank-mix combinations. Bravo-Sulfur combinations look good in our tests this year. This type of program could perhaps discourage the development of resistant races and many minor diseases from becoming major problems in Oklahoma.

The Foliar Disease Control Trials at the Caddo Peanut Research Station was designed to screen fungicides and evaluate certain tank-mixes and fungicide combination programs required to update and maintain our disease control recommendations. Special emphasis was placed on the evaluation of new number compounds, tank-mix combinations, alternating programs and the effective use of Kylar in a fungicide program. Disease control ratings were made on C. leafspot and Web blotch.

The study consisted of 35 treatments of cleared and uncleared chemicals applied and evaluated for control of *Cercospora* leafspot, Web blotch and other foliar diseases. Yields obtained ranged from 2262 lbs/acre in the non-treated plots to the top yield of 5283 lbs/acre. DPX-112 at 2 lbs plus 1 qt. crop oil/a applied full season produced the top yield of 5283 lbs/a

which was 3021 lbs more peanuts per acre than the non-treated plots. Bravo 6F 1.5 pts plus Duel 2 lbs (tank mix) 2 app. and Bravo 6F 1.5 pts plus THAT 2 qts (tank mix) were the only cleared materials in the top six treatments producing 4614 and 4444 lbs per acre, respectfully. The study shows that a full season foliar disease control program properly carried out will pay regardless what fungicide is used. All treatments in the test increased yields with a profit. However, selection of the fungicide or fungicide program can be very important, as shown in the study. It should be noted that the broad-spectrum fungicides and combination tank-mixes make up the top performers. Benlate or other systemics alone did not effectively control the various foliar diseases present, however, SN-513 at 0.5 lbs ai/a performed well. This study shows that most of the systemics perform best in a tank-mix spray program.

Web blotch was significantly controlled by certain fungicides and fungicide combinations. SN-513 allowed only a trace (T) of Web blotch in the plot at end of season, and the plot yielded 4227 lbs/a, not significantly

different than Benlate plus Manzate 200 and oil. The Benlate 50W 4 oz. plus Manzate 200 1.5 lbs + 1 qt. crop oil/acre produced 4251 lbs/acre or 1989 lbs/acre more peanuts than non-treated plots.

Kylar-Fungicide Program. The growth regulant, Kylar was applied in combination with Dithane M-45. (1) Dithane M-45 1.5 lbs ES and 2 lbs LS + Kylar 85W at 1/2 lb, 1/4 lb, 1/4 lb, and 1/4 lb; (2) Dithane M-45 1.5 lbs ES and 2 lbs LS + Kylar 85W at 1/2 + 1/2 + 1/2 . Kylar 85W was applied with first spray dates July 9 and following applications were tank-mixed on July 23, August 5, and August 19 for a 1-1/2 lb. total for the season.

These combination programs were compared to the same fungicide program without Kylar. The results show that the 1/2, 1/4, 1/4, 1/4 lb program produced 471 lbs more than the the 1/2, 1/2, and 1/2 lbs. program and the 1/2, 1/4, 1/4, 1/4 program produced 926 lbs. per acre more peanuts than the Dithane M-45 applied alone. The increased yields reflect the similar results obtained in past years when Kylar was applied early enough to suppress growth and in low enough dosage not to suppress yields.

1975 Foliar Disease Control Trials on Peanuts. Caddo Research Station, Ft. Cobb, OK

Rank, Treatment, ¹ Chemical and Rate/Acre	Yield ²		Grade ³	Value/A	Increase Value/A
	Lbs/A	Diff-Ck Lbs/A			
1. DPX-112 2 lbs + 1 qt crop oil 1-3N	5283	3021 a	66	\$978	\$526
2. Bravo 6FX 1.5 pts 1-3N	4754	2492 ab	69	933	481
3. RH3928A 50W 1.5 lbs + Triton 1-3N	4707	2445 ab	64	855	403
4. Bravo 6F 1.5 pts + Duel 2 lbs (tank mix) 1-3N 2 app.	4614	2352	68	887	435
5. Rh3928B 50W 1.5 lbs + Triton 1-3N	4536	2274 bc	68	871	419
6. Bravo 6F 1.5 pts + THAT 2 qts 1-3N (tank mix)	4444	2182 bcd	64	805	353
7. Bravo 6FX 1.0 pts 1-3N	4443	2181 bcd	68	863	411
8. TOP-COP 2 qts 1-3N	4422	2160 bcd	67	861	399
9. Bravo 6F 1.5 pts 1-3N	4382	2120 bcde	68	856	404
10. Belate 50W 4 oz +Manzate 200 1 1/2 lbs + 1 qt oil 1-3N (tank mix)	4251	1989 bcde	61	734	282
11. SN-513 0.5 lbs ai/a 3N	4227	1965 bcde	65	774	322
12. Bravo 6F 1.5 pts + Duel 4 lbs Alternate LS	4197	1935 bcdef	63	745	293
13. Dithane M-45 1.5 lbs ES 2 lbs LS + Kylar 85W 1/2 lb + 1/4 lb +1/4 lb + 1/4 lb + Triton	4165	1903 bcdefg	68	800	348
14. Belate 50W 4 oz + Polyram 80W 1.5 lb + 1 qt Oil (tank mix)	4152	1890 bcdefgh	64	754	302
15. Difolatan 4F 6 pts ES (2 app) 3 pts balance season 3N	4130	1868 bcdefgh	67	785	333

