



Smartcane BMP Registration

Business Information

Business Name:	
Contact Name:	
Phone:	
Email:	
Address:	
Locality / Town / City:	
Post Code:	
State	

Farm Information

Farm 1 Name:	
Farm 1 Lot Plans:	
Farm 2 Name:	
Farm 2 Lot Plans:	
Farm 3 Name:	
Farm 3 Lot Plans:	
Farm 4 Name:	
Farm 4 Lot Plans:	
Others:	

Module 3. Weed, Pest and Disease Management

A pesty topic - Managing weeds, pests and diseases

As we all know, weeds, pests and diseases have the potential to greatly reduce sugarcane yields. Thankfully, the industry has evolved a robust set of diverse control options that, together, minimise the impacts of weeds, pests and diseases. It is these practices that are the subject of the Weed, Pest and Disease Management module of BMP.

Use of herbicides and pesticides is an important component of crop management and it is in the interests of both growers and the environment that such chemicals are used efficiently, carefully, and in accordance with label requirements and any other regulatory obligations. The selection, application, storage and use of chemicals on the farm is therefore a significant theme in the module.

The topics covered in the module include:

- Canegrub control
- Management of rats and other pests
- Approach to weed control
- Options used to reduce disease risk
- Chemical use:
 - Product selection
 - Storage
 - User accreditation
 - Application
 - Record keeping

As with all of the BMP modules, the first step is to benchmark, through self-assessment, your own practices against those considered by industry to be best practice. There are only eight issues, and corresponding sets of practices, in this module. For example, the best practice standard for cane grub control is:

Cane grub control decisions are based on monitoring plant damage, or on risk assessment based on soil texture, proximity to known adult feeding sites and topography. Grub species have been identified.

You simply indicate if you meet the best practice standard and, if not, what actions you need to take to meet the standard.

Once the self-assessment is completed for this module and for the other two core modules (Soil health and Nutrients; Irrigation and Drainage), you can seek BMP accreditation. This requires evidence for each topic in a module to be available for independent assessment.

Module 3. Weed, Pest and Disease Management

Standards

3.1.1 Canegrub Management

Practices:

	Below Industry Standard	Insecticides are routinely applied to the whole farm regardless of grub pressure, or canegrubs are not managed.
	Industry Standard	Control of cane grubs is based on monitoring plant damage, and/or risk assessment based on soil texture, and/or proximity to known adult feeding sites and topography. Grub species have been identified.
	Above Industry Standard	Grub management plan is developed based on monitoring grub levels and plant damage and applying an individual block risk assessment framework including paddock history. A district monitoring program is used to inform grub management plan (based on awareness of grub pressure on neighbouring farms and regional grub pressure).

3.1.2 Rat Management

Practices:

	Below Industry Standard	No control or monitoring of rats
	Industry Standard	Both in-crop and harbourage areas are managed to avoid build-up of rats. Baiting program implemented as required with records maintained.
	Above Industry Standard	Rat populations are monitored and managed through harbourage management and baiting as required. Records of baiting are maintained. Participates in a district monitoring program.

3.1.3 Other Pests

Practices:

	Below Industry Standard	Farm practices encourage other pests
	Industry Standard	Presence of, or potential presence of, other pests is known and management practices carried out as required.
	Above Industry Standard	Management program based on risk assessment of specific pests.

3.1.4 Weed Management

Practices:

	Below Industry Standard	Weed management strategies are generally based on historic application rates or rules of thumb without consideration of weed species mix, level of potential infestation, or environmental considerations.
	Industry Standard	Weed management plan (in line with the SRA weed plan template) is developed and implemented with consideration of known weed pressures. Specific management strategies implemented for fallow, plant cane and ratoons. Moving to a reduced reliance on residual herbicides through banding and use of knock downs in inter-rows. Spray equipment is selected to suit crop stage.
	Above Industry Standard	Integrated weed management plan is developed and implemented with a focus on controlling weeds in the fallow period, including the use of break crops. Much reduced reliance on residual herbicides through banding and use of knock downs in inter-rows. Weed mapping and GPS/variable rate technology is used to identify and manage areas of problem weeds.

