

Horticulture New Zealand

How is the horticulture sector working to reduce greenhouse gas emissions



What is NZ horticulture?



- 4th largest export primary industry in NZ (12% of total revenues) – 124 markets
- \$3.44bn export value,
\$2.24bn domestic – 2017 figures (fruit & veges)
- **Environmental:** Manage impact on land and water in a sustainable way (integrated management of nitrogen, phosphates and sediment)
- **Culturally attuned:** Caretakers of the land (3rd-4th + generation family businesses)
- **Socially responsible:** Registered Seasonal Employer (RSE), local employment (60,000), Social practice accredited

Emissions



- Horticulture contributes small % of GHG but we're not sitting idle:
 - 0.8% of GHG are related to cropping (total)
 - 4.2% related to fertiliser use - horticulture some of that use
 - CO2 – some of the lowest in world. NZ best practice and high productivity
 - No Methane
- Some largest emissions from the consumer end of the supply chain
- Emissions profile varies considerably by horticultural crop – no single solution

The challenges



- It's not all about animal farming



- Need more, not less, fresh produce – high public health benefit for NZ consumers, high demand and premium value in export markets
- Complex production systems – huge crop variation, rotational cropping
- Need coherent, NZ-wide, outcomes-approach policy, **across environment**
- not decentralised rules approach for farm environmental management

Solutions and Opportunities



- It's not all about animal farming
- Already a focus on low emissions – consumer value led
- Various reports talking transition from animals to horticulture
- Innovation will be crucial to making next step changes:
 - Resilience – breeding, plant-based proteins
 - Adaptation
- Policy:
 - Environmental outcomes for complex farm systems
 - Protect NZ's best soils
 - Trade and market access – complex
 - Infrastructure



What we're doing on-farm



- Research and extension to reduce N use:
 - Root Zone reality
 - Measure it and Manage it
 - Future proofing vegetable operations
 - Fertiliser needs for crops
 - Deploying real-time wireless N, P, K soil probes to optimise fertiliser use
- Carbon:
 - Fossil fuel efficiency – high productivity from area
 - Sequestration – getting recognition that Orchards, riparian plantings and shelter belts sequester carbon
 - Research into tilling techniques to reduce soil carbon loss
- NZGAP Environmental Management System
- Extension a challenge – highly complex, non-homogenous





Horticulture is a key part of NZ's solution

- Transition opportunity for NZ agriculture
- Industry focus on emissions as part of broader environmental approach
- Coherent and broader policy view of what NZ agriculture
- Innovation - construct and investment