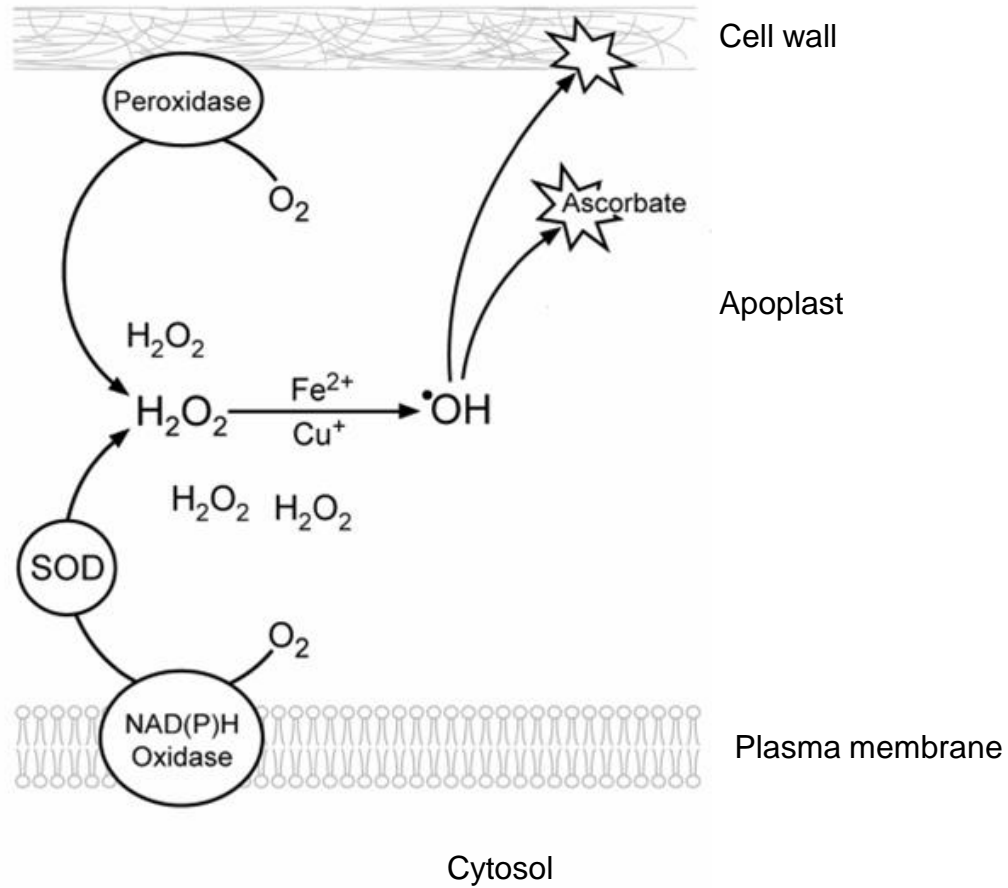


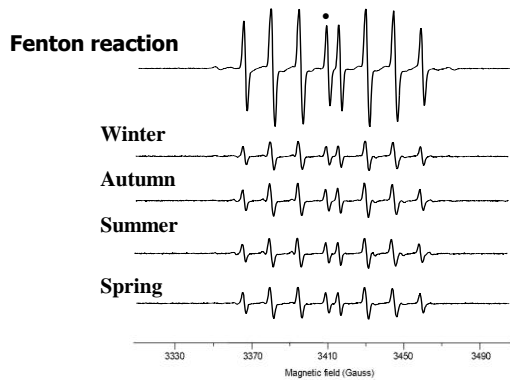
Institute for multidisciplinary research
University of Belgrade

**Hydroxyl radical-scavenging capacity of cell wall from
needles of serbian spruce (*Picea omorika* (Pančić) Purkyně)**

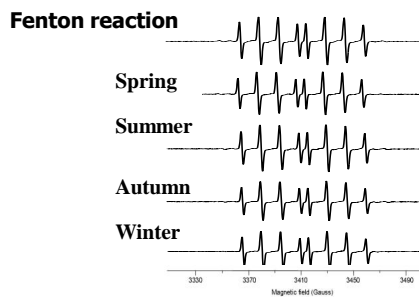
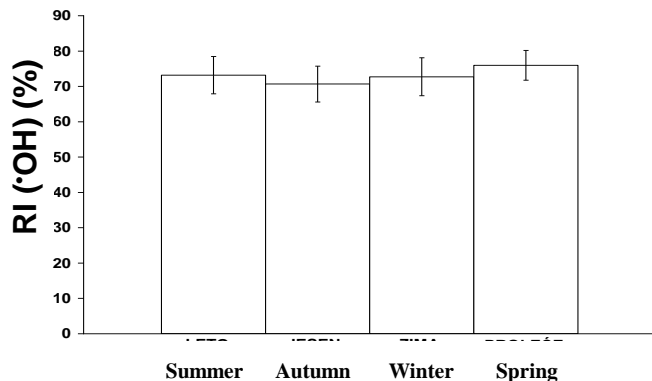
**Jelena Bogdanović Pristov, Aleksandra Mitrović, , Daniela
Djikanović, Dragosav Mutavdžić, Jasna Simonović, Ksenija Radotić
and Ivan Spasojević**

Redox metabolism in apoplast

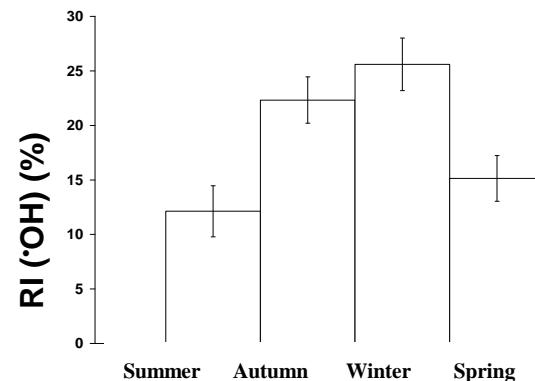




Characteristic EPR spectra of adducts of DEPMPO with the •OH radical in the presence of spruce cell wall after alkaline hydrolysis



Characteristic EPR spectra of adducts of DEPMPO with the •OH radical in the presence of spruce cell wall



	Season			
	Summer (05.08. 03)	Autumn (07.11. 03)	Winter (10.03. 04)	Spring (08.05. 04)
DW/nFW (mg·g ⁻¹)	457±12	446±10‡	461±7‡	503± 7
CWDW /nDW (mg·g ⁻¹)	536±18	542±9	546±7‡	499±17
Lignin content (µmol con alcl eq·g ⁻¹ CW)	272±2	297±4*, ‡	303±2*, ‡	314±3*
phenols CW(nmol/mg DW CW)				
Coniferyl alcohol	0.37±0.01	0.44±0.03	0.38±0.02	0.21±0.04
Ferulic acid	0.36±0.02	0.33±0.02	0.35±0.01	0.30±0.02
<i>p</i> -Coumaric acid	0.67±0.01	0.72±0.06	0.68±0.02	0.49±0.06

Cell wall and apoplastic redox poise

The data suggest that hydroxyl radical-scavenging capacity of cell wall depends on the amount of lignin and polysaccharides components, but also on the type and quantity of transversal bonds between cell wall polymers in Serbian spruce needles.

Plants may modify the composition of the cell wall in the process of stress response and adaptation.

Due to antioxidative capacities of its constituents cell wall participate in the maintenance of balanced redox poise in the apoplast, which is crucial for the ability of plant cell to respond to external stimuli

Thank you!