



Definitions associated with sugarcane residue

Historically, the term 'trash' was used to refer to sugarcane tops and dried leaf material left in the field after harvesting. However, in everyday language, 'trash' has a negative connotation, usually referring to something of no value. Recognising this, technologists across the world have moved to more appropriate terminology such as 'mulch' or 'residue' to refer to this plant material.

Furthermore, when the terms 'green leaves', 'brown leaves' and 'tops' are used in sugarcane literature, there is some ambiguity about what is actually being referred to. For this reason, SASTA provides the following guidelines to clarify definitions and standardise terminology for future use in our industry.

| Term | Definition |
|---|---|
| Trash (old term) ✗ Mulch / Residue ✓ | All organic material left in the field after harvest. (This could include brown and green leaves and pieces of stalks). |
| Trashing (old term) ✗ Green cane harvesting ✓ | Harvesting a crop without burning |
| Self-trashing (old term) ✗ Self-mulching ✓ Self-shedding ✓ Leaf-shedding ✓ | The natural dropping of green or brown loosely adhering leaves from a stalk |
| De-Trashing (old term) ✗ Defoliation ✓ | The removal of brown leaves from the stalk before harvest |
| Brown leaves on the stalk | Leaves attached to the stalk predominantly brown in colour and typically located on the lower part of the stalk. |
| Green leaves on the stalk | Leaves attached to the stalk predominantly green in colour |
| Tops | All plant material situated above the cutting point or natural breaking point of the stalk. |



Figure 1: Dryland cane before burning. Note the amount of residue that has accumulated while the crop was growing. It consists mainly of brown leaves and stalks. It is assumed that most of the stalk material was senesced as the crop moved from the peak to final population.



Figure 2: This picture illustrates what the grower sees when he refers to green and brown leaves. The top part of the stalk carries the green leaves and the brown leaves are on the lower part of the stalk. Leaves partially green/ partially brown are not observed. At harvest, topping height instructions will thus be in relation to the contact line between brown and green leaves.



Figure 3: The amount of leaf material left after harvest is affected by management decisions. Burning at harvest reduces the material for mulching by at least 50%.



Figure 4: The soil surface is totally covered by the mulch blanket in a field with young cane. This is ideal to protect the soil from capping (crust forming) and erosion. It is, however, not recommended for regions with high rainfall or a high water table and regions that frost in winter.



Figure 5: Clean stalks following a hot burn. The tops are now brownish but were green before the burn. They are still regarded as tops and should be left in the field after harvest. The tops will still contain a high ash load in which the mill has no interest. The dry tops, however, have a higher calorific value compared to the wet green tops before the burn.

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