COST ACTION: COST FP1301 – EUROCOPPICE

Innovative management and multifunctional utilization of traditional coppice forests - an answer to future ecological, economic and social challenges in the European forestry sector

SCIENTIFIC REPORT

SHORT TERM SCIENTIFIC MISSION

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Host Institution:

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Chair of Forest Operations

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1. PURPOSES OF THE STSM

To develop networking:

The "Chair of Forest Operation" of the University of Freiburg, as the STSM host partner, is part of the Faculty of Environment and Natural Resources and belongs to the Institute of Forest Sciences, and it is headed by Prof. Dr. Dirk Jaeger. The Institute is one of the most outstanding and active research institutes in Europe in the field of forest mechanization and biomass production. Forest Operations is focus on research and teaching of processes and systems for the management and utilization of forests and landscapes. STSM has been an opportunity to know the Institute, which differently by CNR-IVALSA it deals also with teaching, and to create a new network for future collaboration.

To improve knowledge about coppice:

The topic of the short term scientific mission has been to value and increase the current knowledge on the coppice forestry, according with project COST FP1301-EUROCOPPICE which aims to develop innovative systems and utilization techniques for modern multifunctional coppice forest management.

2. DESCRIPTION OF THE WORK CARRIED OUT DURING THE STSM

2.1. First activity

The main activity of the STSM concerned the translation of coppice related terms to Italian language connected with the Forest Energy Glossary which has been produced within the previous COST action FP0902:

> *"Forest Energy Glossary: The "Forest Energy Glossary" presented has been produced within the framework of COST Action FP0902. The purpose was to develop a common and official terminology for forest biomass operations. As outcome of Working Group 1 within the COST Action FP0902, a database of commonly used terms and units related to the use of forest biomass for energy has been established and a unified terminology has been created.*
> *The Forest Energy Glossary is the final version as part of the COST Action FP0902 Working Group 1 outcome and displays a key result of the COST Action FP0902."*
> http://www.forestenergy.org/pages/cost-action-fp0902/glossary/?PHPSESSID=75cb0c9631d1cb2b3554d45ef7d86180

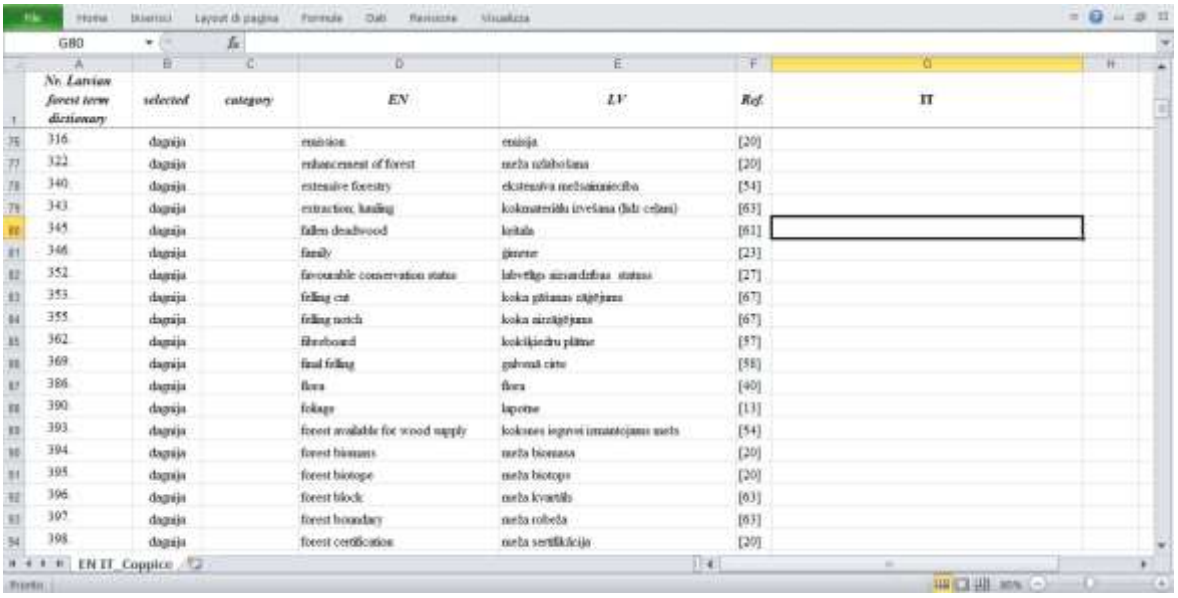
The translation in Italian language during the STSM was focused on the COPPICE related terms. For doing that firstly I contacted the Leader of the COST Working Group in charge of the terminology and the Glossary (Dr. Dagnija Lazdiņa - LSFRI Silava). The WG Leader sent me a list of new forest terms not already included in the Glossary.

