

## Table of Contents

## In Press

## Article Archive

[JFS \(64\) 2018](#)[JFS \(63\) 2017](#)[JFS \(62\) 2016](#)[JFS \(61\) 2015](#)[JFS \(60\) 2014](#)[JFS \(59\) 2013](#)[JFS \(58\) 2012](#)[JFS \(57\) 2011](#)[JFS \(56\) 2010](#)[JFS \(55\) 2009](#)[Issue No. 1 \(1-50\)](#)[Issue No. 2 \(51-100\)](#)[Issue No. 3 \(101-144\)](#)[Issue No. 4 \(144-192\)](#)[Issue No. 5 \(194-250\)](#)[Issue No. 6 \(251-298\)](#)[Issue No. 7 \(299-344\)](#)[Issue No. 8 \(345-394\)](#)[Issue No. 9 \(395-436\)](#)[Issue No. 10 \(437-483\)](#)[Issue No. 11 \(485-531\)](#)[Issue No. 12 \(533-590\)](#)[JFS \(54\) 2008](#)[JFS \(53\) 2007](#)[JFS \(52\) 2006](#)[JFS \(51\) 2005](#)[JFS \(50\) 2004](#)[JFS \(49\) 2003](#)

## Editorial Board

## Ethical Standards

## Peer Review Process

## Reviewers 2017

## For Authors

## Author Declaration

## Instruction for Authors

## Submission Templates

## Guide for Authors

## Copyright Statement

## Submission/Login

## Polyamines during somatic embryo development in Norway spruce (*Picea abies* [L.]

J. Malá, M. Cvikrová, P. Máchová, O. Martinčová

<https://doi.org/10.17221/84/2008-JFS>

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Contents of free polyamines (putrescine, spermidine and spermine) were determined in different developmental stages of Norway spruce (*Picea abies* [L.] Karst.) somatic embryos by means of HPLC. Determinations were performed embryogenic tissue after 4 weeks of the growth on proliferation medium, after 2 and 5 weeks of the culturing on maturation medium, and 2 weeks after desiccation. Maturation of somatic embryos (after 5 weeks) was accompanied by increase of concentrations of putrescine (2.3 times) and spermidine (3.2 times). In comparison with above mentioned polyamines, spermine concentrations were significantly lower (4.3 times). Two weeks after desiccation, the concentrations of putrescine decreased 5.4 times and spermidine 2.2 times in comparison with mature embryos. To improve the efficiency of somatic embryogenesis of less responsive genotypes, the supplementation of growth media by polyamines is discussed.

**Keywords:**

Norway spruce; somatic embryogenesis; putrescine; spermidine; spermine

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