1975 Foliar Disease Control Trials on Peanuts (continued)

Rank, Treatment, ¹ Chemical and Rate/Acre	Yield ²		Grade ³	Value/A	Increase Value/A
	Lbs/A	Diff-Ck Lbs/A			
16. Kocide 404S 1-3N + Bravo 6F Alternate LS	4111	1849 bcdefgh	64	738	286
17. Du-Ter 8 oz 1-3N ES Du-Ter 8 oz + Dithane M-45 1.5 lbs LS (tank mix)	4111	1849 bcdefgh	69	798	346
18. Benlate 50W 8 oz + 1 qt oil 1-3N	4053	1791 bcdefghi	65	748	296
19. Difolatan 4F 3 pts 3N	3971	1709 cdefghij	67	758	306
20. Difolatan 4F 6 pts 3N 21 day	3714	1452 cdefghij	66	693	241
21. Dithane M-45 1.5 lbs ES, 2 lbs LS + Kylar 85W ½ lb + ½ lb + ½ lb + Triton	3694	1432 defghij	67	696	244
22. Topsin + Sulfur Com +2½ lbs 1-3N Formulation	3664	1402 defghij	71	732	280
23. Kocide 404S 1 qt 1-3N	3647	1385 defghij	68	695	243
24. SN513 1 lb ai 3N	3522	1260 efghij	67	670	218
25. Bay Meb 6447 8 oz ai + Dyrene 1 lb 1-3N (tank mix)	3517	1255 efghij	69	693	241
26. Polyram 80W 1.5 lbs ES 2 lbs LS + Triton	3470	1208 efghij	64	630	178
27. Du-Ter 8 oz 1-3N	3382	1120 fghij	68	650	198
28. Kocide 404S 2 qts 1-3N	3363	1101 ghij	70	661	209
29. DPX-112 2 lbs	3333	1071 hij	68	638	186
30. Duel 7 lbs 1-3N	3280	1018 ijk	69	644	192
31. Dithane M-45 1.5 lbs ES 2 lbs LS + Triton	3239	977 jk	65	595	143
32. Orthocide 80W 3 lbs 3N	3153	891 jk	69	610	158
33. TBZ + Sulfur Com 2½ lbs 1-3N (Formulation)	3147	885 jk	71	626	174
34. Bay Meb 6447 25W 24 oz ai 21 day 1-3N	3117	855 k	70	620	168
35. Bay Meb 6447 25W 24 oz ai 1-3N	2798	536 kl	65	524	72
36. Non-Treated Control	2262	---	kl	425	---
LSD .05	830				

¹Plots were 4 - 36" double rows 60 ft. long and replicated 3 times in a randomized block. ES= early season, 21 day indicates those treatments sprayed on a 21 day schedule. Plots were planted May 22, dug October 23, harvested October 27. 1-3N = one, three nozzle application program was used and 3N = three nozzle application used all season. Spray dates: 7/9, 7/23, 8/5, 8/29, 8/27, 9/3, 9/10, 9/17, 10/1, 10/9. 21 day spray: 7/9, 7/31, 8/19, 9/10, 10/1. Kylar spray dates: 7/9, 7/23, 8/5, 8.19.

²Different in yield is the increase of yield when compared to the non-treated plots. Treatments followed by the same letter are not significantly different at the 0.05 level.

³Grade was determined by the Oklahoma Federal-State Inspection Service.

