

EU Horizon Path4Med project (101156867)

The kick-off regular meeting

Ukrainian team









- 1. Updating of articles
- 2. Progress of Stakeholders mapping (T2.2, T2.3, T5.1, T5.2)
- 3. Stakeholder group
- 4. Deliverables D5.3
- 5. Water& soil sampling
- 6. Discussion needs & Next step
- 7. Next scheduled meeting





Updating of articles





Posters on site
Wed, 30 Apr, 14:00–15:45 (CEST)
Hall X4



Strokal, V., Labenko, O., Ladyka, M., Palamarchuk, S., Naumovska, O., Vagaliuk, L., and Voitenko, L.: Relationship between climate drivers and agriculture in Ukraine: changes over the past two decades and potential implications on water scarcity in the future, *EGU General Assembly 2025*, Vienna, Austria, 27 Apr–2 May 2025, EGU25-6172, https://doi.org/10.5194/egusphere-egu25-6172

Relationship between climate drivers and agriculture in Ukraine: changes over the past two decades and potential implications on water scarcity in the future

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⁶National University of Life and Environmental Sciences of Okraine, Agrosphere Ecology and Environmental Control, Kylv, Okraine

⁷National University of Life and Environmental Sciences of Ukraine, Agrosphere Ecology and Environmental Control, Kylv, Ukraine

⁷National University of Life and Environmental Sciences of Ukraine, Analytical and Bioinorganic Chemistry & Water Quality, Kylv, Ukraine

Ukraine is prosperous in agricultural activities. Agricultural land covers 68.5% of the total land area. Additionally, Ukraine exports around 10% of the global cereals abroad and thus plays an important role in global food security. Crop production in Ukraine is dominated by grains (wheat, barley, corn), technical crops (sunflowers, sugar beets), potatoes¹. Livestock production is dominated by poultry, pigs, cows¹. However, agricultural activities have been under threat

over the past two decades. An important reason is climate change. Climate drivers such as temperature and precipitation have changed their patterns in space and time in Ukraine since 2000. The implications of those changes on agriculture are poorly studied, namely on crop yield, synthetic fertilizers, and animal manure. Furthermore, the potential implications of agriculture and climate on future water scarcity are unknown considering the ongoing Russian-Ukrainian

Co-funded by the European Union

Updating of articles





5-9 May 2025

PIK Potsdam, Germany

Potsdam Institute for Climate Impact Research (PIK)



Se	cloral session	Ph	enary Session		iaynota		,	isimie worksnop us-us ma	. 2020	
Time (L/TC+2)	Monday	05 May			Taxofay 06 1	May		Wednesday E7 May	Thursday 08	May
830 9 00								Registration	Alexandrean	pen
900930	Regist	ration		Registrat	ion	Cross-Sector meeting Water global? Sector Groundwater meeting		Results Presentations	Advancing (cross-sectoral) papers	
10 00 10 30					Sector moeting	(hybrid)	Winter Quality	10-2 min presentations	Pitches and break	organism
10:90-11:00	Sector n Fiahe				Water regional (hybrid)	Sector meeting Groundwater	rhend	Coffee Break	Coffee Bri	nek.
11.00-11:30	fhys	rid)	Sector meeting Health	Sector		(hydvid)		Keynete Jorden Aerts on Adaptation	Keyrolos Paula Harris	Domaria Zurei
11:30-12:00			(vester-borne	meeting Peat	Sector meeting	Sector meeting Labour		Future projections of climate impacts		
12:00-11:00	1		(fiseases) (hubrid)	(rentrae)	Lates	(hybrid)		accounting for adaptation Status, leaves, Prospects ISMP35 group III	Direct Human Fereing for climate Impact simulations	
12:30:11:00					(hydrid)		Sector meeting		(ISIMIP4 DHF Dements & Provision	
							Energy	Key inputs and panel discussion	options)	
12/00-12/20					Lunch Break		Presid	Lanch Break	Key inputs and pare	
13:30-14:00							_		Wrap up and no	-0.00
14:00-14:30					Opening ser ISIMIP/OptiniESI			Scenarios and Timeline for contributions to IPCC AR7	(Towards ISRdP4 Next I words	laps and Clos
1430:15:00		Sector		Results	presentations ar 10+2 min crese			(SMP4 (FT))	Sector meeting Biodiversity	Sector meets Water plobs
15:00-15:10		meeting Agriculture			10 -2 min prese			Key inputs and panel discussion	(hybrid)	(hybrid)
15:30-11:00		Pubridi			Coffee Bre			Coffee Break	Coffee Br	reik
16:00-11:30	Cross-sector	10000								
16/30:17:00	meeting Biomos/Fire/			Results		d Poster Pitches		Sector perspectives on CMIP7- and evershoot scenarios		Sector meeti Water globa
1700.1700	Permafrost/ Peat				10+2 min prese Poster pitch			Key inputs and panel discussion		(hybrid)
17:00:17:30	(hybrid)				- com pic			THE THE STATE OF THE CONTROL	1	
17.90-18100										
19:20-18:30					Poster Ses	sion				
Everying					Workshop Rec	eption		Joint Dinner (on own costs)	1	

