

王家胜,尚书旗.自走式双行胡萝卜联合收获机的研制及试验[J].农业工程学报,2012,28(12):38-43

## 自走式双行胡萝卜联合收获机的研制及试验

### self-propelled carrots combine

投稿时间: 2011-10-13 最后修改时间: 2012-05-23

中文关键词: [收获机](#), [传动系统](#), [输送装置](#), [性能试验](#), [双行](#), [胡萝卜](#)

英文关键词: [harvesters](#) [transmissions](#) [transportation](#) [performance test](#) [double rows](#) [carrots](#)

基金项目:公益性行业(农业)科研专项经费(200903053), 国家自然科学基金(31101090), 青岛农业大学高层次人才科研基金(631002)

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中文摘要:

为了提高中国胡萝卜机械化作业水平, 结合国内胡萝卜的种植模式和农艺要求, 设计了自走式双行胡萝卜联合收获机, 该设备可同时完成2行胡萝卜的挖掘、夹持输送、根叶分离、去土和集收等功能。收获机由自走式橡胶履带底盘带动, 主要工作部件由传动系统、挖掘装置、夹持输送装置、根叶分离装置、去土集收装置等组成。挖掘铲设计成两翼张开的三角状, 可有效降低挖掘阻力; 根叶分离前, 胡萝卜植株在一拉紧装置作用下使根部对齐, 然后转入水平夹持带输送装置经一对圆盘刀完成切割, 保证了切口整齐且贴近根部顶端。经田间样机收获试验检测表明, 机器收净率达到了98.2%, 损伤率为2.5%, 生产率达到了0.11 hm<sup>2</sup>/h。该研究为胡萝卜收获机械的深入研究和发

英文摘要:

In order to improve the mechanization on carrots, a double-rows self-propelled carrots combine harvester was designed based on carrot planting pattern and agronomic requirements. The functions of the combine included digging, clamping and conveying, separating roots from leaves, removing soil and collecting carrots. The harvester was driven by a tracked chassis, and was mainly composed of transmission system, digging device, clamping and conveying device, separating device, removing soil and collecting device. The digging shovel was designed as triangle shape of two wings open so as to reduce the operating resistance. Before separating roots from leaves, carrot plants were conveyed into a drawing device to align the roots, and then transformed to a horizontal conveying belt and to be cut by double disc cutters. The prototype harvesting tests in field showed that carrots collecting rate was 98.2%; carrots damage rate was 2.5%; the productivity of combine reached 0.11 hm<sup>2</sup>/h. This research provides a reference for further research and development of carrot harvesters.

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