D2.4. Clustering with sister projects: first outcomes

fer play

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List of Acronyms

CAP	Clustering Action Plan
CSA	coordination and support action
C&D	Communication and Dissemination
KPI	Key Performance Indicators
LCA	Life Cycle Assessment
N.A.	Not Applicable
REA	European Research Executive Agency
TBC	To Be Confirmed

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Keywords list

- Agriculture
- Alternative fertilisers
- Alternative fertiliser value chains
- Bio-waste
- Life cycle assessment
- Networking fellow projects
- Organic by-products
- Resource efficiency
- Sewage sludge
- Wastewater

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Executive summary

FER-PLAY is working to protect ecosystems, decrease EU dependence on fertiliser imports, and improve resource efficiency through the promotion of alternative fertilisers. The project maps and assesses alternative (circular) fertilisers made from secondary raw materials and highlight and disseminate their multiple benefits to foster their wide-scale production and application. To these purposes, it is crucial to cluster with related projects to both capitalize on past projects' results and maximize the communication and dissemination of project outcomes is a key objective.

This deliverable reports about the activities carried out in the first year of the project with 1) the *sister project* NOVAFERT, funded under the same HORIZON-CL6-2021-ZEROPOLLUTION-01-09 topic as FER-PLAY, and 2) other *fellow projects* which scope is aligned to FER-PLAY's one and which results are relevant to our project development.

Beyond NOVAFERT, seventy national and European projects and initiatives focussing on value chains that fall within FER-PLAY scope were identified. Among them, 47 were selected as being suitable to frame a collaboration that spans from mutual C&D of project results and surveys to conjoined activities like the co-organization of webinar, seminars, workshops and policy recommendations.

FER-PLAY partners in charge of exploitation, communication, dissemination and co-creation activities were consulted to identify relevant fields for collaboration with fellow projects. These projects where therefore contacted to gather inputs on real opportunities for collaboration, mainly through a survey. For example, many projects expressed their wish to collaborate on policy recommendations and the purposes of the activities with different stakeholder groups often overlap with ours, paving the way to concrete opportunities for conjoined events and activities.

The outcomes of the consultations are thoroughly presented in this document and meant to be capitalized through the Clustering Action Plan (CAP), a summary of instructions for FER-PLAY partners that aims at standardizing the seek for opportunities for collaboration with NOVAFERT and the *fellow projects*. The mapping and consultation work has crystallised in a list of projects and initiatives which have shown their willingness to exchange information, share methodologies and generate synergies, thus enriching the project scope.

The overall Clustering Strategy (i.e. identification of collaboration opportunities, CAP and monitoring protocol) presented in this deliverable aims to be a reference for any stakeholder intended to undertake a clustering/networking.

1. Introduction

FER-PLAY is a Horizon Europe project facilitating the uptake of alternative fertilisers, to protect ecosystems, decrease EU dependence on fertiliser imports, foster circularity and improve soil health. The project mapped and is assessing alternative fertilisers made from secondary raw materials, such as manure or biowaste, and highlight their multiple benefits in order to promote their wide-scale production and use on field.

The FER-PLAY project is a coordination and support action (CSA), to which category belong projects "consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries"[1].

Due to its nature, FER-PLAY is expected to extensively cluster with other projects to exchange information, share methodologies, generate synergies, strengthen relations and enrich project scope. Especially with projects funded under the same funding topic, like the *sister project* NOVAFERT, but also with other projects and initiatives (i.e. networks or platforms) whose results are relevant for and/or aligned with FER-PLAY results, from now on simply called the *fellow projects*.

Therefore, CETENMA, as project coordinator and task leader, has worked closely with Consortium key partners to develop a clustering strategy that include an action plan, agreeing also on the nature and the modality of the monitoring actions. Figure 1 presents the scheme of the methodology (and timing) that has been followed for the development of Task 2.8 "Clustering with other projects" and the preparation of this deliverable, with the related actions and timeline: project mapping, projects selection, identification of fields of collaboration, identification of opportunities for collaboration, elaboration of the Clustering Action Plan (CAP) and definition of work ahead.

As it can be seen, after the initial project mapping, the kind of activities that FER-PLAY partners in charge of exploitation, communication, dissemination and co-creation are interested to carry out together with other projects were identified. Indeed, to ensure the involvement of any fellow

[1] ref. General Annexes of the Main Work Programme https://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2018-2020/annexes/h2020-wp1820-annex-ga_en.pdf

project in FER-PLAY activities, it is paramount to align the requests for collaboration with the projects' interests and priorities. We refer to this stage as the "identification of collaboration fields". Right after this, *fellow* and *sister* projects were inquired on their willingness to collaborate on certain activities. This was the stage of "identification of collaboration opportunities". See Paragraph 3.2 and Annex 2 : Summary of identified collaboration opportunities for more details. This extensive work led to the preparation of the CAP.

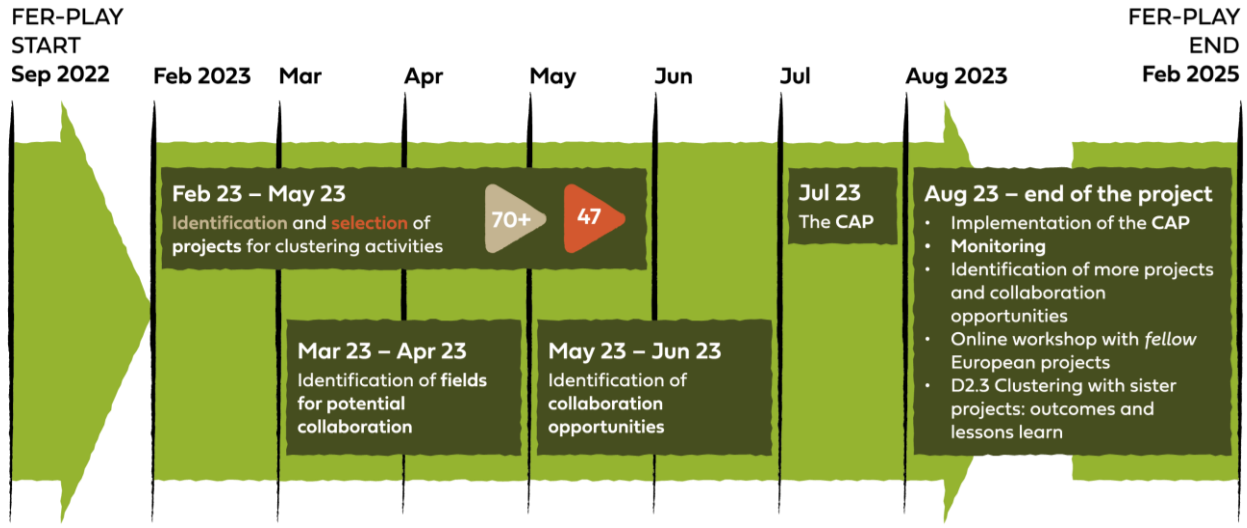

Figure 1. The Clustering Strategy

With this document the authors aim at:

- Sharing with the reader the clustering methodology adopted, hoping it will be of help to any stakeholder undertaking clustering/networking activities with projects.
- Sharing with the Consortium partners the CAP, as a reference for the work ahead in terms of communication and interaction with fellow projects.
- Communicating the work ahead and the monitoring strategy.
- Helping the tracking of the clustering outcomes and activities.