ISIMIP provides cross-sectorally consistent modeling protocols integrating climate impacts across sectors and scales in a multi-impact model framework

Co-funded by the European Union

NUBiP is a part of the Water quality sector



Article

A new water quality sector in ISIMIP: community perspectives for model intercomparisons of water quality under global change

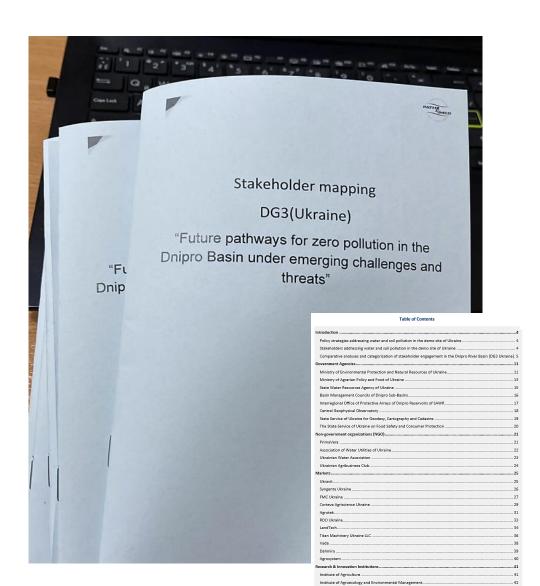
Authors Organizations Countries







DG3(Ukraine): "Future pathways for zero pollution in the Dnipro Basin under emerging challenges and threats"



- 1. Stakeholders addressing water and soil pollution in the demo site of Ukraine
- 2. Overview of selected stakeholders relevant in the context of water and soil pollution
- 3. Policy strategies addressing water and soil pollution in the demo site of Ukraine
- 4. Comparative analyses and categorization of stakeholder engagement



Responsible: Vita Strokal, Oleksandr Labenko



NATIONAL UNIVERSITY OF LIFE AND **ENVIRONMENTAL SCIENCES OF UKRAINE**

Progress of Stakeholders mapping



Water



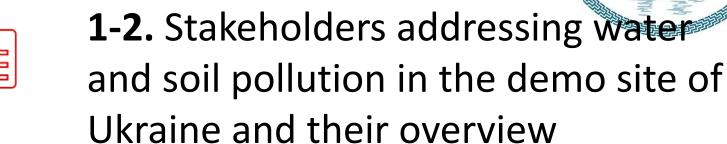
- Ministry of Environmental Protection and Natural Resources of Ukraine
- State Water Resources Agency of Ukraine
- Basin Management Councils of Dnipro Sub-Basins
- Interregional Office of Protective Arrays of Dnipro Reservoirs of SAWR
- Central Geophysical Observatory (CGO) named after Boris Srezenevsky
- PrimaVera
- Association of Water Utilities of Ukraine
- Ukrainian Water Association (UWA)
- Association "Ukrainian Agribusiness Club" (UCAB



Agencies

- The National Scientific Center "Institute of Agriculture of the National Academy of Agrarian Sciences of Ukraine (NAAS)"
- Institute of Agroecology and Environmental Management
- Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine (NAAS)
- Institute of Agricultural Microbiology and Agro-Industrial Production of the National Academy of Agrarian Sciences of Ukraine (NAAS)
- Universities
- Agro-Oven Corporation
- APK-INVEST
- Public Limited Company "UkrLandFarming«
- **IMC-Smart Green Company**
- Water supply services
- Wastewater treatment plants
- Local municipalities (villages and cities)





