

SOYBEANS – FUNGICIDE EFFICACY TO CONTROL PHAKOPSORA PACHYRHIZI

Variate:	Two and three applications of a fungicide
Treatments:	F1) unsprayed; F2) 50 g flusilazol + 100 g carbendazim/ha (400 ml Punch [®] Xtra/ha; du Pont) [0.045 lb flusilazol + 0.089 lb carbendazim/A (0.0356 gal/A Punch [®] Xtra)] F3) 1.6 kg mancozeb/ha (2.0 kg Dithane [®] M-45/ha; Rohm & Haas) [1.43 lb mancozeb/A (1.78 lb Dithane [®] M-45/A)] F4) 189 g propiconazole/ha (756 ml Tilt [®] 250EC/ha; Syngenta) [0.169 lb propiconazole/A (0.0674 gal Tilt [®] 250EC/A)] F5) 157.5 g azoxystobin/ha (630 ml Quadris [®] 2.08SC/ha; Syngenta) [0.1405 lb azoxystobin/A (0.0562 gal Quadris [®] 2.08SC/A)] F6) BAS 500/ha (600 ml Headline [®] EC/ha; BASF) [0.15 lb BAS 500/A (0.0535 gal Headline [®] EC/A)] F7) 168 g BAS 516 UD F/ha (442 g of unnamed 38% WG formulation/ha; BASF) [0.15 lb BAS 516 UD F/A (0.395 lb of unnamed 38% WG formulation/A)] F8) 100 g tetraconazole/ha (800 ml Eminent [®] 12SL/ha; Sipcam Agro) [0.089 lb tetraconazole/A (0.714 gal Eminent [®] 12SL/A)] F9) 1.44 kg chlorothalonil/ha (2.0 litres Echo [®] 720/ha; Sipcam Agro) [1.28 lb chlorothalonil/A (0.178 gal Echo [®] 720/A)] in 400 litres water/ha. [35.6 gal water/A]
Sprayed or Sprayer:	N2) two times, at 50 and 70 days after planting; N3) three times, at 50, 70 and 90 days after planting; knapsack with lance fitted with a Lurmark 2.5 flat-fan nozzle
Cultural Details: Cultivars:	Soybean cv 'Soprano' (indeterminate)
Design:	Randomized complete blocks, replicated four times i.e. 9 x 2 x 4 (72 plots)
Trial Details:	Sites: Rattray Arnold Research Station, Enterprise Banket Research Station, Banket Gwebi Variety Testing Centre, Mt. Hampden Size: 128.7 m x 13.0 m [422.26 ft. x 42.65 ft.] (135.9 m x 27.0 m) [445.89 ft. x 88.59 ft.] with guard Spacings: four blocks separated by 0.90 m [2.95 ft.] paths longitudinally, and 1.0 m [3.28 ft.] paths laterally (serpentine), surrounded by guard plots.
Block Details:	Size: 63.9 m x 6.0 m [209.66 ft. x 19.69 ft.] Spacings: eighteen plots separated by 0.90 m [2.95 ft.] paths every 2.70 m [8.86 ft.] longitudinally.
Plot Details:	Size: 2.70 m x 6.0 m [8.86 ft. x 19.69 ft.] Yield Plot: 0.9 m x 5.0 m [2.95 ft. x 16.40 ft.] Spacings: four rows, each 0.90 m apart. Plants spaced at approx. 50 mm [2.0 in.] intervals.
Fertilizer: Planting Date: Harvest Date:	as required by soil analysis. Please record.
Spraying:	as per Treatment
Measurements:	Rust severity (as per Shanmugasundaram (1977)) and growth stage to be assessed at 90, 94, 98, 102, 106 and 110 DAP. Seed from each plot harvested separately, total yield and 100-seed mass to be recorded. Moisture content of the seed to be measured at time of measuring yield and 100-seed mass.

1	2	3	4	5	6	7	8	9
F3/N3	F6/N2	F9/N2	F1/N2	F5/N3	F3/N2	F2/N3	F9/N3	F8/N2
10	11	12	13	14	15	16	17	18
F8/N3	F7/N2	F7/N3	F4/N3	F5/N2	F6/N3	F4/N2	F1/N3	F2/N2
19	20	21	22	23	24	25	26	27
F9/N3	F3/N2	F6/N2	F7/N3	F4/N2	F6/N3	F8/N3	F2/N2	F5/N2
28	29	30	31	32	33	34	35	36
F5/N3	F1/N3	F1/N2	F2/N3	F9/N2	F3/N3	F8/N2	F7/N2	F4/N3
37	38	39	40	41	42	43	44	45
F4/N2	F5/N3	F9/N2	F3/N3	F7/N3	F1/N2	F8/N3	F1/N3	F5/N2
46	47	48	49	50	51	52	53	54
F2/N3	F6/N2	F4/N3	F3/N2	F6/N3	F8/N2	F9/N3	F7/N2	F2/N2
55	56	57	58	59	60	61	62	63
F3/N3	F4/N2	F1/N3	F4/N3	F7/N2	F9/N2	F2/N3	F8/N2	F9/N3
64	65	66	67	68	69	70	71	72
F6/N2	F8/N3	F7/N3	F5/N2	F3/N2	F6/N3	F5/N3	F1/N2	F2/N2

KEY:

F = Fungicide N = # of sprays

SUMMARY

		<u>Plots</u>			
F1	N2	4	29	42	71
F1	N3	17	30	44	57
F2	N2	18	26	54	72
F2	N3	7	31	46	61
F3	N2	6	20	49	68
F3	N3	1	33	40	55
F4	N2	16	23	37	56
F4	N3	13	36	48	58
F5	N2	14	27	45	67
F5	N3	5	28	38	70
F6	N2	2	21	47	64
F6	N3	15	24	50	69
F7	N2	11	35	53	59
F7	N3	12	22	41	66
F8	N2	9	34	51	62
F8	N3	10	25	43	65
F9	N2	3	32	39	60
F9	N3	8	19	52	63