

# HEARTWOOD PROPORTION CHANGES IN THE TRUNKS OF CONIFERS (*PINUS SYLVESTRIS* L., *PICEA ABIES* (L.) H.KARST.) DEPENDING ON THE AGE AND FOREST TYPE

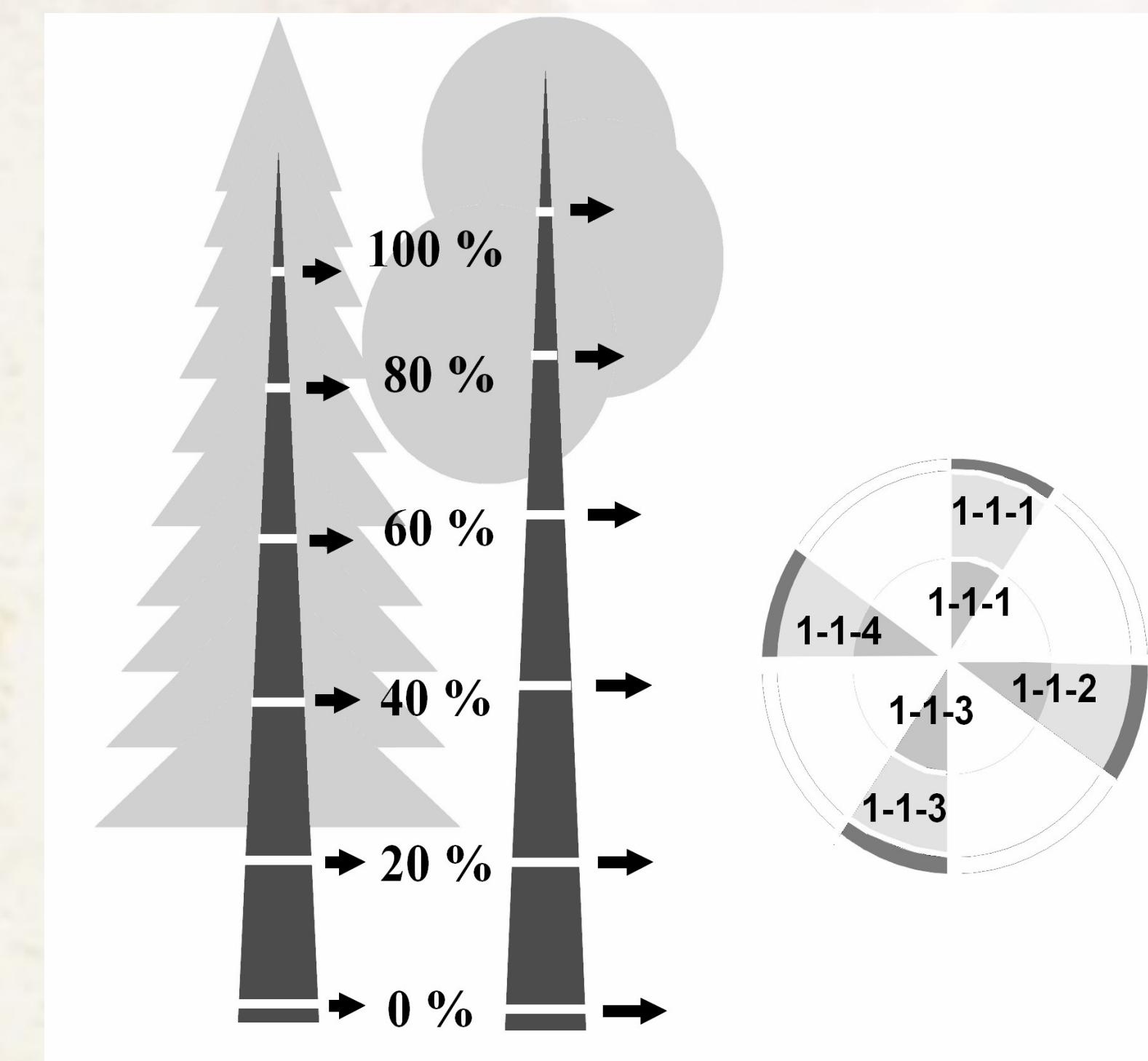
Millers, M., Davidāns, M. & Magaznieks, J

