agromix

D4.3 MIX-app Prototype

Report on the development of the Agromix -app prototype

31-October-2023

Deliverable D4.3	**MIX-app prototype demonstration report**
Related Work Package	WP4 Participatory Research and tools for a climate-smart transition Task 4.3 MIX-app development Task lead: Wageningen Research (WR)
Deliverable lead	Arwen van der Gugten (WR)
Author(s)	Andrew Dawson, Arwen van der Gugten, Isabella Selin-Noren, Jeroen Watté, Nicolas Minary, Rosemary Venn
Contact	**Arwen.vandergugten@wur.nl**
Reviewers and Editors	Julia Wright and Ulrich Schmutz
Grant Agreement Number	862993
Instrument	Horizon 2020 Framework Programme
Start date	1st November 2020
Duration	48 months
Type of Delivery (R, DEM, DEC, Other)	DEM
Dissemination Level (PU, CO, CI)	PU
Due date and delivery date	31-10-2023
Website	**https://agromixproject.eu**

[1] **R**=Document, report; **DEM**=Demonstrator, pilot, prototype; **DEC**=website, patent fillings, videos, etc.; **OTHER**=other
[2] **PU**=Public, **CO**=Confidential, only for members of the consortium (including the Commission Services), **CI**=Classified

Revision version nº	Date	Description	Author(s)
v1	19 October 23	Writing first version	All authors, with lead author
v2	20 October 23	Review	Alberto Mantino
v3	21 October 23	Review	Julia Wright
v4	26 October 23	Review and edits	Ulrich Schmutz
v5	30 October 23	Final edits	All authors, with lead author

Table of contents

1 Executive Summary

This is a demonstrator report on the AGROMIX prototype "MIX-app". The main goal of this document is to provide an update on the development of the MIX-app. The report contains a brief overview of the cyclical development strategy and the steps taken leading up the results of the **first and second version** of the MIX-app prototype.

In summary, the following results have been delivered:
1. A **tree choice database** has been designed and integrated into the software developer's - Landfiles – existing application;
2. **Specific test users** are already able to create and join groups, share observations on mixed-farming systems and browse the data of the tree choice database.

The software developer, Landfiles, is working closely with the AGROMIX task 4.3 and task 4.4 project team towards the final MIX-app for EU wide distribution. Two more development cycles are planned before delivery of the final application in 2024.

2 Expected impact of the App

Work Package 4, Task 4.3: "Participatory research and tools for climate-smart transition",

The aim of WP4 is the participatory development of models and tools to support the transition towards more climate smart mixed farming (MF) and agroforestry (AF) systems at farm and landscape levels. The WP is based on a participatory driven bottom-up approach.

The objective of this **Task 4.3** is to develop a prototype application (MIX-App), to support farmers in transition to more diversified systems and foster interactions among key actors. The aim of this is to increase the knowledge base for farmers interested in changing to a mixed-farming system.

This report includes a mock-up of the MIX-app prototype (appendix 1). The main objective of the report is to update interested parties on the development of the MIX-app. As a public deliverable, we expect the document to increase the interest and anticipation for the final version of the MIX-app, which is due in 2024.

3 Development of the App

3.1 Development Strategy

Participatory research has been the key approach for WP4. Task 4.3 focused on gathering user needs on the goals and requirements of the MIX-app (DESMix and AGROMix). Multiple surveys were held with the target group (farmers, mainly from AGROMIX pilot groups) and strategic Agricultural Knowledge and Innovation Systems (AKIS) partners. Two main requirements surfaced from these surveys. The user group saw the greatest add value in an app that can:

1. Provide a knowledge base of specific tree information for agroforestry systems (AGROMix-App);
2. Provide a social exchange platform for users on the design and implementation of mixed farming (DESMix-App).

It is a well-known that farmers appreciate learning from each other, and this was also clearly expressed in our surveys which indicated that support for increased networking and communication with like-minded farmers and advisors would be valuable. Additionally, the surveys showed that a knowledge base of tree species can play an important role in supporting decisions when developing a mixed farming system, especially as the effects of climate change are increasingly prominent and tree species selection and system design may be impacted. Implementing more diverse systems, in particular AF, can represent a substantial learning curve for farmers given the push of the previous decades for monocultures and simplification. This has led to a knowledge gap, both for farmers, advisors or land-managers and requires a substantial shift in mindset: moving from annual cropping to growing long term perennials, in combination with annual cropping. This need was also highlighted in prior experiences in several national projects that the project team have participated in.

