Runoff

Apply fertiliser below the ground, not on the surface. A green cane trash blanket provides excellent added protection to the soil and fertiliser.

Leaching

Sandy soils are extremely prone to leaching. Do not over-irrigate. Consider splitting the fertiliser applications or using a controlled-release product. You should discuss these strategies with your advisor as timing and cost issues need to be considered.

Volatilisation

Subsurface-apply fertiliser into the middle or sides of the row. However, surface application may be acceptable when the canopy is about 50 cm high, which provides some protection to the fertiliser from the weather. Also, the leaves are able to absorb some of the volatilising ammonia-N.

Because volatilisation occurs only with urea-based products, an alternative strategy is to consider using a different N product such as sulphate of ammonia, just to be safe. Irrigating cane straight after surface application of fertiliser will ensure the fertiliser enters the soil and is not volatilised.

Denitrification

Subsurface-apply fertiliser into the middle or sides of the row where it is in the driest part of the profile. In areas that are regularly waterlogged, consider planting into pre-formed raised mounds or splitting the N application on early-harvested blocks. Good surface drainage is particularly important.

Nitrification-inhibiting products that slow the breakdown of N fertilisers in waterlogged conditions are showing some promise. They cost more than regular products so discuss their use with your advisor.

Simply adhering to basic, sound management practices will ensure that crops have the best chance of high productivity while at the same time minimising the impacts on water quality.

Above: Following the Six Easy Steps nutrient management guidelines will maximise profitability and minimise impacts on water quality.

Above: Under waterlogged conditions, nitrogen can be lost to leaching, denitrification and weeds.

Local industries to drive the improvement of harvesting practices

Each year the Australian sugar industry incurs avoidable cane losses during the harvesting process.

Two new Regional Applied Research (RAR) projects, funded by SRA and led by productivity services groups with their local industry, are looking at ways to tackle this long-standing issue.

Reducing harvesting losses in the Burdekin region

Data collected from shed meetings in late 2013 in the Burdekin region showed that harvesting loss is either the top or second-most important issue that growers feel is limiting the local production system.

A three-year project led by Burdekin Productivity Services – *Understanding the impact of harvester speed on subsequent ratoon performance in the Burdekin* – will measure the effect of various harvester speeds on ratoonability and subsequent yield.

This activity will produce information on the cost benefit or penalty of a range of harvester speeds of 6–12 km/h.

This information will then help growers, harvesting operators and advisors understand the effect that harvester speed has on productivity, profitability and subsequent crop performance, and whether a change in harvester speed can be justified.

All trial blocks have been harvested with shoot, stool and gap counts completed.

'The best thing about this project is that we will be able to quantify the effects of ground speed from local farms with a range of soil types producing real data.

The project is followed through a number of ratoons, allowing us to assess the effects of ground speed throughout the entire crop cycle.

This data then will be available to growers, harvesting contractors and operators and millers stating the economic benefit or cost that can be attributed to a range of harvesting speeds.'

Rob Milla
Manager of Burdekin Productivity Services

Improving HBP adoption in NSW

NSW Sugar Co-operative is leading the *Improving industry returns through harvest best practice* research project.

Working with harvest co-operative directors, harvesting operators and growers on a range of Harvesting Best Practice (HBP) trials and demonstrations, this project will build on the recommendations for HBP developed by SRA.

Recommendations include:

- Reducing pickup losses
- Improving row profiles and crop presentation
- Determining the effect of high ground speeds on productivity.

The groups involved in the three-year project will work to improve the adoption of HBP at farm level and use the information to develop modified commercial arrangements that ensure the viability of the harvesting sector and equitably distribute the benefits of HBP to the farmers, harvest groups and the mill.

'While some losses associated with mechanical harvesting are unavoidable, there is a growing body of evidence that suggests that not only are these losses greater than originally thought but that poor practices in the field are having a significant impact on future productivity as well.

This project is intended to adopt a whole-of-industry approach to addressing these issues and coming up with strategies and solutions that fit NSW conditions.'

Ian McBean
Manager of Corporate Services with NSW Sugar

Above: In the field, NSW Sugar co-operative directors, operators and farmers discuss the harvesting project with SRA and Sunshine Sugar employees.

Phil Patane

Development Officer – Harvesting and Machinery

Professional Extension and Communication Unit

Ingham welcomes SRA Development Officer

Phil Patane has accepted a transfer from Ayr to Ingham.

Phil's contact details and role will remain the same. However his new address is SRA, 181 Fairford Road, Ingham QLD 4850.

Recruitment to appoint another SRA Development Officer based in Ayr will begin in early 2015.

About the RAR projects

Regional Applied Research projects are an industry-first initiative of the SRA Board. The projects fund on-the-ground research that addresses locally identified priorities.

Carried out by local extension providers and growers, with support from SRA's extension and engineering teams, the projects will help to drive adoption rates of new practices and technologies and grow industry skills.

A third RAR project that seeks to improve the adoption of tissue-culture plantlets by managing issues that stop growers from using it has been contracted with Tully Productivity Services Ltd.

With the interest shown in the RAR project scheme, SRA will seek further expressions of interest from the productivity sector in the future.