



Know-how for Horticulture™

Ballarat potato drip irrigation study tour

Dean Jones
VIC Department of Primary
Industries

Project Number: PT03043

PT03043

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Horticultural Australia Ltd

Level 1

50 Carrington Street

Sydney NSW 2000

Telephone: (02) 8295 2300

Fax: (02) 8295 2399

E-Mail: horticulture@horticulture.com.au

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**Ballarat Potato Drip Irrigation Study Tour, June 2003 -
Bundaberg and Atherton**

In association with Netafim Australia



Report completed by

Dean Jones, Irrigated Crops Agronomist. Department of Primary Industries, Ballarat Victoria.

For; Jos Schuurmann, Netafim Australia

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Study Tour Report- Horticulture Australia Project Number: PT03043

Acknowledgment and Participants

In June 2003, 9 potato growers and 3 industry representative from Victoria and New South Wales took part in a study tour to the Bundaberg and Atherton, Queensland, to investigate primarily using sub surface drip on potatoes.

The tour participants gratefully acknowledge the support of Netafim Australia as the primary host of the tour (Jos Schuurman, Victorian State Manager, Netafim Australia. P.O. Box. 248, Laverton Vic 3026. (03) 9369 8777). Horticulture Australia Limited (HAL) also contributed to the travel cost for the nine potato growers. The touring party would also like to thank the following individuals and businesses that took time to talk to the group and share their experiences:

- Peter Anderson, Bundaberg area Sales Manager - Netafim Australia
- Anthony Riebein, Bundaberg.
- Neville and Dean Cayley, Bundaberg.
- Tony Denton, Adds Up Engineering P/l, Bundaberg.
- Ivan Philpot, Childers
- Jimmy Izabella
- Richard and Frank Cudro
- Paul Stadhams
- Mick Ferraro
- Leo, fred, Brett and Anthony Conzollar
- Warren Jonnson
- Frank and John Gallo

The tour was held between the 9th –13th of June 2003 and the resulting report was collected in August 2003. Tour participants include potato growers from NSW and Victoria, and industry representatives:

- John Doyle, Potato Grower, Berrigan, NSW.
- Nick Doyle, Potato Grower, Berrigan, NSW.
- Noel Dean, Potato Grower, Waubra.
- Rod Dean, Potato Grower, Waubra.
- Fred Haintz, Potato Grower, Mount Prospect.
- Ken Labbett, Potato Grower Clarkes Hill.
- Russell McKay, Potato Grower, Newlyn.
- Kain Richardson, Potato Grower, Newlyn.
- David Pedretti, Contractor (Quality Rural Marketing), Blampied
- Jos Schuurman, Victorian State Manager, Netafim Australia.
- Rod Lay, McCain Foods agronomist, Ballarat.
- Dean Jones, Department of Primary Industries (Victoria), Ballarat.

Introduction

In June 2003, nine potato growers and three industry representative from Victoria and New South Wales took part in a study tour to the Bundaberg and Atherton, Queensland, to investigate using sub surface drip on potatoes. The need for the tour was obvious when reviewing the progress of trial work with sub-surface drip irrigation (drip) on potatoes in recent years in south-east Australia.

The following; is a brief history of the use of sub surface drip on potatoes in the Ballarat region and southern New South Wales which lead to the need for this tour.

History

Potato growers in the Central Highlands of Victoria, north of Ballarat were increasingly concerned about the economic, the environmental and the social implications of their current irrigation methods. Growers identified that they needed to investigate options to use water more effectively and aim to grow more produce per litre of water. The growers concerns were warranted with recent dry years and depleted surface water and draw down of bores. Importantly, too, they were increasingly aware that their current methods force them to spend very long hours every day moving and setting up their irrigators, and that this impacting seriously on their family and community lifestyles.

Based on the growers concerns a cooperative of interested groups joined forces late in 2001 to investigate what could be done to improve the irrigation industry in the Central Highlands. A steering committee was established and the collective thoughts of McCain Foods, Department of Primary Industries (DPI), local growers, Central Highlands Integrated Production Systems (CHIPS), and irrigation contractors and suppliers lead to the establishment of trial plot testing sub surface drip around Newlyn over the 2001/2002 irrigation season.

