

MAPS – Moving Forward

Vision

Maximise sustainable and profitable production of sugar cane in the Mackay Sugar area through the delivery of effective agronomic, economic and environmental advice, extension services and tools to growers.

Core Functions - Do them and do them well.

1. Clean Seed Propagation and Distribution
2. Pest and Disease Management
3. Grower Extension and Productivity

Continually re-assess MAPS role and function in a changing environment – MAPS need to remain relevant and valued by growers and Mackay Sugar.

Core Function: Clean Seed Distribution

Focus Area	Risk	Measure	How	Why
Clean Seed Uptake	Low	Increase uptake of clean seed to 3% by 2025, which is sufficient cane to plant 30% of the mill area.	<p>Expansion of clean seed plots throughout the Mackay Sugar district while still upholding strong and strict planting protocols with regards to diseases.</p> <p>Larger MAPS distribution plots. Easier ability to collect clean seed – the first step to improving productivity.</p> <p>Start by expanding existing billet plots and build on the uptake and gauge the demand.</p> <p>Selection of growers/farms to grow the plots is vital to the success of this project.</p> <p>Carry out study of costs and benefits prior to implementation.</p>	<p>Planting good quality seed cane significantly reduces the risk of serious pest or disease outbreaks in commercial blocks.</p> <p>Good quality seed cane has good germination which improves the likelihood of high yields throughout the ratoon crops.</p> <p>Previously clean seed uptake had slowed due to grower's age and manual methods of collection and planting. The more recent method of limited billet distribution has generated high interest from the growers.</p>

Core Function: Clean Seed Distribution

Focus Area	Risk	Measure	How	Why
Cane Varieties	Low	<p>Introduce 3 new seedlings into MAPS Observation Plots per year.</p> <p>Collect commercial data of new varieties within first year of release.</p>	<p>Work more closely with SRA plant breeding team to propagate commercial quantities of promising seedlings across the district and collect mill data that is provided to growers when the varieties are released.</p> <p>Build on the success of the Observation Plots. Test varieties in different paddock conditions i.e. sodic soils, waterlogged blocks to observe ratoonability.</p> <p>MAPS to be more involved in SRA plant breeding trials by regularly monitoring trial sites past 2nd ratoon to identify seedlings that may have been overlooked.</p>	<p>Recently there has been a lack of productive varieties released and a reliance on older varieties which are nearing the end of their commercial life.</p> <p>Many of the new varieties are released with good trial data but once planted out fail under commercial conditions.</p> <p>Growers are reluctant to try new varieties until they have reliable commercial data. Growers need as much information and data as possible when selecting new varieties to plant out. Growers are making a financial decision for the next five years at each planting.</p> <p>Planting is the most expensive activity in the crop cycle; therefore poor choices deliver poor results.</p>

Core Function: Pest and Disease Management (including prevention)

Focus Area	Risk	Measure	How	Why
RSD	Low	<p>Conduct plant source inspections on 100% of Mackay Sugar farms.</p> <p>Reduce RSD levels to below 1% by 2025. (Currently at 1.4%)</p>	<p>Expansion of clean seed plots throughout the Mackay Sugar district while still upholding strong and strict planting protocols with regards to diseases.</p> <p>Larger MAPS distribution plots. Easier ability to collect clean seed – the first step to improving productivity.</p> <p>Start by expanding existing billet plots and build on the uptake and gauge the demand.</p> <p>Selection of growers/farms to grow the plots is vital to the success of this project.</p> <p>Carry out study of costs and benefits prior to implementation.</p>	<p>Planting good quality seed cane significantly reduces the risk of serious pest or disease outbreaks in commercial blocks.</p> <p>Good quality seed cane has good germination which improves the likelihood of high yields throughout the ratoon crops.</p> <p>Previously clean seed uptake had slowed due to grower's age and manual methods of collection and planting. The more recent method of limited billet distribution has generated high interest from the growers.</p>

Core Function: Pest and Disease Management (including prevention)