Government

Sectors:



Academy/Research



Public





Non-governmental

Geographical coverage

- Municipal stakeholders
- **Provincial stakeholders**
- National stakeholders





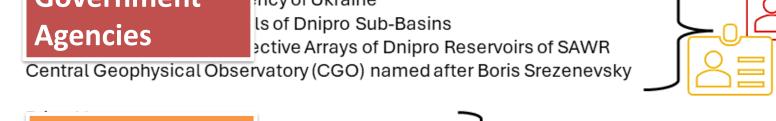




Water



rotection and Natural Resources of Ukraine Government ncy of Ukraine ls of Dnipro Sub-Basins



NGO s of Ukraine OKTAITHATT VVALET ASSOCIATION (UWA) Association "Ukrainian Agribusiness Club" (UCAB

- The National Scientific Center "Institute of Agriculture of the National Academy of Agrarian
- Research organizations al Management 11
- and universities 12
- Institute of Agricultural Microbiology and Agro-Industrial Production of the National Academy of Agrarian Sciences of Ukraine (NAAS)

clamation of the National Academy of Agrarian Sciences

Universities



1-2. Stakeholders addressing water and soil pollution in the demo site of Ukraine and their overview

Sectors:



Academy/Research



Public





Non-governmental

Geographical coverage

- Municipal stakeholders
- **Provincial stakeholders**
- National stakeholders



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Progress of Stakeholders mapping





- Ministry of Environmental Protection and Natural Resources of Ukraine
- Ministry of Agrarian Policy and Food of Ukraine
- Central Geophysical Observatory (CGO) named after Boris Srezenevsky
- State Service of Ukraine for Geodesy, Cartography and Cadastre (StateGeoCadastre)
- The State Service of Ukraine on Food Safety and Consumer Protection (SSUFSCP)
- PrimaVera
- Association of Water Utilities of Ukraine
- Ukrainian Water Association (UWA)
- Association "Ukrainian Agribusiness Club" (UCAB)
- Ukravit 10
- Syngenta Ukraine
- **FMC Ukraine**
- Corteva Agriscience Ukraine
- Agrotek
- **RDO Ukraine**
- LandTech
- Titan Machinery Ukraine LLC
- Vada
- Dahmira 19
- Agrosystem
- The National Scientific Center "Institute of Agriculture of the National Academy of Agrarian Sciences of Ukraine
- Institute of Agroecology and Environmental Management
- Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine (NAAS)
- Institute of Agricultural Microbiology and Agro-Industrial Production of the National Academy of Agrarian Sciences of Ukraine (NAAS)
- Universities
- Water supply services
- Wastewater treatment plants













1-2. Stakeholders addressing water and soil pollution in the demo site of Ukraine and their overview

Sectors:



Academy/Research



Public





Non-governmental

Geographical coverage

- Municipal stakeholders
- **Provincial stakeholders**
- National stakeholders



НУБІП 1898

NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE

Progress of Stakeholders mapping



tion and Natural Resources of Ukraine bod of Ukraine Government y (CGO) named after Boris Srezenevsky **Agencies** desy, Cartography and Cadastre (StateGeoCadastre) ood Safety and Consumer Protection (SSUFSCP) Jkraine NGO ess Club" (UCAB) Ukravit Syngenta Ukraine FMC Ukraine 13 Markets 15 LandTech 16 Titan Machinery Ukraine LLC Vada Dahmira 19 Agrosystem The National Scientific Center "Institute of Agriculture of the National Academy of Agrarian Sciences of Ukraine **Research organizations** 22 agement 23 on of the National Academy of Agrarian Sciences of Ukraine (NAAS) and universities dustrial Production of the National Academy of Agrarian Sciences Universities

1-2. Stakeholders addressing water and soil pollution in the demo site of Ukraine and their overview

Sectors:



Academy/Research



Public



Private



Non-governmental

Geographical coverage

- Municipal stakeholders
- Provincial stakeholders
- National stakeholders



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the European Union

Water supply services

Wastewater treatment plants







3. Policy strategies addressing water and soil pollution in the demo site of Ukraine

Ministry of Environmental Protection and Natural Resources of Ukraine

Water Strategy of Ukraine by 2050" strategy

Reform of integrated water resources management (IWRM)
Dnipro River Basin
Management Plan