Two trials totalling 3 hectares were established on local potato properties and managed by the growers with assistance from DPI, McCain's staff and irrigation contractors. Following the success of those trials 7 growers established 63 hectares of drip irrigation on Russet Burbank potatoes during the 2002/03 season. The results were promising and proved that drip irrigation has potential in the potato growing area of the Central Highlands. Concurrently McCain foods were working with potato growers around the Berrigan area to trial sub surface drip on potatoes in sandy soil.

The initial trial work suggested that there would be considerable benefits to growers and assist to consolidate the viability of irrigated potatoes industry if water saving can be achieved through the use of sub-surface drip irrigation. Both the Victorian and NSW trials did however create as many questions as they answered. Laying and retrieving the tape created issues and scheduling the irrigation was also problematic.

Unfortunately much of the experience irrigators have with conventional aerial irrigation systems does not readily translate to assist with the installation and management of drip irrigation. Despite the problems encountered, some trials created water saving of up to 50% and fuel savings of 80%. The positive results were enough to encourage growers to investigate management of sub-surface drip further over the winter season in preparation for the coming season.

The Central Highland growers had identified that they needed more information and exposure to ideas relating to sub-surface drip irrigation. An assessment of the sub-surface drip trials during the 2002/2003 irrigation season by participating growers identified the following topics that need further work in the Ballarat region:

- Tape placement in the row, depth and relative to the seed.
- Flow rates and increasing watering intervals to 3 days.
- Accurate soil moisture monitoring and irrigation scheduling

- Fertigation options and fertiliser management
- Variation in soil moisture holding capacity across the paddock
- Better understanding of soil dynamics.
- Timing of operations – first irrigation, first Fertigation.
- Cost:Benefit analysis of system
- Quality assessment of yield due to changes in operation.

Development of the Study tour

Netafim Australia had been involved in many of the drip trails in both regions and identified some parallels between the development of drip irrigation for potatoes in Queensland over the last 5-10 years and the current problems face in south-east Australia. Netafim had been working with Queensland irrigators using sub surface drip on varied crops including potatoes for up to 10 years. During the establishment of sub surface drip as workable irrigation system for potatoes similar issues had challenged the Queensland irrigators to those that face the Central Highlands growers today. Queensland grower had successfully develop drip irrigation as a viable irrigation method of watering potatoes. Netafim were confident growers from the southeast Australia could improve the management of drip irrigation by discussing the challenges faced, and processes employed by Queensland growers to overcome any technical difficulties.

In May 2003 Netafim Australia and David Pedretti, offered to host a study tour to the Bundaberg and Atherton to address some of the issues identified during the 2002/2003 season. Funding was sought and approved by Horticulture Australia during June 2003. All twelve participants visited Bundaberg for two days (Refer to Appendix 1. ITINERARY - BUNDABERG POTATO TOUR JUNE 2003).

Expected outcomes - Assessing satisfaction and identifying key learning experiences

Participating growers have filled in a questionnaire to gauge growers satisfaction with the tour: growers were asked to note their primary expectation, if the tour met these expectations and what practises should be trialed or adopted in the their local region (refer appendix ??? for survey results).

Surveys indicated that growers had a high level of satisfaction form the tour and the information presented met or exceeded most grower's expectations in all categories (Irrigation Management, Crop management, System/Engineering, Communication Social, industry). The majority of growers had high expectations in relation to;

- Seeing custom built planter for laying tape
- Tape retrieval machinery and management
- Storage units for reusing tape
- Exchanging information within the tour party
- Crop rotations
- Irrigation scheduling and irrigation intervals

Outcomes – Local trials and changes to management

The primary outcome of the tour is that participants have been encouraged to continue to develop sub-surface drip as an irrigation method for potatoes. It has allowed growers to have a more positive approach to drip irrigation and that the issues associated with growing potatoes with drip irrigation initially by irrigators are not insurmountable. The tour has confirmed that machinery can be developed to assist potato growers with the management of drip tape. It has given growers some of the knowledge and confidence needed to overcome many of the hurdles faced in the past two years of trials.

The tour exposed growers to purpose built machines and adaptations to existing machinery to accommodate laying and retrieving tape. The Queensland experience has caused growers to rethink the design and engineering of their current machinery used to lay tape. The greatest value was being able to discuss the success and failures the Qld growers have had when they were developing their current machines and systems of management. Currently in the Central Highlands region planters are being modified to allow tape to be laid accurately at planting. These modifications have been based on the Qld experience. The planters will be trialed during October and November 2003.

