

Italian Federation of Doctors in Agricultural and Forestry Sciences  
(FIDAF),

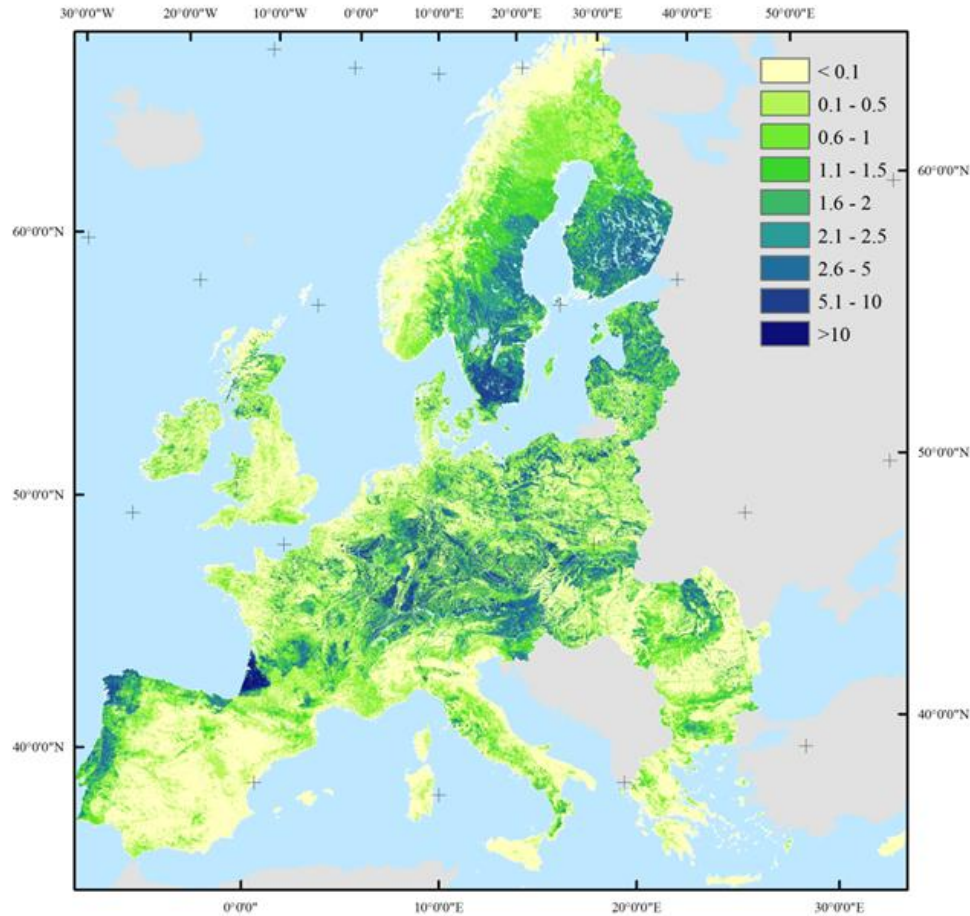
Italian Society of Silviculture and Forest Ecology (SISEF)

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## Wood-based production chains

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**Department for Innovation in Biological, Agrifood and Forest  
systems (DIBAF). University of Tuscia**



Wood production  
at European level  
(source EFI)

