Final report for SNS research projects 2022-2024

Submit the report to sns@slu.se by 24:00 CET, 1st of September, 2025, at the latest.
The report should not exceed 3500 words (including words in the template).

Please adjust the size of the box according to the length of your answer.

1. Project title:	Conservation of resistant ash (Fraxinus excelsior) genotypes in Nordic and Baltic regions to maintain full range of ecosystem-services provided by this keystone species
2. Reporting year:	Final report (2023)

3. Project coordinator:	Mateusz Liziniewicz
Email:	mateusz.liziniewicz@skogforsk.se
Address:	Ekebo 2250, 268 90 Svalöv Sweden

Activity report

4. Provide a project summary, including:

a) The purpose of the project/main problems/hypothesis addressed

The general aim of the proposed project was to continue the efforts started in partnering Nordic and Baltic countries leading to restoration of ash trees in the region. The specific objective is to develop and establish a set of 2nd generation genetic test trials that can be crucial for ash conservation.

b) A short description of the main activities of the project

Main activities within the project were collection of seeds from ash trees with the most thoughtful history of ash dieback (ADB) symptoms observations. It has been done separately for each participating organization. Seeds from 277 genotypes were collected.

Seeds were used for propagation of the seedlings that have been exposed for natural inoculation by pathogen. After two years in nurseries, selection of best seedlings without the symptoms were done. The selected seedlings were used for the establishment of 12 experiments in all countries. Field trials were planted 2022 and 2023 and will be a great asset for

c) Achieved targets and to what extent the research plan was fulfilled

The goals of the project were fulfilled almost completely. We have not been able to publish scientific articles. Firstly, we considered it is too early to summarize the efforts in the respective countries and more time is needed to monitor plant performance in the field. The second paper was planned to summarize the effects of early screening in nursery. The observations done in nurseries showed a low pressure of infections. Thus, the results were vague and were not enough for scientific publication. The selection of well-developed plants in nurseries was very restrictive and eliminated all seedlings with observed deficits in quality and symptoms. However, it was not always easy to explicitly assign observed symptoms to ash dieback.

5. Published outputs achieved as a consequence of the project (peer-reviewed articles, other publications)

It is challenging to divide publications that have been done under the period to the specific project as there have been several ongoing projects related to ash during the project time within each organization. The list contains publications about ash done during the lifetime of the SNS 126 project. Due to limited space the list of ash-related publications is in the appendix to the rapport.

6. Other practical outputs of the project (websites, policy recommendations, conferences, scientific meetings, large-scale project applications, research training etc.)

The project's biggest achievement is 12 established experiments that can be used for future research. Already now, the project got financial support for continuation by SNS. The project SNS-130 has already started in spring 2023. Michelle Cleary (SLU) got the internal SLU funding to employ a PhD student in the fall 2023. One part of the project will be to carry on investigation of the planted Swedish experiments.

7. How and within which areas was the project beneficial for the Nordic countries?

The project increased the collaboration efforts between the institutions and research groups in representing countries and created the network of the genetic field trials for the future that can be used by researchers from participating organizations for various studies.
The project contributed to the field of maintenance and utilization of ecosystem services delivered by forest. The project can eventually help to conserve ash as an important component in Nordic forests thereby maintaining critical biodiversity with high or obligate associations to ash.

Participation

8. Number of participants

Country	Early-career researchers/ PhD students	Senior researchers	Stakeholders	Others (specify)	Gender			Total
					Women	Men	Other	
Denmark		2			1	1		2
Norway		1			1			1
Sweden	2	1			2	1		3
Lithuania	1				1			1
Total	3	4			5	2		7

9. List the participating institutes/sectors

University of Copenhagen, Skogforsk, SLU, NIBIO, Lithuanian Research Centre for Agriculture and Forestry

Economic report

10. Received grant from SNS in total (SEK):
1 050 000

11. Transfer of SNS funds to project partners

Country	Partner/organisation	Sum (SEK)
Denmark	University of Copenhagen	175000
Sweden	Skogforsk	395000
Sweden (SLU)	SLU,	130000
Norway	NIBIO	175000
Lithuania	Lithuanian Research Centre for Agriculture and Forestry	175 00
Total SUM		**1 050 000**

12. Costs

in SEK	SNS funding	Co-financing		Total
		Cash	In-kind	
Travel and accommodation	35792	0		3 5792
Meeting costs	0	4504		4 504
Communication	0	0		0
Salary and OH	603 336	2 668 791		3 272 127
Other costs (purchased material and services).	410 872	512 840	Comment 2	923 712
Total SUM (SEK)	**1 050 000**	**3 186 135**	**0**	**4 236 135**

13. Economic result (deficit or surplus):
The SNS resources were used completely. The participating organizations contributed more than 66% of the project costs mostly as external services related to establishment of experiments (fences, planting costs) and salaries of participating researchers. Comment 1: Salary and OH include also invoices paid for purchased services. Cost of the land that have been given to the project by agencies, forest companies and forest owners have not been calculated but it has been substantial. One to need keep in mind that many owners are quite reluctant for planting of ash due to the high risk of damage and dieback of plantation

14. Optional: Comments to the economic reporting:

Skogforsk got a higher share than other partners for leading the project and a share of SLU part for establishment of the trials.

15. Submit a popular science piece as a separate document for dissemination in SNS' various channels with *emphasis on application of results and benefits for the Nordic society*.

Provide pictures (size at least 500x500 pixels and resolution at least 72 pixels) as separate files (.jpg). Include caption to each picture and the name of the photographer.

I hereby declare that the above statements are true to the best of my knowledge

Signature of the main applicant/project coordinator

Signature	Institution	Date
Mateusz Liziniewicz	Skogforsk	2023-08-31
Printed name		

Signature of the department head at the department of the main applicant

Signature	Institution	Date
Thomas Kraft	Skogforsk	2023-08-31
Printed name		

Second applicant's signature, place and date

	University of Copenhagen, Denmark	2023-08-31
Signature	Institution	Date
Lene Rostgaard Nielsen		
Printed name		

Third applicant's signature, place and date

	NIBIO	2023-08-31
Signature	Institution	Date
Mari Mette Tollefsrud		
Printed name		