

TIMBER HARVESTS DUE TO BIOTIC AND ABIOTIC DAMAGE BY THE EXAMPLE OF EGERERDŐ PLC

Viktória Papp¹, László Babiczki², Szilárd Grédics², Dóra Szalay¹

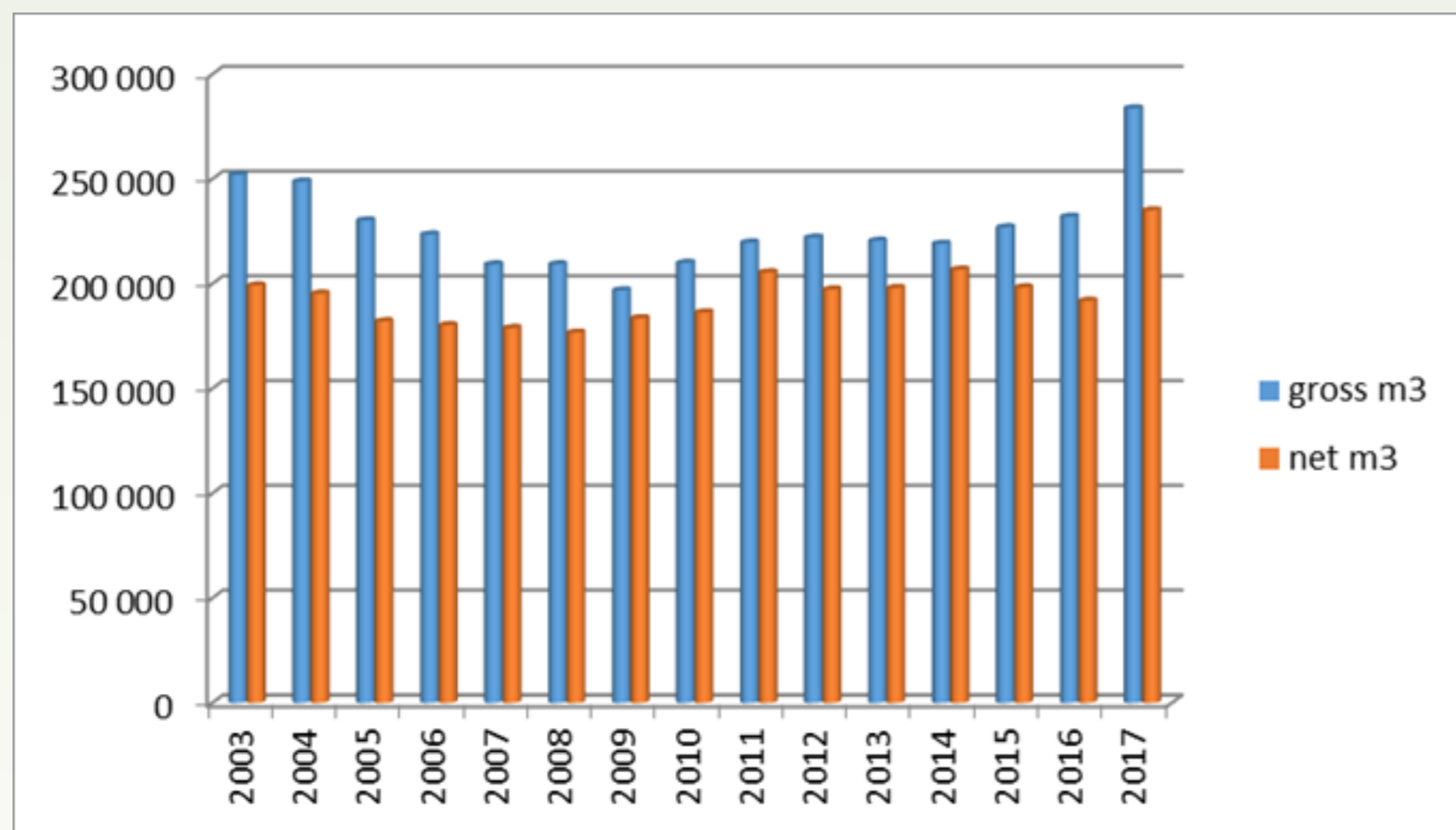
¹Institute of Forest - and Environmental Techniques

Faculty of Forestry, University of Sopron

papp.viktoria@uni-sopron.hu



As an indirect consequence of climate change, the rate of biotic and abiotic damage is also increasing across Europe. Drought, which is becoming more frequent and prolonged, causes the greatest damage in young seedlings. The unusual weather events of recent years have also left significant losses in mature tree stand. The area of Egererdő Plc. is placed in Hungary's largest forest covered mountainous landscape with three different facets of the Northern Mountains. This area belongs to the forest management area in Mátra, in the western part of Bükk and in the Heves-Borsod Hills.