The clustering strategy and its four pillars, i.e. the mapping process, the identification of collaboration fields and opportunities, the CAP and the monitoring protocol, were presented to the FER-PLAY Consortium during an internal workshop, held on the 17th July of 2023.

During the workshop, FER-PLAY partners were invited to comment on the CAP and on the tools designed to keep record of due information (mainly Excel spreadsheets), allowing to finetune them. The material proposed in this deliverable was co-created together with the participants to the aforementioned workshop.

2. Activities and outcomes of clustering with fellow projects

As per grant agreement, in February 2023, FER-PLAY was expected to start the clustering activity by collaborating with the project funded under the same topic HORIZON-CL6-2021-ZEROPOLLUTION-01-09, the *sister project* NOVAFERT. Nonetheless, this collaboration started 6 months in advance, when both projects kicked-off together, and by February 2023 it was expanded to other European and national projects and initiatives whose scopes and results are aligned and/or relevant to FER-PLAY. We hereby call them *fellow projects*.

In this section, we provide a summary of these activities, dividing the content in two sections: one strictly dedicated to the *sister project* and another dedicated to the *fellow projects*. The timeframe is the first year of FER-PLAY: September 2022 – August 2023.

2.1. Activities with the sister project: NOVAFERT

The collaboration with the sister project NOVAFERT started in September 2022, and was framed since the beginning of the projects to promote the highest level of interaction possible. Beyond the participation of project representatives to the other project's kick-off meeting, a conjoined NOVAFERT-FER-PLAY kick-off meeting, proposed and organized by our project officer, was held to explore synergies. The FER-PLAY Communication, Dissemination and Exploitation Plan, released in February 23, already included a draft plan of these actions in Section 4.5. The initial idea later took the shape of the following actions:

- FER-PLAY coordinator, Dr. Martín Soriano, is part of NOVAFERT advisory board, while NOVAFERT main contact person, Prof. Erik Meers, is part of ours.
- Both projects' assessment teams are holding periodic meeting to finetune the Life Cycle Assessment (LCA) methodologies.
- Communication, Dissemination and Exploitation teams also identified areas for joint actions, like the co-creation of an action plan and guidelines for exploitation.
- Policy recommendations, co-creation actors with stakeholders, awareness and dissemination activities will also offer a common ground for collaboration.
- Periodic meetings between the two projects' coordination teams with the main aim to identify and shape opportunities for collaboration and follow-up on the work done.

- FER-PLAY shared with NOVAFERT the 6-month interim report, to ensure the project development tracking by the sister project.
- The two projects' respective newsletter include a section to highlight the main news and achievement of the sister project.

In Table 1, we summarize all conjoined activities both already carried out and foreseen in September:

date	type of activity	short description
Activities carried out from Sep 22 to Aug 23		
13/09/2022	General assembly	FER-PLAY participates in NOVAFERT general Assembly (13 and 14 Sept)
26/09/2022	KOM	Participation in NOVAFERT kick-off meeting, with a presentation on our project
08/11/2022	Conjoined KOM	Kick-off for the NOVAFERT and FER-PLAY collaboration, with proposals for conjoined activities and feedbacks from REA officers.
17/11/2022	WP2-related meeting	Meeting to debate on the most appropriate LCA methodology
20/04/2023	Follow-up meeting	Follow-up meeting between FER-PLAY and NOVAFERT excoordinator to define work ahead and brainstorm on future collaborations
24/04/2023	WP2-related meeting	Meeting to debate on the most appropriate LCA methodology
25/05/2023	Advisory Board	FER-PLAY coordinator participates in NOVAFERT Advisory Board meeting
25/05/2023	1st Newsletter release	Release of the 1st issue of FER-PLAY newsletter, that includes a section dedicated to news from NOVAFERT. The same did NOVAFERT team in their first release (late May 2023). The sections will be kept until the end of the projects.
23/06/2023	Follow-up meeting	Meeting on the conjoined organization of the ESNI conference (Sept 23)
20/07/2023	BioAzul (NOVAFERT partner) visits FER-PLAY coordinator	Discussion of FER-PLAY & NOVAFERT conjoined actions in the South of Spain (Andalucía and Murcia)
Short-term foreseen activities		
14/09/2023	Advisory Board	FER-PLAY coordinator participates in NOVAFERT Advisory Board meeting held during their General Assembly
20/09/2023	Participation as keynote speaker at ESNI Conference	Participation as key-note speaker at ESNI Conference, during a session organized by NOFAVERT.
20/09/2023	ESNI Conference, co-organized workshop	Participation of FER-PLAY experts to one of the workshops organized by NOVAFERT partner University of Ghent at the ESNI Conference 2023.

Table 1. Activities carried out in the frame of the collaboration of FER-PLAY and NOVAFERT projects.

Other activities that are being considered to capitalized the collaboration between the two projects are:

- Participation of CETENMA in the Regional Working Group of NOVAFERT in Andalucía, led by BioAzul.
- Creation of a Spanish national reference group for Nutrient recovery.
- At least 1 peer-reviewed publication, most probably on value chain assessment.
- Organization of a workshop in Apr 24 to consolidate synergies and strengthen relations.

2.2. Collaboration activities held with fellow projects

Table 2 summarizes the activities carried out with some of the 47 fellow projects and also includes those that are already scheduled for the upcoming weeks.

