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Effects of Head Density of Cabbages (*Brassica oleracea* var. *Capitata*) on Mechanical Properties

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The mechanical properties of cabbages (var. *Yumebutai*) with different head densities were evaluated by stress relaxation and a puncture test of whole cabbages, and also by a tensile test of strap-shaped specimens. The resistance of whole head to compression at small deformation was well correlated to head density. Mechanical properties in the fifth leaves of cabbages did not correlate to head density, although tensile properties varied within an individual leaf, with direction of tension, and among individual leaves. The observation suggests that head density influences mechanical resistance of whole head at small deformation, and may relate to properties for cutting with an industrial shredder; however it is not a significant factor for mechanical properties of shredded cabbage.

Keywords: [mechanical properties](#), [whole cabbage](#), [cabbage leaf](#), [head density](#)

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