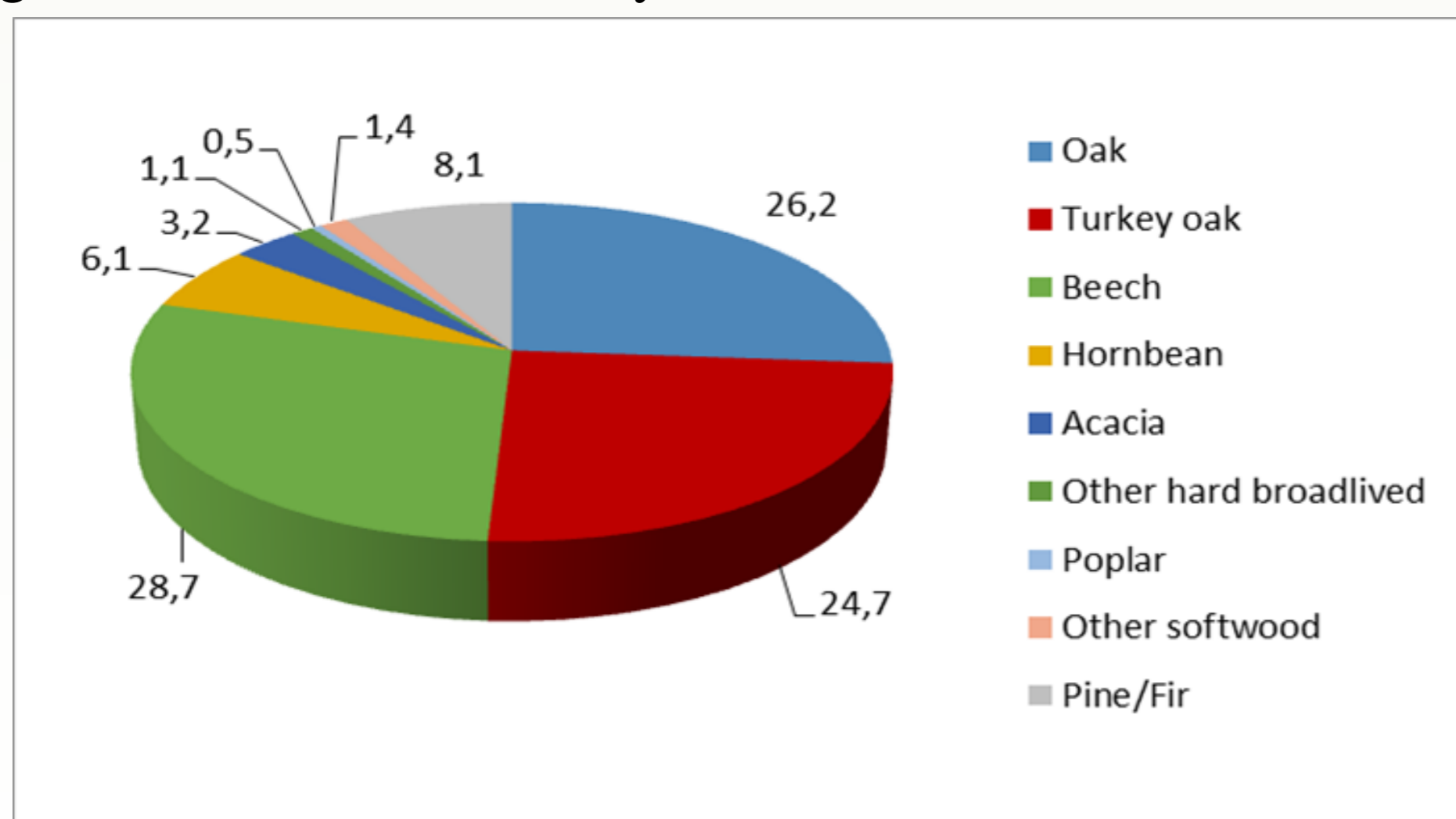


A summary of 15 years of Total Logging(2003-2017)

