

**Title** The mechanical properties of lettuce: A comparison of some agronomic and postharvest effects

**Author** J. M. Newman, H. W. Hilton, S. C. Clifford and A. C. Smith

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#### **Abstract**

Mechanical properties data of Iceberg lettuce leaves are described in relation to the applied agronomic variables and post-harvest treatment. Leaf tissue strength and stiffness were both reduced significantly in plants grown with 120 kg/ha applied nitrogen compared with plants grown with 0 kg/ha applied nitrogen. Leaf tissue strength and stiffness were increased significantly in plants grown with added calcium at 80 kg/ha. Significant reductions in stiffness and increases in failure strain were associated with reduced hydration. These findings show that agronomy changes in mechanical properties are as large as maturity and post harvest induced turgor changes, which has implications for both quality and damage of cut salads.