The Qld growers use beds in preference to single row crops common in south-east Australia. This creates more options when designing irrigation system, particularly with tape placement. Based on the Qld model some Ballarat irrigators will be trialing alternative planting methods. The trials will test staggered double row planting watered with one drip tape on beds. Currently potatoes are planted in a single row, one tape per row. Should this be successful there is potential to reduce the ongoing expense of drip tape, reduce labour needed to install and retrieve tape and potentially reduce pumping hours, allowing larger areas to be irrigated per hour.

Retrieval of the tape during harvest was a major concern for Central Highland irrigators. The tour has delivered management options and technique that will allow the tape to be reused. Farmers in the Bundaberg region reuse tape up to seven times on a number of different crops. They have developed retrieval units and a management system that reduces the wastage and labour involved in storage and reuse of tape.

A key to the management of tape was the crop rotation and returning the system to the same paddock year after year. The Ballarat growers will not be implementing the system this season but DPI currently are developing a project that will look at modifying crop rotation to allow tape to remain in the ground for a number of rotations. This approach will allow maximum benefit from the drip irrigation reducing labour associated with installation and retrieval.

The trial of new planting systems, planting techniques and retrieval systems will be completed over the coming irrigation season with the assistance of local growers Netafim Australia, McCain Foods, Quality Rural Marketing and DPI and will be assessed over the season.

Technology Transfer - Dissemination of tour information

Growers participating in the tour have discussed some of their observations and knowledge gained on the tour at a drip irrigation discussion group attended by over 35 participants including potato growers from the Ballarat region, and industry representatives from SA and all over Victoria.

A press release has been circulated to local media by the DPI media liaison officer (refer Appendix 2.)

Tour notes and summaries are available to interested parties and have been posted on the Central Highlands Integrated Production Systems (CHIPS) websites: www.chipsgroup.org.au. (Refer Appendix 3.)

Information gathered on the tour will be used to create notes for the management of drip irrigation on potatoes by the Department of Primary Industries and McCains agronomists.

In addition knowledge gained from the tour will be incorporated into irrigation management training being developed for sub-surface drip irrigator in the Central Highlands.

Progress and results from the trials of new planter and laying systems, planting methods and retrieval systems will be promoted to potato growers through existing DPI newsletters in the Central Highlands regions. The trials will be featured at irrigation demonstration days held in March 2004 in association with DPI and growers hosting the trials. This will compliment the existing history of participatory action research and previous trials that has lead to the drip tape being trialed in south-east Australia.

A final report on the outcome of the drip irrigation trials will be produced during May each year. This outlines the success of various techniques. All potato growers (approximately 110) in the district will receive the report.

Recommendations

Initial recommendations from the study tour include:

- Develop/modify existing planter to accommodate tape laying units
- Approach DPI for financial assistance to develop machinery,
- Implement trials with modified planting systems on beds with a single tape watering two rows.

Further recommendations will be made on the suitability of the new planting units and planting system at the end of the 2003/2004 season.

Appendices:

- Appendix 1.

ITINERARY - BUNDABERG POTATO TOUR JUNE 2003

Itinerary for the visit to Bundaberg for the 9th and 10th of June 2003-05-31

Monday the 9th of June

11.45 Collect rental cars at airport

12.0 Lunch

12.30 12.30-16.30 Visit the following growers: Neville and Dean Cayley
Anthony and Rob Reibein

Grown varieties: Atlantic and Sabago potatoes and various trial varieties for the snackfood industry

We will see equipment which is used for dealing with drip-tape as well as planting, packing sheds. Other crops: sweet corn, cane

17.0 17.00-18.30 General discussion regarding drip irrigation and the experiences of this last season

19.0 Dinner. Local growers and their wives have been invited

Tuesday the 10th of June

7.0 Breakfast discussion group on yields of Central Highlands trials

7.30 Depart from motel

8.0 8.00-12.00 Visit the following growers: Greensil and Randal

We will see more drip irrigation and equipment, packing sheds. Randal is a second season grower with drip irrigation. Greensil and Randal both grow Sabago.

Other crops: avocado's, lychees and longans

12.0 Lunch

14.0 14.00-15.30 Bundaberg Distillery Tour

16.0 Arrival at Bundaberg Airport for flights to Brisbane

- Appendix 2.



MEDIA RELEASE

From the Department of Primary Industries

Friday 1 August, 2003

What do farmers do for a break after harvest?