Ministry of Agrarian Policy and Food of Ukraine

Strategy for the Development of Agriculture and Rural Areas in Ukraine until 2030 and approved an operational plan for its implementation in 2025-2027

The food security strategy of Ukraine for the period up to 2027

Irrigation and drainage strategy in Ukraine until 2030

Main principles (strategy) of the state environmental policy of Ukraine for the period up to 2030







4. Comparative analyses and categorization of stakeholder engagement

Group of stakeholders	Examples of technologies	Examples of agricultural practices based on NBSs		
Government Agencies Provide policy strategies	Strategies 1	Support stakeholders to implement precision agriculture technologies, monitoring approaches (e.g. measures of ecological and chemical status of water)		
Non- governmental organization Support and promote the implementation of technologies	Solutions for The water supply sustainable land and technologies and effective water use and sewage treatment irrigation systems technologies	Support policymakers, farms, and agribusiness in implementing green technologies based on nature-based solutions		
Markets Distribute technologies and promote approaches	Precision agriculture digital technologies (Cropwise Seed Selector), irrigation sprinkler systems (Otech irrigation systems, ZIMMATIC®), meteorological stations (Pessl iMetos IMT300, Meteobot Pro)	Provide drip and sprinkle irrigation systems for soil protection, build crop disease models, and implement drought-resistant hybrids		







4. Comparative analyses and categorization of stakeholder engagement

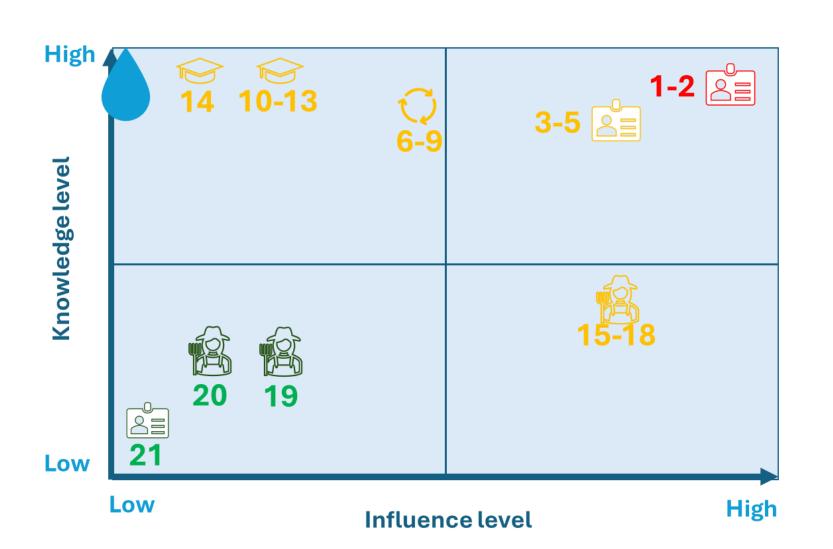
Group of stakeholders	Examples of technologies	Examples of agricultural practices based on NBSs		
Markets Distribute technologies and promote approaches	Data systems (AFS Connect™, Cartography™); water supply for livestock farms (CloudFarms), irrigation sprinkler systems (ZIMMATIC® & Agrodrones sprayers XAG)	Apply innovative water supply and drainage systems in livestock farms to support water protection; provide 3RIVE 3D® plant crop protection delivery platform for supplying sustainable water management		
Farms Produce products (crops, poultry, pork, cattle)	Modern technologies for high-quality harvest (drip systems for livestock farms and sprinkler irrigation technologies, GPS-monitoring machinery) Water supply and drainage systems for livestock farms (CloudFarms), satellite monitoring technology (NDVI and drones)	Provide modern technologies for high-quality harvest in sustainable agriculture practices; ensure various schemes of crop rotation to improve land use and soil fertility		
Research and innovation institutions Provide new knowledge	Knowledge of the development of irrigation technologies, providing the biological preparations in crop production for sustainable agriculture practices.	Support farms in applying climate- resilient hybrids of fodder, industrial, and vegetable crops by providing advice		