Project name	date	type of activity	short description	Link, if any
Activities carried out from Sep 22 to Aug 23				
Boost poketvergisting	02/03/2023	C&D activity	Oral Presentation of FER-PLAY	Studienamiddag pocketvergisting met bedrijfsbezoek | Inagro
Boost poketvergisting	09/03/2023	C&D activity	Oral Presentation of FER-PLAY	Studienamiddag pocketvergisting met bedrijfsbezoek | Inagro
All mapped projects	May-June 2023	Invitation to subscribe to the newsletter	In the welcome message of the survey sent to identify opportunities for collaborations, users are invited to subscribe to FER-PLAY newsletter: “The Alternative”	
CLEVERFOOD	26/05/2023	Survey	FER-PLAY completed the survey to join the FOOD 2030 Project Collaboration network	
ProBio	06/06/2023	Workshop (DE)	German project about compost. Held the WP3 the co-creation workshop of expected for M10 (June 23) and provided the survey on social acceptance elaborated in WP2	
Nutricycle Vlaanderen platform	20/06/2023	C&D activity + WP3 social acceptance survey	FER-PLAY flyer that included a QR to FER-PLAY survey on social acceptance for end users (farmers).	De toekomst van duurzame landbouw in Vlaanderen - Nutricycle

ALFA	28/06/2023	Co-creation workshop (BE)	Workshop with Belgian alternative fertilsers end-users, to co-create tailored support services to tackle barriers, improvement areas, and needs for biogas system uptake. Participants were invited to participate in the social acceptance survey from WP2.	ALFA Co-Creation Workshops: Belgium - ALFA Project (alfa-res.eu)
Agro2Circular	07/07/2023	Participation of FER-PLAY experts to a workshop	"Agro2Circular: escenarios de futuro" / "Agro2Circular: scenarios for the future [of Murcia Region]"	
Bioschamp	22/08/2023	Meeting	WP2 leaders called a meeting with Bioschamp Project to gather data on champost.	
Short-term foreseen activities				
BioDen	12/09/2023	Workshop (DE)	2nd workshop together with ProBio project (in person) in North of Germany	
FertiCycle	20/09/2023	Multitopic workshop	Task 3,2 - M12 multitopic workshop (EBA). co-organization at ESNI Conference	
CLEVERFOOD/ FOOD 2030	20/09/2023	Attendance to a workshop	Common Online Workshop for the FOOD 2030 Project Collaboration Network	
LIFE Biobest	28/11/2023	Advisory Board	FER-PLAY coordinator participates in Biobest Advisory Board meeting	
NextGen Water	N.A.	Capitalizing on project results	Deliverable D2.1, D5.2, D4.3 and D4.4 here are of interest for FER-PLAY WP2 and WP3 partners	https://nextgenwater.eu/results/

Table 2. Activities carried out with fellow projects from Sep 2022 to Aug 2023 (M1-M12)

Moreover, the in-person general assembly of FER-PLAY, scheduled for the 18th and 19th of October in Cartagena, will count on the participation of NOVAFERT partners and representatives of some of the *fellow projects*, as well as alternative fertiliser producers, farmers, local/regional administration and policy makers.

3. The clustering strategy

The aim of clustering with other projects is to take advantage of common fields of actions, like tasks with similar objectives or similar KPIs, to maximize project impacts through the exchange of information, sharing methodologies, the creation of synergies and the enrichment of project scope. In order to reach these objectives, some necessary steps (summarized in Figure 1) needed to be taken which are summarized as follows:

1. Map a variety of European and national projects and initiatives focusing on topics related to FER-PLAY (*fellow projects*) and select those relevant to FER-PLAY scope, see Section 3.1.

2. Identification of fields for potential collaboration that are relevant to FER-PLAY, which was carried out by consulting FER-PLAY consortium partners in charge of co-creation, assessment, C&D and exploitation tasks,

3. Identification of opportunities for collaborations, which was possible consulting key profiles from *fellow projects* C&D and project management teams (Section 3.2).

4. Creation of the CAP, which will serve as reference to all FER-PLAY partners and to the *fellow projects* untill the end of the project. This plan is presented in Section 3.3 and will be updated with the release of « D2.3 Clustering with sister projects: outcomes and lessons learnt" (August 2024).

To ensure the fulfilment of CAP and the achievement of related clustering KPI's, a monitoring strategy has been put into action since the 3rd month of development of Task 2.8 « Clustering with other projects ». More details in Section Table 4.

3.1. Mapping of fellow projects

The seek for fellow projects and initiatives was carried out via different **mapping channels**:

1. projects identified in FER-PLAY Grant Agreement,

2. projects suggested by the REA project officer,

3. projects affiliated to the European Biorefine Cluster under the topics "nutrient recovery" and "value chain assessment",

4. projects suggested by FER-PLAY Consortium partners.

This first mapping resulted in a list of over 70 projects, from which were finally kept those:

- that are ongoing or have recently ended,
- whose results and activities are relevant for and/or aligned to FER-PLAY development.

The reader can consult the list of the selected projects (47), their description, and website pages in Annex 1 : List of projects for clustering activities. The list will be constantly updated during the project lifespan.

3.2. Methodology for the identification of collaboration opportunities

After mapping of 47 fellow projects suitable for undertaking conjoined activities, the collaboration opportunities were identified with the double purpose of:

- Providing the FER-PLAY Consortium with information that allows them to identify those fellow projects of interest for certain FER-PLAY activities.
- Narrowing down the collaboration requests to fellow projects, by sending targeted ones according to their interest and availability.

As exposed in Figure 1, the identification of collaboration opportunities with the 47 mapped projects followed a 2-step process:

1. Mar 23 – Apr 23: Identification of **fields for potential collaboration** that are relevant to FER-PLAY, by consulting WP2, WP3 & WP4 partners. Outcomes are resumed in.
2. May 23 – Jun 23: Identification of **collaboration opportunities** with the 47 mapped projects addressed in two way:
    a. a short survey sent to contact people of 32 projects,
    b. direct knowledge that Consortium partner have of 15 fellow projects, beyond the knowledge on the *sister project* NOVAFERT.

