

Improving harvesting efficiency



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There are a number of actions that growers and operators can do to make this season's and future harvests more efficient, to improve the productivity and profitability of their farming operations.

This season's advice

1. Develop a harvesting plan to maximise cane maturity at harvest.

Plan the order in which blocks will be harvested according to maturity, layout, predicted peak in CCS and seasonal weather conditions. **See the previous article** on how to assess the sugar content of a crop.

2. Pay attention to harvester setup and operation.

Harvester maintenance, particularly the condition of basecutters and chopper blades, has a significant impact on harvester damage and sugar loss. Research has shown that losses can be tripled if blades are not correctly maintained. In the feedtrain, optimise feed roller speeds to chopper rotation speeds to reduce juice loss in the billet cutting process. Avoiding high fanspeeds (>850 rpm) will lower excess losses. However, if the fanspeed is reduced further, excess trash levels may affect bin weight and CCS to a point where transport/milling requirements are not met.

3. Have a wet-weather harvesting plan in place.

Growers should discuss the best harvesting options for wet periods with their harvesting contractor. For example, it may be best to cut plough out blocks in preference to damaging plant, first ratoon and possibly second ratoon crops. Also use trash blanketing and minimum tillage where appropriate as these improve trafficability in wet weather compared to conventional cultivation.

4. Ensure appropriate harvester hygiene.

To avoid the spread of RSD, sterilise harvesters between blocks wherever possible. Pay special attention to the crop dividers, basecutters and choppers.

5. Plan ahead to ensure a sufficient supply of bins.

This minimises the time lost during harvesting operations.

6. Maintain appropriate records.

Use a logbook for all harvesting operations.

Planning ahead

1. Improve farm layout.

The aim is to increase the proportion of actual cutting time. Pay particular attention to row length and appropriate headland space. Headlands that are wide and smooth increase the efficiency of harvester turning and haul-out.

2. Ensure row spacing is consistent and rows are parallel by precise planting or using GPS.

GPS guidance systems can be used to keep harvesting and haul-out over the cane rows. This contributes to improved ratoonnability by minimising soil compaction and physical damage to stools.

3. Ensure row profile is consistent across the farm and matches the harvester.

Poor row profiles increase cane loss at harvest as well as causing stool shattering and splitting that hinders subsequent ratooning. The damage caused also encourages the development of fungal rots.

Consistent row profiles which match basecutter setup significantly reduce stool damage during harvesting. Remember that damage to hill shape during harvesting cannot be effectively corrected by cultivation in ratoons. Also use ripper tines carefully to avoid having large clods of soil present in the rows.

4. Select varieties carefully and tailor agronomic practices to the variety.

It is best to match vigorous varieties to appropriate soil types. Highly vigorous and productive varieties grown on good soil may create problems with lodging and stool tipping. This may require deeper planting, better hilling up, and reduced nitrogen fertiliser applications. High-yielding erect cane well presented for harvesting significantly increases harvesting efficiency, particularly given the high pour rates of existing harvesters. Also control weeds within the crop to reduce the quantity of potential extraneous matter (EM) in the harvest.