Another essential tool was the *"Dictionary of forestry, the forest industry and the Wood processing"*, (see the Figures n. 1a, 1b), that WG Leader sent previously to the Chair of Forest Operation to make it available for me. This is a dictionary which relates forestry terms from Latvian in English, German, French and Russian.

Figures n. 1a, 1b. *Dictionary of forestry, the forest industry and the Wood processing*

For the translation activity I used the received list where the terms where in English and in Latvian, with the support of the following tools:

- Dolacis J. Dictionary of forestry, the forest industry and the Wood processing;
- UWET – Unified Wood Terminology. FAO *(www.fao.org/docrep/008/j0926e/j0926e00.htm);*
- Silvaterm database (IUFRO);
- Zanuttini R., Castro G., Berti S. XILOGLOS: Glossario dei termini usati nella Tecnologia del Legno;
- IATE – Inter Active Terminology for Europe (*iate.europa.eu)*.

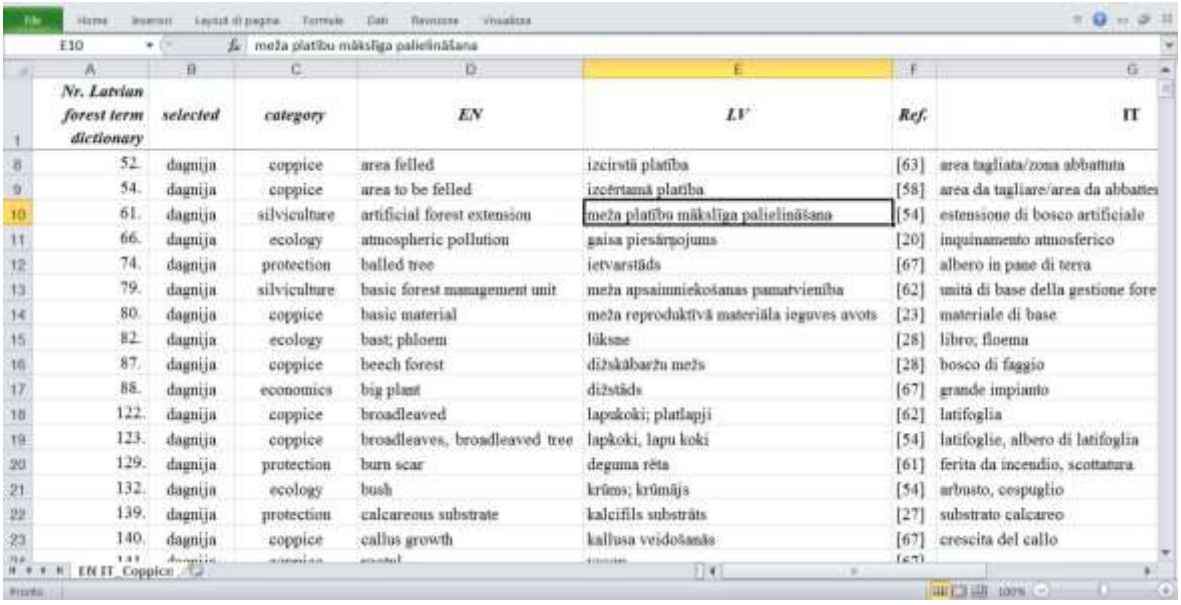


Nr. Latvian forest term dictionary	selected	category	EN	LV	Ref.	IT
316	dagnija		emission	emisija	[20]	
322	dagnija		enhancement of forest	meža uzlabošana	[20]	
340	dagnija		extensive forestry	ekstensīva mežsaimniecība	[54]	
343	dagnija		extraction; hauling	kokmateriālu izvešana (līdz ceļam)	[63]	
345	dagnija		fallen deadwood	krītala	[61]	
346	dagnija		family	ģimene	[23]	
352	dagnija		favourable conservation status	labvēlīgs aizsardzības statuss	[27]	
353	dagnija		felling cut	koka ģīšanas cāļējums	[67]	
355	dagnija		felling notch	koka aizķējējums	[67]	
362	dagnija		fibreboard	koklājiecīru plāksne	[57]	
369	dagnija		final felling	galvenā cirte	[58]	
386	dagnija		flora	flora	[40]	
390	dagnija		foliage	lapotne	[13]	
393	dagnija		forest available for wood supply	koksnes ieguvei izmantojams mežs	[54]	
394	dagnija		forest biomass	meža biomasa	[20]	
395	dagnija		forest biotope	meža biotops	[20]	
396	dagnija		forest block	meža kvartāls	[63]	
397	dagnija		forest boundary	meža robeža	[63]	
398	dagnija		forest certification	meža sertifikācija	[20]	

Figure n. 3: section of the base list from the Forest Glossary sent by the WG Leader.

In the base list the words have been selected by the WG Leader; the English terms were listed and also the Latvian translation and the number of the reference in the forest term dictionary have been reported (Figure n. 3). The total amount of the terms was about 800.