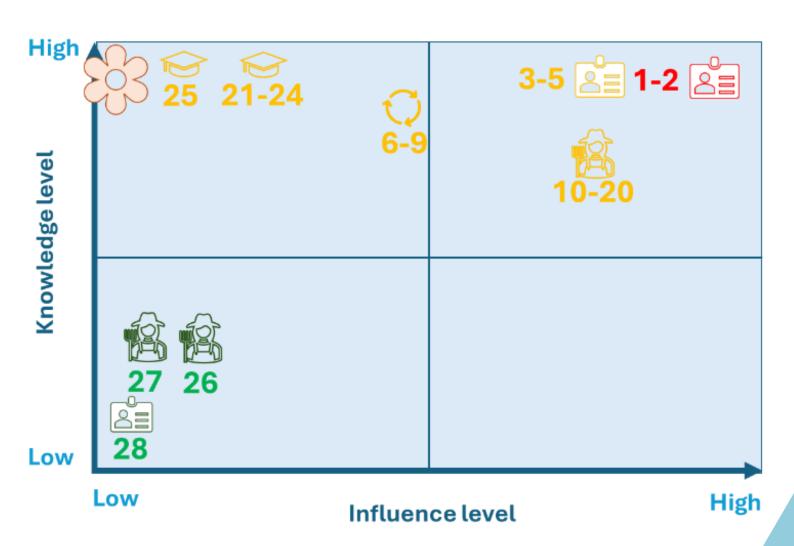






4. Comparative analyses and categorization of stakeholder engagement









Government Agencies





Water Laboratory of the Northern Region



Head of the Laboratory Oleksandr Shevchenko





Central Geophysical Observatory (CGO) named after Boris Srezenevsky



Director — **Andriy Kutsiy**



KOMITET 3 ПИТАНЬ ЕКОЛОГІЧНОЇ ПОЛІТИКИ ТА ПРИРОДОКОРИСТУВАННЯ

ВЕРХОВНА РАДА УКРАЇНИ





Assistant to the People's Deputy **Victor Symone**





Markets





Ukrhydroenergo

Vice-director— Olga Tiga

Research organizations



Institute of
Agroecology and
Environmental
Management



Vice-director of Research — Olena Demjanjuk



Institute of Agriculture





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University



Lviv National
University of
Veterinary
Medicine and
Biotechnologies
named after S.Z.
Gzhytskyj



Head of the
Department of
Ecology —
Petro Khirivskyi

Local Farms – crop production

Farm "Kolos" Chernihiv region, Nizhyn district



Director – Alla Stativka

Farm "Rusych"

Cherkasy region, Cherkasy district



Director – Petro Kononenko

"TK ART-AGRO" LLC

Kyiv Region



Director –
Artem Kalinichenko



Locations



Local Farms – crop production

Farm "Astra"

Poltava region, Kremenchuk district



Director – Andriy Gorobets







Deliverables – D5.3



D5.3: DSs Implementation plan

Lead: NUBiP of Ukraine

1. Created the volunteer team to work on D5.3

- AUA: Konstantinos Soulis

- AUA: Eleni Raidou

- NIBIO: Rem Confesor

NIBIO: Hanne Ugstad

- UPNA: Miguel

- UPNA: Javier Casalí

- ISA: Rosário Cameira

- WUR: Maryna Strokal

- AU Pedro Carvalho

- Divina Rodriguez

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2. The volunteer team has a meeting on Monday, March 31st.

Document

https://docs.google.com/document/d/1rJlmvc debl6081rpl6SXYc5Qgl H1yJy/edit

PATH4MED - DELIVERABLE

[WP5: Co-design, co-development, and coordination of Demonstrations and Open Call management

Task 5.2: Co-design and co-development of Demonstrations

D5.3: DSs Implementation plan

Detailed co-design of the Demonstrations based on participatory approaches following the Living Labs principles.]

