THESIS TITLE: A Study on Losses of Quantity and Quality of Hommali Rice Harvested by Combine Harvester at Different Stages

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ABSTRACT

The purpose of this research is to study the appropriate period to harvest Hommali rice gathered with a combine harvester in the Tung Kula Ronghai area. The study was performed at Donkaen Sub-district, Soowunpoom District, Roi Et Province, where the Khao Dog Mali 105 variety is used, with an age of 19-48 days after flowering and with a moisture of seed before harvesting of 12.06-32.57% wb (wet basis). The test was performed 11 times during 9 November - 8 December 1995, with the study indicators being percentage total loss, percentage of head rice and percentage of milled rice. The results of the study were as follows

1. Percentage total loss. When considering the total loss, the rice should be harvested at 28 days after flowering. Harvesting before or after the appropriate date resulted in the percentage total loss increasing at rates of 0.49 and 0.42 percent per day respectively. When considering the moisture of the seed before harvesting, the rice should be harvested when the moisture of the seed is 23% wb. Harvesting at moisture below or above this appropriate moisture resulted in the total loss increasing by 0.41 and 0.45% for each percent increment respectively.

2. Percentage of head rice. When considering the percentage of head rice, the rice should be harvested at 30 days after flowering. Harvesting before or after the appropriate date led to the head rice decreased at rate of 0.60 and 0.67% per day respectively. When considering the moisture of the seed before harvesting, the rice should be harvested when the moisture of the seed is 23% wb. Harvesting at moisture below or above the appropriate moisture level led to a reduction in head rice of 0.90 and 0.75% for each percent increment respectively.

3. Percentage of milled rice. When considering the percentage of milled rice, harvesting should be performed 33 days after flowering. If harvesting is done before or after the appropriate date, the milled rice decreased at rate of 0.26 and 0.28% per day respectively, and when considering the moisture of the seed before harvesting, the moisture should be at 21%. If harvesting was performed at moisture below or above the appropriate moisture level, the milled rice decreased at rate of 0.37 and 0.35% for each percent increment respectively.

When considering all of the indicators, harvesting should be performed at 30 days after flowering, or when the moisture of seed before harvesting is 23% wb.For practical use, the date after flowering should be used to indicate the appropriate time for harvesting. However, allowing for an appropriate period to carry out the work, the acceptable date for harvesting should be 25-35 days after flowering. With this period,harvesting can be done without excessive losses in both quantity and quality.