3.2 Tender procedure

An international tender procedure was started in 2022 to contract a developer for the app. The requirements for the contract were that offers should include:

- A tree-choice database to support farmers in decision making when transitioning towards agroforestry systems*;
- At least two years of free online access for new and existing users after delivery;
- At least two years of basic maintenance to keep the app performing in the same way as delivered after delivery;
- Compliance with GDPR and other relevant data management, privacy and security laws. The platform should be protected against unwanted intrusions and the user profile information needs to be protected;
- Availability of the AGROMIX-app via Android and IOS operating systems and on the most common web browsers supported by Windows and MacOS;
- Delivery in (later agreed upon) Open Source format of the tree-choice database source code.

More information on the tender requirements can be found in Annex 2 (Request For Quotation AGROMIX-app).

Three parties were invited to bid, of which two submitted an offer. The offers received were assessed based on value-for-money, with pricing weighing 20% and quality 80%. Developer Landfiles was awarded the development contract, scoring higher in quality and at a lower price. The main advantage for both the AGROMIX project and Landfiles was that Landfiles already had an app for farmer networking and social exchange. This provides both the user needs for a MIX-app on tree species and a DESMIX-app for knowledge sharing and support. The tree-choice database could be integrated into the Landfiles platform which would provide both a searchable database and a networking platform, linked together.

3.3 Development process overview

During the process of developing the app, the following steps were taken:
1.   Gathering the previously mentioned understanding of user needs and developing a list of requirements and testing these through Agromix meetings, EURAF, and online surveys (2021);
2.   Outline of user needs and overview of the most important app features; survey for input from AGROMIX WP2 pilot teams (first half 2022);
3.   Translation of user needs into a brief of requirements for the app; (autumn 2022);
4.   International tender procedure to select a developer for the Mix-app, based on value for money criterium (winter 2022/2023);
5.   Selection of developer: Landfiles (https://landfiles.com/en) (winter 2023);
6.   Building the first version of the prototype; (spring 2023);
7.   Gathering feedback for the first version of the prototype from users (e.g. Angers meeting) (spring 2023);
8.   Gathering data for the tree-choice database; (summer 2023);
9.   Building the second version of the prototype D4.3 (summer 2023).