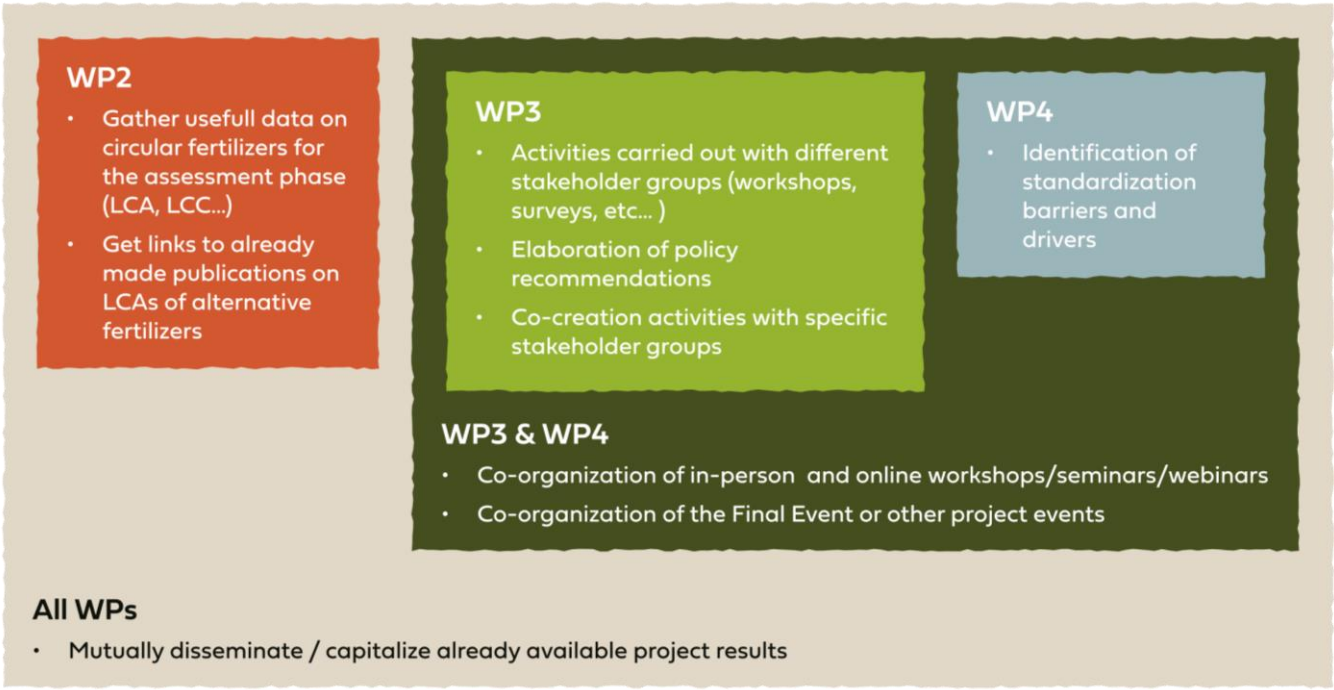

Figure 2. Identified collaboration fields for the conjoined activities to be carried out with the fellow projects.

3.2.1. Previous knowledge

For 15 out of 47 projects, the knowledge about possible fields of collaborations was gathered through direct involvement or contact of FER-PLAY consortium members with the fellow projects. These 15 *fellow projects* are: ALFA project, Biorefine Cluster, Bioschamp, CLEVERFOOD / FOOD 2030, GoMicroClimatt, HOOP, IPMworks, NexGen Water, NOMAD, Nucticycle Vlandeeren platform, Probio, Nutriman, ReNu2Farm, SOILUTIONS, WikiLeeks and the *sister project* NOVAFERT.

3.2.2. The survey

The short survey « **FER-PLAY - Networking and clustering with other projects** » (questions reported in Table 3), was sent to various contacts of 32 project, compiled by searching on the corresponding websites or via common contacts. The survey was meant to gather information on possible collaboration opportunities.

A total of twenty-five projects filled in the survey, and results, presented in Annex 2 : Summary of identified collaboration opportunities, were employed to create the CAP, see Paragraph 3.3. The 9 projects that did not reply to the survey were contacted to be included in the contact list for C&D of FER-PLAY results.

	Question	Answer options
1	Your project name:	[open answer]
2	On what circular fertilizers does your project focuses on?	[open answer]
3	What of the following stakeholders does your Consortium include?	☐ Circular fertilizers producers ☐ Farmers Associations ☐ Municipalities or regional authorities ☐ Policy makers
4	Are you looking for "fellow projects" to set down policy recommendations?	☐ Yes ☐ No
5	Has your Consortium already made publications on LCAs (life cycle assessment) of alternative fertilizers?	☐ Yes ☐ No
6	Has your project identified or will it work on identifying standardization barriers and drivers for the uptake of alternative fertilizers?	☐ Yes ☐ No
7	Does your project foresee co-creation activities with some of the following stakeholders?	☐ farmers (fertiliser end-users) ☐ traditional fertilizer producers ☐ local authorities (municipalities, regional governs, etc…) ☐ policy makers ☐ none of the previous options
8	Regarding the main purposes of activities with stakeholders, do they include…?	☐ Gathering info about farmers' needs and interests ☐ Communication and dissemination of project results ☐ Creating guidelines to foster the production and uptake of alternative fertlizers ☐ Identification of commercial barriers and drivers for alternative fertilizers ☐ Identification of regulatory barriers and drivers for alternative fertilizers ☐ Filling surveys on alternative fertilizers (acceptance, application, etc..) ☐ none of the previous options
9	To organize **in-person** workshops or roundtable with stakeholders, are you willing to join forces with other projects? If so, for which stakeholder groups?	☐ No, we will not co-organize with other projects ☐ Yes, alternative fertilizers producers ☐ Yes, farmers ☐ Yes, local administrations ☐ Yes, policy makers

	Question	Answer options
10	To organize **on-line** workshops or roundtable with stakeholders, are you willing to join forces with other projects? If so, for which stakeholder groups?	☐ No, we will not co-organize with other projects ☐ Yes, alternative fertilizers producers ☐ Yes, farmers ☐ Yes, policy makers
11	In case your Final Event and other project events include workshops/seminars, are you open to co-organize them with other projects like FER-PLAY?	☐ Yes, let's talk ☐ No
12	Finally, check out our project description (https://fer-play.eu/about/): can we capitalize/disseminate any of your results within our scope? Please, write the link(s) below:	[open answer]
13	Please, write the e-mail address of the contact person for C&D tasks:	[open answer]
14	Please, write the e-mail address of the contact person for stakeholder engagement tasks:	[open answer]
15	Please, write the e-mail address of the contact person for technical / project development inquiries:	[open answer]

Table 3. The FER-PLAY Networking and Clustering survey

3.3. The Clustering Action Plan (CAP)

After analysing the results of the previous phase on the identification of collaboration opportunities, the FER-PLAY coordinator provided a summary with the outcomes to the rest of partners. This happened during the Clustering Workshop that was held on the 12th of July 2023. The reader can also find the results of the surveys (excluding personal data of the surveyed people) in Annex 2 : Summary of identified collaboration opportunities.

The aforementioned summary is an indispensable addendum to the CAP, which consists of a short list of instructions to help FER-PLAY Consortium partners in interacting with other projects and fulfil T2.8 objectives. The CAP is presented in Table 4.

In addition to these tasks, CETENMA as coordinator and responsible for the clustering activities, will actively continue the role of establishing communication with new projects, promoting networking and collaboration, exploring synergies, promoting the project, bringing collaboration/clustering opportunities…In addition, CETENMA will organise and promote events to ensure these activities (e.g. General Assembly in Cartagena by October 2023, Workshop with sister projects by April 2024).