LEAD AUTHOR: NUBiP

DATE:

VERSION:



Water & soil sampling



Water sampling

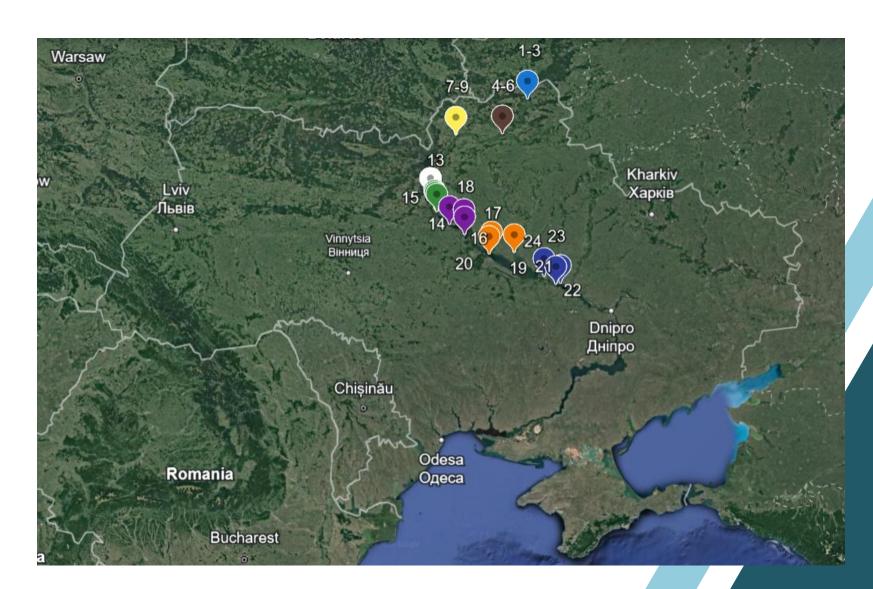
11-13 April 2025 – 4th sampling



2025

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
6	7	8	9	10	11 Water s	12 ampling
13 Water sampling	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Responsible - Svitlana Palamarchuk







Water & soil sampling



Soil sampling

1. Need to choose soil parameters

No	Soil parameters
1	рН (кислотність активна, кислотність обмінна)
2	Вміст максимально можливих запасів вологи, мм
3	Вміст гумусу (за Тюріним), %
4	Вміст рухомих форм фосфору, мг/100 г
5	Вміст обмінного калію, мг/100 г
6	Вміст мінерального азоту, мг/100 г
	(нітратний, амонійний)
7	Вміст лужногідролізованого азоту, мг/кг
	(За Корнфілдом)
8	Вміст рухомих форм мікроелементів в ґрунтах
	(цинк, манган, мідь, кобальт)
9	Тип та ступінь засолення грунту
10	Вміст обмінного кальцію, мг/100 г
11	Вміст обмінного магнію, мг/100 г
12	Вміст рухомих форм важких металів в ґрунтах
	(свинець, кадмій)
13	Вміст гербіциду гліфосату (Glyphosate) в ґрунтах
Всьо	ΓΟ

2. Need to choose the date of soil sampling

JUNE 2025

s	М	Т	W	Т	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	Soil 14
						sampling
Soil 15	Soil 16	Soil 17	Soil 18	Soil 19	20 Soil	Soil 21
sampling	sampling	sampling	sampling	sampling	sampling	sampling
Soil 22	23	24	25	26	27	28
sampling						
29	30					
3. Por	rtable o	levices	tor soil	sampli	ng in re	al-time



