CARE 4BIO

Horizon Europe Brokerage Event
Cluster 6 Calls 2024
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POST-WAR RESTORATION OF THE FOREST COMPONENT OF AGROLANDSCAPES WITH INNOVATIVE AGROFORESTRY

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The applied topic is aimed at solving the problem of increasing the ecological and economic potential of agricultural landscapes in the context of climate change control and post-war restoration of the forest component of agrolandscapes. The implementation of the project is planned to be carried out using innovative agroforestry method, technologies of reconstruction of agroforestry plantations damaged by anthropogenic and military actions, creation of new types of agroforestry plantations, cultivation and forestry care for them. Considerable attention will be paid to the study of the amelioration effect of the forest component on climate mitigation, the impact of various systems of agroforestry plantations on the microclimatic indicators of the surrounding territories, the yield of agricultural crops, the enrichment of biodiversity, the use of energy and ecological functions of plantations, and the diversification of ecosystem services.

- Topic to which I refer in the presentation and wish to participate in is HORIZON-CL6-2024-BIODIV-01-7: Reintroduction of landscape features in intensive agricultural areas

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The area of windbreaks and protective forests in Ukraine in terms of administrative regions (Statistics data, 01.01.2015)

Region, province	Area, th.ha		Region, province	Area, th.ha	
	windbreaks	other stands		windbreaks	other stands
Ukraine	**446,1**	**1394,8**	Mykolaiv	33,8	18,9
Crimea	23,9	8,6	Odessa	50,0	30,3
Vinnitsa	17,6	16,0	Poltava	20,0	53,5
Volyn	0,2	18,4	Rivne	-	63,6
Dnipro	42,5	44,1	Sumy	13,0	58,9
Donetsk	31,9	21,1	Ternopil	0,9	61,1
Zhytomyr	5,0	43,1	Kharkiv	26,5	123,0
Zakarpattia	0,1	30,9	Kherson	29,0	56,6
Zaporizzia	51,9	58,2	Chmelnytsk	4,2	45,4
Ivano-Frankovsk	-	18,9	Cherkassy	14,1	14,6
Kyiv	12,3	53,4	Chernivtsi	-	2,3
Kirovograd	28,1	17,3	Chernigiv	10,3	22,9
Luhansk	30,3	115,6	town Kyiv	-	0,2
Lviv	0,1	36,8	Sevastopol	0,4	1,1

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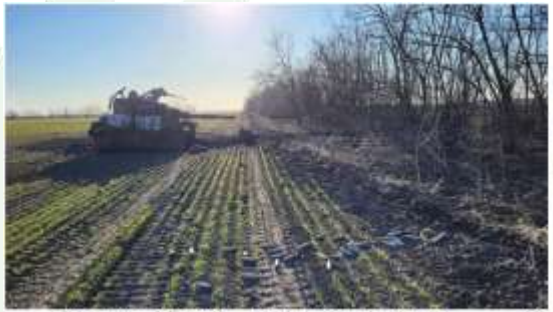
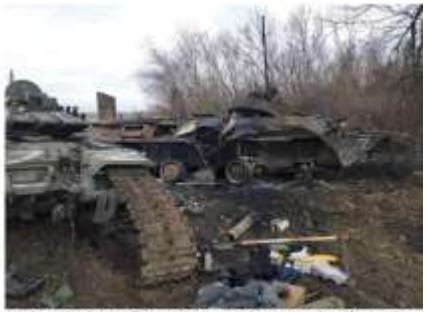
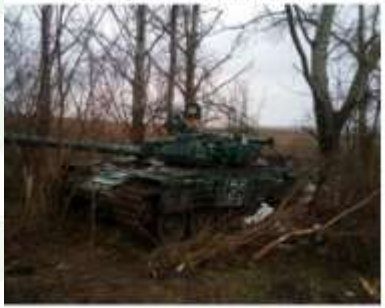
Project idea

The main idea of the project is to optimize the spatial structure of agrolandscapes with the application of various types of agroforestry systems. At the same time, considerable attention will be paid to the reconstruction of existing windbreaks damaged by natural and anthropogenic factors and military actions, with their simultaneous transformation into current silvo-arable agroforestry systems.


Destroyed Russian tank near windbreak


Kharkiv region: Russian tanks at windbreak


Destroyed tank in windbreak


Destroyed Russians techniques with natci signs

The important significance will be the mechanisms of the transition of traditional agriculture to the mixed agroforestry - adaptive type of agriculture, the algorithm of the optimization model of the land fund with a forest component, the scientifically based standards of field protective forestation, including with the use of space images, development of the structure and introduction of agroforestry monitoring of forest-agrarian landscapes.