The first phase was to allocate the category to the English terms to select the ones related with the coppice topic 8 (Figure n. 4).



Nr. Latvian forest term dictionary	selected	category	EN	LV	Ref.	IT
52.	dagnija	coppice	area felled	izcirstā platība	[63]	area tagliata/zona abbattuta
54.	dagnija	coppice	area to be felled	izcērtamā platība	[58]	area da tagliare/area da abbattere
61.	dagnija	silviculture	artificial forest extension	meža platību mākslīga palielināšana	[54]	estensione di bosco artificiale
66.	dagnija	ecology	atmospheric pollution	gaisa piesārņojums	[20]	inquinamento atmosferico
74.	dagnija	protection	balled tree	ietvarstāds	[67]	albero in pane di terra
79.	dagnija	silviculture	basic forest management unit	meža apsaimniekošanas pamatvienība	[62]	unità di base della gestione fore
80.	dagnija	coppice	basic material	meža reproduktīvā materiāla ieguves avots	[23]	materiale di base
82.	dagnija	ecology	bast; phloem	lūksne	[28]	libro; floema
87.	dagnija	coppice	beech forest	dižskābaržu mežs	[28]	bosco di faggio
88.	dagnija	economics	big plant	dižstāds	[67]	grande impianto
122.	dagnija	coppice	broadleaved	lapukoki; platlapji	[62]	latifoglia
123.	dagnija	coppice	broadleaves, broadleaved tree	lapkoki, lapu koki	[54]	latifoglie, albero di latifoglia
129.	dagnija	protection	burn scar	deguna rēta	[61]	ferita da incendio, scottatura
132.	dagnija	ecology	bush	krūms; krūmājs	[54]	arbusto, cespuglio
139.	dagnija	protection	calcareous substrate	kalcifils substrāts	[27]	substrato calcareo
140.	dagnija	coppice	callus growth	kallusa veidošanās	[67]	crescita del callo

Figure n. 4: the terms concerned to the "COPPICE category".

Then each term has been translated: from the English section on the Dictionary I checked the corresponding term in the other languages. Not always the term was reported, so the other dictionaries supported the research and the translation.
The following figures show two examples: for translating the word "decay" by the excel list (Figure 5), first I researched the English term in the dictionary where the number of the equivalent Latvian term were reported (Figure 6), and from that number I checked the term translated in several languages (Figure 7), that helped to find the Italian corresponding work.