Focus Area	Risk	Measure	How	Why
<p>Detection of new and exotic pests and diseases, whilst maintaining focus on current pest and diseases.</p>	<p>Low</p>	<p>Monitor pest and disease levels over 100% of district. Conduct annual survey for selected pest and diseases.</p>	<p>Maintain and improve high standards set by MAPS in the area of pest and disease monitoring and management. Regular training from SRA and other industry organisations addressing Bio-security issues. Assist with Pest Damage Mitigation Permits. Target selected pest/disease to survey on a yearly basis.</p>	<p>Reduce yield losses from pest and disease. Prevent a major disease outbreak. Liaise with DES regarding Damage Mitigation Permits. (Industry permit –Rats)</p>

Core Function: Grower Extension and Productivity

Focus Area	Risk	Measure	How	Why
BMP	Medium	65% of growers BMP accredited by 2025	<p>Promote the benefits of the Smartcane BMP program and increase Accreditation.</p> <p>Additional staff member to increase the uptake and accreditation process.</p>	BMP is a platform for growers to meet the demand for sustainable sugar, reduce environmental impact and support ongoing productivity, profitability and innovation
Agtrix	Medium	Provide growers with data recording and information tools, with 65% of growers using these (Agtrix and MAPS website) by 2025.	<p>Agtrix is a spatial data recording program that is now available to all Mackay Sugar growers.</p> <p>Continue development and functionality of Agtrix program.</p> <p>Provide staff with an in-field data recording program that can be used as an extension tool.</p> <p>Develop Agtrix roll out plan to growers, including training for interested growers.</p> <p>Implement roll out plan.</p> <p>Investigate the benefits, cost and viability of both Agtrix and MSL systems interfacing.</p>	<p>There is no system for cane growers to easily record farming practices and be legally compliant (Reef Regulations & BMP).</p> <p>Growers that keep better records make better decisions.</p> <p>Collection of district wide data allows MAPS to provide better advice to growers, SRA, Mackay Sugar and feedback to government on nutrient and chemical management issues.</p> <p>In-field data entry is time efficient. Staff having a field based tablet generates a new extension tool for growers.</p> <p>Data collected by both MAPS and Mackay Sugar needs to be used by both groups. Currently there is double handling of some data.</p>

Core Function: Grower Extension and Productivity

Focus Area	Risk	Measure	How	Why
<p>One on one Grower Extension/Information delivery.</p>	<p>Medium</p>	<p>Increase district average tonnes of cane per hectare. Target 80tc/ha - 5 year moving average.</p>	<p>Make MAPS/SRA field day more attractive to growers to increase attendance and present clear core messages.</p> <p>Improve interaction with all growers to deliver practical agronomical solutions and provide information in a more accessible practical format.</p> <p>Promote use of tools on MAPS website and develop more as needs are identified.</p> <p>Use Agtrix data in one-on-one discussions.</p> <p>Utilise current shed meetings better with demo sites and discuss relevant topics – reef regs, nutrition, varieties, chemicals, etc.</p> <p>MAPS staff receive training from training consultants to on how to present information in an appealing format to growers.</p> <p>Review skill sets within MAPS to determine if additional personnel or training is required</p> <p>Formalise grower profiling/benchmarking.</p> <p>Ensure privacy policy requirements are aligned with MSL to allow data sharing.</p> <p>Promote the use of economics in the decision making processes when discussing practice change.</p>	<p>MAPS have a very good reputation amongst growers through the personalised service provided by staff. Capitalise on this good work to promote programs (Agtrix) and a clear message.</p> <p>Currently information uptake is low and a more visual approach is required.</p> <p>Profiling and benchmarking growers allows specific growers, zone or issues to be targeted to improve productivity.</p>

Core Function: Grower Extension and Productivity

Focus Area	Risk	Measure	How	Why
Soil Health.	Low	<p>Increase the area of fallow planted under a break crop. 50% of fallow land (hectares) being planted to break crops by 2025.</p> <p>Increase the area of marginal soil types applied with mill mud/mill ash.</p>	<p>Provide additional training to staff to assist in this area and promote the use of break crops for soil health and economical evaluation.</p> <p>Investigate and implement the development of a more cost effective planter.</p> <p>Better educate growers on the cost effective benefits of mill by-products vs other fertiliser products</p> <p>Establish demonstration trials across the district to demonstrate the productivity benefits of the by-products.</p> <p>Collaborate with Mackay Sugar to promote the use of by-products throughout the district.</p>	<p>Break crops break the monoculture and help improve soil health and also have the ability to provide an additional income source to growers, making them more economical viable.</p> <p>Mill by-products are excellent soil conditions and provide soil health benefits. Also a cost effective option for growers for nutrients.</p> <p>Mackay Sugar is required to dispose of by-products in an environmentally approved method. More uptake from growers on marginal soil types improves productivity and is beneficial to both growers and Mackay Sugar.</p> <p>Apart from improving soil health, break crops can also provide additional income to growers.</p>

