

Module 4. Crop Production and Harvesting Management

Standards

4.1 Farm map

Practices:

Below Industry Standard -

Only a limited amount of mapping information is accessed, and information is not used for farm planning

Industry Standard -

A farm map, which identifies soil types, soil sampling sites, topography, drainage lines, sensitive areas (houses, environmental etc.), management units and crop class, is used to aid farm management.

Above Industry Standard -

Multiple mapping layers (including: soil types, soil sampling sites, topography, drainage lines, sensitive areas (houses, environmental etc.), management units and crop class) are used to make strategic management decisions. Maps have a high level of resolution and allow identification of specific management zones where decisions can be made (as appropriate).

4.2 Farm design

Practices:

Below Industry Standard -

Poorly designed farm layout compromises productivity and efficiency.

Industry Standard -

Farm design allows for efficient farm operations, with consideration of environmental outcomes.

Above Industry Standard -

Farm design maximises efficiency of farm operations taking into account business and environmental outcomes.

4.3 Variety management

Practices:

Below Industry Standard -

Varieties chosen only on availability of planting material.

Industry Standard -

There is a short-term variety plan based on production, CCS, time of harvest, soil type, and disease risk/history/resistance.

Above Industry Standard -

There is a long-term variety plan based on production, CCS, time of harvest, soil type, disease risk/history/resistance that incorporates trialling of new varieties.

4.4 Clean planting material

Practices:

Below Industry Standard -

Planting material is sourced from commercial cane blocks and not hot water treated or inspected by Productivity Services

Industry Standard -

All cane planted is from approved cane seed sources and within two years of hot water treatment or tissue culture.

4.5 Billet quality for planting

Practices:

Below Industry Standard -

High proportion of damaged and short billets with less than two eyes per sett.

Industry Standard -

Harvester with optimised feed train set up, sharp chopper knives, and base cutter blades is used to harvest planting material that has a majority of sound billets with a minimum of two eyes per sett. Records of planting material are maintained. Machine is sterilised between blocks and varieties.

Above Industry Standard -

As for standard but utilising a dedicated plant cane harvester. Majority of billets have three eyes and are of sound quality.

4.6 Time of planting

Practices:

Below Industry Standard -

Planting occurs without consideration of soil moisture, temperature or climate forecast.

Industry Standard -

Plant as early as possible with adequate soil moisture. Soil temperature at planting depth should be 18°C or above for more than five days prior to planting.

4.7 Planting

Practices:

Below Industry Standard -

Planter is not adjusted to the different soil types or row profiles (bed or flat); fertiliser and pesticide applicator are rarely calibrated.

Industry Standard -

Ensure granular fertiliser does not come in contact with the sett. Press wheel is correctly set up for best seed to soil contact and adequate coverage. Planting rate is known and appropriate for farming system.

Above Industry Standard -

Variable rate controller on planter to maintain an even planting rate.

4.8 Harvesting – loss minimisation

Practices:

Below Industry Standard -

Harvester has been set up solely to maximise bin weights, resulting in high cane loss.

Industry Standard -

Grower engages with contractor to minimise losses through harvester optimisation and crop presentation.

Above Industry Standard -

There is a written harvest contract between grower and contractor detailing harvesting strategy to minimise losses.

4.9 Minimising stool damage at harvest

Practices:

Below Industry Standard -

Harvesting speed is excessive and determined by machine capacity/power, and does not follow best practise as per the Harvest Best Practice Manual.

Industry Standard -

Row profile is matched to base cutter set up and best practises, as per the Harvest Best Practice Manual, are followed. Harvesting speed prevents risk of stool contact.

Above Industry Standard -

As above plus GPS is used on the harvested and haulout to separate the traffic from the cane growing area.

4.10 Block selection for harvesting

Practices:

Below Industry Standard -

Harvester scheduling is left up to the contractor without consideration of CCS or farm management plans.

Industry Standard -

Blocks are selected based on the general CCS profile of the variety, crop age and soil moisture conditions, and whole farm management considerations.

Above Industry Standard -

Blocks are selected based on measured CCS, soil moisture and whole farm management plan.