Action nº	Who (FER-PLAY partner)	What	When
1	Leaders of co-creation with stakeholders and C&D activities.	**Prepare a Gantt with all project events** (workshop, webinars, seminars, final event) & the most **relevant events outside** the project. Identify those that could be co-organized with other projects.	By Jul 23
2	Leaders of co-creation with stakeholders and C&D activities.	Check the Annex 2 : Summary of identified collaboration opportunities. 1) identify **projects available to co-organize** events & contact them (make a tentative plan) and 2) seek collaboration from other projects for the completion of surveys and questionnaires.	Jul 23 and Aug 23
3	Exploitation leader	Check the Annex 2 : Summary of identified collaboration opportunities, identify projects that already worked on the **standardization** & contact them to get relevant inputs for your task.	By Jul 23
4	Value chain assessment leaders	Check the Annex 2 : Summary of identified collaboration opportunities, identify projects that already released **assessment reports** & contact them to get relevant inputs for your tasks.	By Jul 23
5	C&D leaders	Check the addresses of contact people for the *fellow projects* and make a **dissemination list** with C&D contacts for **all 47 projects**. Draft a "Dissemination Calendar to Fellow projects" [from M13 to M30] and submit it to the Coordinator. Bi-monthly interactions with the *fellow projects* are expected, and more frequently with the *sister project* NOVAFERT (beyond the creation of content for the newsletter as mentioned in section 2.1), The main objectives of these interactions are: 1) to share FER-PLAY results and to mutually repost relevant contents on social media, 2) invite projects to our events/activities, attend other project's events/activities and 3) encourage them to sign up to our newsletter to be updated about our news, events and activities, 4) monitor activities/publications by other projects and share those of interest with our consortium.	By Sep 23
6	FER-PLAY coordinator	Keep the file "Collaboration_info.xlx" updated with the record and include updates in D2.3 [due by M24, Aug 24]	All project duration
7	Everybody	**Keep record** of any activity made with *fellow projects*, may they be **events** or the capitalization of their **results**	All project duration

Table 4. The Clustering Action Plan (CAP)

3.4. Task monitoring strategy

The FER-PLAY coordination team will be in charge of monitoring the implementation of Task 2.8 « Clustering with other projects » via the following interventions:

- Request updates via e-mail about the development of each CAP action
- During the bi-monthly online Consortium meetings, request updates on the collaborations held or programmed with the *fellow projects* and the sister project
- Send out bi-monthly reminders to all Consortium partners to:
    - keep record of any activity carried out with *fellow projects*, including C&D activities (Action 7 of the CAP) and report them to the Coordinator
    - reread the CAP and this deliverable before starting the organization of webinars, seminars and any FER-PLAY events, looking for inspiration for synergies, paying special focus to Annex 2 : Summary of identified collaboration opportunities

4. Conclusions and work ahead

This document reports about the first activities and outcomes from the clustering activities with our sister and fellow projects. Activities with fellow and sister projects were carried in the frame of FER-PLAY co-creation and communication tasks, accounting already for 19 executed actions and 12 actions planned to be held in the next months (see Section 2). In addition, the FER-PLAY coordination Team has created the so-called Clustering Strategy (Section 3); i.e. a protocol that allowed to identify 47 *fellow projects* besides the *sister project* NOVAFERT, the fields for collaboration and actual collaboration opportunities. Such a list of fellow projects becomes fundamental in terms of exchanging information, sharing methodologies and generating synergies, thus enriching the project scope. The results of this exercise were presented to FER-PLAY consortium partners at the Clustering Workshop on 12 July 2023, together with the CAP that summarises actions to be implemented to fulfil KPI's of Task 2.8 "Clustering with other projects".

The aforementioned opportunities may include, but are not limited to: the creation of policy recommendations, capitalization of other project results, conjoined organization of events with various stakeholders groups for topics related to gathering info about farmers' needs and interests, communication and dissemination of project results, creation of guidelines to foster the production and uptake of alternative fertilisers, identification of commercial barriers and drivers for alternative fertilizers and the identification of regulatory barriers and drivers for alternative fertilizers, and filling of surveys on alternative fertilizers (acceptance, application, etc..). Moreover, *fellow projects* and the *sister* project are being considered for the co-creation activities with farmers, alternative fertilizers producers, policy makers and local/regional administrations.

By following the CAP guidelines, FER-PLAY partners are expected to carry out at least other 30 activities that fall within the scope of Task 2.8 « Clustering with other project » by August 2024. In order to reach that objective, the following specific actions are envisaged as work ahead:

- FER-PLAY partners to implement the CAP.
- FER-PLAY coordination team to monitor the implementation of Task 2.8 « Clustering with other projects », as explained in Section 3.4.
- Sep 2023. Targeted planning of conjoined activities with *fellow* and the *sister* projects.
- Mar 2024. A new mapping phase will be launched to intercept new *fellow projects* for the aforementioned workshop.

- Apr 2024. As written in the Work Package description, there will be an online workshop with *fellow* European projects to share FER-PLAY results.
- Aug 2024. Release an updated version of this deliverable: D2.3 « Clustering with sister projects: outcomes and lessons learn" to report on all clustering activities for the first 2 years of development of the FER-PLAY project.

Annex 1 : List of projects for clustering activities

Table 5. List of fellow projects (47) and the sister project (1)

	Project name	Website	Project description
1	Agro2Circular	https://agro2circular.eu/	A EU project boosting the upcycling of agri-food wastes (from F&V and MPF) through innovative routes of valorisation, leading to high extraction yields, bioactives with the purity and stability required to be used for the production of new food, cosmetic and nutraceutical formulation.
2	ALFA	https://alfa-res.eu	Upscaling the market uptake of renewable energy by unlocking the biogas potential of livestock farming.
3	B-Ferst	https://bferst.eu	B-FERST aims at integrating the valorisation of bio-waste in agriculture by creating new circular and bio-based value chains. The project improves the sustainability of arable land by developing 8 innovative bio-based fertilisers. Our ultimate goal is to enhance the relationships between farmers and bio-based industries.
4	BioDEN	https://www.biogas-e.be/bioden	A biorefinery approach to exploit digestate as key feedstock in the energy – nutrient nexus
5	Biorefine Cluster	https://www.biorefine.eu/	The Biorefine Cluster Europe interconnects projects and people within the domain of biobased resource recovery, striving to contribute to a more sustainable resource management.
6	Bioschamp	https://bioschamp.eu/	Biostimulant alternative casing for a sustainable and profitable mushroom industry
7	Boost pocketvergisting & nabewerking		A network, not a project, aimed at spreading a (renewed) awareness of pocket digestion and post-processing of manure or digestate.
8	B-WaterSmart	https://b-watersmart.eu/	B-WaterSmart accelerates the transformation to water-smart economies and societies in coastal Europe and beyond.
9	CLEVERFOOD / FOOD 2030	https://food2030.eu/	CLEVERFOOD will mobilise society to transform food systems by establishing and operationalising the FOOD 2030 Project Collaboration Network: https://food2030.eu/

