

**Project Title:** Carrot Violet Root Rot  
**Grantee:** The Horticulture New Zealand Fresh Vegetable Group  
**Grant Number:** 07/048  
**Contact Person:** Ron Gall  
**Address:** Horticulture NZ, PO Box 10232 Wellington  
**Telephone:** 04 494 9984  
**Facsimile:** 04 471 2861  
**Email:** Ron.g@hortnz.co.nz  
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**Related website links:** [www.hortnz.co.nz](http://www.hortnz.co.nz)  
**Other links** [www.freshvegetables.co.nz](http://www.freshvegetables.co.nz)

### **Project description**

The project aims to improve knowledge of Violet Root Rot (VRR), and develop practical, economically sound management practices for control, contributing to long-term sustainability of carrot and other vegetable industries in the Ohakune district.

### **The issue/opportunity**

Violet Root Rot is a major problem that threatens the long term viability of the vegetable industry in the Ohakune district. Growers estimate that they will run out of 'clean' land within 10 years due to increasing spread of the fungus in the district.

### **The context/background**

The Ohakune district is a major supplier of washed carrots, washed potatoes (particularly Nadine) and parsnips to the New Zealand domestic and export market. Previous attempts at control of VRR have been unsuccessful, and growers have no proven tools to combat the disease.

### **Methods**

A series of field trials will be established in commercial crops to identify the most effective fumigants, application rates, frequency and timing. The scale of the trials will allow realistic assessments of the logistics, practicality and economics of different fumigation treatments and strategies. Trial sites will serve as demonstration blocks for district growers.

Three trial sites with high levels of natural VRR infections have been identified. Fumigation trials using various products and rates will be established in spring 2007, and the effect on crop yield, crop quality and disease incidence will be assessed. In years 2 and 3, some plots will be re-fumigated and others left untreated for a season to determine the duration of benefit obtained from a single fumigation and hence the required frequency of treatment. This will help optimise and minimise fumigant use.

Grower's experiences of current rotation practices (e.g. potatoes, pasture or fallow) will be reviewed to see if there are any consistent patterns that could

assist in developing an integrated disease management strategy. In the course of the trial programme, the principal fungal survival and dispersal mechanisms of the fungus will be identified. Understanding of this will help provide cultural control methods and optimise disease management recommendations, and may also aid identification or prediction of problem sites.