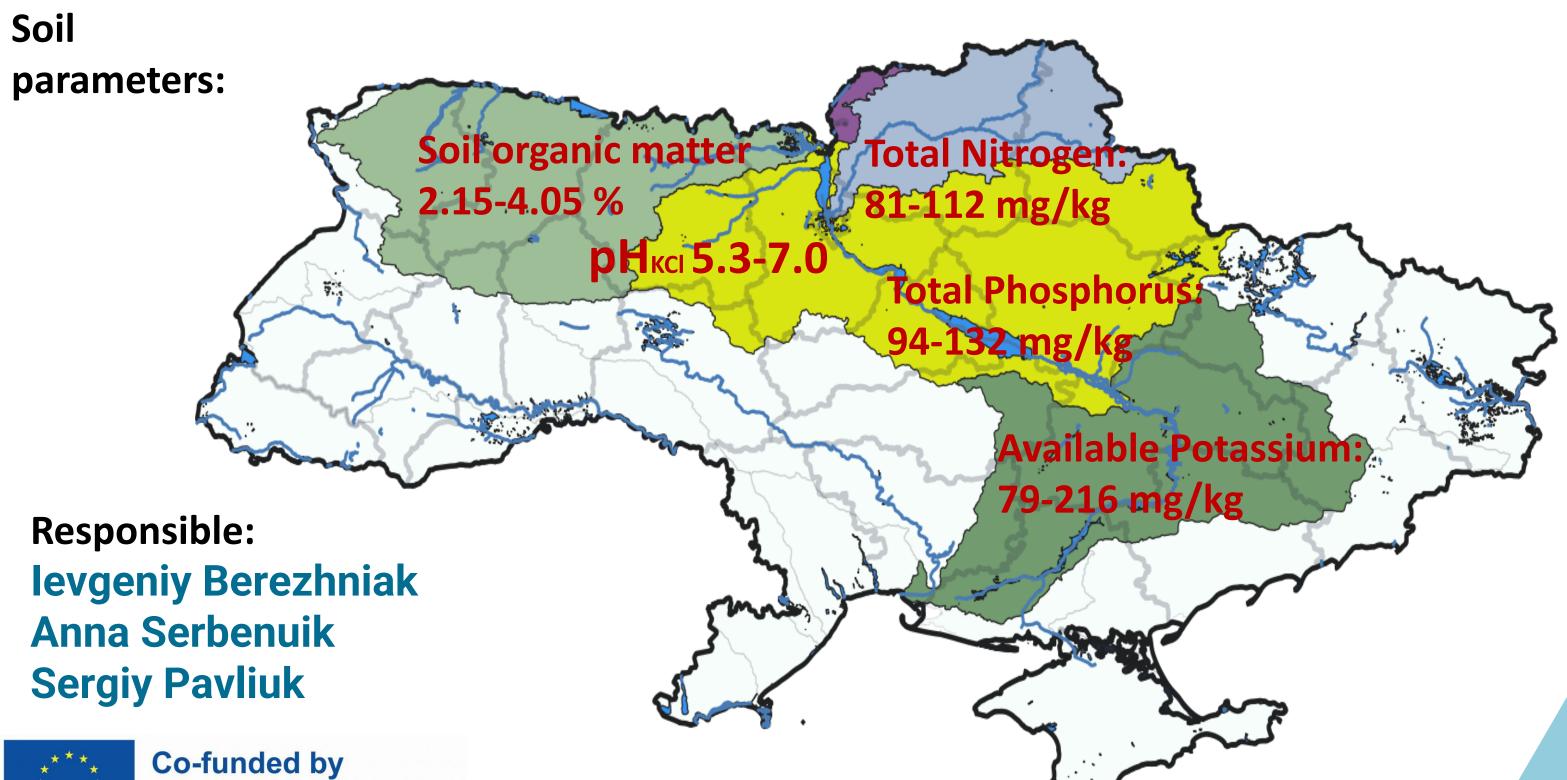


the European Union





Soil monitoring





Needs – next step



2025 APRIL							
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
		1	2	3	4	5	
6	7	8	9	10	11 Water sampling	12 Water sampling	
13 Water sampling	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30				

2025	MAY					
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5	6	7	8	9	10
11	12	13 Stakeholder meeting	14	15 Stakeholder meeting	16 Stakeholder meeting	17
18	19	20	21 OUR Meeting	22	23	24
25	26	27	28	29	30	31





Needs – next step



Path4Med General Assembly in Tirana, Albania (GA)

2025	2025 JUNE						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
1	2	3	4	5	6	7	
8	9	10	11	12	13	14 Soil sampling	
15 Soil sampling	16 Soil sampling	17 Soil sampling	18 Soil sampling	19 Soil sampling	20 Soil sampling	21 Soil sampling	
22	23	24	25	26	27	28	
29	30						

2025 SEPTEMBER							
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
	1	2	3	4	5	6	
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24 GA	25 GA	26 GA	27	
28	29	30					

Any suggestions, recommendations, remarks ...





Next meetings



The next kick-off meeting – 21.05.2025 – 14:30-15:30

Data	Time	Important aspects	Tasks that we need to achieve
30.04.2025	14:30	Water sampling. Integration of agricultural influences (T6.1)	T6.1
21.05.2025	14:30	Soil sampling. Water monitoring analyses.	T3.1, T3.4
25.06.2025	14:30	Prepare the first draft of the report. Soil and water analyses. Overview of what we need. Make the water protocols. Deliverables!!!	Draft report (for the second project meeting)







Thank you for your contributions!