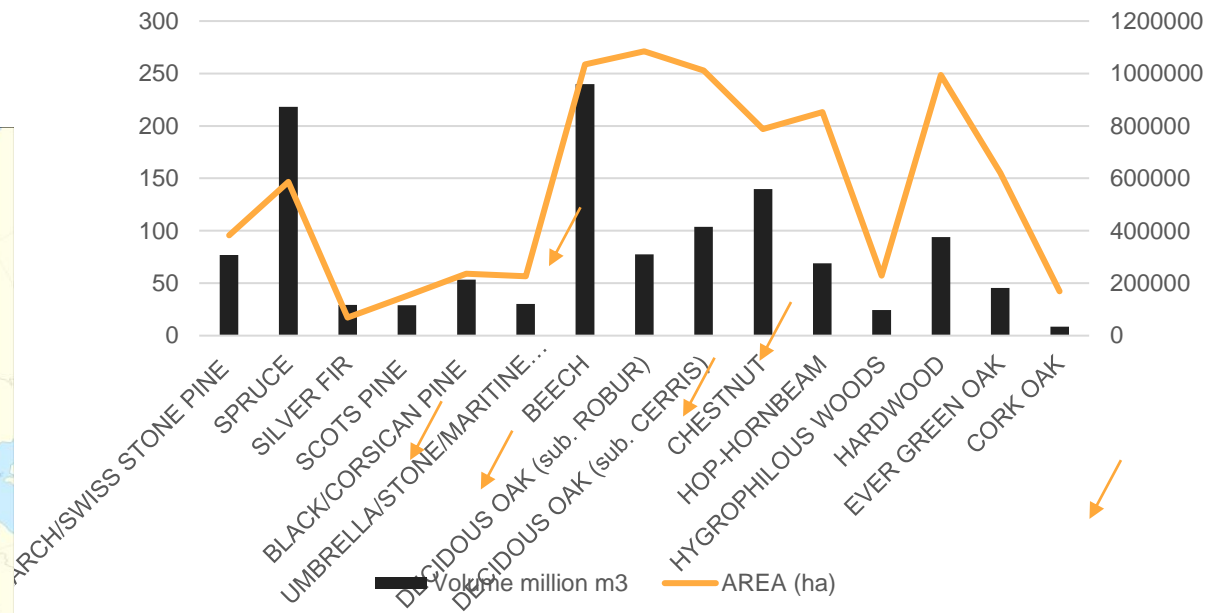
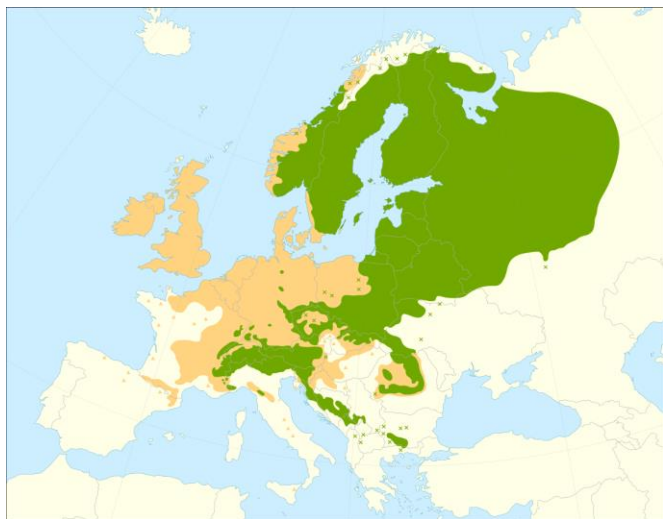
Wood production in Italy is less  
abundant compared to other  
European countries

**Forest area in Italy increased in the last years, actually  
about 32% of the national territory is covered by forests**