Disease Rating of the 1975 Foliar Disease Control Trials on Peanuts,
Caddo Research Station, Ft. Cobb, Oklahoma

Rank, Treatment ¹ Chemical and Rate/Acre	AVERAGE ² DISEASE RATING		
	CLS	WB	DEF
1. DPX-112 2 lbs + 1 qt crop oil 1-3N	1.4	1.9	1.0
2. Bravo 6FX 1.5 pts 1-3N	1.15	0.85	1.25
3. RH3928A 50W 1.5 lbs + Triton 1-3N	1.2	1.35	1.4
4. Bravo 6F 1.5 pts +Duel 2 lbs (tank mix) 1-3N 2 app.	1.3	1.9	1.6
5. RH3928B 50W 1.5 pts + Triton 1-3N	1.5	1.65	1.5
6. Bravo 6F 1.5 pts + THAT 2 qts 1-3N (tank mix)	1.4	1.5	1.55
7. Bravo 6FX 1.0 pts 1-3N	1.3	1.4	1.3
8. TOP/COP 2 qts 1-3N	1.75	2.15	2.25
9. Bravo 6F 1.5 pts 1-3N	1.25	2.2	1.75
10. Benlate 50W 4 oz + Manzate 200 + 1qt oil 1-3N (tank mix)	.9	2.25	1.75
11. SN-513 0.5 lbs ai/a 3N	2.9	0.5	2.5
12. Bravo 6F 1.5 pts +Duel 4 lbs Alternate LS	1.3	2.15	2.3

Disease Rating of the 1975 Foliar Disease Control Trials on Peanuts (continued)

Rank, Treatment ¹ Chemical and Rate/Acre	AVERAGE ² DISEASE RATING		
	CLS	WB	DEF
13. Dithane M-45 1.5 lbs ES, 2 lbs LS +Kylar 85W ½ lbs + ¼ lbs + ¼ lbs +¼ lbs +Triton	1.9	1.15	1.9
14. Benlate 4 oz + Polyram 1.5 lbs + 1 qt oil (tank mix)	.75	2.0	1.25
15. Difolatan 4F 6 pts ES (s app) 3 pts Balance Season 3N	1.4	3.05	1.3
16. Kocide 404S 2 qts 1-3N + Bravo 6F Alternate LS	2.25	2.0	3.0
17. Du-Ter 8 oz 1-3N ES, Du-Ter 8 oz + Dithane M-45 1.5 lbs LS (tank mix)	2.6	2.8	2.05
18. Benlate 50w 8 oz + 1 qt oil 1-3N	.75	4.5	1.9
19. Difolatan 4F 3pts 3N	1.7	2.0	2.10
20. Difolatan 4F 6 pts 3N 21 day	4.5	3.05	4.5
21. Dithane M-45 1.5 lbs ES 2 lbs LS + Kylar 85W ½ +½ +½ +½ +Triton	2.4	1.25	2.0
22. Topsin + Sulfur Com + 2½ lbs 1-3N (formulation)	1.0	5.5	3.65
23. Kocide 404S 1 qt 1-3N	4.25	2.25	4.25
24. SN513 1 lb ai 3N	1.75	0.8	1.75
25. Bay Meb 6447 8 oz ai +Dyrene 1 lb 1-3N (tank mix)	1.0	2.65	2.4
26. Polyram 80W 1.5 lbs ES 2 lbs LS + Triton	3.65	1.9	1.4
27. Du-Ter 8 oz 1-3N	2.4	3.5	3.15
28. Kocide 404S 2 qts 1-3N	3.4	3.5	4.75
29. DPX112 2 lbs without oil	0.95	2.0	1.2
30. Duel 7 lbs 1-3N	1.9	3.25	2.45
31. Dithane M-45 1.5 lbs ES 2 lbs LS + Triton	2.15	1.9	2.4
32. Orthocide 80W 3 lbs 3N	3.0	3.25	4.25
33. TBZ +Sulfur Com 2½ lbs 1-3N (Formulation)	1.4	6.0	4.15
34. Bay Meb 6447 25W 24 oz 21 day 1-3N	0.9	5.4	5.0
35. Bay Meb 6447 25W 24 oz 1-3N	.54	4.9	2.4
36. Non-Treated Control	9.0	0.8	8.25

¹Plots were 4 - 36" double rows replicated 3 times in a randomized block; ES = early season, 21 day indicates those treatments sprayed on a 21 day schedule. Plots were planted May 22, dug October 23, and harvested October 27. 1-3N = one - three nozzle application and 3N = three nozzle application was used all season. Spray dates:7/9, 7/23, 8/5, 8/19, 8/27, 9/3, 9/10, 9/17, 10/1, 10/9. 21 day spray dates: 7/9, 7/31, 8/19, 9/10, 10/1. Kylar spray dates: 7-19, 7/23, 8/5, 8/19.

²Disease rating average readings made 9/30, and 10/22. CLS = Cercospora leafspot (*Cercospora arachidicola*); WB = Web blotch (*Ascochyta sp.*) and Def = defoliation of peanut plants due to disease. The amount of disease or defoliation was rated on a 0-9 basis with 0 = no disease and 9 = 90% or more disease or defoliation.

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