

Jirachai Tridsadeeruk 2014: Influence of Revolution of Motoring Rubber Tire Sheller on Seed Quality Tainan 9 Peanut. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Juangjun Duangpatra, Ph.D. 98 pages.

Peanut seeds are commonly stored in the form of pods. Shelling peanut pods are required to obtain peanuts seeds before using for consumption or planting. Hand shelling peanuts consumed time and labor. Motoring rubber tire sheller was widely used by local farmers in many peanut planting areas. The objective of this study was to study the efficiency of shelling Tainan 9 peanut by motoring rubber tire sheller and the determination of peanut seed quality to be used for planting as compared to hand shelling by using hand harvested and Tainan 9 peanut pods that were sun dried to 6% moisture content and then were mechanically shelled by motoring rubber tire sheller at different speeds of cylinder: 195, 175, 155 and 135 rounds per minute (rpm) and different clearances at 2.1, 1.9, 1.7, and 1.5 cm. Results revealed that mechanical shelling consumed less shelling time and the unbroken kernels and shelled pericarps were lower than those of the hand shelling. But broken kernels, left over pods and unshelled pods were higher than the hand shelling. The unbroken kernels from the motoring rubber tire shelling were lower than 30% and the mechanical damage as determined by Fast green test were higher than 80%. However, the germination percentages of the unbroken kernels were not different from the hand shelling and were in the level that can be used as seed for planting. But seed vigor as determined by the accelerated aging test of those motoring rubber tire shelled as well as hand shelled seeds were very low. Therefore the unbroken kernels could not be storage for planting.

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Thesis Advisor's signature