	INFC2005			Proiezioni INFC2015 <sup>(1)</sup>			Superficie territoriale <sup>(2)</sup>
	Bosco	Altre Terre boscate	Superficie forestale totale	Bosco	Altre Terre boscate	Superficie forestale totale	
<b>Abruzzo</b>	391.492	47.099	438.590	423.943	51.150	475.093	1.079.512
<b>Basilicata</b>	263.098	93.329	356.426	290.190	103.674	393.864	999.461
<b>P.A. Bolzano</b>	336.689	35.485	372.174	342.776	36.127	378.903	739.997
<b>Calabria</b>	468.151	144.781	612.931	511.793	159.175	670.968	1.508.055
<b>Campania</b>	384.395	60.879	445.274	420.195	66.750	486.945	1.359.025
<b>Emilia-Romagna</b>	563.263	45.555	608.818	581.746	47.878	629.625	2.212.309
<b>Friuli-Venezia Giulia</b>	323.832	33.392	357.224	330.578	34.908	365.486	785.648
<b>Lazio</b>	543.884	61.974	605.859	599.211	68.493	667.704	1.720.768
<b>Liguria</b>	339.107	36.027	375.134	359.315	38.216	397.531	542.024
<b>Lombardia</b>	606.045	59.657	665.703	602.170	62.022	664.192	2.386.285
<b>Marche</b>	291.394	16.682	308.076	294.124	16.908	311.032	969.406
<b>Molise</b>	132.562	16.079	148.641	153.480	18.742	172.222	443.765
<b>Piemonte</b>	870.594	69.522	940.116	882.268	72.843	955.110	2.539.983
<b>Puglia</b>	145.889	33.151	179.040	153.903	35.183	189.086	1.936.580
<b>Sardegna</b>	583.472	629.778	1.213.250	583.142	658.266	1.241.409	2.408.989
<b>Sicilia</b>	256.303	81.868	338.171	288.943	92.704	381.647	2.570.282
<b>Toscana</b>	1.015.728	135.811	1.151.539	1.055.144	141.848	1.196.992	2.299.018
<b>P.A. Trento</b>	375.402	32.129	407.531	377.862	32.339	410.201	620.690
<b>Umbria</b>	371.574	18.681	390.255	396.540	20.120	416.660	845.604
<b>Valle d'Aosta</b>	98.439	7.489	105.928	103.820	7.898	111.719	326.322
<b>Veneto</b>	397.889	48.967	446.856	414.361	51.264	465.624	1.839.122
<b>Italia</b>	<b>8.759.200</b>	<b>1.708.333</b>	<b>10.467.533</b>	<b>9.165.505</b>	<b>1.816.508</b>	<b>10.982.013</b>	<b>30.132.845</b>

# FIDAF 5 DECEMBER 2022 - ITALIA CHINA

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The most structured forest-wood value chain in Italy is related to spruce (*Picea abies Karst*) from alpine regions. The species is also imported from surrounding countries.... and not only. At almost all the species used in wood industry are imported.



Buildings  
Pallets  
Boards  
Low value furniture

.....



Precious products from specific geographical provenances wood for violins from Paneveggio

A vulnerable ecosystem, as it was assessed after VAIA and now insect attacks.





Close to nature  
forests  
Uneven aged forests

The true challenge for  
a new and  
sustainable wood  
production

hardwoods





# XLAM



beech



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Engineering Structures

journal homepage: [www.elsevier.com/locate/engstruct](https://www.elsevier.com/locate/engstruct)



