

Development of the Organic Manure Spreader¹

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summary

One three-point linkage supported draw bar type multifunctional organic manure spreading machine had developed. The main structures of this spreading machine comprised frame, decelerator, transmissions, fertilizer distributor, manure container, smash-and-spread apparatus, etc. The basic functions included organic manure and chemical fertilizer spreading, combined with sprinkle of underground pesticide. The mechanism transferring of this machine was driven by tractor P.T.O. through the universal joint transmitted to carrying a scraping board set to convey the organic manure to the rear end, and using a twin vertical smashing axle to spread manure over the field via centrifugal force. A crane device was set up on this machine to load the packaged manure. Its power was also gained from P.T.O. via mechanical transportation to drive the hydraulic pump and cylinder. The main purpose of this device was to reduce the demand of man labor, its mobile procedure included the swing angle 60° and 1.5-2.4m level, the stretch cylinder let the crane could reach a distance 2.85m far for flexibility operation.

The field test results of this fertilizing machine showed that the spread of manure was quite even, while the spreading width could reach 2 m to 8 m. The spreading amount of organic manure could be adjusted by controlling the distributor gate and the speed of tractor to fit the requirement. The volume of manure container is 2.5m³. This fertilizing machine spreaded manure in backward direction with a twin-vertical axis to bind smashing and spreading procedure. With a 45 hp tractor the capacity could reach 0.7-1.0 ha/hr.

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