GREEN CANE HARVESTING OPERATION

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Use of the topper

To ensure the cleanest sample, the topper MUST be used at all times. Even in recumbent crops, by removing a small percentage of the tops a reduction in the volume of EM is achieved, thereby reducing the percentage of EM in the sample being sent to the mill.
TOPPER

Even row, easy to top. Low EM level.

variable row, difficult to top. High EM level.
Blades

Blades should be the correct type (serrated) and sharp. All blades must be fitted (using the correct mounting hardware) and be tight. Blades must be mounted with the bevelled edge facing down.
TOPPER

Topping Height

The topper should be adjusted to cut the tops off the cane at the last fully formed eye. This will ensure that no good cane is lost and minimal EM is sent to the mill.

If the cane varies in height adjust the topper to an average of the height to ensure that topping is not compromised.
CROP DIVIDERS

Adjustments.
The crop dividers should be adjusted to suit the field conditions.

They should be adjusted to best match the row spacing.

The angle of the crop divider should be adjusted so that the base of the crop divider is parallel to the ground. This will allow the toe to contact the soil and the sidewall to be in a position to prevent cane loss.
CROP DIVIDERS

Adjustments.

The height of the crop divider should be adjusted to allow the toe of the crop divider to just touch the ground, allowing stalks of recumbent cane to be raised by the spirals and to be fed into the throat of the machine.

The operator must monitor the height of the crop divider to prevent the toe from digging into the soil. This increases dirt entry into the machine.
CROP DIVIDERS

Set correctly – no cane loss.

Set incorrectly – damage to field and machine – dirt sent to mill.
Floating shoes.
The floating shoes should be adjusted to ensure that canes lying along the row are fed into the basecutter blades. The chain must be adjusted sufficiently to raise the floating shoes when the basecutter is raised for maneuvering.
Blades

The basecutter blades should be sharp and have the correct amount of protrusion from the disc. The cutting edge of the blade should have a square corner. Incorrect blade condition will cause splitting of the cane, which contributes to cane loss when harvesting green cane. The blades should be mounted with the correct hardware. Long bolts cause cane damage and increased cane loss.
BASECUTTER

Worn blade – damage stool – poor ground job.

Adjusted blade – square cutting edge – good ground job.
Discs

• The discs should be changed or rebuilt when wear reaches the maximum limit (546 mm at narrowest point)
BASECUTTER

Feeding legs / slats. Should be repaired and replaced when needed. Damaged basecutter leg feed slats can contribute to wrapping in green cane harvesting. Worn basecutter leg feed slats can affect the feeding capabilities of the harvester in green cane.
FEEDROLLERS

Speed

When harvesting green cane the feed roller speed should be set to maximum (100%). Failure to do this causes feeding issues as the chopper and feed roller speeds are not compatible. If smaller billets are required for harvesting green cane (cleanliness) 4 bladed chopper drums should be specified.
FEEDROLLERS

Condition
The condition of the slats of the roller are important. Worn slats affect the roller diameter and therefore peripheral speed of the roller. Severe wear /damage of the slat can cause the trash to wrap in the rollers.
CHOPPER

Blades

The chopper blades should be sharp and adjusted correctly. Blunt blades do not cut the trash cleanly and the extractor cannot remove it. Incompletely cut cane (sausaging) causes bridging in the transport container and will affect cane density and bin weights.
CHOPPER


Damaged blade – incomplete cut of cane and trash – poor cleaning.
CHOPPER
Deflector plate

The deflector plate mounted above the choppers should be adjusted to suit the conditions of the crop. Raising the deflector in heavy crops increases the cleaning capacity without increasing the cane loss. Lowering the deflector in lighter varieties reduces cane loss.
Speed
The speed of the extractor must be adjusted to get the maximum cleaning with the minimum amount of cane loss. The correct speed varies with crop and field conditions. The operator must be aware of these and make the adjustment accordingly.
PRIMARY EXTRACTOR

Blades -

The blades must be replaced if worn or damaged
Balance

The fan assembly must be balanced. Out of balance fan assemblies can cause damage to the structure. (NOTE: - dirt build up on the rotating components of the extractor can cause out of balance.
Hood
The hood can be positioned to direct the trash away from the bin and the field to be harvested. Positioning the hood too close to the elevator can allow the trash exiting the elevator to enter the bin or the elevator which will place it in the bin. Positioning the hood too far in the other direction will place the trash in the row to be harvested. This increases the amount of trash being feed into the machine and overloads the extractor, reducing the cleaning capacity.
ELEVATOR

Operation
The elevator should be positioned so that trash is not placed in it from the extractor, when maneuvering. If trash has entered the elevator this must be discharged before the operator commences loading the bin with cane. The elevator must be cleaned regularly to prevent trash build up on the elevator structure entering the bin.
ELEVATOR
Blades.
The blades must be replaced if worn or damaged
Balance.

The fan assembly must be balanced. Out of balance fan assemblies can cause damage to the structure. NOTE: - Dirt build up on the rotating components of the extractor can cause out of balance
Hood.

The secondary extractor hood is able to be hydraulically positioned to discharge the trash clear of the bin and the row to be harvested. The operator has to consider certain variables to ensure this occurs.
SECONDARY EXTRACTOR
CROP DIVIDERS

Set correctly – no cane loss.

Set incorrectly – damage to field and machine – dirt sent to mill.
GREEN CANE HARVESTING

END