

Nutrient management initiatives by the New Zealand fertiliser industry

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The New Zealand context

- New Zealand is a farming nation
- In 2012 primary sector exports were valued at NZD 32 billion
- The primary sector is a key contributor to the Government's Business Growth Agenda – goal to double primary sector exports by 2025
- Presently 750,000 ha of irrigated land; a further 1.9 million ha capable of irrigation



Overview

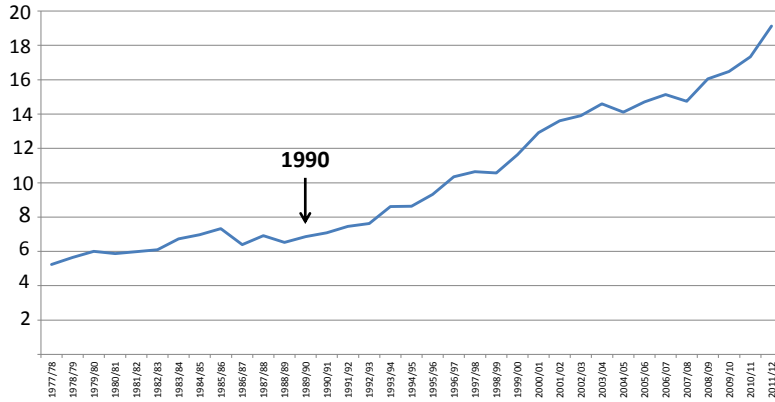
This presentation:

- Sets out the New Zealand challenge of growing agriculture within environmental limits
- Outlines the nutrient management initiatives used by the fertiliser industry in meeting this challenge

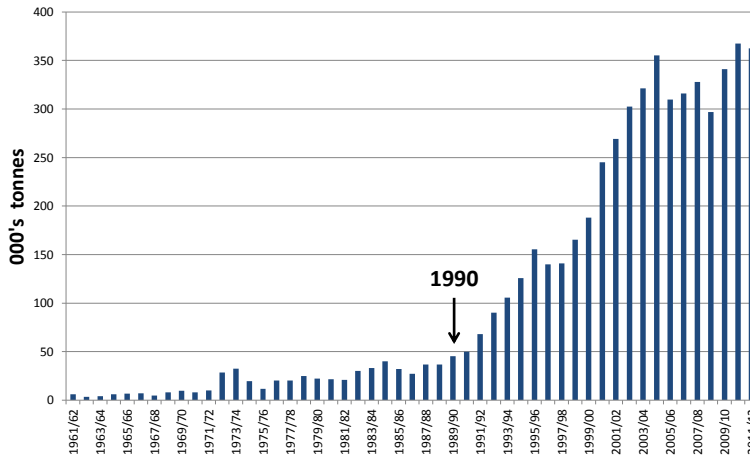


Growth of dairying

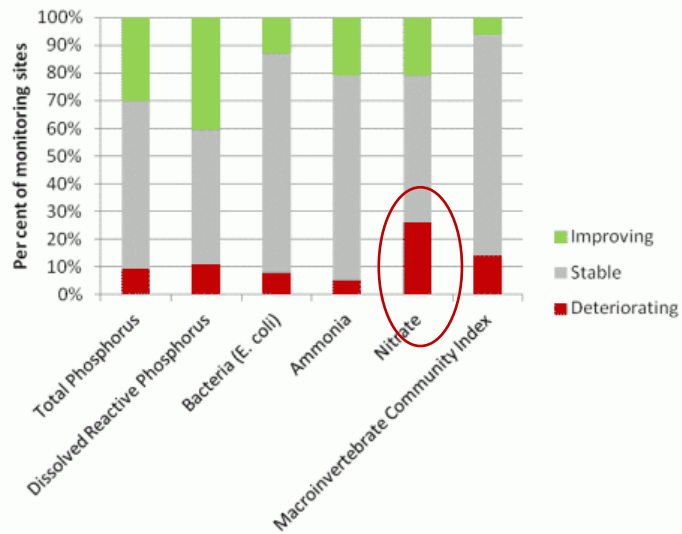
Milk processed 1977-2012 (billions of litres)