	Project name	Website	Project description
10	EUFA	https://www.efua.eu/	EFUA's objectives are to unlock Urban Agriculture's potential through achieving better networking, better knowledge, better deployment and better policies in the field.
11	FENIX	Not available yet.	New Life for Biowaste as a sustainable Soil Improver. Started in June 23, no website available. Horizon Grant Agreement nº 101113002.
12	Ferti-Cycle	https://ferticycle.ku.dk/	This project is a Marie S. Curie ITN (Innovative Training Network) involving 15 PhD students researching in the field of bio-based fertiliser production. Pd.D. programs are finalizing either in 2023 or 2024.
13	Fertimanure	Partners - Fertimanure	More than 90 % of the manure produced by livestock farms in the EU is used for land fertilisation. However, this process is inefficient. The EU-funded FERTIMANURE project intends to develop, test and estimate advanced nutrient management strategies to produce competitive fertilisers that contribute to good yield.
14	Go Microclimatt	https://microclimatt.es/	National (ES) project to endorse and spread awareness on the benefits of biostimulants obtained from microalgae, for a more sustainable agriculture.
15	GOCHAMPLAST	Proyecto GO CHAMPLAST	National (ES) project on the recycling of champost and recycle nutrients.
16	HOOP	https://hoopproject.eu/	The HOOP project is working with 8 Lighthouses cities and regions that are shining a light on the path towards a more sustainable and circular future
17	IFOAM	https://www.ifoam.bio/	A global network of organic farming stakeholders, including farmers (i.e.: alternative fertilizer end-users)
18	IPMWORKS	IPMworks	An EU-wide farm network demonstrating and promoting cost-effective IPM strategies.
19	Lex4Bio	https://www.lex4bio.eu/	Develops a profound knowledge basis and new coherent methods to take full advantage of BBFs. For this purpose, LEX4BIO will focus on the most promising technologies for BBF production and evaluate their fertilisation potential and other properties against national and EU fertilisation requirements.
20	LIFE Biobest	Not available yet, the project recently started.	Aims to identify and validate the Best Practices and current management instruments throughout the biowaste management chain (from generation to treatment) that allow the production of quality compost and digestate and establish a series of Key Reference Performing Indicators (KPIs), based on the analysis of existing databases and experiences.

	Project name	Website	Project description
21	MTK: The Central Union of Agricultural Producers and Forest Owners	https://www.mtk.fi/web/en	MTK has over 316 000 members in local agricultural producers' organisations and regional forest management associations.
22	NextGen Water	https://nextgenwater.eu/	ENDED. https://nextgenwater.eu/results/ are potentially interesting for WP2. Challenging embedded thinking and practices in the water sector by embracing circular economy principles and technological innovation
23	Nitroman	www.nitroman.be	Through two innovative techniques – ammonia stripping and membrane filtration - NITROMAN aimed to recover significant amounts of nitrogen, potassium and water from this liquid fraction of pig and cattle manure. Ended in December 2022, the Consortium is still available to share project results.
24	NOMAD	https://www.projectnomad.eu/	NOMAD´s mission is to develop a unique mobile solution for production of high-quality organic fertilisers and soil amenders from anaerobically digested organic waste. [ends in Sep 2023]
25	NOVAFERT (the *sister project*)	https://www.novafert.eu/	With similar objectives to FER-PLAY, NOVAFERT aims to orientate the production and the application of alternative fertilising products according to the best environmental performances, by establishing methodological guidelines for the assessment of alternative fertilising products' production, storage, distribution and application.
26	Nutricycle Vlaanderen platform	Home - Nutricycle	Nutrient platform for stakeholders in Flanders, with the aim on spreading awareness on nutrient recycling.
27	Nutri2Cycle	Nutri2Cycle	Nutri2Cycle focusses on closing the nutrients CNP loops to encourage a sustainable agriculture.
28	NutriBudget	https://www.nutribudget.eu/	Project working on the optimisation of nutrient budget in agriculture.

	Project name	Website	Project description
29	Nutri-know	https://www.biorefine.eu/projects/nutri-know-broadening-the-impact-of-eip-agri-operational-groups-in-the-field-of-nutrient-management-knowledge-exploitation-and-easy-to-understand-material-for-farmers-and-practitioners/	The EU-funded NUTRI-KNOW project will expand EIP-AGRI Operational Group (outcomes on the issue of nutrient management across borders. The project aims to modernise the agricultural sector by collecting, translating, and sharing easy-to-understand and practice-oriented knowledge. NUTRI-KNOW will support the appropriate adoption of the OG results and experience by relevant end-users through 12 OGs from Spain, Italy, Belgium and Ireland.
30	Nutriman	www.nutriman.net	Ended in March 2021. The Consortium have been contacted in case they wish to share relevant resources.
31	P2Green	https://p2green.eu/	The overall objective is to foster a paradigm shift, from a linearly organised resource and nutrient system within the agri-food supply chain, towards a circular material flow system between urban and rural areas thereby restoring the coupling of the water-agri-food system using a holistic symbiotic resource management approach following the 3R principle “Reduce, Reuse, Recover”. To achieve this, P2GreeN will develop new circular governance solutions for the transition from fork to farm to halt and eliminate N & P pollution by connecting blue urban with green rural infrastructure, focussing on circular nutrient flows of nitrogen (N) and phosphorus (P).
32	ProBio (DE)	www.projekt-probio.de	National (DE) project about compost.
33	ReNu2Cycle	https://renu2cycle.nweurope.eu/	This project is the continuation of ReNu2Farm and wants to recycle nutrients to close the fertiliser cycle.
34	ReNu2Farm	Recycled fertilisers I ReNu2Farm	Interreg projects that aims to increase the reuse of three plant nutrients, i.e., nitrogen (N), phosphorus (P) and potassium (K), through the implementation and exploration of innovative N & P recovery solutions for the utilisation of human sanitary waste from urban settlements and its conversion into safe bio-based fertilisers for agricultural production in three pilot regions (P2GreeN pilot regions) on a north-south trajectory from the Baltic Sea region via the metropolitan area of Hamburg-Hannover to the region of Axarquia in Southern Spain and by multiplying the impact via four follower regions in Hungary, Italy, France and Greece.