	EN	LV	Ref.	LAT	IT
660	cycle of propagation	pavairošanas cikls	[23]		ciclo di propagzione
661	dead standing tree	nokaltis stāvošs koks	[61]		albero morto in piedi
662	dead/drying branch	nokaltis/ kaltošs zars	[67]		ramo morto/ramo spezzato
663	debarked wood	mizoti kokmateriāli	[28]		legname scortecciato
664	decay	trūdēšana	[67]		decomposizione
665	degraded soil	nopļicināta augsne	[20]		
666	degree of risk	riska pakāpe	[40]		
667	desertification	pārtuksnešošanās	[20]		
668	dominant species	valdošā suga	[63]		
669	dominant stand	valdmežs	[58]		
670	dominant tree	valdkoks	[13]		
671	drift line	sanešu josla	[28]		
672	economic activity	saimnieciskā darbība	[61]		
673	economic conditions	ekonomiskie nosacījumi	[55]		
674	edge of uncut strip	neskartās joslas mala	[58]		
675	element cycling	elementu aprite	[67]		
76	endemic species	endēmu suga	[54]		
	Energy, Environment and Sustainable Development,				
77	EESD	Enerģētika, vide un ilgtspējīga attīstība	[20]		

Figure n. 5: E.g. for translating the "decay" term

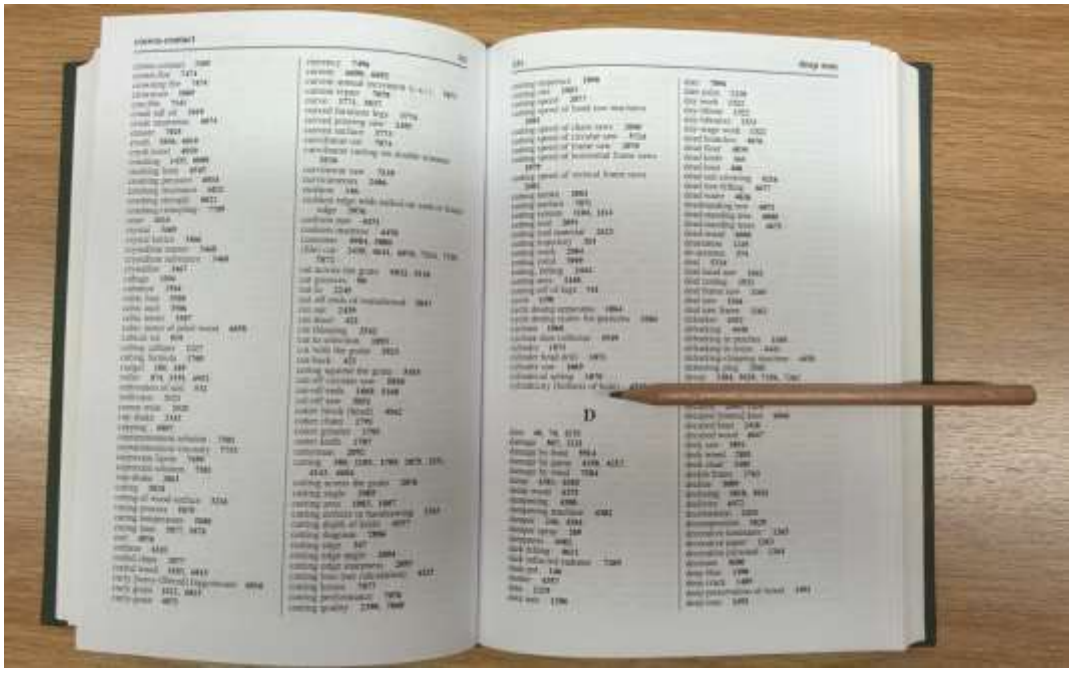
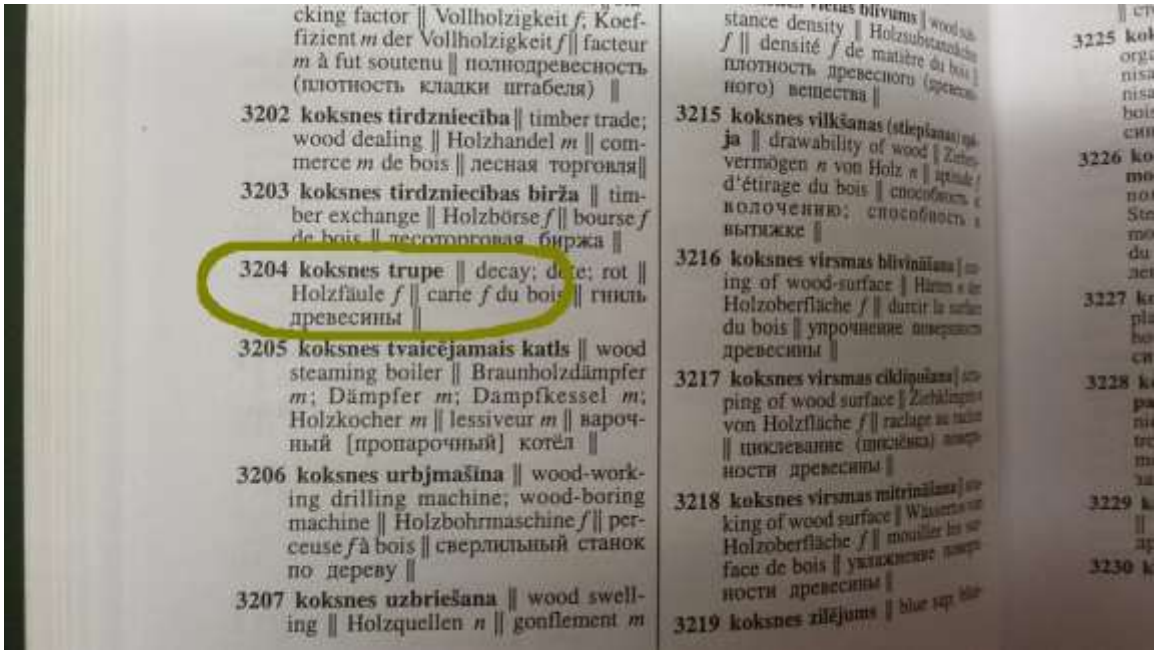