The first version of the prototype was tested from May through June 2023 by both the project team and the twelve AGROMIX pilot teams of WP2 and WP4. The second version of the prototype had a testing period of September through until October 2023 and was tested by the pilot teams of WP2 and during the General Assembly of AGROMIX in Serbia. Two more development cycles are scheduled before delivery of the final app in 2024 (see Figure 1).
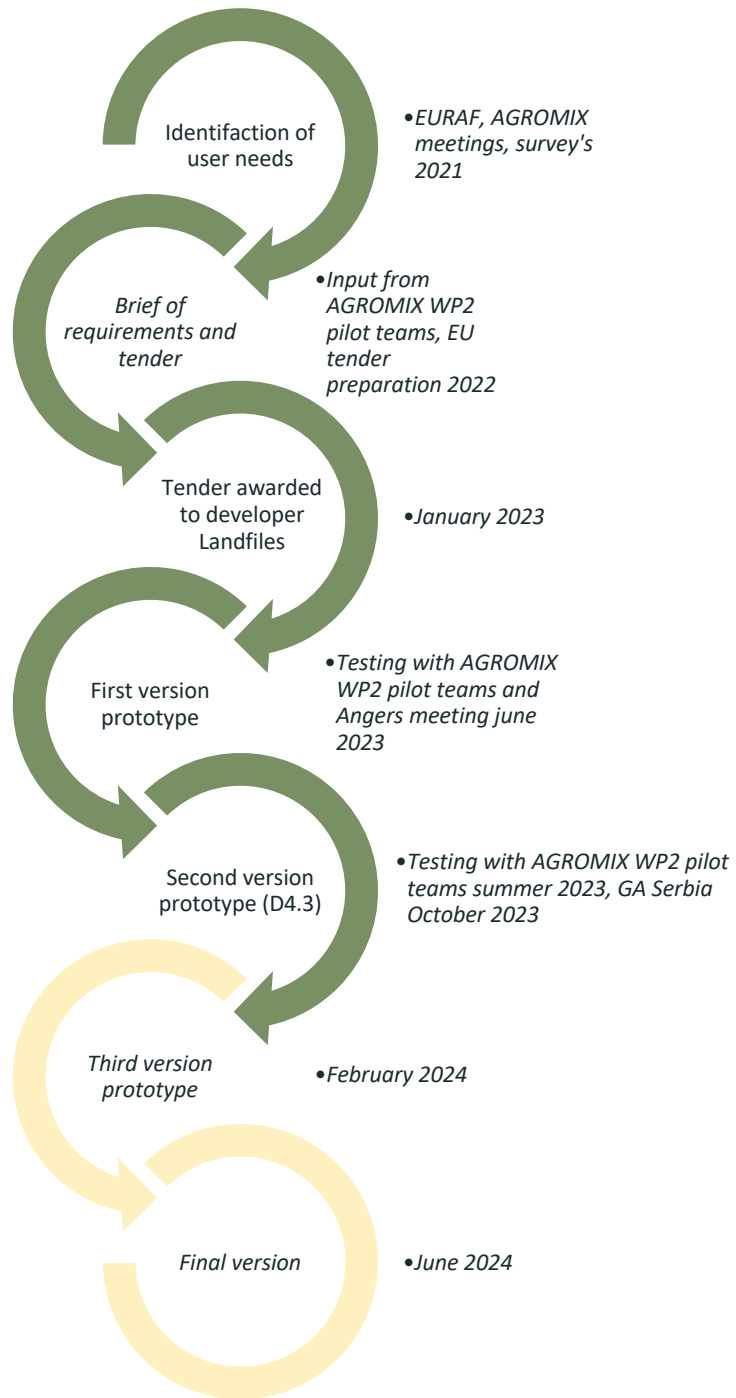
Identifaction of user needs
- *EURAF, AGROMIX meetings, survey's 2021*

Brief of requirements and tender
- *Input from AGROMIX WP2 pilot teams, EU tender preparation 2022*

Tender awarded to developer Landfiles
- *January 2023*

First version prototype
- *Testing with AGROMIX WP2 pilot teams and Angers meeting june 2023*

Second version prototype (D4.3)
- *Testing with AGROMIX WP2 pilot teams summer 2023, GA Serbia October 2023*

Third version prototype
- *February 2024*

Final version
- *June 2024*

Figure 1: Development process of the MIX-app

4 Results of prototype versions one and two

4.1 Landfiles existing functions

Some of the required features for the app were already available through the Landfiles web and mobile applications. These included:

- A group structure for posting observations and moderating posts
- Interaction options for responding to and liking posts
- A farm page for users to share information about their individual context
- User posts/observations on fields and farms pinpointed on a map
- Ability to upload and share pictures

These existing features have been mostly used and available in France and in the French language.

A summary of the two prototypes is given below. Appendix 1 provides additional information and mock-up shots of the prototypes and corresponding features.

4.2 1st version prototype

The main features of the 1st version prototype:

1. Clickable software mock-ups,
2. Design of a database of tree varieties and cultivars, search forms and comparison tables.
3. Workshop to test mock-ups with end users and gather feedback,
4. The Landfiles user base was broadened to outside of France by adding translation functionalities and involving pilots from different countries. The translation enables users in different countries to exchange and consult publications written in other languages and share observations on a common data repository.

