

Title : Developing the heating system with high frequency by horn antenna to Assisted Drying for Seeds Production

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Abstract

Seed is an important factor in plant production. Quality of seed is the key affected to quantity as well as quality of product. The shorter drying time in seed production would promote the more capability of seed production business.

The objective of this research to study was conducted to determine the efficiency of microwave technique to reduce seed moisture content by using a horn antenna. The boundary conditions assigned to experiment with the following: we use the water were load for experiment to measure microwave power and we set the microwave input power to system was 800W, the duration time was 60s, and the system can be induce output power was 331.7W. In addition, when we use microwave frequency to decrement the moistness and to study effect to germination of the paddy, which the amount of the sample were 20 samples. We set the microwave input power level were 50W, 100W, 200W, 400W and 800W respectively, the duration time for baking were 1, 2, 5 and 10 minutes respectively. From our experiment, the moistness of the paddy has to change following linear equation, % R^2 equal 0.96792. The results will show germination level of the paddy, which germination level were 84%, 86%, 86%, 88% and 88%, respectively, All case have germination level 80 more than percent ,that means the microwave power does not affect the germination level of paddy seeds.

Keywords : Microwave / Drying / Seed