The current situation and future opportunities in the greenhouse sector

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TomatoesNZ

GROWER 2 GROWER

New Zealand Greenhouse Cropping Area Estimate

- **Undercover crop area 309 ha**
- **Tomatoes 90-100 ha**
- **Cucumbers 35-40 ha**
- **Capsicums 55-60 ha**

• Total Area Farmed	1,600,000 ha
• Horticulture	120,000 ha
• Greenhouse/Protected	500 ha

KEY CONCERNS From TomatoesNZ

- Cost of Energy
- Cost of Production
- Labour/People are Vital
- Biosecurity

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COST OF ENERGY

The Industry is committed to decarbonising heating in greenhouses by 2035 and has been working with EECA to promote energy efficiency and sustainable fuel alternatives but needs help for growers to commit to making the fuel switch. DETA report estimated cost of fully decarbonising all covered crops would be ~ $220 million (Feb 2022)

45-65%
coal price increase in the last 12 months

50%
gas price increase in the last 2 years

Endless increases to energy prices so growers unable to plan for future increases

40-45c/L
cost for waste oil cheaper costs forcing growers to convert from coal fired boilers

89%
of heated NZ Greenhouses use non-renewable fuels (gas, coal, oil, LPG and diesel)

PROBLEM

Energy leaping costs and lack of availability of viable alternatives, plus the huge risk of stranded assets, are all major risks to our industry. Very few growers can afford to convert their heating to sustainable energy. Pulling out crops and/or not heating are the alternatives which both reduce yield. Every m^2 of tomato plants lost = 35 to 60kg of crop lost / season. Fewer NZ grown tomatoes leads to more being imported. Australian tomatoes in our supermarkets were up 5 x from 2020 (72T) to 2021 (348T). The Emission Trading Scheme (ETS) price was around $30 in 2020, $65 in 2021 and $80 in 2022. The ETS price cap in 2035 is $305.

SOLUTIONS

The fresh tomato industry needs:

- Policies and actions that support undercover crop growers to transition to decarbonised heating
- While fuel switching occurs, iindustrial allocation of ETS (currently ~ 30% for tomato growers) to be aligned more closely to that of the agricultural sector's (95% under He Waka Eke Noa from 2025)
- To work with Ministry for the Environment to increase the threshold or exemptions for undercover crop growers and to simplify the process for applying for the free allocation of ETS.
- Protection given to domestic growers as imported Australian fresh tomatoes are not subjected to the same ETS or carbon tax production costs which leads to unfair competition. This, together with the transportation of imported tomatoes, represents carbon leakage

2

COST OF PRODUCTION

To ensure growers have stable returns and consumers have more competition, TNZ supports a grocery code of conduct.

40-50%
diesel price increase
since last year

50%
raw materials price increase
required for growing including seeds, slabs, clips

175%
consumables e.g. fertiliser price increase
in the last year

12 months
growers placing orders without knowing future pricing
(advanced purchasing due to international freight disruption)

Media focus
on high tomato prices without explaining true cost of producing tomatoes
(such as a reflection of seasonal change)

Small - Medium
growers can have less buying power than larger growers
therefore more susceptible to price fluctuations

PROBLEM

Increasing costs of production. Diminishing grower returns due to ever-increasing costs of production which is not being compensated in the price given by supermarkets.

SOLUTIONS

The fresh tomato industry needs:

the government to support the industry to convey the real costs involved in food production to increase consumer awareness. The code of conduct is a good start in tackling the duopoly of supermarkets but further policies covering all areas of production from improving international freight to tackling inflation are also required to support NZ food security.

3

PEOPLE ARE VITAL

Our industry is totally committed to investing in automation, but this is a slow process taking years from concept to commercialisation. But tomato growers will always rely on people to pick and pack tomatoes as well as many other greenhouse tasks. The problems with staffing has led some tomato growers to choose to plant other less labour intensive crops such as cucumbers and courgettes or to leave whole greenhouses empty to take the pressure of existing staff.

PROBLEM

All tomato growing businesses have been operating with 40-60% of their normal employees due to the effects of COVID and restricted borders. Many in the industry are having to work excessive hours for business survival which isn't sustainable and must be addressed.

SOLUTIONS

TomatoesNZ is working with the MPI initiative 'Opportunity Grows Here' to attract Kiwis to the industry but longer term we would like to work more closely with the Ministry for Education to promote the

undercover crop sector as a career option for NZ high school students.

Longer term, the horticulture industry needs to be front and centre in a pro- migration policy. All migrant workers from all countries are important, including backpackers and RSE workers. A significant increase in all worker numbers is urgently required for the 2022 season starting in September. Taking a long-term approach that offers more visas, for multiple years would give growers assurances that they will have a workforce when required and that they should plant tomatoes.