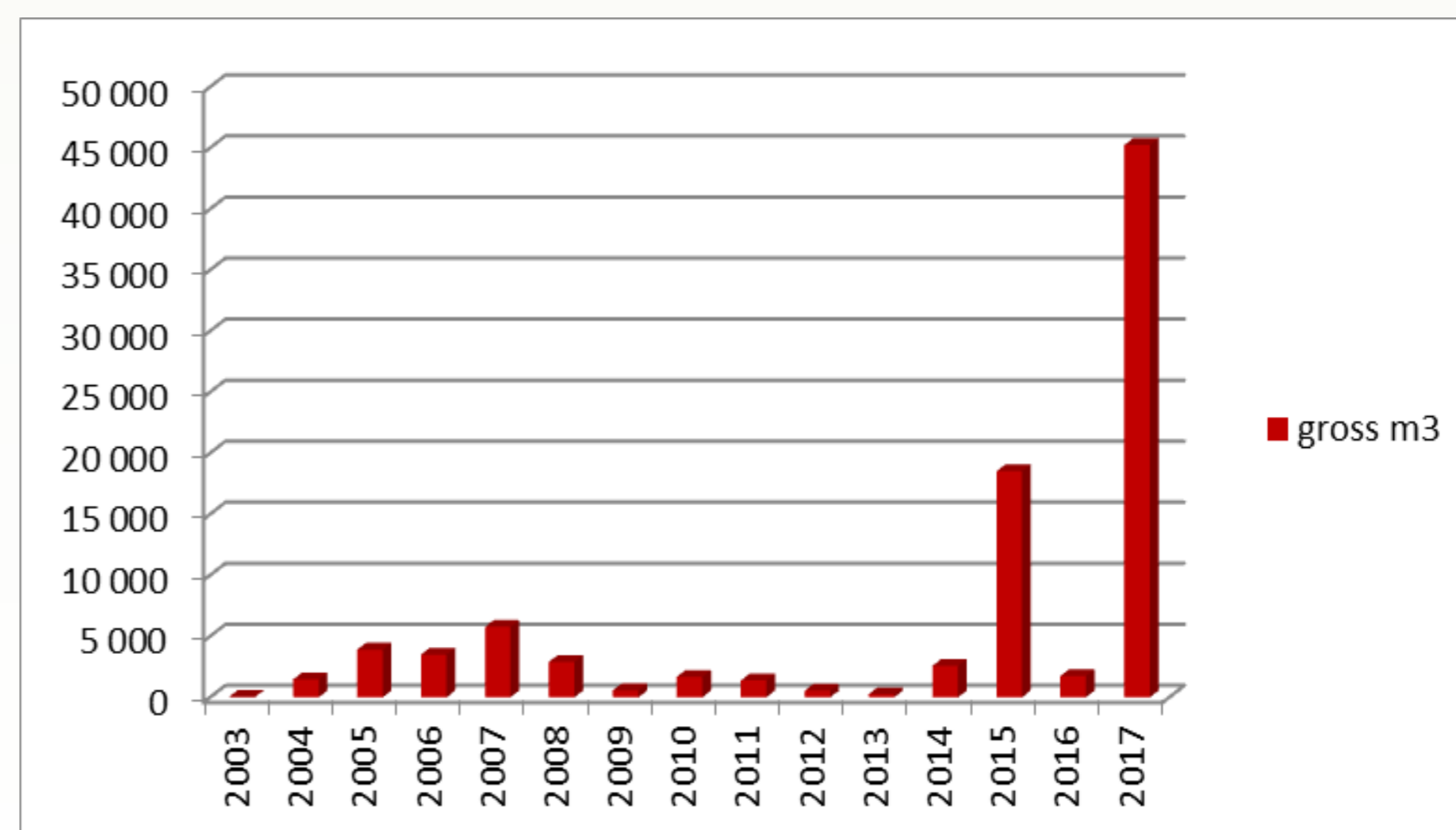


Ice damage in 2014

In the above-mentioned areas, ranging from forest steppe to beech-climate forest, they manage diverse forest stands. As regards the distribution of growing stock oak 26%, beech 29%, European-Turkey oak 24%, hornbeam 6%, pine and fir 8%, acacia 1%, other 3%. In the course of the research, data were collected and processed about the harvesting due to damage events in the territory of Egererdő Plc. for the last 15 years.

