

FIELD EXPERIMENTS 19 68POTATO BLIGHT CONTROL EXPERIMENTSEXPERIMENT: Fungicide ScreeningSITE: Meggs's Land, MorleySOIL TYPE: Sandy clayloamTREATMENTS AND LAYOUT: Two randomised blocks

	<u>Fungicides</u>	<u>Peak dose</u> (product per acre)	<u>Recommended dose</u>
A.	Propineb	6 lb	2.0 lb
B.	Mancozeb	4 lb	1.5 lb
C.	Fentin hydroxide	4 lb	1.25 lb
D.	Copper oxychloride	6 pints	2.0 pints
E.	Disulfolamid	8 lb	3.0 lb
F.	Zineb	6 lb	2.0 lb
G.	Fentin hydroxide + maneb	4 lb	1.5 lb
H.	Untreated control	nil	nil
J.	"	"	"

MAJOR INDIGENOUS WEED SPECIES: -PLOT SIZE: Treatment: 2.19 yards (2 metres) x 24 yards. Width covered
2 x 30" rows

Harvest: -

MAKING OF EXPERIMENTAL CROP: 9.5 owt per acre 13: 13: 20PREVIOUS CROPPING: 1966 - spring wheat
1967 - potatoes

CULTIVATIONS: -

DRILLING: Date: 1 April
Seed: King Edward
Seed spacing: 15 inches
Drill: -

SPRAYING:

Date: 9 July

Soil condition (previous weather): -

Weather conditions during spraying: 20°C, W.N.W. wind force, 1 Moderate humidity.

Equipment and method adopted: Van der Weij sprayer, 2050 ml: 1031 ml tanks, 35.5 psi (2.5 kg/cm²), 41.5 gpa (465 l/ha), Birchmeier helico sapphire nozzles size 1.6 - 673 a.

Chemicals:

- Antraacol (ex Baywood) - 70% w/w propineb (w.p.)
- Dithane 945 (ex Shellstar) - 80% w/w mancozeb (w.p.)
- Erithane (ex Baywood) - 20% w/w fenitrothion hydroxide (w.p.)
- Colloidal Copper (ex Baywood) - 20% w/w copper as copper oxychloride (col.)
- Elvaron (ex Baywood) - 50% w/w dichlorofluanid (w.p.)
- Zelmaone (ex Baywood) - 70% w/w Zineb (w.p.)
- Fenitro (ex Pisons) - 7% w/w fenitrothion hydroxide + maneb

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State of ~~potatoes~~ potatoes: Just meeting in the row

CONDITIONS AFTER SPRAYING:

Week	1	2	3	4	Total
Rainfall (inches)	1.86	0.48	0.02	1.58	3.94

Slight rain on day of spraying

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BLIGHT ASSESSMENTS:

Date: 31 July, 12 and 20 August and at harvest

Method: Visual - BMS Key for foliar infection, 0 - 10 for tuber infection

HARVEST: Date: 25 October

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GENERAL OBSERVATIONS: Deposits of propineb could be very clearly seen after all sprayings

SPRAYING:

Date: 22 July

Soil condition (previous weather):-

Weather conditions during spraying: 23°C., WNW wind force 1, low humidity

Equipment and method adopted: As for 9 July spraying

Order of spraying: -

Chemicals: See 9 July spraying

State of ~~winter~~ potatoes: Complete cover

State of beet:

CONDITIONS AFTER SPRAYING:

Week	1	2	3	4	Total
Rainfall (inches)	0.33	1.56	1.26	1.13	4.28

It rained on the day of spraying

WEED AND BEET COUNTS: BLIGHT ASSESMENTS:

Date: }
 Method: } See 6 July spraying

HARVEST: Date: 25 October

~~WATER ANALYSES~~

GENERAL OBSERVATIONS: -

SPRAYING:

Date: 26 July

Soil condition (previous weather): -

Weather conditions during spraying: 15.5°C., N wind force 2, Mod. humidity

Equipment and method adopted: as for 9 July spraying

Order of spraying: -

Chemicals: See 9 July spraying

State of ~~winter~~ potatoes: Complete cover

State of beet:

CONDITIONS AFTER SPRAYING:

