

## **Ukorzenie *in vitro* i aklimatyzacja w szklarni mikrosadzonek piwonii chińskiej**

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### **Rooting *in vitro* and acclimatization in the greenhouse of herbaceous peony plantlets**

#### **Summary**

The influence of sucrose concentration (10 and 30 g l<sup>-1</sup>), low level of nitrogen salts (1/8 KNO<sub>3</sub>, 1/8 NH<sub>3</sub>NO<sub>4</sub>), auxins (IBA 1 mg l<sup>-1</sup> + IAA 1 mg l<sup>-1</sup> + NAA 0.01 mg l<sup>-1</sup>), and temperature (15°C, 20°C) on the rooting *in vitro* and acclimatization in the greenhouse of two cultivars ('Jadwiga', 'Professor Wójcicki') of *Paeonia lactiflora* were investigated. The level of endogenous carbohydrates in the peony shoots and roots during the rooting and acclimatization phases were analysed. There were a higher rooting and acclimatization percentage of 'Professor Wójcicki' cultivar than 'Jadwiga' cultivar. Also, more roots were produced by shoots of 'Professor Wójcicki' cultivar. The presence of auxins in the medium and the higher concentration of sucrose (30 g l<sup>-1</sup>) stimulated number of roots/shoot. On the other hand, the higher rooting percentage was found on the auxin-free medium in the presence of high level of sucrose. The shoots of 'Professor Wójcicki' rooted best when cultured at 20°C, but the shoots of 'Jadwiga' at lower temperature - 15°C. During the rooting stage, the major sugars detected in the peony microplants were sucrose, glucose and fructose. After four weeks of acclimatization, the plantlets accumulated starch and showed strong inhibition of shoot growth, and dormant buds were developed.

#### **Key words:**

*Paeonia lactiflora*, rooting *in vitro*, acclimatization, carbohydrates

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