4.3 2nd version prototype

The following software features are added in the 2nd version of the prototype:

5. Simple search for a tree variety, by name, in any language of the repository (en, es, it, cat, pt, de, fr, pl)
6. Technical page for the species, including a map of observations, a cultivar comparison table, and the observations themselves (scrollable page to read all observations)
7. Advanced search for species comparison table
8. Automatic translation of existing content to available languages: en, es, it, cat, fr
9. Forms available to save new data into the database
10. The following activities were undertaken:
11. Review of the account creation process to onboard users from different European countries, with a path completely in their own language
12. First data from Agromix pilots are made available
13. Landfiles Agromix internal group for discussion between partners

4.4 Further development

For the 3rd version of the prototype, the application will be developed with additional content and functionalities. These will include the following:

14. Automated translation of messages (v2) and comments
15. Advanced filters on species comparison table
16. Application in 7 languages
17. Additional tree data is added to the database
18. Translation of content of comparison tables, if the data has been entered in another language

Please note:

Testing of the 2nd Prototype is still in progress while writing this deliverable. Changes to the 3rd and 4th prototype are possible and welcome due to bottom-up approach and integration of feedback from user groups. It is expected that the 3rd prototype will be delivered in February 2024 and that the 4th prototype will be delivered in June 2024.

The user base will be developed by onboarding users in different countries from within the AGROMIX project and relevant stakeholders (such as the European Agroforestry Federation - EURAF). After completion, the MIX-app will be made available to new users interested in mixed-farming and agroforestry.

As planned the app will be shared on the project website and via the knowledge exchange hubs to ensure its accessibility and dissemination. Throughout the design, development and onboarding process we have also made decisions to ensure the post project continuation of the MIX-app. This was also one of the reasons for the choice of Landfiles in the development process. They are motivated to support the further development of Agroforestry and have agreed to support the continuation of the app for at least 2 years after the project ends. Thus, fulfilling the commitment to post project continuation. Furthermore, we are actively approaching other projects (such as DigitAF) and are working to ensure the widespread knowledge of and use of the app before the project ends through presentations and activities with both national and international networks such as EURAF.

5 Annex

5.1 Annex 1 AGROMIX-app prototype deliverable

5.2 Annex 2 RFQ (Request for Quotation) AGROMIX-app

AGROFORESTRY AND MIXED FARMING: PARTICIPATORY RESEARCH TO DRIVE THE TRANSITION TO A RESILIENT AND EFFICIENT LAND USE IN EUROPE
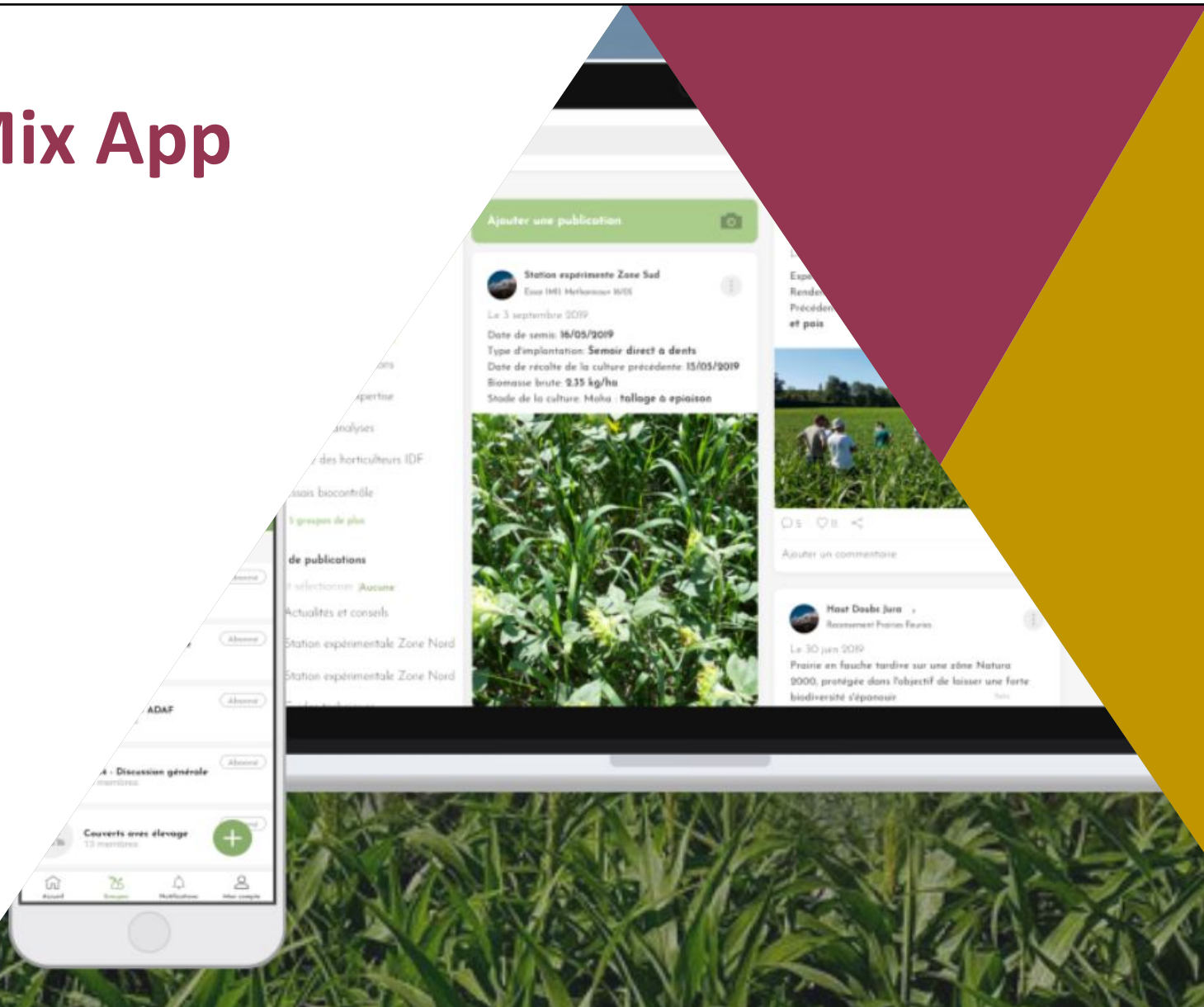
Agromix 4.3 Mix App prototype