Week	1	2	3	4	Total
Rainfall (inches)	0.01	2.77	0.64	0.77	4.19

There was no rain for two days after spraying

~~WINTER POTATOES:~~ BLIGHT ESTIMATES:

Date: }
 Method: } See 9 July spraying

HARVEST: Date: 25 October

~~Washed and analysed:~~

GENERAL OBSERVATIONS: -

SPRAYING:

Date: 6 August

Soil condition (previous weather): -

Weather conditions during spraying: 18°C., NE wind force 3 (some drift)

Equipment and method adopted: As for 9 July Spraying

Order of spraying: -

Chemicals: See 9 July spraying

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State of ~~XXXXXX~~ potatoes: Complete cover

CONDITIONS AFTER SPRAYING:

Week	1	2	3	4	Total
Rainfall (inches)	1.37	1.23	0.00	0.74	3.34

There was rain on the day of spraying

~~XXXXXXXXXXXXXX~~ BLIGHT ASSESSMENTS:

Date: }
 Method: } See 9 July spraying

HARVEST: Date: 25 October

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GENERAL OBSERVATIONS: *

SPRAYING:

Date: 12 August - treatment B, D, F, G, of block I and D, F, of block II
were not sprayed because too much foliar
infection

Soil condition (previous weather): -

Weather conditions during spraying: 24°C, wind force 1 (slight drift)

Equipment and method adopted: As for 9 July spraying

Order of spraying: -

Chemicals: See 9 July spraying

~~STATE OF POTATOES~~

State of ~~potato~~ potatoes: Complete cover apart from foliar infection

CONDITIONS AFTER SPRAYING:

Week	1	2	3	4	Total
Rainfall (inches)	1.13	0.23	0.58	0.21	2.15

There was rain on the day of spraying

~~SPRAYING DETAILS~~

BLIGHT ASSESSMENTS

Date: }
Method: } See 9 July spraying

HARVEST: Date: 25 October

Washed and analysed

GENERAL OBSERVATIONS: -

POTATO FUNGICIDE SCREENING, MORLEY

Dosages (product per acre) of Fungicide and Rate of Infection Observed on 31st July, 12th and 20th August, 1968

FUNGICIDE	Normal Dose (product/acre)	Peak Dose (product/acre)	% FOLIAR BLIGHT												Visual Tuber Blight			
			31st July						12th August							20th August		
			25%	50%	75%	95%	50%	75%	95%	50%	75%	95%	50%	75%		95%		
Propineb (Antacol)	2 lb	6 lb	(3.9) ∅	1.6	(0.8)	-	-	3.5 ∅	1.0	-	-	-	-	-	3.3 ∅	2.0		
Mancozeb (Dithane 945)	1½ lb	4 lb	-	∅ 1.4	(1.0)	-	-	(3.1)	1.8 ∅	-	-	-	-	-	3.2 ∅	3.5		
Fentin hydroxide (Erithane)	1¼ lb	4 lb	(2.8)	(2.1)	2.3 ∅ (0.4)	-	-	(2.8)	1.6 ∅	-	-	-	-	(2.2) ∅	2.8			
Copper oxychloride (Colloidal copper)	2 pints	6 pints	-	-	(4.3) ∅ (0.7)	-	-	-	-	-	-	-	-	-	1.0			
Dichlofluanid (Elvaron)	3 lb	8 lb	-	5.5	(6.1) ∅	-	-	(4.8) ∅	2.3	-	-	-	-	5.9 ∅	1.0			
Zineb (Zelmone)	2 lb	6 lb	-	-	5.0	∅ (2.1)	-	-	(5.2) ∅	-	-	-	-	-	1.0			
Fentin hydroxide + Maneb (Fennite)	1½ lb	4 lb	(2.0)	(1.2)	1.9 ∅ (0.6)	-	-	2.8 ∅ (1.1)	-	-	-	-	(3.4)	2.6 ∅	2.5			
Untreated	-	-	-	-	95 + %	-	-	100%	-	-	-	-	100%	-	1.4			

Figures in brackets indicate that the specific level of infection was observed on one replicate only.

∅ indicates the approximate level of infection at each assessment from the use of the normal dosage of each fungicide.