

Australian sugarcane production and the role of agricultural extension officers – Lesson 3 Activity Cards

Activity: Match the sugarcane farming practice to the water quality risk

Instructions:

- Print all of the following pages, single sided and in colour
- Print enough sets for students
 - One paired set for each group of 3-4 students, or
 - Enough paired sets for individual students to have one card each
- Cut out each picture
 - Picture pairs are matched on each page
- You may like to laminate cards to preserve quality
- Alternatively, contact agritech@cqu.edu.au to request sets of laminated cards mailed to your school

Australian sugarcane production and the role of agricultural extension officers



Cane trash
blanket is
retained

Photo source: Sugar Research Australia



Cane trash
blanket is not
retained

Photo source: Sugar Research Australia



All machinery wheel spacings matched to row spacing for all operations. GPS guidance is used.

Photo source: Sugar Research Australia



Machinery operates on different wheel spacings

Photo source: Sugar Research Australia



Cover crops are planted on all fallow land without tillage. Crop residues are maintained

Photo source: Cindy Benjamin, GRDC



Bare fallow or no fallow

Photo source: Sugar Research Australia



All plant cane blocks
are prepared with a
fine tilth

Photo source: Sugar Research Australia



Plant cane is
established after fallow
using one tillage
operation or less

Photo source: Mark Blair

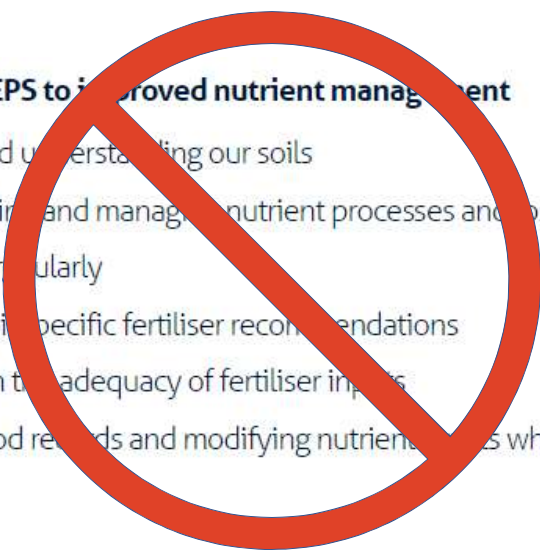
Six Easy Steps Nutrient Management program is used

The SIX EASY STEPS to improved nutrient management

1. Knowing and understanding our soils
2. Understanding and managing nutrient processes and losses
3. Soil testing regularly
4. Adopting soil specific fertiliser recommendations
5. Checking on the adequacy of fertiliser inputs
6. Keeping good records and modifying nutrient inputs when and where necessary

Nitrogen fertiliser rate typically exceeds the Six Easy Steps baseline application rate

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- 



Fertiliser is
applied
subsurface

Photo source: Sugar Research Australia



Fertiliser is
broadcast on top
of the soil

Photo source: rataequipment.com



Residual
herbicides not
used in ratoons

Photo source: Sugar Research Australia



Residual herbicides are
routinely used in ratoon
crops, both in response to
known weed problems and as
a preventative measure

Photo source: Sugar Research Australia



Phosphorous fertiliser requirements are determined through soil testing. P is not applied unless testing indicates it is necessary

Photo source: Wellers Hill Hardware & Landscape Supplies



Phosphorus is regularly or routinely applied as part of plant or ratoon cane blends

Photo source: Sugar Research Australia



Precise weed mapping informs zonal residual herbicide applications. Application occurs only where weed pressure is expected.

Photo source: Sugar Research Australia



Residual herbicides are applied through 100% coverage with conventional boomspray

Photo source: Sugar Research Australia



Pesticide product choice is based on efficacy, cost effectiveness of control and environmental risk



Pesticide product choice is based on efficacy and cost effectiveness of control



Control of canegrub is based on monitoring plant damage and risk assessments of likely pressure

Photo source: Sugar Research Australia



Insecticides are routinely applied to plant or ratoon crops. Often more than one application to a block over a crop cycle

Photo source: BAYER Crop Science



Irrigation schedule is informed using in-field indicator tools in the majority of blocks, and the use of crop growth models to optimise timing

Photo source: Sugar Research Australia



Irrigation scheduled on a set cycle

Photo source: Sugar Research Australia



No irrigation tailwater
leaves the farm
(100% of tailwater from
farm area is captured)

Photo source: Sugar Research Australia



Irrigation
tailwater is not
retained on farm
is not

Photo source: Sugar Research Australia



More than 9 tonnes of
cane is grown per
megalitre of water
applied per hectare

Photo source: Sugar Research Australia



Less than 5 tonnes of
cane is grown per
megalitre of water
applied per hectare

Photo source: Sugar Research Australia