Forest Faculty, Latvia University of Agriculture, e-mail: mareks.millers@gmail.com

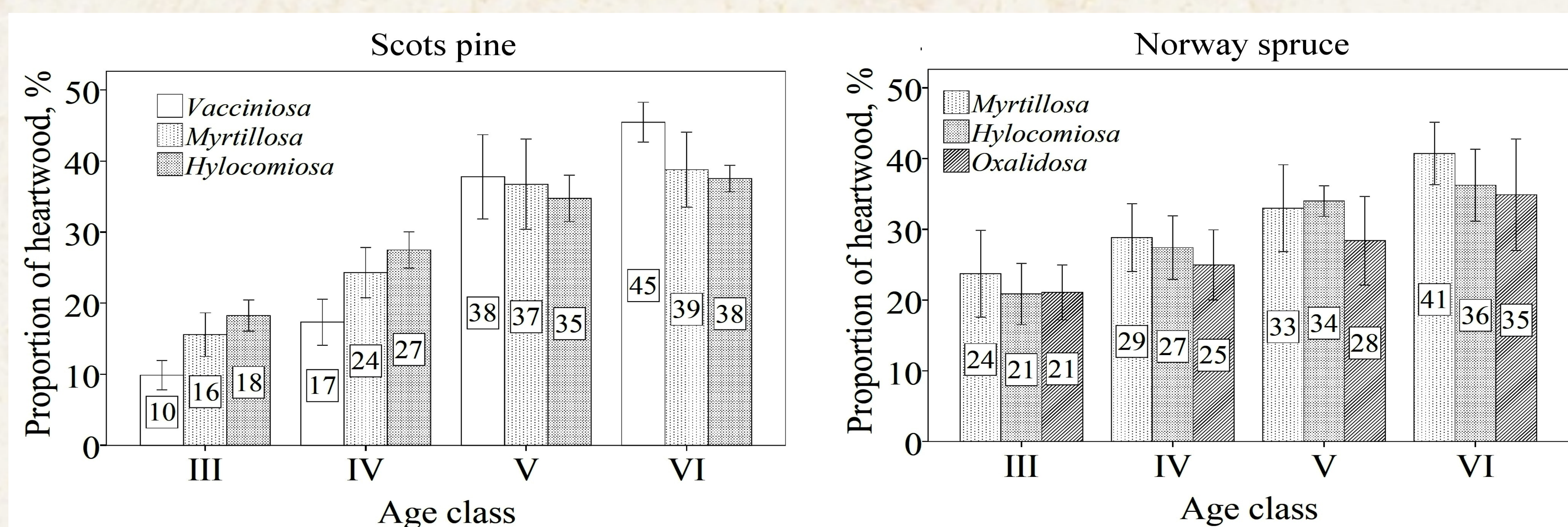
The proportional percentage of heartwood in pines and spruces varies among the stands of different ages where growth conditions differ. Thus, the aim of the research is to find out the changes in conifer heartwood proportions depending on the tree species, age and forest type.

Pine and spruce stands, where sample plots were established, are scattered throughout the territory of Latvia. In 2011 and 2012 sample plots were established in pine and spruce stands of different ages (41 – 120 y). In total 41 sample plots were arranged - for pine 21 sample plots with 179 sample trees in *Vacciniosa*, *Myrtillosa*, *Hylocomiosa* forest types and for spruce – 20 sample plots with 168 sample trees in *Myrtillosa*, *Hylocomiosa*, *Oxalidosa* forest types.