Figure n. 6: E.g. for translating the "decay" term



cking factor ‖ Vollholzigkeit *f*; Koeffizient *m* der Vollholzigkeit *f* ‖ facteur *m* à fut soutenu ‖ полнодревесность (плотность кладки штабеля) ‖

3202 koksnes tirdzniecība ‖ timber trade; wood dealing ‖ Holzhandel *m* ‖ commerce *m* de bois ‖ лесная торговля ‖

3203 koksnes tirdzniecības birža ‖ timber exchange ‖ Holzbörse *f* ‖ bourse *f* de bois ‖ лесоторговая биржа ‖

3204 koksnes trupe ‖ decay; dote; rot ‖ Holzfäule *f* ‖ carie *f* du bois ‖ гниль древесины ‖

3205 koksnes tvaicējamais katls ‖ wood steaming boiler ‖ Braunholzdämpfer *m*; Dämpfer *m*; Dampfkessel *m*; Holzkocher *m* ‖ lessiveur *m* ‖ варочный [пропарочный] котёл ‖

3206 koksnes urbjmašīna ‖ wood-working drilling machine; wood-boring machine ‖ Holzbohrmaschine *f* ‖ perceuse *f* à bois ‖ сверлильный станок по дереву ‖

3207 koksnes uzbriešana ‖ wood swelling ‖ Holzquellen *n* ‖ gonflement *m*

stance density ‖ Holzsubstanz... *f* ‖ densité *f* de matière du bois ‖ плотность древесного (древесного) вещества ‖

3215 koksnes vilkšanas (stiepšanas) spēja ‖ drawability of wood ‖ Ziehvermögen *n* von Holz *n* ‖ ... d'étirage du bois ‖ способность к волочению; способность к вытяжке ‖

3216 koksnes virsmas blīvināšana ‖ ... ing of wood-surface ‖ Härten ... Holzoberfläche *f* ‖ durcir la surface du bois ‖ упрочнение поверхности древесины ‖

3217 koksnes virsmas cilšņošana ‖ ... ping of wood surface ‖ Ziehklingen von Holzfläche *f* ‖ raclage ... ‖ шлевание (шлёвка) поверхности древесины ‖

