
摘 要

目前，随着人们对大马力拖拉机的需求日益增多，拖拉机的生产和应用得到了极大的重视，市面上虽有一些四垄、五垄的整地机，但能和其共同工作的却为数不多。所以，设计一种集灭茬、旋耕和深松等多种功能于一体的联合整地机成为迫在眉睫的问题，而旋耕起垄机的被设计出来完美的解决了问题。该机的工作原理是将大马力拖拉机作为动力源，通过大马力拖拉机的运行，带动位于车后方的机具进行工作，先进行灭茬工作，之后进行旋耕工作，最后进行深松工作，从而达到一次运作，完成多道工序的主要目的。灭茬、旋耕和碎土部件采用正转工作方式，起垄铧采用翼铲式^[1]。机具采用的是模式，这样可以很好防止漏耕，同时减少了拖拉机的不稳定性。三点全悬挂和中心传动机具的组成部分主要是：首先，该机应有机架起支撑作用，其次应具有灭茬部件、深松部件、旋耕部件等主要功能部件，最后应具有起到传动作用的主副变速箱等基本部件。经过多次试验，通过对试验结果进行分析，我们可以得出旋耕联合整地机工作时，可以将材料的消耗降低 1/4，对于能源的消耗也可以减少 1/5 左右，而对于土壤的破碎以及残茬的清理可达 95% 以上，这符合我国目前对与农用机具节能高效的基本要求。

关键词：灭茬；旋耕；起垄机

Abstract

At present, with the increasing demand for high horsepower tractors, tractor production and application has been a great deal of attention, the market although some four ridges, ridge tillage machine, but to work together with the is few. Therefore, to design a set of stubble cleaning, rotary tillage and deep tillage and a variety of functions in one combined soil working machine has become an urgent problem, and rotary tillage combined soil working machine is designed out the perfect solution to a problem. The working principle of the machine is the large horsepower tractor as a power source, through the operation of large horsepower tractor and drive in the rear of vehicle equipment for work, advanced cleaning work, followed by rotary tillage, the subsoiling work, so as to achieve a operation, completed the main purpose of multi-channel processes. In order to avoid the occurrence of leakage of tillage operations, at the same time in order to ensure the stability of the tractor, the machine uses three points full suspension and center drive way. The main part of the machine: first of all, the machine should be organic to build supporting role. Secondly, we should with stubble cleaner components, subsoiling parts rotary parts and other major functional components, finally, it should be played with the transmission function of the main and auxiliary gearbox and other basic components After many tests, through the analysis of test results, we can draw rotary tillage combined soil working machine, the material consumption can be reduced by $1/4$, the energy consumption can also reduce about $1/5$, and for broken soil and of more than stubble cleaning can reach 95%, which is in line with the present situation of our country's basic requirements and energy saving of agricultural machines and tools.

Key words: stubble-cleaning; rotary cultivation; combined cultivating implement

目 录

第1章 绪论	1
1.1 课题背景	1
1.1.1 国内旋耕机发展现状	1
1.1.2 国外旋耕机发展现状	2
1.1.3 传统整地机存在的问题	2
1.1.4 旋耕机的未来发展方向	2
1.2 旋耕机的研究内容	3
1.2.1 基本结构	3
1.2.2 工作原理	3
第2章 主要工作部件的设计	5
2.1 深松铲的设计	5
2.2 旋耕计	5
2.2.1 旋耕刀的选择	5
2.2.2 旋耕刀具主要参数的选择	6
2.2.3 旋耕刀轴的设计	7
2.3 灭茬组件设计	7
2.3.1 灭茬刀运动方程	7
2.3.2 灭茬刀的进距	8
2.3.3 灭茬刀的设计	8
2.4 本章小结	9
第3章 变速箱的设计与计算	10
3.1 主变速箱的设计与计算	10
3.1.1 计算传动装置的运动和动力参数	10
3.1.2 锥齿轮的设计	10
3.1.3 一轴的设计	14
3.1.4 二轴的设计	15

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