3.1.5 Disease Management

Practices:

	Below Industry Standard	Mechanisms of disease spread are not considered in farm planning and operations.
	Industry Standard	<p>Farm planning and operations take account of the mechanisms of disease spread and deliberate strategies (clean seed, variety selection, fallow management) are implemented to avoid introduction of diseases and/or spread of diseases on farm. Known diseased blocks are actively managed to reduce or eliminate disease.</p> <p>All cane is destroyed at conclusion of the crop cycle. There is awareness of current regional disease risks and testing, as appropriate, for known diseases.</p>
	Above Industry Standard	In addition to Industry Standard: a disease survey is prepared for the farm and updated each season. Rotational crops are selected on their susceptibility (or ability to host) known pathogens such as lesion and root knot nematodes.

3.1.6 Product Selection

Practices:

	Below Industry Standard	Products used are not approved (registered or permitted) for use in sugarcane in Queensland (and therefore their use does not meet regulatory requirements).
	Industry Standard	<p>All products used are approved (registered or permitted) for intended purpose and used in strict accordance with label conditions. Products are selected in accordance with known and anticipated weed, pest and disease risks. Chemicals banned under international conventions are not used unless there is no non-banned alternative registered for use.</p>

3.1.7 Chemical Storage, Mixing and User accreditation

Practices:

	Below Industry Standard	Chemicals are applied by people without appropriate competencies and training, or not supervised by someone with these competencies (where applicable). Chemicals are not applied, stored, mixed or disposed of in accordance with regulatory (including label) requirements (these practices do not meet regulatory requirements).
	Industry Standard	<p>All people who apply chemicals have the appropriate competencies and training or are supervised by someone with the appropriate competencies and training.</p> <p>Chemicals are stored in premises consistent with the “Agricultural chemical user’s manual” (Qld Gov 2005) in relation to location, construction, security, signage, ventilation and PPE.</p> <p>Chemicals are mixed at locations on farm that meet label requirements and the requirements under Reef protection legislation.</p> <p>Chemical drums are disposed of through drumMuster.</p> <p>Unwanted chemicals are disposed of through Chemclear or other approved disposal systems</p>
	Above Industry Standard	All people who apply chemicals maintain currency through industry relevant training.

3.1.8 Chemical Application and Record Keeping

Practices:

	Below Industry Standard	Products are not applied according to label and permit directions and legislative requirements under the Chemical Usage (Agricultural and Veterinary) Control Act 1988. Application equipment is calibrated infrequently (every 12, or more, months).
	Industry Standard	<p>Products are applied according to the label or permit directions and legislative requirements under the Chemical Usage (Agricultural and Veterinary) Control Act 1988.</p> <p>and</p> <p>Records of chemical management inputs are kept for each field</p> <p>and</p> <p>Nozzles are selected based on label requirements for product and target.</p> <p>Application equipment is calibrated at the start of each season and at change of product or change of water rate. Herbicides are applied at the ideal weed and crop growth stages</p> <p>and</p> <p>A chemical management plan that identifies sensitive areas, buffer zones, problem pest areas and is reviewed annually, is included as part of the Weed Management Plan.</p> <p>and</p> <p>Timing of chemical applications minimises loss of chemicals in runoff, and residual chemicals are applied prior to the commencement of the wet season.</p>
	Above Industry Standard	Use of residual herbicides is reduced by: banding residuals along the drill (when not already a label requirement) and using knockdowns in the inter-row, use of automatic flow rate controllers and precision application equipment, and continuous monitoring and calibration.

3.1.9 How do you use Residual Herbicides in Plant Cane

	Complete coverage across the whole block
	Bandspraying of residuals, inter-rows managed with knockdowns
	No use of residuals

3.1.10 How do you use Residual Herbicides in Ratoons

	Whenever considered useful, multiple applications per year if required
	Single application in ratoons
	Use knockdowns with a 'spike' rate of residuals on all blocks
	Plan on using knockdowns only in ratoons and residuals in problem blocks only
	Do not use residual herbicides in ratoons