

Potato leafminer, *Liriomyza huidobrensis*

The potato leafminer was introduced into South Africa in 2000. Initially severe yield losses of up to 70% were experienced by potato farmers in the Sandveld region. After the registration of a few insecticides, the problem subsided during the following years. However, during some seasons the problem seems to become serious again; insecticides apparently are not always able to control the leafminer satisfactory. The potato leafminer attacks nearly all vegetables, but on potato it is particularly severe.

The potato leafminer adult is a small fly (Fig 1). They occur in large swarms in potato fields, but because of their small size, they are not easy to observe. The females use their ovipositors to puncture leaves, making small holes, into which eggs are laid. The larvae are minute maggots that mine into leaves; many maggots may be found mining the same leaf (Fig 2). Affected foliage appears to be diseased and die off prematurely. Yield loss is always due to the destruction of foliage; the maggots never mine into fruiting bodies or roots/tubers.

The potato leafminer is in many cases a mystery pest; the origin of first flies of the season is still a mystery, sudden population explosions are mostly unexplained, the occurrence of severe infestations during winter is sometimes a mystery, relative effectiveness of current insecticides is mostly unknown, and effectiveness of cultural practices is mostly undetermined. The ARC-VOP has launched a project, funded by Potatoes South Africa, to study some of these challenges the potato industry faces.

Current projects (2017)

Title: Investigation into control strategies of the potato leafminer on potatoes.

Project leader: D Visser

Funder: Potatoes South Africa

Time-line of project: July 2017 – June 2019

Problem Statement: The research objectives of this project attempt to address inadequacies in current control strategies of the most important potato pest in South Africa, the potato leafminer. Both the subject of research (potato leafminer) as well as the impact it has on the industry (yield loss and input costs), are of major concern and significance to the potato industry. The problems that will be addressed are the current inadequacies in control strategies, and the lack of relevant information regarding the potential of additional control elements that may play an important role in managing the potato leafminer on potatoes.

Objective: To investigation control strategies of the potato leafminer on potatoes in South Africa.



Fig. 1. Potato leafminer adult (3 mm in length).



Fig. 2. Potato leaf with mines of the potato leaf miner, *Liriomyza huidobrensis*.