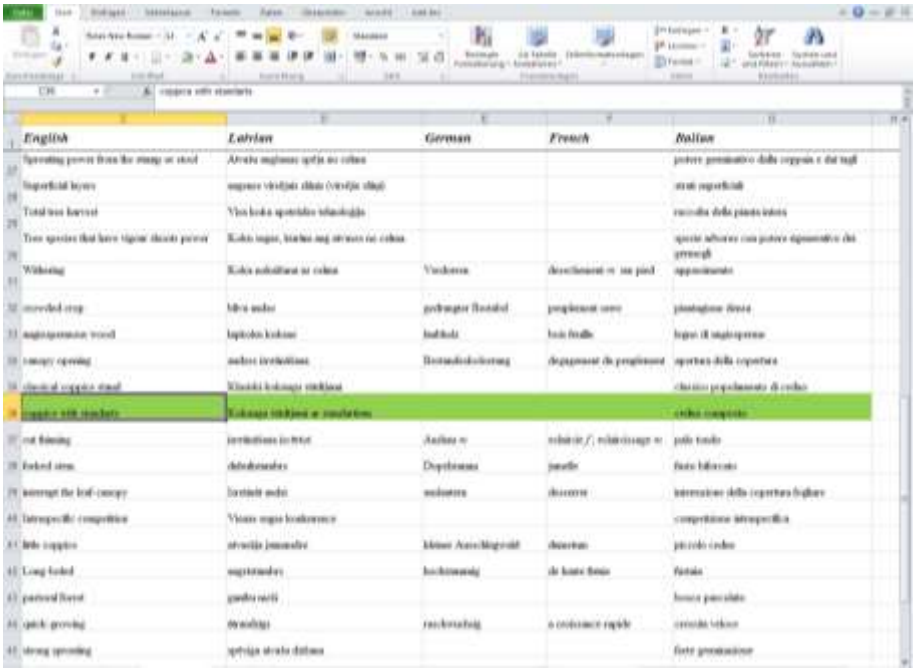
3218 koksnes virsmas mitrināšana ‖ ... king of wood surface ‖ Wässern ... Holzoberfläche *f* ‖ mouiller ... face de bois ‖ увлажнение поверхности древесины ‖

3219 koksnes zilējums ‖ blue ...

3225 ko...
3226 ko...
3227 k...
3228 k...
3229 k...
3230 k...

Figure n. 7: E.g. for translating the "decay" term

Whereas the figures 8, 9 and 10 show the use of the "SilvaTerm database" of IUFRO for translating the term "coppice with stands": in the website there is the possibility to choose also directly the Italian language.



English	Latvian	German	French	Italian
...	...	...	...	...
coppice with standards	Koksnaja stādījuma ar standartiem			ceduo composto
...	...	...	...	...