After harvest, a number of Ballarat farmers visit other farms and start planning to ensure a successful harvest next year, according to Irrigated Crops Agronomist Dean Jones, from the Department of Primary Industries.

A delegation of farmers recently returned from a study tour to Bundaberg and Atherton. The tour was an opportunity to improve their knowledge on the management of sub-surface drip irrigation.

The Ballarat delegation had a variety of reasons to be part of the study tour, however two common questions were on the growers' lips as they departed for Bundaberg. How do the Queensland growers set up their systems to lay the tape in the ground? What is the most efficient way to retrieve the tape at harvest?

Within an hour of arriving at Bundaberg, growers were eagerly studying the custom built machines. They were also questioning their Queensland counterparts on the decision to develop their systems to manage drip tape.

"If any questions regarding tape management still existed the second morning, they were quickly addressed with a return to the potato paddock to see tape being laid at planting," explained Mr Jones. "This was followed by an informative presentation relating to storage and reuse of the tape."

During the tour growers were exposed to a variety of new ideas and industries, not just potatoes. "Some of the Queensland practices are transferable to the potato industry in our region and will be trialed in the Central Highlands in the coming season," he confirmed.

Mr Jones emphasised the success of the study tour. It exposed the Ballarat growers to new ideas and reinforced some of the practices they had used on their own drip tape trials. The tour also allowed them to assess the season and exchange ideas on their experiences with drip tape in the past season.

"We found it a very informative and satisfying trip," he said, describing the tour coordination and high standard of hospitality. "Our hosts Anthony Riebien and Neville Cayley even included genuine Queensland pumpkin scones for morning tea."

On behalf of the delegation, Mr Jones thanked the Queensland growers for their hospitality and openness. He also thanked Netafim Australia and David Pedretti as the primary tour hosts, and Horticulture Australia for supporting the tour.

- Appendix 3.

QUEENSLAND STUDY TOUR NOTES - BUNDABERG & ATHERTON

DESTINATION: BUNDABERG, QLD.

DATES: MONDAY 9TH JUNE 2003 - TUESDAY 10TH JUNE 2003

Host: Netafim Australia,

Jos Schuurmann Vic Sales Manager, Peter Anderson Area Sales Manager, Bundaberg.

Participants:

Growers: Noel Dean, Rod Dean, John Doyle, Nick Doyle, Fred Haintz, Ken

Labbett, Russell McKay, David Pedretti, Kain Richardson

Industry: Rod Lay- McCain Foods Agronomist, Dean Jones- Dept Primary

Industries.

Monday, 10th June.

12:00

View the Bundaberg region from the Hummock Lookout. Peter gave an introduction to agricultural production and climate in the region. This included the surface water and hydrogeology of the area and its effect on the local water and irrigation supply.

12:30

Anthony Reibein "The Hummock"- gave a general introduction to the industry in the region his farm and irrigation management at his farm. Then the group viewed some potatoes, corn and sugarcane under drip irrigation followed by an explanation of some of the machinery developed to manage drip tape.

Introduction at the packing shed

- Enterprise- Anthony grows sugar cane, sweetcorn, sorghum and fresh market potatoes. The main market for his potato included Brisbane Sydney and Newcastle.
- Irrigation systems- Initially used trickle irrigation on potatoes because of the persistent coastal winds in the region. He was familiar with the system having used trickle previously on melons.
- Ideally he would like to have a combination of solid set sprinklers and drip. He believes that using solid set may help to cool the crop and the soil in hot conditions. Brown fleck or heat narcosis has been an issue in the past and he believes that tape may not be cooling the soil sufficiently and he may have to use overhead sprinklers.
- Reuse- It is not unusual for growers in the region to get up to 7 years from tape typically the rotation would include one year of water melons grown under plastic mulch, followed by potatoes for 2-3 seasons then sugar cane.

- Season- Generally the season starts with planting in March to July and harvest is usually mostly complete by early November. The annual rainfall in the region is approximately 400mm. It is not uncommon for the potato crop to receive no rainfall and all water is from irrigation. The temperature is often around the low thirties in summer but has humidity around 80%.
- Availability of ground- Sugar Cain has not been very profitable in recent years so Anthony has found it easy to lease land that has not previously grown potatoes.

Viewing crops- this raised a number of question from the growers:

- What soil moisture monitoring?

