

Title Effects of drying, tempering and ambient air ventilation on quality and moisture reduction of corn

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Abstract

The objective of this work is to study systematically how to decrease corn moisture content using processes consisting of fluidized bed drying, tempering and ambient air ventilation. Effects of drying, tempering and ventilation on moisture reduction and quality of dried corn in terms of stress crack, breakage and color are experimentally investigated. Experimental results show that stress crack depends on final moisture content of com. Tempering is found useful for increasing the quality of dried com after fluidized bed drying. The optimum tempering time is 40 minutes. Among the ambient air velocity ranging from 0.075 to 0.375 m/s, the appropriate velocity is 0.15 m/s. Final moisture content of com after ambient air ventilation is about 13.0 - 14.5 %(w.b.) with breakage and stress crack lower than 2% and 5% by wt., respectively. Slight change of color of dried corn is observed.