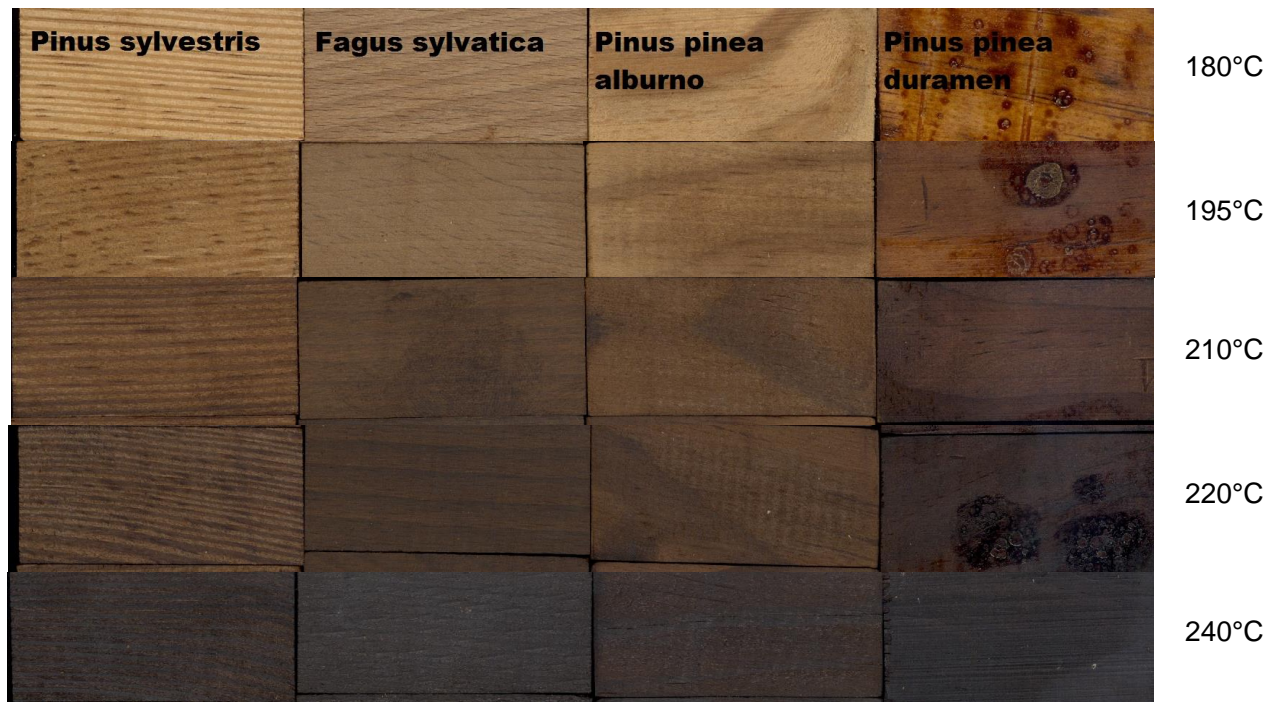
## Mechanical characterization of homogeneous and hybrid beech-Corsican pine glue-laminated timber beams

Martina Sciomenta<sup>a,\*</sup>, Luca Spera<sup>b</sup>, Alfredo Peditto<sup>c</sup>, Edoardo Ciuffetelli<sup>d</sup>, Francesco Savini<sup>e</sup>, Chiara Bedon<sup>f</sup>, Manuela Romagnoli<sup>g</sup>, Michela Nocetti<sup>h</sup>, Michele Brunetti<sup>i</sup>, Massimo Fragiaco<sup>j</sup>

<sup>a</sup> Department of Civil, Architecture and Building and Environmental Engineering, University of L'Aquila, Via Giovanni Gronchi 18, 67100 L'Aquila, Italy

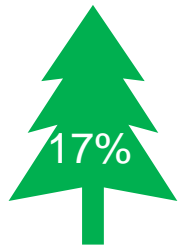
<sup>b</sup> Department of Civil, Architecture and Building and Environmental Engineering, University of L'Aquila, Via Giovanni Gronchi 18, 67100 L'Aquila, Italy

Improving wood characteristics (i.e. durability) in species of short supply chains: wood treatments and modifications



# WOOD WASTE AND RECLYING

What other opportunities?