Core Function: Grower Extension and Productivity

Focus Area	Risk	Measure	How	Why
<p>Environmental Stewardship / Social Licence to operate</p>	<p>Low</p>	<p>Facilitate pro-active initiatives which connect good water quality outcomes with farm practices.</p>	<p>Promote awareness and compliance with Reef Regulations and Industry Code of Practice.</p> <p>Facilitate pro-active initiatives which connect good water quality outcomes with farm practices.</p> <p>Monitor awareness and compliance through a survey of grower practices/record keeping.</p> <p>Participate in relevant industry and community working groups.</p> <p>Provide relevant technical input to various industry bodies.</p>	<p>Facilitate monitoring of water run-off and water quality to provide more information on a sub-catchment and farm level.</p> <p>Encourage alternative practices that can maximise efficacy of farm inputs while minimising the chances of offsite movement</p> <p>Water quality improvements.</p>

Core Function: Grower Extension and Productivity

Focus Area	Risk	Measure	How	Why
Work health and safety within work environment	Low	<p>0% lost time due to injury.</p> <p>0% grower injury on Maps Plots</p>	<p>Conduct annual audit of Workplace Health & Safety.</p> <p>Maintain high awareness of safe working practice.</p> <p>MAPS WH&S Manual reviewed annually.</p> <p>WH&S Feature as number one agenda item in monthly staff meetings and monthly MAPS Board meetings.</p> <p>All staff are current in first aid training</p> <p>Provide suitable training opportunities.</p> <p>Maintain a MAPS safety officer at VP Farm and ensure liaison with the SRA safety officer at Te Kowai.</p> <p>Field staff clock off each day via text to indicate they are safely out of the fields. A protocol of phoning and phone tracking is deployed if there is no communication. (Work Alone Policy)</p> <p>EPIRB carried in all field staff vehicles.</p> <p>First Aid kits, snake bite kits and fire extinguishers carried and maintained in vehicles.</p>	<p>MAPS moral and legal responsibility to ensure the physical, mental health and safety of its employees.</p> <p>To create a safe working environment.</p> <p>To monitor the health of employees and conditions at the workplace.</p> <p>Improve staff productivity.</p> <p>Reduce the risk of injury and illness in the workplace.</p> <p>Reduce the cost of injury and worker's compensation.</p>

MAPS 5 Year Strategic Plan					
	2021	2022	2023	2024	2025
Clean Seed	1.25% plant source is Clean Seed	1.5% plant source is Clean Seed	2% plant source is Clean Seed	2.5% plant source is Clean Seed	3% plant source is Clean Seed
RSD	Target 1% RSD Survey	Target <1% RSD Survey	Maintain <1% RSD Survey	Maintain <1%	Target 0.5%
BMP	20% Growers Accredited	35% Growers Accredited	45% Growers Accredited	55% Growers Accredited	65% Growers Accredited
Agtrix	20% Growers registered & active.	30% Growers registered & active	40% Growers registered & active	50% Growers registered & active	65% Growers registered & active
Fallow Management/Soil Health	25% fallow (hectares) under break crop	30% fallow (hectares) under break crop	35% fallow (hectares) under break crop	40% fallow (hectares) under break crop	50% fallow (hectares) under break crop
Grower Extension/ Profiling	76tc/ha 100% Growers surveyed. Analysis data & target productivity gains/zones. 10% Grower Profile/ Assessment	77tc/ha 20% Grower Profile/ Assessment	78tc/ha 30% Grower Profile/Assessment	79tc/ha 40% Grower Profile/Assessment	80tc/ha 100% grower surveyed 50% Grower Profile/Assessment