

Društvo za fiziologiju biljaka Srbije
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Institut za biološka istraživanja „Siniša Stanković“, Univerzitet u Beogradu
Institute for Biological Research „Siniša Stanković“, University of Belgrade

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Uticaj NaCl na morfogenezu i sadržaj hlorofila tri vrste briofita u kulturi *in vitro*

Milica Bogdanović^{1,2}, Aneta Sabovljević¹, Marko Sabovljević¹, Dragoljub Grubišić^{1,2}

¹ Univerzitet u Beogradu, Biološki fakultet, Institut za botaniku i botanička bašta „Jevremovac“, Takovska 43, 11000 Beograd

² Institut za biološka istraživanja „Siniša Stanković“, Univerzitet u Beogradu, Bulevar despota Stefana 142, 11000 Beograd

Briofite su poznate kao organizmi koji izbegavaju slane supstrate a u morima ih uopšte nema. S ciljem izučavanja odnosa briofita prema slanoj sredini, gametofiti mahovina *Atrichum undulatum*, *Physcomitrella patens* i jetrenjače *Marchantia polymorpha* su gajeni na MS hranljivoj podlozi sa dodatkom različitih koncentracija NaCl (50, 100, 250, 350, 500 mM) tokom tri nedelje u uslovi- ma dugog dana (fotoperiod 16/8h). Preživljavanje i multiplikacija izdanaka se drastično smanjuju kod sve tri vrste na visokim koncentracijama soli, a produkcija biomase kod *M. polymorpha* goto- vo eksponencijalno opada sa povećanjem koncentracije soli. *P. patens* dobro preživljava na kon- centracijama soli nižim od 350 mM. Koncentracija hlorofila a, b i ukupnog hlorofila kod sve tri ispitivane vrste opada sa porastom koncentracije NaCl, a blagi porast količine navedenih pigme- nata uočava se na podlozi obogaćenoj dodavanjem 100 mM NaCl. *M. polymorpha* vrlo loše pod- nosi koncentracije soli veće od 250 mM u pogledu svih ispitivanih parametara.

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The effect of NaCl on morphogenesis and chlorophyll content of three bryophyte species in *in vitro* culture

Bryophytes are known to avoid salty substrates and do not inhabit the seas. With the purpose of studying the relation between bryophytes and salty environment, gametophytes of the two mosses - *Atrichum undulatum*, *Physcomitrella patens* and the liverwort *Marchantia polymorpha* were grown on MS media enriched with various concentrations of NaCl (50, 100, 250, 350, 500 mM) during three weeks at 16/8h photoperiod. Survival and bud formation were drastically reduced in all three species at high salt concentrations and biomass production in *M. polymorpha* declined almost exponentially as salt concentration increased. *P. patens* survived concentrations less than 350 mM salt quite well. Chlorophyll content (-a, -b and total) in all examined species declined as salt concentration increased, however a mod- est rise in chlorophyll content in all three species was observed when the concentration of salt in the medium was 100 mM. *M. polymorpha* did not tolerate well concentrations above 250 mM according to all the parameters observed.

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Efekat tretmana holnom kise- kod mladih biljaka kukuruza

Slavko Kevrešan¹, Julijan Kandrač²

¹ Univerzitet u Novom Sadu, Poljoprivredni

² Univerzitet u Novom Sadu, PMF, Trg Dos

Nedavno je utvrđeno da žučne kiselosti smanjuju rast i fotosintezu mladih biljaka. Tretiranje biljaka pirinča holnom kiselosti smanjuje rast i fotosintezu. Osim ovih podataka veoma malo se zna o tretiranju mladih biljaka. Cilj ovog rada je bio istraživanje efekta tretiranja mladih biljaka kukuruza i nakupljanje nekih nutrijenata kod mladih biljaka tretiranih holnom kiselosti. Na su tretirane dodavanjem holne kiseline (100 mg L⁻¹ (tretman preko korena) ili prskanjem (100 mg L⁻¹ (folijarni tretman). Tretiranje smanjuje fotosintezu za 44% pri koncentracijama 100 i 300 mg L⁻¹ (folijarni tretman). Transpiraciono nosno 77% pri istim koncentracijama. Tretiranje veoma povećava transpiraciju za 50% pri tretiranju mladih biljaka.

Effect of cholic acid treatment on growth and nutrient content of young maize plants

It was recently reported that the bile acids inhibit the growth of young maize plants with cholic acid induced the increase in transpiration. Beside this report very little is known about the effect of cholic acid on young maize plants. This study was undertaken to investigate the effect of cholic acid on growth and accumulation of some nutrients and biomass in young maize plants with supplementation of nutrient solution with cholic acid (100 mg L⁻¹ (root treatment) or spraying the plants with cholic acid (100 mg L⁻¹ (foliar treatment)). Treatment by root decreased the fresh weight and 300 mg L⁻¹, respectively. Transpiration increased by 77% for the treatments by root while for foliar treatments it was 50% observed. Treatments by root decreased