Evidence checklist for each practice standard

PRACTICE	INDUSTRY STANDARD <i>(Entries in italics indicate the above industry standard requirements)</i>	EVIDENCE REQUIRED	EVIDENCE SIGHTED	FINDING (C – BMP; C – above; NC – below; N/A)
4.1 Farm Mapping	Farm map that identifies: <ul style="list-style-type: none"> • Soil types • Topography • Drainage lines • Environmentally sensitive areas • Management units • Crop classes 	Farm map with key elements		
	<i>Multiple mapping layers of high resolution are used to identify specific management zones.</i>	<i>Farm map with multiple layers</i>		
4.2 Farm Design	The farm design allows for efficient business operation with consideration of environmental impacts.	Farm map; Farm observation of current field layout and infrastructure in relation to farm operations and environmental impacts. E.g. blocks configured for maximum row length; wide headlands clear of obstructions and washouts.		
	<i>The farm design maximises efficiency of farm operations.</i>	<i>Farm map; Farm observation of how field layout and infrastructure maximises efficiency while minimising environmental impacts.</i>		
4.3 Variety Management	There is a short-term variety plan based on production, CCS, time of harvest, soil type, and disease risk/history/resistance.	Farm map and Variety plan		
	<i>There is a long-term variety plan based on production, CCS, time of harvest, soil type, disease risk/history/resistance. Plan incorporates trialling of new varieties.</i>	<i>Farm map and Variety plan</i>		

PRACTICE	INDUSTRY STANDARD <i>(Entries in italics indicate the above industry standard requirements)</i>	EVIDENCE REQUIRED	EVIDENCE SIGHTED	FINDING (C – BMP; C – above; NC – below; N/A)
4.4 Clean Planting Material	All cane planted is from approved cane seed sources and within two years of hot water treatment or tissue culture.	Purchase records		
4.5 Billet quality for planting	Harvester with optimised feed train set up, sharp chopper knives, and base cutter blades is used to harvest planting material that has a majority of sound billets with a minimum of two eyes per sett. Machine is sterilised between blocks and varieties.	Farm observation of planting material area, and grower explanation for harvester set up, billet quality and sterilisation procedures. Records of planting material.		
	<i>As for standard but utilising a dedicated plant cane harvester. Majority of billets have three eyes and are of sound quality.</i>	<i>Farm observation of harvester and grower knowledge of billet quality.</i>		
4.6 Time of Planting	Planting occurs as early as possible after the wet season when there is adequate soil moisture and the soil temperature is greater than 18 degrees for more than five days	Planting records and grower understanding of best planting time for his farm.		
4.7 Planting	<ul style="list-style-type: none"> - Granular fertiliser does not come in contact with the sett. - Press wheel is correctly set up for best seed to soil contact and adequate coverage - Planting rate is known and appropriate for the farming system. 	Planting records Farm observation of planter set-up		
	<i>Variable rate controller on planter to maintain an even planting rate.</i>	<i>Farm observation of variable rate controller</i>		
4.8 Harvesting loss minimisation	HARVEST MANAGEMENT Grower engages with contractor to minimise losses through harvester optimisation and crop presentation.	Record of meeting with operator and grower knowledge of issues covered.		

PRACTICE	INDUSTRY STANDARD <i>(Entries in italics indicate the above industry standard requirements)</i>	EVIDENCE REQUIRED	EVIDENCE SIGHTED	FINDING (C – BMP; C – above; NC – below; N/A)
	<i>There is a written harvest contract between grower and contractor detailing harvesting strategy to minimise losses.</i>	<i>Harvesting contract</i>		
4.9 Minimising stool damage at harvest	Row profile is matched to base cutter set up and best practises, as per the Harvest Best Practice Manual, are followed. Harvesting speed prevents risk of stool contact.	Farm observation and grower knowledge of best practices.		
	<i>As above, plus GPS is used on the harvested and haulout to separate the traffic from the cane growing area.</i>	<i>Farm observation Statement from harvest contractor</i>		
4.10 Block selection for harvesting	Blocks are selected based on the general CCS profile of the variety, crop age and soil moisture conditions, and whole farm management considerations.	Harvesting plan Harvest records		
	<i>Blocks are selected on basis of measured CCS, soil moisture conditions and whole farm management considerations.</i>	<i>CCS test results Harvesting plan Harvest records</i>		