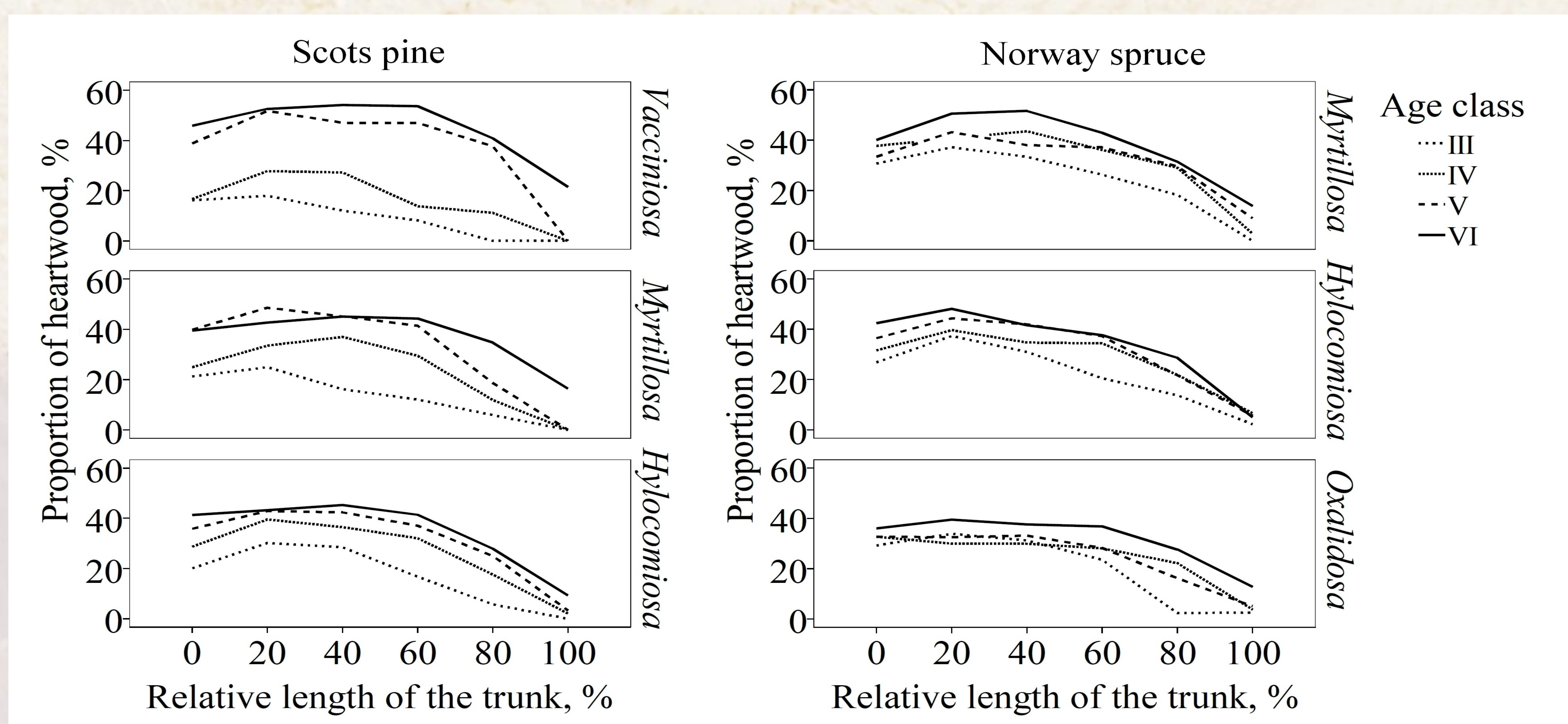
In order not to fragment the age too much, the proportion of heartwood expressed in percentage was calculated in four age class: IIIrd (41 – 60y), IVth (61 – 80y), Vth (81 – 100y), VIth (101 – 120y).



Changes in the proportion of heartwood in pine and spruce depending on the age class and forest type (with  $\pm 2$  standard errors)



Changes in the proportion of heartwood in pine and spruce along the length of the trunk



In the medium age forest stands pine trunks have significantly greater proportion of heartwood in more fertile (*Myrtillosa* and *Hylocomiosa*) forest types, but in mature stands, the proportion of heartwood is higher in *Vacciniosa* forest type. The forest type does not significantly influence the proportion of heartwood in spruce trunks, however it was observed that the proportion of heartwood was greater in a less fertile *Myrtillosa* forest type.

With an increase in pine age, the length of the maximal proportion of heartwood in the trunk increases. However, in the case of spruce growing in the *Oxalidosa* forest type, in almost 2/3 of the trunk length starting from the butt end, the proportion of heartwood remains unchanged.



The data for this poster were collected in the framework of the project financed by ERDF "The support system of planning and decision making for the sustainable forest management" (No.2010/0208/2DP/2.1.1.1.0/10/APIA/VIAA/146).



IEGULDĪJUMS TAVĀ NĀKOTNĒ