Initially use enviroscan and tensionmeters. The monitoring tools told him that he needed to put more water on than what he was. After a number of years Anthony does not use the monitoring anymore he is confident with his scheduling and ability to read the soil and crop.

- Typical Evaporation rates here?

Evaporation during the winter could be around 2mm/day but can get to 10-12mm/day during September and October then the humidity increases during summer

- When do you get rain?

Often storms will occur in November but the majority of the rain falls in January and February.

- What are the costs of water?

Ranges between \$28 (groundwater) and \$36 (Surface water) a megalitre delivered to the farm via pipes could be up to 70PSI in some areas people have been known to run Guns (winches) directly from the main.

The allocation is set based on the volume of cane you delivered to the mill in 1970 a calculation on tonnes and required megalitres was made and set the allocation. An example allocation is 188M/l for 100ac.

- What water use on potatoes?

Usually aim to use 1M/l/ac with trickle and 1.8M/l/ac usually yielding between 11 –14 t/ac graded from a winter crop.

- Any water quality issues?

Iron level are quite high but don't have any effect on the emitters. 17-40ppm are not unusual for Iron in the local groundwater.

- Do joiners effect the winding?

Anthony had tried welding the tape, which worked, but the time taken to clean the tape was prohibitive. The joiners are wound up with the tape. The tape and layflat for the paddock is kept together labelled and reused on the same paddock. Can wind a maximum of 400m at once any longer and tape could be stretched.

- How is the water removed from the tap when winding?

The tape has the ends opened up and is flushed and then rolled up. The water is forced out of the tape

applying light pressure with the foot.

- What area is wound up a day?

The harvester crew winds up the tape in the morning then the harvest is done after some tape is removed (normally about 5ac/day). If managed well potentially 6-7 ac/day can be retrieved.

- How is the tape lifted?

By hand.

- What spacing is the seed planted at?

About 15cm

- What tape type do you use?

Usually 40cm emitter spacings with 1.55 l/h

- What is your irrigation scheduling?

Usually aim for a 1Ml/ac and water for 3hrs 3 times a week during winter. Generally use a computer to help control watering. Previously had tried to water for 3hr every second day but had found that water would infiltrate too deeply and that every 3 days encouraged the water to spread more.

- The paddocks are clean, What weeds do you get?

Because rainfall is so low in the winter, weeds are generally not a problem.

- Do you have rhizo or scab?

Generally have few diseases and are able to grow potatoes two years in a row.

- What is the cost of land?

On the volcanic soils about \$9,000 ac with surface water and \$7,000 ac for land with groundwater, which is a little more salty.

- How do you fertilise the crop?

Don't fertigate anymore because Anthony has too many paddocks to water and fertigation is too timely. He doesn't side dress on the beds because water doesn't get out wide enough to activate the fertiliser. Fertiliser is applied to the centre of the bed above the single line of tape.

Use NPK as a base with 13units of N @ 6 bags/ac and 3 bags of Calcium Ammon. Nitrate.

Ground cracking is a problem without overhead water and moths and caterpillars can get to the potatoes.

What are the returns for potatoes?

For fresh market usually about \$400-\$500 a tonne.

Returned to the machinery shed to view tape retrieval unit and layer.

The retrieval unit was run from a tractor with a hydraulic motor and the tape was tensioned by the operator's foot pressure and manually spooled along the barrel of the reel.

The layer had the tape fed from the front of the tractor under the motor and was layed during planting.

15:15

Neville and Dean Cayley

Neville showed his tape lifter and explained the thinking behind how it was developed. The lifter purchased by McCains is very similar (most of the group where familiar with the McCains unit).

Neville then showed the tape retrieval unit which could wind joiners had rollers to keen limited tension on the tape and automatically spooled along the reel. The winder was a freestanding unit on a trailer and had a petrol motor. Tape of about 260m in length can be retrieved without damage to the emitters.

- What is the range of yield that can be expected?

Good yield could be 15-17 t/ac but 14-15 t/ac is acceptable. Drip has made the crop more uniform.

- How are the rows set up?

On 1.5 meter centres with a bed formed, two rows of potatoes planted at 19" (48cm) spacings and a single tape down the centre. The seed is planted at 9-10" (24cm) spacings. The tape is usually 40cm emitter with a rate of 1.65 l/h.

- What area do you irrigate?

With drip around 150 ac/day

- What monitoring is used?

