

**Title** Effects of pre-treatment, freezing and frozen storage on the texture of *Boletus edulis* (Bull: Fr.) mushrooms

**Author** Grażyna Jaworska and Emilia Bernaś

**Citation** International Journal of Refrigeration, Volume 33, Issue 4, June 2010, Pages 877-885

**Keywords** Edible mushroom; Review; Post-harvest treatment; Frozen; Refrigerated storage; Quality; Texture

### **Abstract**

The aim of the present work was to determine changes in the texture of *Boletus edulis* resulting from blanching or soaking and blanching, freezing and twelve months' frozen storage. The texture was examined using instrumental as well as sensory profiling methods. Instrumental textural profile analysis (TPA) showed that, there was a reduction in hardness, chewiness and gumminess of 77–100% and an increase in cohesiveness of 121–521% after frozen storage, when compared to the raw material. Measurements using a Kramer shear cell revealed that the changes occurring at all stages of the investigation were similar. The end, the work required to cut strips of mushroom decreased by 3–32%, while the force increased by 27–110%. In the evaluation of texture through sensory profiling, the greatest changes in the characteristics listed occurred as a result of pre-treatment and frozen storage. There was a decrease in hardness, brittleness, crispiness and firmness of 0.7–3.5 points, accompanied by an increase in wateriness of 1.8–4.0 points.