

## NEWS RELEASE

### *Fertiliser lessons from California*

Farmers and their agronomy advisers must continue to take a leading role in the management of plant nutrition to ensure sustainable food and fibre production into the future or risk greater regulation of their activities.

This was the message from Dr Rob Mikkelsen, Director of the International Plant Nutrition Institute (IPNI) for Western North America, who spoke at a series of 'nutrition masterclasses' in Victoria, Tasmania and Queensland as a guest of Incitec Pivot Fertilisers this month.

More than 50 plant nutrition agronomists met with Dr Mikkelsen and other leading agronomy researchers to share their insights at Incitec Pivot Fertilisers' inaugural Agronomy Community conference in Brisbane on 14 April.

He also took part in last week's AUSVEG national convention in Brisbane and grower meetings in key farming areas, including northern Tasmania, Mildura and Bundaberg.

Dr Mikkelsen said that while crop yields would fall by 40 to 60% without the use of commercial fertilisers, there was a widespread lack of understanding in the community about the role fertilisers played in supporting the world's growing need for food and fibre.

On the other hand, he said the over-use and misuse of fertilisers was known to be detrimental to the environment.

Dr Mikkelsen described how the use of fertilisers was becoming increasingly regulated.

In particular, he said regulations were being developed in California to meet the State's commitment to the Kyoto protocol, as well as minimise nitrate levels in water systems.

"In California, the government has committed to reducing greenhouse gas emissions to 1990 levels by 2020," he said.

"One of its targets is to reduce nitrous oxide emissions from agriculture by 5%, because an estimated 60% of nitrous oxide emissions come from denitrification losses in crops such as cotton, almonds and wheat."

Nitrous oxide is recognised as 300 times more potent than carbon dioxide.

"How emissions will be regulated is not yet clear," Dr Mikkelsen said.

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“European research is telling us that simple nitrogen rate reductions may not be the best means.

“High nitrogen rates are not the real concern, it is the nitrogen that exceeds the crop’s uptake demand that poses the greatest risks.”

In another example, he described the regulation of nitrogen use in the Salinas Valley in California, where vegetable growers harvest up to three crops per year.

He said surface water testing had shown up to 46 milligrams of nitrogen per megalitre, when 10 mg/mL was the standard for drinking water in California.

After mandatory farmer education programs failed to produce significant improvements in water quality, tougher measures were put in place.

“Under these regulations, all farmers must complete nitrogen budgets and their plans must be certified by a qualified third party to ensure the inputs and outputs remain within balance,” he said.

“As agronomists, we know it takes the right management to achieve 50% plant utilisation of applied fertiliser, but these regulations demand 100% utilisation.

“Growers must also eliminate tailwater from their farms – all runoff from their farms requires a permit, even from a storm.”

He said the message for Australian farmers and agronomists was to improve fertiliser management before regulators stepped in to manage it for them.

“We’ve got to use the right source of nutrients, at the right rate, in the right place at the right time,” he said.

“Use soil testing to assess the need for additional nutrients.

“Think about the crop’s nutrient uptake over different growth stages and manage fertiliser applications to meet peak periods of demand.

“Consider the size of the crop’s root system and tailor nutrient and irrigation strategies to suit.

“There are no magic solutions available to replace good agronomy work in plant nutrition.”

For further information about Dr Mikkelsen’s speech, see <http://anz.ipni.net>

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*Dr Rob Mikkelsen from the International Plant Nutrition Institute in North West America, chats with local agronomists, Neels van Rensburg from Elders, Andrew Crawford, Netafim, and Lee Freeman, W H Bailey & Sons, Dorrigo, at Incitec Pivot Fertilisers' inaugural Agronomy Community conference in Brisbane.*



*Speakers enjoying a break at the Agronomy Community conference in Brisbane last week were (from left) Charlie Walker, Incitec Pivot Fertilisers, Dr Bernard Schroder, BSES Limited, Dr Doris Blaesing, RM Consulting, and Dr Rob Mikkelsen, Director of the International Plant Nutrition Institute (IPNI) for Western North America.*