Initially used a neutron probe but this gave misleading results the soil was moist but the probe kept reading it was drying out at depth. Then used tensiometers and enviroscan and have been happy with the results.

1600

Visited a drip block established on sandy soil irrigated using river water. The area had two block both of 10ac. Growers were very interested in the rate of spread of water across the bed.

Neville explained the difficulty to secure seed at the appropriate time and issues with the cost of freight and potential to damage tubers.

- What do you earn per tonne?

The base is \$250 tonne with additional bonuses last year average was \$330 tonne.

17:15

Moved to last sight for the day a sandy soil that had sorghum incorporated into the soil before planting.

- Water schedule do you use?

3hrs by 1.8 mm/hr every second day.

- Water is typical water use in the region?

Using tape ranges between 1-1.5m/l ac and with overhead irrigation 2.5 M/l ac on sandy soils but winter crops would have lower evaporation rates than Ballarat summer crops (not growing Russet Burbank - often Sebago and Atlantic)

18:00

Dinner: Local growers Dean and Nev Cayley and Anthony Reibein and their wives ate with the group allowing growers to discuss irrigation issues in a more informal setting.

Tuesday, 10th June.

07:00

Breakfast and a discussion initially focussing on water use and yield from 2002/03 trial work in the Central Highlands. Then the suitability of sub-surface drip techniques employed in Bundaberg to the industry in Central Highland and Murray Valley.

Limitation of running one tape to two rows of potatoes on a bed included: the set up of current machinery- planter and harvester width. Other concerns raised were the ability of soils to move water laterally and potential to starve plant of micronutrients if two plants are watered from one tape.

9:00

Visited Nev Cayley's property again in the morning.

Viewed tow rows of seed being planted at 19" spacings in conjunction with single tape in the middle. Growers had the opportunity to see machinery up close and then to see the set up working in the paddock. Most interest was in the feed unit, which allowed joiners to be run through the laying tube.

Discussion centred on the development of the laying apparatus. Some questions on scheduling, tape flow rate and water movement in the soil. Peter's opinion was that a slower flow rate would encourage water to move laterally. A fast flow rates creates preferred wet flow paths below the emitters. Slower application means water is in contact with soil for longer and the soil tension is more likely to move the water.

The group visited Cayley's cool store and discussed the retrieval and storage of drip tape. This included looking at the galvanised and plastic reels that have been developed to store tape. Tape from each paddock is kept and returned to the same paddock.

Returned to Cayley's home for morning tea.

11:00

Engineering

The Group returned to Bundaberg and visited Adds Up Engineering P/L. Tony Denton has developed a unique winding system with the assistance of Nev Cayley that will spool the tape along the reel. Other initiative designed to make tape retrieval safer such as foot throttles were discussed and positioning of any controls.

Growers were interested in a fertiliser agitation and injection system developed by Tony and his staff.

12:30

Ivan Philpot – show us around his Childers orchard where he grows avocados, mangoes, lychees and longans on 100 acres.

Ivan introduced some of the water reforms that have taken place in the region in recent years.

- What is the cost of water in the region?

Ranges between \$36.50 - \$38.00 delivered via pipes at up to 85 Psi. Some growers are able to run water winches (rain guns) from the main pressure.

Viewed the packing shed featuring computerised line that weighed grading and packing mangoes with an output of up to a tonne/hr of fruit. Ivan talked briefly about the safeguards need to transport fruit across borders.

We then moved into the orchard and saw Mango trees (12yrs old) producing 50-60 tonnes each per year. That particular variety was very difficult to grow and prune to maximise fruit production - only 4 growers have this variety. The variety is sought after in Asia and had a different season in Australia. Ivan commented that these trees were the closest things he had to money trees.

Discussed the pruning of avocado trees to maximise exposure to sunlight, harvesting, group marketing and continuity of supply. The trees yield between 20-22 t/ha.

Viewed and discussed the management of longans and lychees. Chemicals are used to prune buds from the lychee trees to maximise flowering and fruiting. Plants can be grafted (aerial cloning) by partially ringbarking limbs and surrounding the limb with peat moss until a root mass form in the median.

Group returned to Bundaberg at 2:00 p.m., toured the Bundaberg Distillery and flew out that afternoon.

QUEENSLAND STUDY TOUR NOTES - BUNDABERG & ATHERTON

DESTINATION: ATHERTON, QLD.