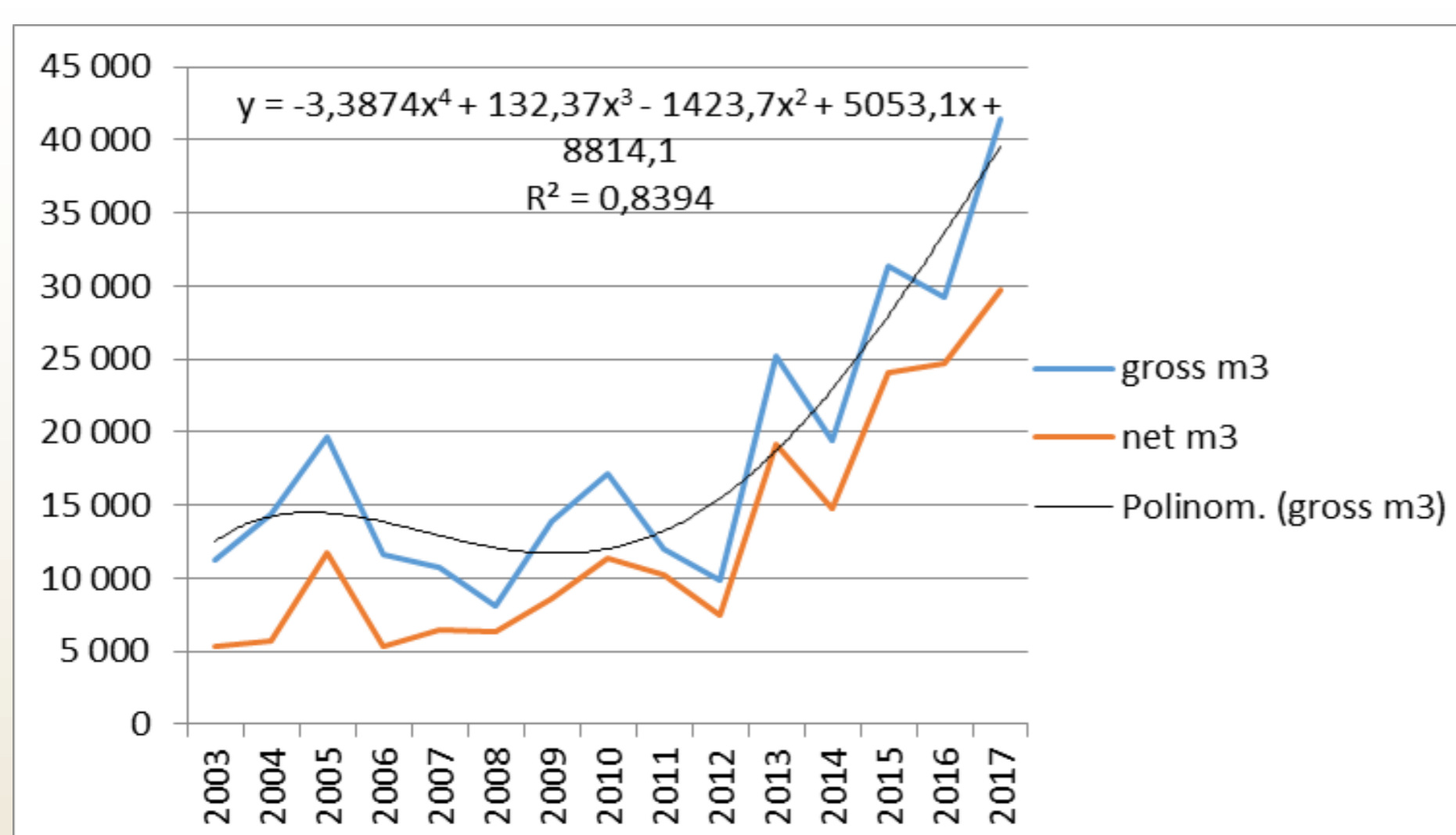


Yields by tree species(%) (2003-2017)