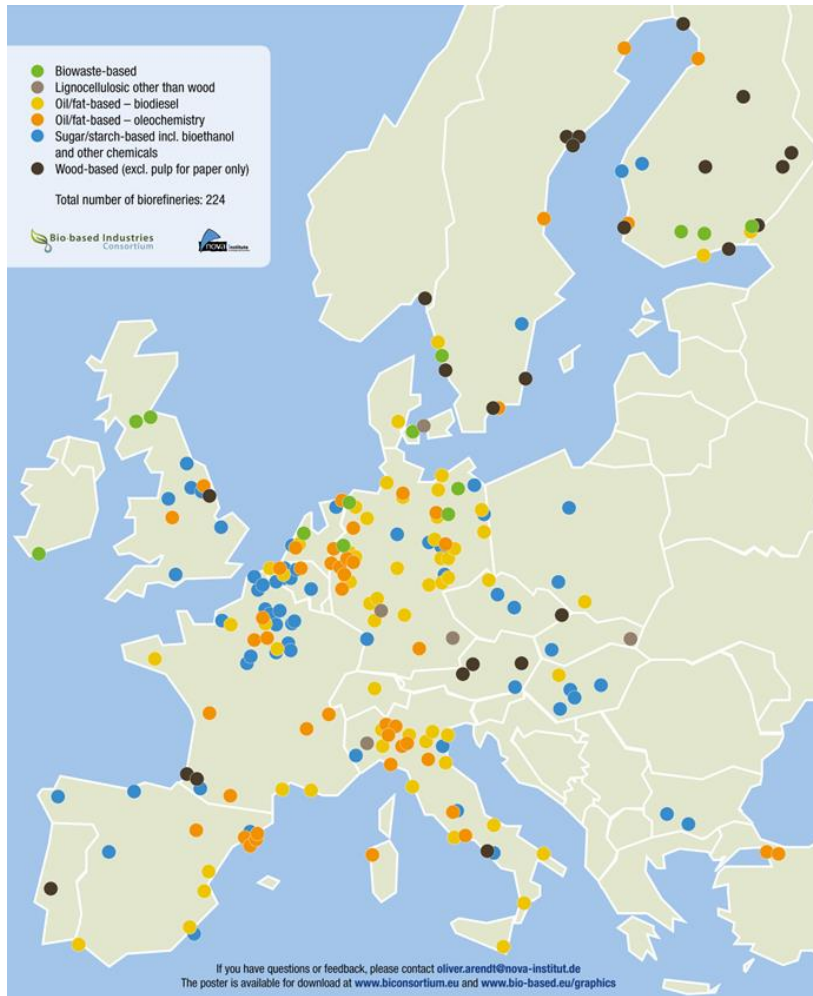


**Harvesting,  
sawmills,  
industries**



2 mln tons recycled in Italy

Residues for energy and  
particle panel

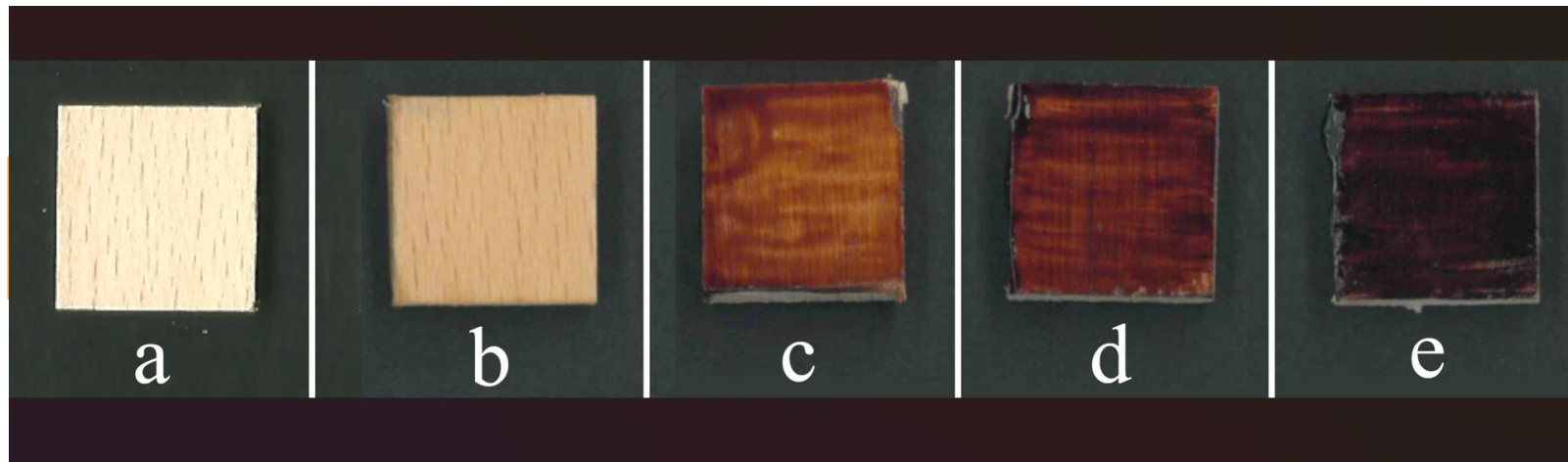


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Biorafinerias: opportunity to add value to forest and wood industries residues

