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Drying of paddy rice by using two series of screw conveyor dryer

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Two series screw conveyor dryer potentially dries agricultural product especially paddy rice. However, the effect of screw speed, drying temperature and drying cycle on decreased moisture content and energy efficiency is non-previous literatures. In this study, the paddy rice was carried into dryer at 4.8 kg/batch under screw speed 35, 50 and 75 rpm and drying temperature of 50, 70 and 90°C. The results showed that drying temperature and screw speed affected on decreased moisture content and specific energy consumption (SEC). Increasing of drying temperature provided higher amount of moisture content loss. However, the lower screw speed could be increased amount of moisture content loss because lower screw speed increased retention time of paddy rice in drying chamber. In addition, the amount of moisture content loss in the first drying cycle had higher than those second drying cycle then the first drying cycle had higher SEC than second cycle. In addition, the SEC decreased as lower drying temperature and lower crew speed.

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