Figure n. 8: E.g. for translating the "coppice with stands" term

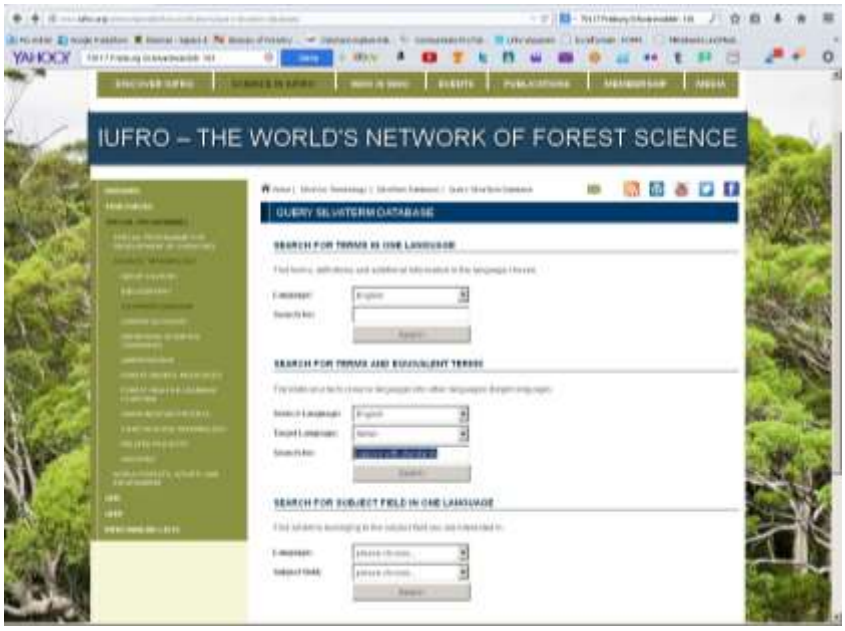


Figure n. 9: E.g. for translating the "coppice with stands" term

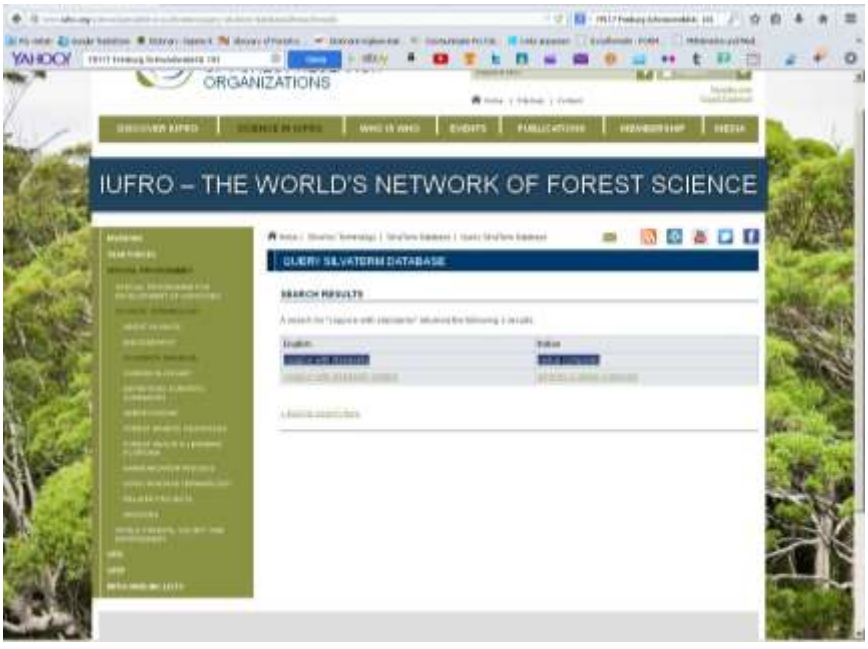


Figure n. 10: E.g. for translating the "coppice with stands" term

The glossary focusing on the coppice related terms will be delivered to the COST WG Leader, so that will be included on the Forest Glossary.

As the Forest Energy Glossary is a very important international tool and it includes terms related with several forest topics, to make it more available, accessible and effective, the translation in national languages is an efficient way for its homogenization, diffusion and dissemination.

2.2. Second activity

The second task in the STSM was to collect data related to SRC harvesting costs. During the STSM I exchange information with the German colleagues specialized on coppice harvesting research.
It has been possible to collect some data about previous studies that took place in Germany on coppice harvesting focus on willow and poplar SRC plantations.
With the colleague we have had the idea to collect data from studies already conducted, and to produce a harvesting cost estimate for more scenarios (centre of Europe), in order to connect my collection with a paper as a future collaboration with a German and a Belgian COST partners.

2.3. Third activity

Even if in the STSM proposal a specific third activity has not been proposed I have had the opportunity to participate to a trip to a heating plant placed nearby the boundary with France and owned to a big processing industry company.

3. CONCLUSIONS, FUTURE COLABORATIONS AND PAPERS

- STSM was an opportunity to meet the Chair of Forest Operations at The University of Freiburg headed by Prof. Dirk Jaeger.

- STSM allowed me to increase my insight about German forestry activity and I have increased my professional relationships.

- We plan to elaborate a scientific paper to send a scientific review with impact factor concerning SRC harvesting research extending the collaboration to other COST partners.

- Both Institutes are interested in future collaborations concerning exchange of methods and experiences.

Confirmation of the host of the successful execution of the STSM

COST Action FP1301
STSM of Carolina Lombardini
from CNR-IVALSA - Sesto F.no (FI) Italy

I confirm that CAROLINA LOMBARDINI from CNR-IVALSA (trees and timber Institute) in Sesto F.no – Firenze (Italy), worked in our institute Albert-Ludwigs University of Freiburg - Chair of Forest Operations, Werthmannstraße 6 in Freiburg (Germany) from 10th November 2014 to 23th November 2014.
The visit has been successful and the results are described in this report, which I confirm.

Prof. Dr. Dirk Jaeger Freiburg 24th November 2014

(The signed document will be send attached)