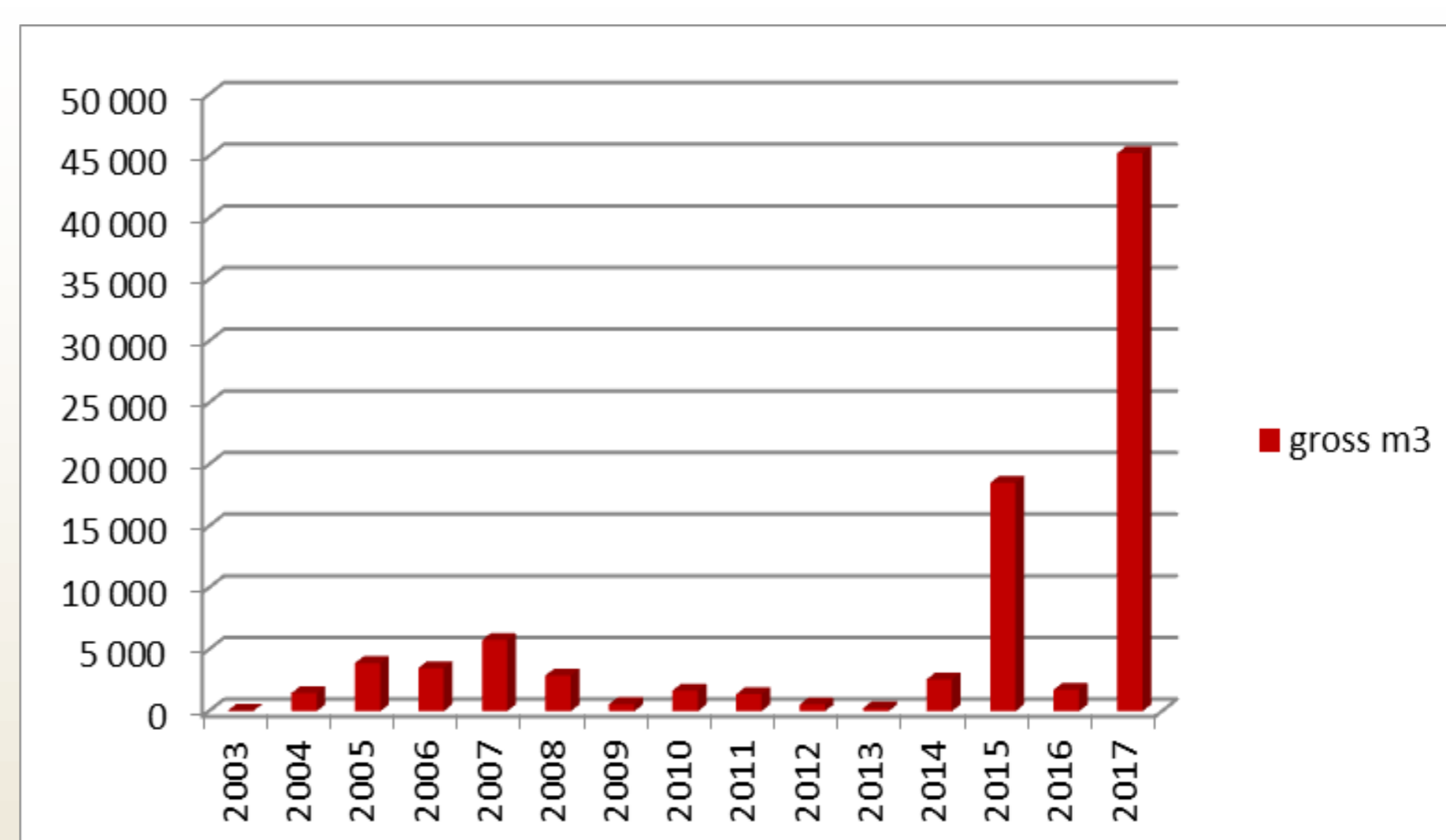


Beech(Fagus sylvatica) emergency felling

It can be observed that in the last four or five years, as a result of ice damage and spring snowfalls, the beech(Fagus sylvatica) stock have suffered significant damage. The drought and the winter average temperature increases is also favorable to pests and insects. Significant wood mortality is also observed in pine and spruce trees due to both biotic and abiotic events.



Total annual logging data of spruce and fir



Spruce and fir emergency felling

On the basis of emergency felling, beech, oak and pine trees suffered the most damage, and forced production significantly increased in the years following the abiotic damage. Ice, storm and wind damage caused harvest is a big challenge for foresters, which require innovative mechanization solutions.

Acknowledgement

The described work was carried out as part of the „Sustainable Raw Material Management Thematic Network – RING 2017”, EFOP-3.6.2-16-2017-00010 project in the framework of the Széchenyi 2020 Program. The realization of this project is supported by the European Union, co-financed by the European Social Fund.