

Mechanical management system for the sugar apple orchard

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Abstract

Using various machinery for the management of sugar apple orchard had been integrated and tested for saving labor. The results showed that : The spraying pesticides with the 4wd blast-sprayer took 1.2hr/ha ; the moving operation with the riding-mower took 8 hr/ha at grass 70cm high ; the fertilizing operation with the spreader took 0.25 hr/ha. The integrated machinery may apply 920kg of fertilizers within 7.3 hours under canopy ; the small type excavator may furrow every other row for mulching in 21.3 hr/ha ; it took only 4.3 days/ha to finish pruning work on 10 years sugar apple orchard ; the small transporter carrying fertilizer into orchard following with manual application may finish in 4.3 hr/ha. ; the fruit sorter at weight basis worked at 3800 fruits/hr and sorted rate was over 90%.

Key words : sugar apple, blast-sprayer, riding-mower, spreader, integrated machinery, excavator, transporter, fruit sorter

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