	Project name	Website	Project description
35	REWAISE	http://rewaise.eu/the-project/	REWAISE will create a new “smart water ecosystem”, integrating an intelligent digital framework for decentralised water services and decision-making, involving all relevant stakeholders to embrace the true value of water, reducing freshwater and energy use, and recovering nutrients and materials
36	Run4Life	https://run4life-project.eu/	From wastewater to fertilizers. Run4Life demonstrates an alternative strategy for improving the recovery of resources from wastewaters, using a decentralised approach where black water (toilet wastewater), grey water (other domestic wastewaters) and organic kitchen waste are collected separately. Each separate flow then receives the treatment needed for efficient resource recovery, for example fertiliser products.
37	Rustica	https://rusticaproject.eu/	The RUSTICA projects provides a technical solution to convert organic residues from the fruit and vegetable sector into novel bio-based fertiliser products of high quality that address the needs of modern (organic) agriculture. The project’s ambition goes beyond the simple recovery of nutrients, and also includes the developments of economically viable and environmentally sustainable alternatives to mineral fertilisers with the same or improved agronomic value.
38	Sea2Land	https://sea2landproject.eu/	Producing advanced bio-based fertilizers from fisheries wastes.
39	SEMPRE-BIO	https://sempre-bio.com/	SEcuring doMestic PRoduction of cost-Effective BIOmethane
40	Soilutions	https://cordis.europa.eu/project/id/101112842	SOILUTIONS will optimise four bio-waste valorisation routes (blood hydrolysate, frass, N-struvite, K-struvite) into advanced bio-waste soil improvers with the aim of enhancing nutrient recovery from bio-waste (e.g. N, P, K, organic matter) thus reducing landfilling and incineration.
41	SusFert	https://www.susfert.eu/	SUSFERT develops more sustainable, multifunctional fertilisers for phosphorus and iron supply fitting into existing production processes and EU agricultural practice. It combines bio-based and biodegradable coatings for controlled release, probiotics to increase nutrient availability and the renewable phosphorous source struvite. SUSFERT demonstrates fertiliser efficacy for major crops, evaluates the economic potential and sustainability of the tested products, ensures regulatory compliance and finally prepares market entry.
42	TREASoUrce	https://treasource.eu/	TREASoURcE aims to initiate systemic change by developing systemic circular economy solutions in cities and regions for currently underutilised or unused plastic waste, end-of-life electric vehicle batteries and bio-based waste and side streams. Implementing these solutions together with companies, societies

	Project name	Website	Project description
			(including citizens, consumers, communities and regional actors) and experts in the field is expected to significantly increase product and material circulation in the Nordic and Baltic Sea Regions.
43	ULTIMATE	https://ultimatewater.eu/	ULTIMATE aims to create economic value and increase sustainability by valorising resources within the water cycle
44	UNLOCK	https://unlock-project.eu/	This projects works to release the potential of feathers to foster circularity in agriculture.
45	WALNUT	https://walnutproject.eu/	WalNUT aims to redesign the value and supply chain of nutrients from wastewater and brine, creating innovative solutions for nutrient recovery while contributing to circular economy and sustainability in the EU agricultural sector.
46	WATER-MINING	https://watermining.eu/	Among WATER-MINING objectives there's the development of innovative solutions for sustainable water management, including tapping into urban and industrial wastewater and seawater desalination to recover nutrients.
47	Wider-Uptake	https://wider-uptake.eu/	WIDER UPTAKE demonstrates innovative solutions that optimize water reuse, resource recovery and energy utilisation. Market utilisation of the recovered resources is achieved through a symbiosis between the utility and industry.
48	WikiLeeks	https://inagro.be/project en/wikileeks-preciezer-prei-telen-met-precisielandbouw	ended in March 2023, this national (BE) project aimed to make leek cultivation more sustainable through the introduction of site-specific fertilization management.

Annex 2 : Summary of identified collaboration opportunities

Table 6. Identification of collaboration opportunities – PART 1 (out of 3)

Project name	fertilizers in projects's scope (WP2)	STAKEHOLDERS Farmers associations	STAKEHOLDERS circular fertilizers Producers	STAKEHOLDERS municipalities/regions	STAKEHOLDERS policy makers	POLICY RECOMMEND. want to collaborate	LCA publications available	Work on Standardization barriers
Agro2Circular	NO FERTILIZER	x		x	x			
B-FERST	P fertilisers, NPK fertilisers	x	x			x		x
BioDEN	struvite, Fe-modified biocharammonium salts (from conventional acids / waste acids)		x					x
Boost pocketvergisting & nabewerking	Digestate from farm-scale AD, ammonium salts & mineral concentrate			x				x
B-WaterSmart	recover minerals, nutrients, salts, and energy	x	x	x	x	x		
FENIX	Not fertilzers: soil improvers from bio-waste				x			x
FertiCycle	Any bio-based fertiliser based on organic residues or waste streams		x		x	x		x

Project name	fertilizers in projects's scope (WP2)	STAKEHOLDERS Farmers associations	STAKEHOLDERS circular fertilizers Producers	STAKEHOLDERS municipalities/regions	STAKEHOLDERS policy makers	POLICY RECOMMEND. want to collaborate	LCA publications available	Work on Standardization barriers
FERTIMANURE	Bio-based and Tailor-made fertilizers	x	x	x	x			x
LEX4BIO	Bio-based fertilizers from biowaste, sewage sludge, manures, animal by-products		x				x	x
Life BIOBEST	Compost and digestate from municipal biowaste		x	x		x		x
MTK (TREASoURcE)	Helping overal circularities to get sidestreams back to fertilizers	x		x		x		x
Nitroman	Ammonium salts & mineral concentrate		x			x	x	
Nutri2Cycle	Mostly manure and digestate-derived fertilizers (and other agro residues)	x				x	x	x
NUTRI-KNOW	Biofertilizers in general	x		x	x	x		x
P2GreeN	Bio-based fertilizers from urban sewage sludge	x	x			x		x
ReNu2Cycle (follow up of ReNu2Farm)	N,P,K from organic residues	x	x	x	x	x	x	x

Project name	fertilizers in projects's scope (WP2)	STAKEHOLDERS Farmers associations	STAKEHOLDERS circular fertilizers Producers	STAKEHOLDERS municipalities/regions	STAKEHOLDERS policy makers	POLICY RECOMMEND. want to collaborate	LCA publications available	Work on Standardization barriers
Run4Life	Finished. Struvite, Ammonia sulphate, Organo-mineral pellets from black water digestate and food waste digestate		x				x	
RUSTICA	microbial biomass, mineral nutrient concentrates, insect biomass, insect frass, insect chitin, biochar	x	x			x		x
SEA2LAND	Biobased fertilizers recovering nutrients from fishery industry subproducts	x	x	x	x	x		x
SEMPRE-BIO	NO FERTILIZER	x		x	x	x		
TREASoURcE project	Our project's aim is to enhance circularity of biobased side and waste streams - all recycled fertilizers are relevant to our project.	x		x		x		x
ULTIMATE	Industrial symbiosis between waste water suppliers and industries			x	x	x		
UNLOCK	organic fertilizer from waste	x		x	x	x		x
WalNUT	5 fertilizers from wastewater:	x		x		x		x

