

Studies on the fertilizer spreader for orchard

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Summary

The developed fertilizer spreader with 8 HP gasoline engine was constituted of fertilizer box, fertilizer transportation mechanism and fertilizer spreading mechanism. By adjusting the angle of cover plate, the spreader could apply fertilizer evenly to the desired location under canopy. With the spreading width of 7 meters in each side that cover all tree canopies, the spreader could run every two rows with easy turning and high fertilizing efficiency. When the spreader ran with first gear on that gave a speed of 1.8km/hr, the inlet of fertilizer disk was kept completely open, and the speed of the chain in fertilizer box was adjusted to 2.8m/min, it applied 18kg of fertilizers in one minute and finish application of one bag in 2.5~3minutes. The spreader loaded with 360 kg (9 bags) could spread all fertilizers in 22-27 minutes for half hectare, which meant one hectare one hour. As compared to manual application 4-5 hours a hectare, the spreader could save 80% operating hours and decrease labor burden.

Key words: Orchard, Chemical fertilizer, Spreader

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