4GZ-56型履带式甘蔗联合收获机设计与试验 Design and Experiment of 4GZ-56 Caterpillar Sugarcane Combine

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关键词： 切段式甘蔗联合收获机 螺旋喂入装置 双刀盘 断续链轮 袋装收集

摘 要： 在消化吸收国外甘蔗收获机械先进技术的基础上，设计了一种切段式甘蔗联合收获机。该机能够在甘蔗收获作业过程中一次完成分行、根部切割、输送、切段、风选杂质和收集蔗段等工序的作业。对各工序主要装置的设计进行了简述，并在甘蔗存在严重倒伏的田间对该样机的主要性能指标进行了测试，实测的各项指标为总损失率2.25%、宿根破头率11.3%、含杂率7.75%、蔗段合格率94.55%和切割高度合格率94.3%。结果表明，该机能够在倒伏严重的蔗田顺利作业，各项指标达到了设计要求。 A kind of sugarcane segmentation combine on the basis of assimilation and absorption of imported advanced sugarcane harvester technology was designed. The machine could finish the processes of separating sugarcanes in different rows, cutting cane at bottom, conveying sugarcane, cutting sugarcane into segments, eliminating trash by air classification, and gathering sugarcane segments in a bag in one pass. The designs on main devices of these processes were introduced. Field tests were done to measure the main performance indexes of a prototype. The results were that total loss factor was 2.25%, broken biennial root rate was 11.3%, dirt percentage was 7.75%, segments percent of pass 94.55%, and cutting-height percent of pass 94.3%. The results showed that this prototype could smoothly work in the field where serious lodging sugarcane existed, and all main parameters reached their design requirements. The development of this sugarcane harvester provides a kind of practical sugarcane combine.

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