

Integrated pest management for potato tuber moth

—9th quarterly report, October - December 1998

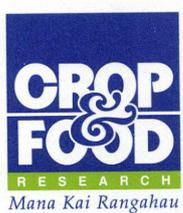
A report prepared for
Vegfed

TJB Herman
January 1999

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1 EXECUTIVE SUMMARY

This is the ninth quarterly report of a three year project to establish an integrated pest management (IPM) programme for potato tuber moth (PTM). The project is being undertaken by Crop & Food Research in partnership with the Potato Sector of Vegfed, major potato processors and exporters, and the Technology for Business Growth Programme (TBG). The objective for the third year of the project is to integrate the technology that we have developed for control of PTM and to implement the IPM programme commercially.

During this quarter:

- the sites for 1998/99 research were set up in Matamata and Opiki;
- preparations for writing the IPM manual were made;
- the results from 1997/98 (particularly the results for individual crops) and the outline and organisation of the research programme for 1998/99 were discussed with exemplar growers and with the project team.

2 INTRODUCTION

This is the ninth quarterly report of a three year project to establish an integrated pest management (IPM) programme for potato tuber moth (PTM). The project is being undertaken by Crop & Food Research in partnership with the Potato Sector of Vegfed, major potato processors and exporters and the Technology for Business Growth Programme (TBG). The report covers the start of the third and final year of field work.

The objective for the third year is to integrate the technology that we have developed for control of PTM and to implement the IPM programme commercially.

This objective will be achieved by:

- testing proposed spray thresholds;
- combining the monitoring system with biological and cultural control strategies to produce an IPM programme for PTM;
- training the exemplar growers to use the IPM programme and assisting them to implement the programme in their crops;
- demonstrating the programme to other growers;
- developing an IPM reference manual for exemplar growers for PTM control in potatoes.

3 PROJECT PROGRESS

Work over the past three months has included:

- initiating the new programme of field work for 1998/99;
- preparing an outline of the IPM manual and seeking input from fellow Crop & Food Research staff;
- discussing 1997/98 results with the project team and exemplar growers and briefing them on the programme for 1998/99.

3.1 Field work

Research sites have been set up in Opiki and Matamata. Each of the three exemplar growers in Matamata have provided a crop (cv. Fianna and Desiree) for my use. In each crop I have marked out an area (20-30m wide x the length of the crop) in which I will run the IPM programme. The growers will operate their standard (conventional) PTM management in the rest of the crop. PTM populations are being monitored in both parts of each crop with pheromone traps and crop scouting.

A similar set-up was arranged in one crop (cv. Fianna) of a Matamata exemplar grower. The other Matamata exemplar grower has provided three early crops (cv. Draga and Delcora) to provide an 'acid' test of the IPM programme in crops which lose their foliage around February. These crops were identified as having a high risk of PTM damage in last season's research. The one Draga crop has been split in two: IPM will be applied on one side of the crop and conventional pest management on the other. One Delcora crop is under IPM management and the other is under conventional management. As at Opiki, PTM populations are being monitored over the whole crop.

3.2 IPM manual

While the IPM manual will focus on the IPM programme for PTM, it will also include a section on identifying and managing the major pests and diseases of potatoes, and all categories of control. I have approached other pest and disease specialists within Crop & Food Research for their input and assistance in writing sections of the manual.

3.3 Exemplar growers

I explained the results from the second year of research to the exemplar growers, with particular reference to the results for their individual crops. During these meetings I also outlined plans for 1998/99. One of the growers raised the issue of compensation for economic losses from PTM damage in the IPM research sites. I noted this for discussion with the project team (see below).

3.4 Project team

Plans for a project team meeting during November were changed to a conference call in mid-December. We went over the end of year report and I outlined the research programme for 1998/99.

The issue of compensation for losses was discussed. I pointed out that the perception that extra damage would occur under IPM management (a common perception of growers worldwide) was inaccurate, and that our previous experience with IPM had actually shown the reverse. IPM improves the control of a pest leading to improved quality of yield. In this case, our sampling will identify any differences between the yield from the two management regimes within a crop and if IPM management results in more damage or higher production costs through extra grading, this would be accounted for as an in-kind contribution.

3.5 The next three months

Over the next three months we will intensively monitor the PTM populations that develop as the season progresses. Field days will be held in Matamata and Opiki later in the quarter so that local growers and consultants can observe the results of the IPM programme.

4 TIME MANAGEMENT AND PROJECT FINANCE

Project income/expense, October to December 1998 (GST exclusive)

Item	Oct'98	Nov'98	Dec'98	Total
<i>Costs</i>				
Labour	5 861	6 885	4 625	17 371
Overheads	3 517	4 131	2 775	10 423
Operating costs	883	107	720	1 710
<i>Revenue</i>				
Invoice to VegFed	10 261	11 123	8 120	29 504

Total expenditure to 31 December is \$52 161 (GST excl.), \$3 251 under budget year to date, with the project progressing well.

5 IN-KIND CONTRIBUTIONS BY GROWERS AND PROCESSORS

Period: December 1998

Date	Name	Task	# hours	value
1/12	Moleta, Fraser, Miers	field reports	1.0	\$50.00
2/12	S. Davis (Heinz-Wattie)	discussion on microbial pesticides for PTM control	0.5	\$42.50
2/12	M. Atkinson (consultant)	siting of PTM pheromone traps	0.5	\$25.00
4/12	Taylor, Pollard	field reports (2+1)	1.0	\$50.00
8/12	Moleta, Fraser, Miers	field reports	1.0	\$50.00
11/12	Taylor, Pollard	field reports (2+1)	1.0	\$50.00
14/12	M. Spencer (ASW)	commercial sources of PTM pheromone traps	0.25	\$12.50
15/12	Moleta, Fraser, Miers	field reports	1.0	\$50.00
17/12	Taylor, Pollard	field reports (2+1)	1.0	\$50.00
22/12	Moleta, Fraser, Miers	field reports	1.0	\$50.00
24/12	Taylor, Pollard	field reports (2+1)	1.0	\$50.00
29/12	Moleta, Fraser, Miers	field reports	1.0	\$50.00
			sub total	\$530.00
Other				
processor - grower liaison			7.0	\$607.50
Project team (9 reps)- Nov progress report @ 0.25 hours			2.25	\$156.25
			total	\$1293.75

In-kind Contributions, Year 3

	budget	this month	total to date
growers	\$31 000	\$847.50	\$5 868.49
processors	\$ 9 500	\$446.25	\$1 395.84
(executive)	(\$12 500)	?	?
TOTAL	\$53 000	\$1 293.75	\$7 264.33