

Quest for the world's best

By STEVE MCARTHUR

IT'S refreshing to hear growers talk about the volume of class one product produced and not the total area planted.

The focus for specialist carrot and potato growers Pyper's Produce is clear; they do not aspire to grow the most, they want to grow the best.

New Zealand farming enterprise Pyper's Produce, has been growing high quality vegetables since it was started by Nelson and Rosanne Pyper in 1967.

The farming operation and export pack-house are located on the outskirts of the world's southernmost city, Invercargill.

The location at 46 degrees south makes Pyper's Produce the most southern vegetable production farm in the world.

Since August 2007, Pyper's Produce has been owned and managed by long term employees Brendan Hamilton and Brent Lamb.

Brendan manages all aspects of the carrot business and Brent the potatoes. Brendan is embroiled in a compulsive quest to produce 12,000 tonnes of the best carrots in the world.

Pyper's Produce follows a strict crop rotation that maximises the residual nutrition in the soil and preserves the soil quality for future cropping.

Fields are mostly from virgin soils, which have been in grazing pasture for many years.



From arrival at the processing facility the carrots are washed, graded, polished, hydrocooled, sized and packed. The packhouse has the capacity to pack 130 tonnes of class one carrots for various markets each day.



Brendan Hamilton, Pyper's Produce, Invercargill, New Zealand, shows how dry and fee the soil is under the black plastic post a heavy rainfall.

A crop of potatoes is planted in year one, followed by two crops of carrots in years two and three.

The soil is then planted back into pasture and not cropped again for ten years. This crop rotation on these fertile and well drained soils ensures very high quality carrot roots are produced.

Self-set potatoes are a problem in the carrot crops, when potatoes are grown the year prior to carrots.

Potatoes do however; get the ground into excellent condition for carrot production. The positives of the

practice outweigh the negatives.

Twenty-three Massey Ferguson and John Deere tractors are used to prepare the soil and plant the carrots.

This includes nine tractors fitted with specifically designed carrot planting machinery (up from six last season), including three with precision air seeders and three de-stoners, that ensure the roots grow true and straight.

The weather in spring can be very unpredictable with the wind coming straight from Antarctica resulting in some very brutal weather.

Pyper's are able to maximise any opportunity for spring planting, no matter how small the window of opportunity is.

Pyper's Produce has invested in GPS technology on their cultivation tractors.

This has improved the accuracy and efficiency of planting. Using this technology also speeds up the planting when following wet periods, planting is a 24/7 operation.

Sowing starts in July in the middle of winter. These carrots are destined for the early domestic market crop.

Sowing normally finishes early in December with the ground storage crop for the late domestic market.

This ensures that Pyper's Produce have fresh carrots for the domestic market from mid-December (summer) to late October (spring).

The entire carrot program is based on one variety, Soprano f1 a cylindrical 'nantes' type bred in France by Vilmorin. High quality seeds are sown at a rate of 1-1.2 million seeds per hectare.

The early crop is protected by a perforated clear plastic film for its first

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The most southern vegetable production farm in the world.



The harvester makes its way through the winter crop with the carrots gently placed into 10t bulk bins to avoid cracking and splitting. It has the ability to harvest 40 tonnes of carrots per hour.



Slicing carrots on arrival from the field.

months of growth.

This warms the soil beneath (as at sowing it is less than 5 degrees Celsius) and promotes carrot growth.

The plastic cover enables this cold winter region to be early into production, with maturity times of about 130 days from sowing.

This year 12 hectares are planted under plastic for the early domestic market.

The plastic is kept on for 10-12 weeks after sowing, to provide a warm micro climate for carrot development.

Prior to planting each field is soil tested and only phosphate and potassium together with essential trace elements such as boron are applied to the soil pre-planting.

No other fertiliser is applied to the crop, unless a regular leaf test shows up a specific deficiency, it is very rare that any extra fertiliser is applied.

To ensure the safest possible food and to reduce any possible contamination, animal manure is not used on the crops before planting. All fields are well fenced from livestock.

Due to the cold winter and isolation of the growing area from other carrot fields, there are very few pests and diseases that attack the

carrot crops. Very few pesticides are applied, those that are used are mostly for the control of self-set potatoes and nematodes.

All carrot fields are residue tested, and only those that have carrots that are found free of pesticide residues are packed for market.

The carrots have been totally reliant on rainfall for their water requirements. The productive soils do have good water holding capacity and irrigation is rarely needed.

Given the roots of carrots grow in excess of 2.5m in length they are very efficient in accessing water.

Rainfall is usually very reliable throughout the growing season in Invercargill.

However, a record drought last summer resulted in some quality issues with carrots not blunting off as nice as usual at the tip.

To help maintain their high export

quality standards Pyper's are investing in solid set irrigation for key fields aimed at late summer harvest.

About 25 hectares will be planted under solid set irrigation this year. A water storage dam is being constructed to ensure adequate water supply with a longer term view of having more carrots under irrigation.

Pyper's are using a range of tools to get the best out of what Mother Nature has to offer.

Plastic film is used to provide a pleasant environment for early and late carrots.

The black plastic and soil insulation keeps the carrots warmer and drier than leaving them out in the elements.

With 30ha kept for winter and spring harvest under this system, it provides a reliable continuous supply.

The black plastic also blocks out

the light and delays the time when the carrots would normally re-sprout again in the spring.

A range of machinery is used in picking the carrots from the soil as gently as possible.

This heavy machinery may look overpowering but is very gentle on the carrots and the soil they are picked from.

Such is the efficiency of the harvesting operation an impressive 40 tonnes of carrots can be harvested per hour.

These carrots are gently placed into 10t bulk bins to avoid cracking and splitting.

These bulk bins are transported quickly to the packing facility to ensure the capture of the farm fresh flavour.

The domestic market is important for Pyper's and with packing for 10 months of the year ensures that key

staff can be employed for a full year. The market split is 60/40 with 40 per cent sold for export.

Pyper's pack 200-250 forty-foot refrigerated containers each year; destined for markets in Japan, Asia and the Middle East. Just as Pyper's rely on one variety they also rely on one exporter.

The Auckland-based exporter Harvest Fresh, and owner Guy Hillson is responsible for marketing their entire export crop.

This year Pyper's are on target for a start of harvest for the domestic market of the December 10, the warmer than usual winter has definitely helped with making early carrots.

The first export carrots are expected mid-January 2014.

The carrot packhouse at Pyper's is an impressive and efficient operation.

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