Growth of N fertiliser consumption



State of water quality



Our regulatory environment

Maintaining water quality is the responsibility of every regional authority in New Zealand

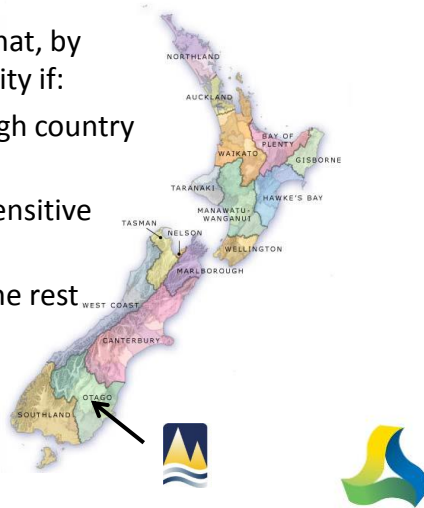




An example

Otago Regional Council has said that, by 2020, farming is a permitted activity if:

- Annual N loss <10kg/ha/y in high country lakes area
- Annual N loss <20 kg/ha/y in sensitive river catchments
- Annual N loss <30 kg/ha/y in the rest of the Otago region



How is the fertiliser industry responding to these challenges?

The fertiliser industry is developing:

- A comprehensive, holistic and best practice system for managing the use of agricultural nutrients to help farmers grow their businesses sustainably within environmental limits
- A system based on managing **outputs**, i.e., nutrient losses (N and P) that promotes innovation and avoids regulatory limits on **inputs** (e.g., fertilisers, stock numbers) that cap farm production and profitability





OVERSEER®

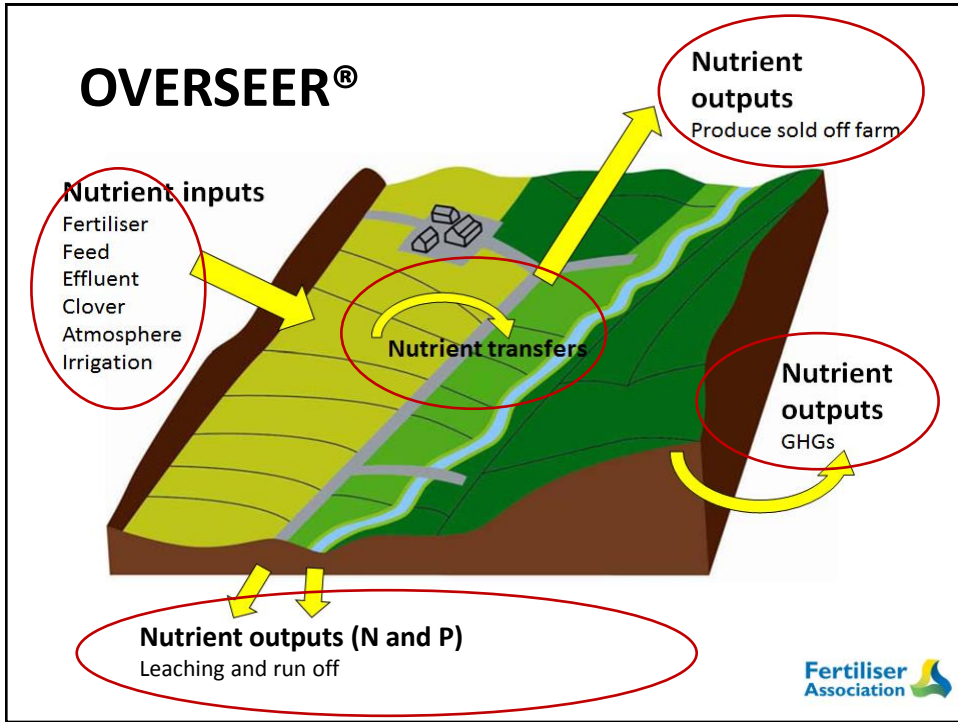
- A sophisticated nutrient management and decision support modeling tool
- Developed over the last 15 years; \$15 million invested
- Key backers are:
 - The fertiliser industry (Fertiliser Association of New Zealand)
 - Government (Ministry for Primary Industries)
 - A national science provider (AgResearch)
- www.overseer.org.nz



