



Method 1.1 - Official Methods: preparation of cane extract

1. Rationale

This method is applicable to prepared cane samples and is used to obtain data for cane payment purposes.

2. Principle

The well-mixed cane sample is prepared to produce a cane extract that is used to determine the pol and Brix of the extract.

3. Apparatus

- 3.1 Weighing scoop
- 3.2 Cane transfer funnel
- 3.3 Water dispenser (cane analysis)
- 3.4 Heavy duty balance
- 3.5 Cold digester
- 3.6 Decanter
- 3.7 Cooling water bath
- 3.8 Sample bottle (450 cm³)
- 3.9 Paint brush (50 mm)

4. Procedure

Place a clean dry weighing scoop on a heavy duty balance and zero the balance.

Weigh to within 1g the requisite amount of sample into the weighing scoop in accordance with the following requirements:

Cane:	1 000 g
Final bagasse:	350 g

The requisite quantity is taken at random from the sample.

Transfer the weighed sample to a clean dry cold digester bowl using the cane transfer funnel and brushing in the fine particles adhering to the weighing scoop.

Note: The capacity of the electronic balance is such that the cold digester bowl with transfer funnel is placed directly on the balance, the tare mass recorded, the 1000 ± 10 g cane (or 350 ± 10 g final bagasse) added directly to the bowl and the gross mass recorded. A wider tolerance for the cane/bagasse mass is permissible as the computer system calculates the data on the basis of the actual masses recorded rather than relying on the standard amounts required in the manual operation.

Add the required amount of water to the bowl as follows:

Cane:	2 000 g cold tap water from a water dispenser
Final bagasse:	2 541 g cold tap water

When a weighing scoop is used the procedure is as follows:

Rinse the scoop with water and discard the water. Do not dry the inside of the scoop but place it directly on the heavy duty balance and zero the balance. Weigh into the scoop the requisite quantity of water to within 1g. Pour this into the cold digester bowl.

Note :

- (i) A wider tolerance (± 10 g) is permitted as the computer system uses the actual mass recorded in the calculation.
- (ii) The water used for cold digestion must not have solids content so high as to influence the Brix determination, i.e. the solids concentration must be less than can be detected by the refractometer.

Check that the shaft and cutter of the digester are clean and dry. These should be cleaned after each analysis.

Screw the bowl onto the digester and start the motor. If the digester does not have an automatic timer, set a timer to run for 20 minutes.

After 20 minutes, stop the motor and wait for it to come to rest before removing the bowl.

Place the 450 cm³ bottle beneath the decanter outlet.

Pour the contents of the digester bowl onto the decanter screen and cover the contents to prevent moisture loss through evaporation.

Collect 300 cm³ of screened extract in the bottle, discard and then collect approximately 400 cm³.

Rinse the bottle screw cap with a portion of the extract, cap the bottle and stand it in the water bath to cool to ambient.

5. References

SASTA (1985). *Laboratory Manual for South African Factories*. 3rd Edition: 229 - 236.