

Reasons for Burning

Reasons for Burning Cane and or Trash and Tops

It should be noted that under the *Queensland Fire and Rescue Act 1990* that cane growers have a right to light fires for the purpose of burning sugarcane, tops or trash provided they follow a set of guidelines including the conditions listed on the fire permit.



Some soil types (heavy clays) are not suitable for trash blanketing

Heavy clay soils hold moisture for long periods after rain and with a trash blanket covering them become cold, especially when harvested in winter. These cold soils impact on the ability of the cane to ratoon with a greater impact when the soil is wet and affects both the productivity and profitability of the growers. Where possible growers try to harvest this cane burnt however seasonal conditions may impact on their ability to burn the cane prior to harvest.

Dr Phil Moody (NRM) mentioned it in his Soil Constraints and Management Practices (SCAMP) program that under wet conditions with high levels of trash that heavy clay soils create anaerobic conditions that cause denitrification. This loss of nitrogen is not only a problem for the grower but the whole community as nitrous oxide is created during the denitrification process and has a 300 times greater impact on global warming than the equivalent carbon unit from burnt cane.



High risk of uncontrolled fires

Cane farms close to urban areas have a high potential for uncontrolled deliberately lit fires. Trash that is left on the ground in the paddock after harvest dries out and can potentially become highly flammable. In close contact with urban or semi urban areas these farms can become targets for arsonists who deliberately light fires in the cane paddocks.

These fires can affect young ratoons and older crops in different ways with the young ratoon being set back reducing yields and potentially requiring the grower to reapply chemicals and fertiliser. The older crops can be affected in various ways, if the crop is burnt when the mills are not in operation the crop will not be crushed as the sugar quality and quantity deteriorates after burning and the grower will need to remove the crop at his cost to enable a ratoon crop to be established. If the mill is in operation the crop can be cut and crushed however the grower can face severe yield and CCS penalties for crushing cane before it is mature (cane needs to be 12 months of age to reach maturity).

Growers with close contact with urban or semi urban situation often burn to reduce the risk of their crop to fire.



Large lodged sugarcane crops

With large lodged crops it can be difficult to harvest due to the tangle of cane in the paddock. This lodged crop can increase the cost of harvesting to the growers if cut green as the harvester may only be able to cut one way and or at a reduced rate. This increases the amount of diesel used to harvest the crop. By burning the crop the harvester is able to reduce fuel use decreasing the cost to growers.

The burning also enables the harvester operator to see the rows in the lodged cane and enables them to follow the rows. This reduces the damage to the cane improving its ability to ratoon for the following year. Another benefit of the burning in this situation is the improved quality of the billets sent to the mill (less dirt, extraneous matter) that increase the return to the grower and miller (there is less wear and tear on the mill machinery from improved billet quality). Burning also has the ability to improve the quality of the sugar that is made at the mill.





Diversification into small crops

As part of industry diversification many growers now grow alternative crops in rotation with sugarcane. For vegetable crops (melons, zucchinis, capsicums, tomatoes, etc) high trash levels in and on the ground after harvesting cane cause many issues with land preparation and soil borne fungal diseases.

High trash levels from green cane harvesting impede the land preparation for small crops, which are often grown in beds under plastic. The trash makes the cultivation of the ground harder and can impede the formation of the beds with large air pockets in the soil in which transplanted seedlings will not grow.

To break down trash in the soil many fungi and bacteria increase in number. Unfortunately many of these fungi and bacteria are pests of vegetable crops and cause diseases such as bacterial wilt, phytophthora root rot and damping off. These diseases kill the seedlings reducing the profitability of the crop to the grower and increasing the cost to the consumer.

Bundaberg District Statistics

As displayed in the Table below there has been an increase of green cane trash blanket harvesting across the district. It is expected that the percentage burnt will be reasonably stable due to the above listed factors. There are no statistics on the amount of trash and tops that are burnt each year.

Year	Percentage Burnt	Year	Percentage Burnt
1985	100	2006	17
1989	81	2007	15
1994	75	2008	14
1995	59	2009	15
1996	55	2010	9
1997	45	2011	10
1998	30	2012	10
1999	32	2013	7**
2000	30	2014	10
2001	38*	2015	10
2002	24	2016	11
2003	24	2017	11
2004	20	2018	14
2005	15	2019	11
2006	17		

* Large impact of variety replacement from orange rust. Cane was burnt and then ploughed out and replanted as part of planting resistant varieties.

** This was due to the badly frosted cane blocks in 2013 and the late start to the harvest due to the fire at Bingera Mill



Bundaberg CANEGROWERS Ltd