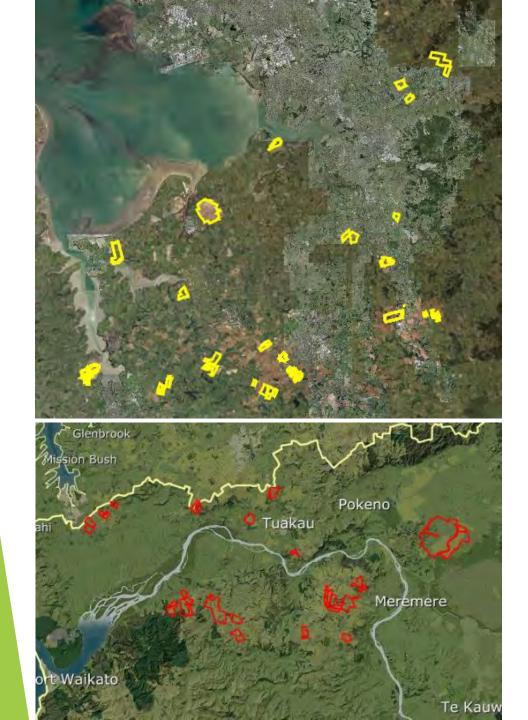


Balle Brothers Properties

Farm Region	Owned by Group	Leased
Auckland	133ha	544ha
Northern Waikato	542ha	199ha

*Excluding Matamata-Piako Region, only PC1 area.



Auckland Region

Northern Waikato Pest and Disease Management



Brassica Crops

Club Root

Includes Broccoli, Cauliflower, Brussel Sprouts, Cabbage, Turnip, Radish and Mustard family crops.

A fungus that infects the roots. The disease is usually more severe on cold, wet, acidic soils and is spread by drainage water, infested soil on equipment, tools, or shoes, and infected transplants.

Resting spores remain viable in the soil for up to eighteen years and the repeated production of brassica crops can lead to a rapid build-up of the pathogen.



Carrots

Carrot Fly

Affects carrots, parsnips, parsley and celery

A pest that causes crop damage by the larvae (<u>maggots</u>) feeding on the outer layers of the carrot root. This causes damage to the carrot including black ends and holes.



Potatoes

Potato Cyst Nematode (PCN)

A serious pest of potatoes world-wide. Diseased plants first occur in isolated patches and these become larger with each new crop if potatoes are continually grown on the infested site. Cysts containing viable eggs can survive in soil which has not been planted to potatoes for up to 20 years.

Common Scab

Is a soil-borne disease. This organism attacks the stems, stolons and roots of the **potato**, and more importantly, young, rapidly growing tubers, stimulating the growth of unsightly corky tissue. Long rotations of three to five years, preferably with legumes are useful in reducing the severity of the disease.



Onions

Fusarium

Affects all alliums but economically significant in onions and garlic.

Is a soil borne disease which causes rots. Bulb tissue will appear brown and watery when cut open. Most effect way to control is t rotate away from alliums for at least 4 years.



Lettuce

Downy Mildew

A fungus which is a major disease in lettuce worldwide. Cool weather, high humidity and poor drainage promote the disease. Lettuce is susceptible at all stages of growth.

Downy mildew can reduce yields and quality of the crop. Infected wrapper leaves must be removed at harvest. Infections on the cap leaves or of leaf lettuce may result in leaving heads or whole plantings behind in the field.

Healthy Crops













Good Management Practices













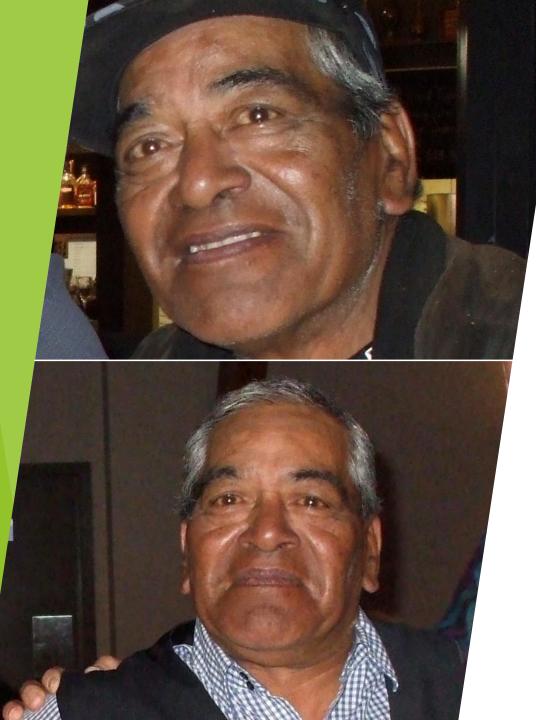












Elvis