

**Title** The effect of long-term storage on quality attributes and storage potential of different onion cultivars

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### **Abstract**

The objectives of this experiment are to investigate storage potential of onions cultivars (cv. Prizrenski pogačar, Kupusinski jabučar, Vernina di Firenze, Dorata di Parma) during different storage conditions (refrigerated cool storage at 0–2°C and ambient condition) on long-time storage. Quantity (mass loss, sprouting, rooting) and quality changes (dry matter, total sugar, glucose and fructose, content of sucrose and vitamin-C) of onion bulb were investigated. Prolonged storage in ambient conditions caused a significant decrease in marketable bulbs, up to 40–60%, and an increase of the amount of sprouted bulbs, up to 30–50%. For that reason, the storing in these condition for a longer period is not economically approved. The time until sprouting is affected by the storage conditions, especially the temperature. During 6 months of storage (Nov. –Apr.), depending on the cultivar, only 1 to 6% of sprouted bulbs were found on refrigerated cool storage at 0–2°C. After market simulation (4 weeks on May of shelf-life at 20°C) the rate of sprouting increases from 26–40%, which is cultivar dependant. Depending on cultivars, the sugars content (4,5–10,5%) and vitamin C contents (12,4 to 14,9 mg/100mg) slightly decreased after long term storage (depends of storage temperatures), while a little change between the initial levels and the levels after 6 months in dry matter content was observed.