

甘蔗叶粉碎还田机集叶器设计与试验

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摘要: 为了解决一般粉碎还田机甩刀无法将沟底甘蔗叶捡拾起来的问题,设计了一种集叶器。集叶器斜杆与限位轮刚性连接,底端接触地面,可将紧贴地面的甘蔗叶收集、提升至一定高度,使喂入高度增加,从而使甩刀离地沟间隙超过垄高,不仅避免甩刀切入土壤和碰撞坚硬石块等障碍物,减少不必要的动力消耗,而且捡拾率和粉碎率分别提高3.4%~4.3%和9.4%~11.8%。经理论分析和田间试验确定了集叶器斜杆倾角为 $40^{\circ} \sim 60^{\circ}$,斜杆底端与机壳前端距离为60~70cm。 In order to solve the problem that the turning cutter of commonly used sugarcane leaf shattering and returning machine could not pick up the sugarcane leaf from the bottom of furrow, a pick-up device was designed. The inclined rod is connected to the positioning wheel rigidly, and both of them are aligned with the tractor wheel. The bottom end of inclined rod, touching with the soil surface, can pick up the sugarcane leaf from soil surface, lift to a certain height, and promote the feeding height. The power consumption of the machine was saved, and the pick-up rate and shattering rate were improved by 3.4%~4.3% and 9.4%~11.8% respectively. The pick-up device key structural parameters values were determined by theoretical analysis and field tests as follows: the inclined angle $40^{\circ} \sim 60^{\circ}$ of inclined rod, and the distance 60~70 cm between the bottom end of inclined rod and the machine cover.

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