4

BIOSECURITY

Australian tomatoes are irradiated but the reality is that pests and viruses can still get through from many different avenues

TNZ has committed to joining NZPPI but MPI needs to continue to reduce the biosecurity risks of growers importing seeds online

Biosecurity responses over the last 5 years have cost Tomato growers over $150,000 in levies and far greater direct costs which are not sustainable

The last exports to Australia were February 2021. In 2020 587 Ts of tomatoes were exported to Australia. In 2021 this was down to 44T and in 2022 zero due to biosecurity incursions

PROBLEM

When incursions happen, production costs are affected by lower yields, poor quality crop and closed international markets. This leads to the domestic market being flooded causing prices to significantly decrease. This effects the number of tomato plants being grown the following season.

Working to ensure markets are open as quickly as possible is crucial for the ongoing survival of the industry.

TNZ continues to work with A Lighter Touch to explore alternative pest management programmes and we want to work with the Environmental Protection Agency to make it easier for beneficial bugs to be brought into NZ to extend this important research.

OVERALL SOLUTIONS

Minister for Horticulture

Growers deserve a passionate and proud advocate in the highest of roles. This would put the spotlight on our sector to ensure it is elevated at all tables as growers and Government strive to meet the Fit for a Better World objectives. A Minister and Government that understand growing and associated issues, that are championing the sector and giving full support when it comes to government policy making around the cabinet table.

Example of recent biosecurity breach and response - Pepino Mosaic Virus (PepMV) detected in NZ April 2021

PepMV has effectively terminated all export to Australia for the foreseeable future.

(overview) Labour, CO2, Old Greenhouses

Two immediate challengers are energy and labour, this is not just a NZ issue. These limitations have demanded technological innovation.

1

- **How the world is looking at labour?**

The industry is going from acting on observations, (looking at graphics to tell us what has happened) to a new concept of autonomous growing practices, (real time growing such as computers adjusting temperatures on current light levels and real time growth rates using technology) A greenhouse, in the future, may look the same from the outside but inside there will be more sensors, drones and robots - and instead of grower's greenhouse operation managers will be employed. This may be closer than we expect, the WUR university in Bleiswijk has been conducting autonomous greenhouse challenges for several years that has captured the attention of the high-tech greenhouse world.

2

- **How will technology effect labour long term in NZ?**

That depends on profitability and return on investment. I am not sure how much labour will be replaced but certainly it is moving in that direction, with automatic layering robots, harvesting robots, de-leafing robots. Automatic scouting of pests and targeted interventions. (robotic sprayers)

3

- **CO2 – Where will we get it from?**

Where will Liquid CO2 previously produced be sourced – Importing liquid CO2 is expensive!

NZ has old greenhouse technology desperately in need of modernising

4

Older properties will slowly be replaced or repurposed **from** growing heated crops to unheated or alternative crops *

OPPORTUNITIES

Geothermal energy has untapped potential

- **Biological** – A Lighter Touch – investment into natural defences (we must lower expectation of ‘perfect produce’)
- **New Technology** – Robots, Autonomous Growing, Energy Conversions
- **Green field sites for - High Tech Greenhouse's** – Nurseries, traditional hothouse vegetable crops (tomatoes, capsicums, egg-plant, cucumbers) Flowers, Berries, Leafy greens, Herbs
- **Low Tech Greenhouses** – Nurseries(all) Bananas, Pineapples Kiwifruit, Berries, Sub-Tropical Fruit, Asparagus, Cherries, Apples, Figs, Passion Fruit, Tamarillos, Courgettes, Beans

Technology plays an important role in improving production outcomes. One example is the Robotic labour Assist Platform currently being developed by FTEK

https://www.youtube.com/watch?v=C18QK0sddF8&t=2s

Old properties, low tech, still have a role to play but management is increasingly difficult.

New Zealand currently has some very good structures.

High tech greenhouses in NZ are not limited to just tomatoes

Low tech structures (very little climate control) are being adopted in large numbers in NZ.

- Papaya
- Berries
- Kiwi fruit
- Asparagus
- Courgettes
- Beans
- Bananas
- Figs
- Passion Fruit
- Snow peas
- Nurseries (tree nurseries)

Internationally:
Strawberries as well as low tech, are now grown in high tech facilities.

Bananas have become popular in low tech greenhouses in Turkey.

Other crops such as:
- **Melons**
- **Pineapples**
- **Papaya**
- **Medicinal Cannabis**
- **Berries**

Lite crops are becoming very popular. Both high and low tech greenhouses are being constructed at a huge rate




Container and factory vertical farming are gathering momentum. Energy source important. Major benefit is total reduction in pest pressure. Locations of growing environments could be very close to populations.

Grower2grower New Zealand's greenhouse growing information centre

www.grower2grower.co.nz

Thankyou for your time