Ministry for Primary Industries
Manatū Ahu Matua



Fertiliser
Association 
Shaping profitable and sustainable farming

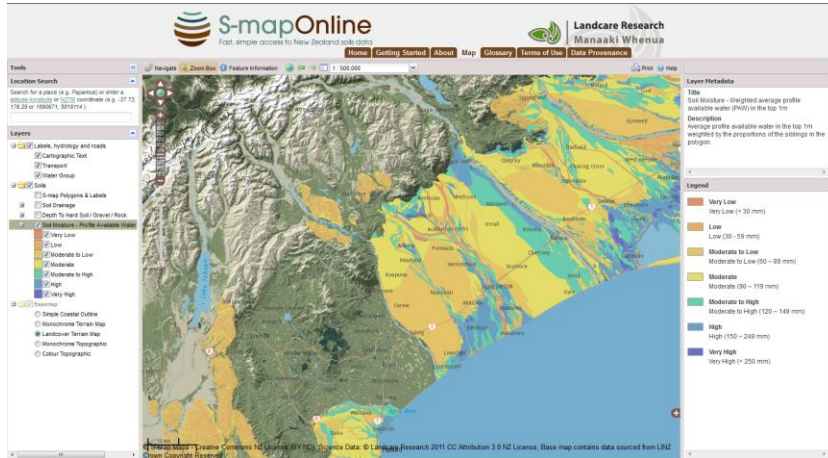


Example OVERSEER® nutrient budget

An irrigated dairy farm with shallow stony soils

Nutrient use efficiency		N	P	K	S	Ca	Mg	Na
		(kg/ha/yr)						
Nutrients added								
	Fertiliser, lime & other	160	31	0	41	21	0	0
	Rain/clover N fixation	25	0	2	4	2	4	18
	Irrigation	9	0	6	9	32	8	33
	Supplements imported	70	11	35	6	7	5	3
Nutrients removed								
	As products GHG footprint	135	24	31	8	32	3	9
	Exported effluent	0	0	0	0	0	0	0
	As Supplements	0	0	0	0	0	0	0
	To atmospheric Eutrophication footprint	117	0	0	0	0	0	0
	To water	67	1.5	31	44	131	14	39
Change in internal pools								
	Plant material	0	0	0	0	0	0	0
	Organic pool	-56	17	3	8	1	0	0
	Inorganic mineral	0	6	-43	0	-2	-3	-3
	Inorganic soil pool	0	-5	19	0	-99	18	10

Comprehensive soil mapping – S Map



www.smap.landcareresearch.co.nz/home

Nutrient Management Adviser Certification Programme

“To build and uphold a transparent set of industry standards for nutrient management advisers to meet so they provide nationally consistent advice of the highest standard to farmers.”



Ministry for Primary Industries
Manatū Ahu Matua



Other building blocks

- Fertmark Code of Practice
- Spreadmark
- Industry research programmes
 - Aim to improve N use efficiency by 50% in pastoral systems and reduce N losses from dairy farms by 30% by 2018
 - Increase P use efficiency by 20% by 2020
 - \$37 million to be invested over the next 7 years
- Supporting innovative farmers
 - The fertiliser industry supports and celebrates a range of environmental awards



What does all this add up to?

- The New Zealand fertiliser industry is laying the foundation for a globally recognised nutrient management assurance system (ecolabel) supported by the **best**:
 - **Tools** (OVERSEER® and associated decision support tools)
 - **Information** (e.g. soil maps, climate data)
 - **People** (training and certification of farm advisers, supporting innovative farmers)
 - **Products** (Fertmark approved)
 - **Application standards** (Spreadmark certified ground and aerial spreaders)
 - **Research**



The ultimate goal?

- Help double the value of primary sector exports by 2025 to NZD 64 billion a year
- Produce premium agricultural products with some of the highest nutrient conversion efficiencies and lowest nutrient footprints in the world

Thank you