In Italy few Biorafinerias are based on lignocellulosic biomass

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Article

## Synthesis and Characterizations of Eco-Friendly Organosolv Lignin-Based Polyurethane Coating Films for the Coating Industry

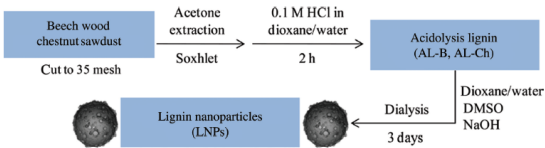
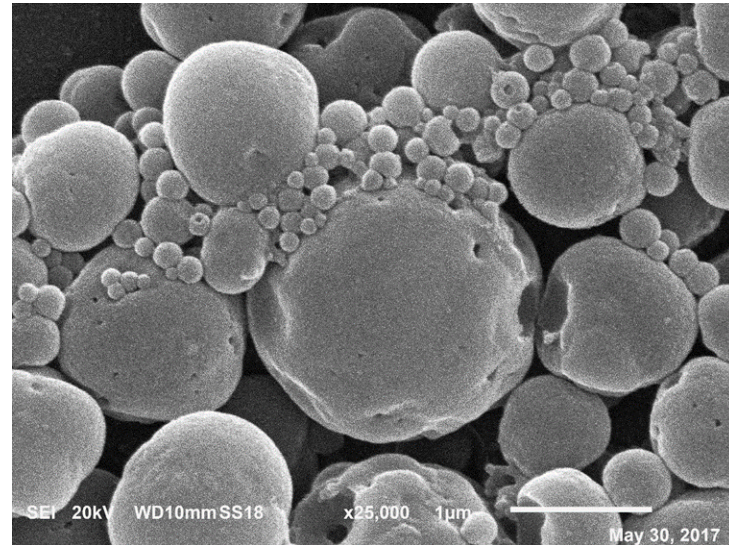
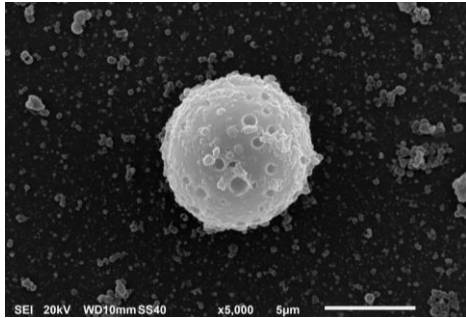
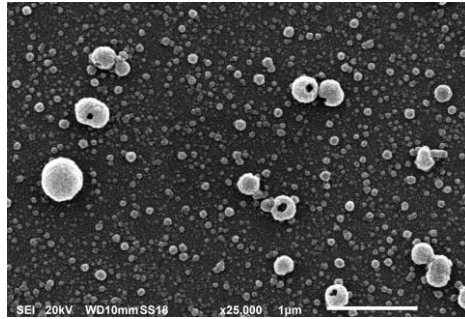
Sara Bergamasco , Swati Tamantini \*, Florian Zikeli \*, Vittorio Vinciguerra, Giuseppe Scarascia Mugnozza  and Manuela Romagnoli \*

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\* Correspondence: swati.tamantini@unitus.it (S.T.); zikeli@unitus.it (F.Z.); mroma@unitus.it (M.R.)

Diol of polyurethane (polyol + isocyanates) can be replaced by lignin

From wood residues, lignin based wood coatings

# Lignin nanoparticles



**Scheme 1:** Isolation procedure for acidolysis lignin (AL) fractions from beech wood and chestnut sawdust (AL-B, AL-Ch) and eventual preparation of lignin nanoparticles (LNPs).

Non wood products  
Cork example



Many other chances  
from non wood products.



Tannins from  
chestnut wood  
residues



Chestnut  
branches for  
typical bread

Thanks for your attention