

## **Development of Multifunctional Manure Spreading Machine<sup>1</sup>**

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### **Summary**

One multifunctional manure spreading machine loaded by tractor had been developed. The main structure includes three points linkage frame, transmission, conical manure container, spreading rotating plate (with four spreading conveyors) and stirrer. The power is driven by the tractor P.T.O. shaft through the bevel gear device to drive the spreading rotation plate and stirrer. The stirrer rotated around the surface of the container and scraped the manure to the bottom of the container during the rotating process, then swept out the gate by the scraper under the stirrer. The scraper was equipped with rubber wheel to reduce the noise and enhance the rotating process. There are six ranges of manure spreading amount. The amount of bark manure spreading can be adjusted from 1,200 to 17,000 kg/ha, if the moisture of bark manure is lower than 45%, then the spreading operation will be on problem. For 300kg manure, it needs 41 second to eight minute in the 1 - 6 ranges of the manure spreading gate under an engine speed of 1,500 rpm. The manure spreading width of this machine is 6 to 12 meters depends on the kinds of the manure and the rotating speed. The length of spreading conveyors can be set with 13、 18、 23 centimeter respectively, and the capacity of manure container is designed as 0.5 and 1 cubic meter. The capacity of this machine is about 45 minutes per hectare and the total time is about two hours per hectare including of the manure loading time.

( key word : Manure spreading machine、 Manure. )

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