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To
The Editor,
Sir,

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I request that the following message may kindly be published in your esteemed daily:

TNAU received patent for Sugarcane single bud sett cutter

India has the second highest area under sugarcane cultivation next to Brazil. Sugarcane is cultivated 4.7 m.ha with productivity of 72 t/ha. Tamil Nadu ranks first in sugarcane productivity in the country recording on an average of more than 100 t/ha. Sustainable Sugarcane Initiative (SSI) is an innovative method of sugarcane production. Single budded chip is one of the main principles of SSI to get uniform and more millable canes per seedling. Conventional methods and manual operating bud chipper efficiency is low.

Sugarcane single bud sett cutter has been developed with main frame, power transmission unit, serrated discs, safety cover, stacker, delivery chamber, time/counter, vibration mounts and iron wheels. The diesel engine (4 hp) was used as the power source. Based on the engine and other components weights, 32 × 32 × 6 mm mild steel L angle were used as main frame of the machine. A type V belt was used for the transmission of power from the engine to the power transmission shaft. The V- pulley was mounted on the shaft at one end and at the end of the shaft two serrated steel discs were provided to perform the sett cutting operation. A shield was provided over the shaft and serrated discs for safety. An acrylic sheet was placed sett cutting side for better visibility for the operator. Stacker was made in the top of the machine to hold the whole canes for easy feeding. A delivery chute was provided at 30 deg angle to easy sliding the setts. Battery powered frequency counter was provided in the machine to count the number of setts. At the bottom end of the main frame vibration mounts were fixed. The machine was mounted on four wheels for easy transportation.

Performance of the machine was tested with blade rotational speeds 2200 rpm and cutting disc diameter 200 mm. Sugarcane setts can be cut in 30, 35 and 40 mm size with adjustment of two cutting discs with respective size of the spacer. The developed cutter could cut 1700 buds h⁻¹. The cost of bud cutting machine is 1000 ₹.ha⁻¹ as compared to 6250 ₹.ha⁻¹ for bud chipper. This machine saves the time and cost of more than 50 %. Apart from reducing the cost of cultivation and human drudgery, which is faced by the agricultural labourers, can also been reduced considerably. Then, it was observed the germination percentage of 95 % in protray nursery and 90 % in field conditions. The cost of the machine is ₹.34,000. Overall dimension of the machine is 1270x510x1130 mm.

Further, the patent office, Government of India granted the patent to the Tamil Nadu Agricultural University for 20 years.

Public Relations Officer