

**Biotechnological aspects of *Salix matsudana* Koidz. 'Tortuosa' Rehd.
plants micropropagation**

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An effective biotechnology of micropropagation of *Salix matsudana* Koidz. 'Tortuosa' Rehd. plants was developed, which included activation of explants meristem growth, direct and indirect morphogenesis and allowed getting a large number of plant regenerants during short time period.

Conditions for effective sterilization (above 90%) of *S. matsudana* 'Tortuosa' explants, isolated on donor in April–June were studied: holding plant material for 10 min in 1% AgNO₃ with subsequent transfer to 2.5% NaClO. In general, a high rate of studied indicator (above 70%) was received in case of application 0.1% HgCl₂ for 10 min. There is advisable to hold explants obtained by artificial activation *in vitro* meristem in February, in 0.1% solution of HgCl₂ for 5 min.

The results of investigation of *S. matsudana* 'Tortuosa' plants explants regenerative ability showed the feasibility of using the culture medium by prescription Murashige and Scoog (MS) as the base. Enough high frequency of callus tissue formation (above 90%) in *S. matsudana* 'Tortuosa' explants was received in a nutrient medium MS with 2.0 mg·l⁻¹ 2,4-D and 0.2 mg·l⁻¹ BAP for leaf fragments plates and 2.0 mg·l⁻¹ 2,4-D for microshoots. Callus derived from different types of explants, did not differ by pigmentation and texture it was light yellow and loose, not broken up into separate fragments.

Intensive microshoot formation by direct morphogenesis was detected on MS with the addition of 0.5 mg·l⁻¹ BAP and kinetin, during 30-day cycle of cultivation multiplication factor was 4–8. The optimum composition of the culture medium, which allowed obtaining *S. matsudana* 'Tortuosa' regenerants for 45-day cycle plant cultivation, was developed (MS 0.25 mg·l⁻¹ kinetin and 2 g·l⁻¹ of activated charcoal).

Further studies aimed at developing efficient way of adapting *S. matsudana* 'Tortuosa' plants to the *in vivo* conditions for subsequent using in gardening settlements, parks, etc.