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Project idea

Consequences of forest fires caused by shelling and "training" of units of the Russian army at the captured Ukrainian training ground in the Oleshkiv desert

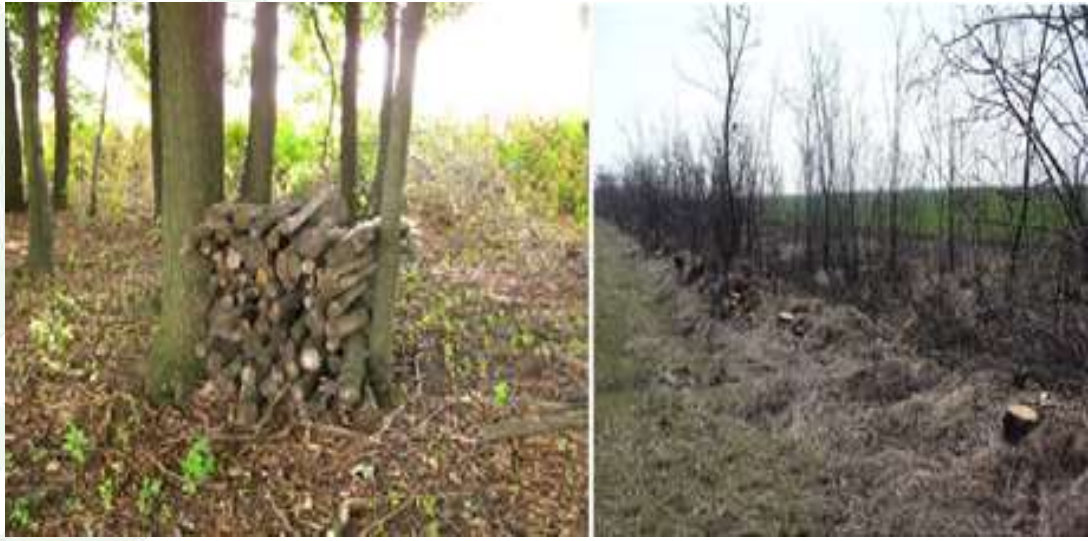
Ruined windbreak and forest near Bakhmut town

After the land reform, as a result of the formation of farms, the creation of windbreaks was stopped. Therefore, taking into account the foreign experience of agroforestry, it is expedient to transit to agroforestry systems, which in the conditions of global climate change are defined as a type of climate-friendly agriculture that expediently combines tree vegetation with agricultural crops. The issues of technologies for creating agroforestry plantations remain unresolved; selection of an assortment of tree species of plants that effectively counteract climate changes, etc. Therefore, it is necessary to continue the research specifically in the part of developing models of agroforestry systems, reconstruction of existing forest amelioration plantations damaged by military actions and anthropogenic factors, and management of farms in them.

At this stage, a consortium of scientific and industrial institutions interested in this project is being formed under the auspices of EURAF. The consortium includes the countries located in the Pannonia region: the Czech Republic, Serbia, Romania, Hungary, Moldova, Slovakia, Ukraine.

Project idea

Carrying out reconstructive felling by removing the outermost rows



Reducing the width of the windbreaks during reconstruction felling

The object of the study is the methods of reconstruction of agroforestry plantations on lands disturbed by military actions and natural anthropogenic factors, technologies for the repstoration of windbreaks and the creation of new types of agroforestry systems on pilot sites of the Forest Steppe and Steppe.

Main expertise offered / sought

I have extensive experience in managing agroforestry projects, the customer of which is the Ministry of Science and Education of Ukraine (see CV). I'm the author of more than 300 scientific and methodological works, of which published in publications that are classified as international databases - 38 (including 21 in scientific metric databases Scopus and WoS), monographs - 11.

I took part at the Life VAIA international project "Valuing afforestation of damaged woods with innovative agroforestry" LIFE20 CCA/IT/001630 – LIFE VAIA (Participation during 1.07.2022-30.09.2022). Executor of the section.

The department of Forests Restoration and Melioration has qualified researchers in the agroforestry area, analyzes are conducted in a Certified Laboratory of Quality and Safety of Agricultural Products of our university.

We plan to be partners of a cohesive international team of this project.

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