Project name	fertilizers in projects's scope (WP2)	STAKEHOLDERS Farmers associations	STAKEHOLDERS circular fertilizers Producers	STAKEHOLDERS municipalities/regions	STAKEHOLDERS policy makers	POLICY RECOMMEND. want to collaborate	LCA publications available	Work on Standardization barriers
WATER-MINING	Salts and phosphates		x	x	x	x	x	x

Table 7. Identified collaboration opportunities – PART 2 (out of 3)

Project name	CO-CREATION farmers	CO-CREATION circular fertilizer producers	CO-CREATION traditional fertilizer producers	CO-CREATION local authorities	CO-CREATION policy makers	PURPOSE activities stakeholders: farmers' needs/interests	PURPOSE activities stakeholders: fill surveys on alternative fertilizers	PURPOSE activities stakeholders: C&D	PURPOSE activities stakeholders: guidelines uptake alternative fertilizers	PURPOSE activities stakeholders: commercial barriers	PURPOSE activities stakeholders: regulatory barriers
Agro2Circular	x			x		x	x				
B-FERST	x									x	
BioDEN		x								x	
Boost pocketvergisting & nabewerking	x							x			
B-WaterSmart				x				x			
FENIX		x						x			

Project name	CO-CREATION farmers	CO-CREATION circular fertilizer producers	CO-CREATION traditional fertilizer producers	CO-CREATION local authorities	CO-CREATION policy makers	PURPOSE activities stakeholders: farmers' needs/interests	PURPOSE activities stakeholders: fill surveys on alternative fertilizers	PURPOSE activities stakeholders: C&D	PURPOSE activities stakeholders: guidelines uptake alternative fertilizers	PURPOSE activities stakeholders: commercial barriers	PURPOSE activities stakeholders: regulatory barriers
FertiCycle								x			
FERTIMANURE	x								x		
LEX4BIO					x			x			
Life BIOBEST				x					x		
MTK (TREASoURcE)	x	x	x	x	x	x	x	x	x	x	x
Nitroman								x			
Nutri2Cycle					x			x			
NUTRI-KNOW	x							x			
P2GreeN	x								x		
ReNu2Cycle (follow up of ReNu2Farm)					x				x		
Run4Life						x	x	x	x	x	x
RUSTICA	x					x					
SEA2LAND			x						x		

Project name	CO-CREATION farmers	CO-CREATION circular fertilizer producers	CO-CREATION traditional fertilizer producers	CO-CREATION local authorities	CO-CREATION policy makers	PURPOSE activities stakeholders: farmers' needs/interests	PURPOSE activities stakeholders: fill surveys on alternative fertilizers	PURPOSE activities stakeholders: C&D	PURPOSE activities stakeholders: guidelines uptake alternative fertilizers	PURPOSE activities stakeholders: commercial barriers	PURPOSE activities stakeholders: regulatory barriers
SEMPRE-BIO					x			x			
TREASoURcE project	x	x	x	x	x	x	x	x	x	x	x
ULTIMATE				x				x			
UNLOCK	x							x			
WalNUT	x					x					
WATER-MINING			x					x			

Table 8. Identified collaboration opportunities - PART 3 (out of 3)

Project name	IN-PERSON WORKSHOP join forces (alternative fertilizers. producers)	IN-PERSON WORKSHOP join forces (farmers)	IN-PERSON WORKSHOP join forces (local administrations)	IN-PERSON WORKSHOP join forces (policy makers)	ONLINE WORKSHOP join forces (alternative fertilizers producers)	ONLINE WORKSHOP join forces (farmers)	ONLINE WORKSHOP join forces (policy makers)	Wish to CO-ORGANIZE final & other project EVENTS	RESULTS relevant for FER-PLAY
Agro2Circular		x				x	x	x	---
B-FERST		x					x		Please, check with B-FERST personnel and on www.bferst.eu
BioDEN									https://www.biogas-e.be/BioDEN
Boost pocketvergisting & nabewerking		x				x		x	https://inagro.be/projecten/boost-pocketvergisting-en-nabewerking
B-WaterSmart			x				x	x	---
FENIX	x					x		x	---
FertiCycle	x				x				---
FERTIMANURE		x			x			x	https://www.fertimanure.eu/en/
LEX4BIO							x		LEX4BIO studies various BBFs from different aspects and fits the scope of FER-PLAY
Life BIOBEST			x		x			x	NOT YET: there will be guidelines on the production of high-quality compost as well as quality standards for biowaste

Project name	IN-PERSON WORKSHOP join forces (alternative fertilizers. producers)	IN-PERSON WORKSHOP join forces (farmers)	IN-PERSON WORKSHOP join forces (local administrations)	IN-PERSON WORKSHOP join forces (policy makers)	ONLINE WORKSHOP join forces (alternative fertilizers producers)	ONLINE WORKSHOP join forces (farmers)	ONLINE WORKSHOP join forces (policy makers)	Wish to CO-ORGANIZE final & other project EVENTS	RESULTS relevant for FER-PLAY
									entering composting/AD plants prepared at a later stage
MTK (TREASoURcE)	x	x	x	x	x	x	x	x	---
Nitroman		x				x			www.nitroman.be (in Dutch though)
Nutri2Cycle				x		x		x	www.nutri2cycle.eu
NUTRI-KNOW		x				x		x	https://www.nutri-know.eu/
P2GreeN			x			x		x	---
ReNu2Cycle (follow up of ReNu2Farm)	x						x	x	From ReNu2Farm: Analysis of Recycling Derived Fertilizer (RDF) resource potential; Sustainability Assessment; Legal framework evaluation; Fertilizer Composition & application; Blended Recycling-derived fertilizers (RDF) implementation; Initiation and orchestration of the ReNu2Cycle Living Lab; Policy Dialogue; Engagement of Market Actors; Nutrient plattform;
Run4Life									LCA: https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5e81f5f9b&appId=PPGMS

Project name	IN-PERSON WORKSHOP join forces (alternative fertilizers. producers)	IN-PERSON WORKSHOP join forces (farmers)	IN-PERSON WORKSHOP join forces (local administrations)	IN-PERSON WORKSHOP join forces (policy makers)	ONLINE WORKSHOP join forces (alternative fertilizers producers)	ONLINE WORKSHOP join forces (farmers)	ONLINE WORKSHOP join forces (policy makers)	Wish to CO-ORGANIZE final & other project EVENTS	RESULTS relevant for FER-PLAY
RUSTICA		x					x	x	As this project focusses mainly on business cases/scenario's we can realy help each other.
SEA2LAND				x	x			x	---
SEMPRE-BIO				x			x	x	https://sempre-bio.com/project/
TREASoURcE project	x	x	x	x	x	x	x	x	---
ULTIMATE			x				x		---
UNLOCK			x				x	x	https://unlock-project.eu/about-the-project/
WalNUT		x				x		x	---
WATER-MINING	x				x			x	https://watermining.eu/

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