DATES: WEDNESDAY 11TH JUNE 2003 - THURSDAY 12TH JUNE 2003

Tour Leader: David Pedretti,

Participants: Russell McKay, Fred Haintz, Kane Richardson, Rod Lay.

Wednesday 11th June

Our first meeting was with Jimmy Izabella who was to be our tour guide for the day. He was mainly growing commercial sebagoes for the newly formed co-op as well as trialling atlantics for Costa for the export market. He gave us a great background picture of the diverse cropping systems and the marketing politics of the tableland.

The next visits covered two brothers Richard and Frank Cudro who are a major part of Northqual the new co-op. Their production of mainly Sebago and Pontiac was targeted at the fresh market. These farmers were changing some of their operations due to the fact that their water allocations had been reduced to 40 percent of normal.

We were shown over the new packing shed by the manager Paul Stadhams the shed is just being commissioned with the current crop, at present they are brushing and the washing plant will be set up in the next couple of months.

Here we discussed supply and transport logistics as well as the marketing strategies of the enterprise. It appears the operation is aligned to the Moraitis potato marketing operation.

Those people that are not part of the new co-op are marketing are selling their crop via the smaller traditional merchants in Brisbane and Sydney.

The next stop was at Mick Ferraro's who was busy cutting seed on a old piano type cutter at a rate of approx. 5 ton per day. Mick grew mainly Sebago and Pontiacs for the fresh market. Most of his irrigation was done by a lateral move with water from a channel from Tinaroo Dam. Mick gave us a great overview of the tablelands potato industry from the perspective of a grower with many years of experience. He used grass seed and hay with Dolacose as a legume in his rotation which was a bit different to most.

The day concluded with a visit to a different type of operation. Leo Conzollar and his sons, Fred, Brett and Anthony run a very diverse farming operation at Atherton along with a cattle station at Richmond. Their operation differs from most in that they plant each crop for 3 years in the same block in their rotation of sugar cane, peanuts, potatoes, grass and corn.

The grass is being used for hay for the cattle operation. These guys had also been extensively involved in drip irrigation trials with T-Tape in the previous season. They had been through the fast learning curve similar to us but they did feel that there was merit to the process and they were continuing with trials. Especially when they are trying to irrigate in an area that had water quota's reduced to 40% of normal.

Thursday 12th June.

We headed south about 100 km to the Ravenshoe area where we met Warren Jonnsson. Warren ran an innovative type of operation that showed if you had vision, initiative and a good bank manager there was some opportunity to succeed in life. He grew fresh market potatoes and had just commissioned his own avocado grading and packing line. He also had a cattle property 150km to the south where he had approx. 4,000 acres of potential potato country. They had trialled drip irrigation in this area but with limited success. Currently this area had minimal water regulations and as such water conservation was not a high priority issue.

Our final visit was to Frank and John Gallo who were cutting Atlantic seed and they were growing Sebago for the fresh market and some Atlantic for the crisping export market.

SOME FACTS FOR THOUGHT

Water restrictions in the area meant that some growers were down to 40% of normal allocation. This meant that there would be limitations on irrigating potatoes and some alternate crops would not be irrigated. There was a fair mix of guns, laterals and pivots with a small amount of drip.

Large amounts of fertilizer inputs were common with a wide range of supplementary side dressing products. This was for yields that generally averaged 10-15 ton per acre.

There was a high input into chemicals for Blight control, which was to be expected in very humid conditions. Some of the programs did appear to overuse expensive chemicals to some extent.

Seed was mainly sourced from the southern states, most of the seed being used was round seed.

Transport costs were a major expense for getting goods and equipment into the area and produce to the major capital markets in good condition.

Low land rental of \$250-300 per acre with water and sometimes even an irrigator on land valued at \$5000-9000 per acre appeared cheap.

Main crops in the rotation for the area included sugar cane, potatoes, corn, peanuts, grass, forage sorghum and dolacose . There were no fences so most of the blocks were being farmed continuously. The also had a very wide planting and harvesting window for potatoes (Harvest June-Nov.)

Sugar cane was once the major crop and had established most of the growers. Some growers had looked to the future and established long term crops like mangoes and avocado's to spread their income risks.

Even though sugar was low at present there appeared to be options with alternate crops. Also with Costa setting up a washing plant for exporting Atlantics for crisping another option was given.

ROD LAY.