AGROMIX

Core team WP4.3
Andrew Dawson (WR)
Isabella Selin Noren (WR)
Jeroen Watté (Wervel)
Rosemary Venn (CU)
Nicolas Minary (Landfiles)
Arwen van der Gugten (WR)

Results 1st prototype

Main features:

- Implementation of clickable software mock-ups,

- Workshop to test mock-ups with end users and gather feedback,

- Plans to internationalize the Landfiles platform, to enable users in different countries to consult publications written in other languages, and share observations on a common data repository,

- Design of a database of tree varieties and cultivars, search forms and comparison tables.

agromix

Deliverable specifics

Deliverable D4.3 appendix	MIX-app prototype demonstration
Related Work Package	WP4 Participatory Research and tools for a climate-smart transition Task 4.3 MIX-app development Tasklead: Wageningen Research (WR)
Deliverable lead	Arwen van der Gugten (WR)
Author(s)	Andrew Dawson, Arwen van der Gugten, Isabella Selin-Noren, Jeroen Watté, Nicolas Minary, Rosemary Venn
Contact	Arwen.vandergugten@wur.nl
Reviewer	Julia Wright and Ulrich Schmutz
Grant Agreement Number	862993
Instrument	Horizon 2020 Framework Programme
Start date	1st November 2020
Duration	48 months
Type of Delivery (R, DEM, DEC, Other)	DEM
Dissemination Level (PU, CO, CI)	PU
Due data and delivery date	15-09-2023
Website	https://agromixproject.eu/

[1] **R**=Document, report; **DEM**=Demonstrator, pilot, prototype; **DEC**=website, patent fillings, videos, etc.; **OTHER**=other
[2] **PU**=Public, **CO**=Confidential, only for members of the consortium (including the Commission Services), **CI**=Classified

agromix

Results 2nd prototype version

The following software features are available :

- Simple search for a tree variety, by name, in any language of the repository (en, es, it, cat, pt, de, fr, pl)

- Technical page for the species, including a map of observations, a cultivar comparison table, and the observations themselves (scrollable page to read all observations)

- Advanced search for species comparison table

- Automatic translation of existing content to available languages : en, es, it, cat, fr

- Forms available to save new data into the datbase

- Review of the account creation process to onboard users from different European countries, with a path completely in their own language

First data from Agromix pilots are made available

Landfiles Agromix internal group for discussion between parters

agromix

Draft visual: A customised landing page for the user
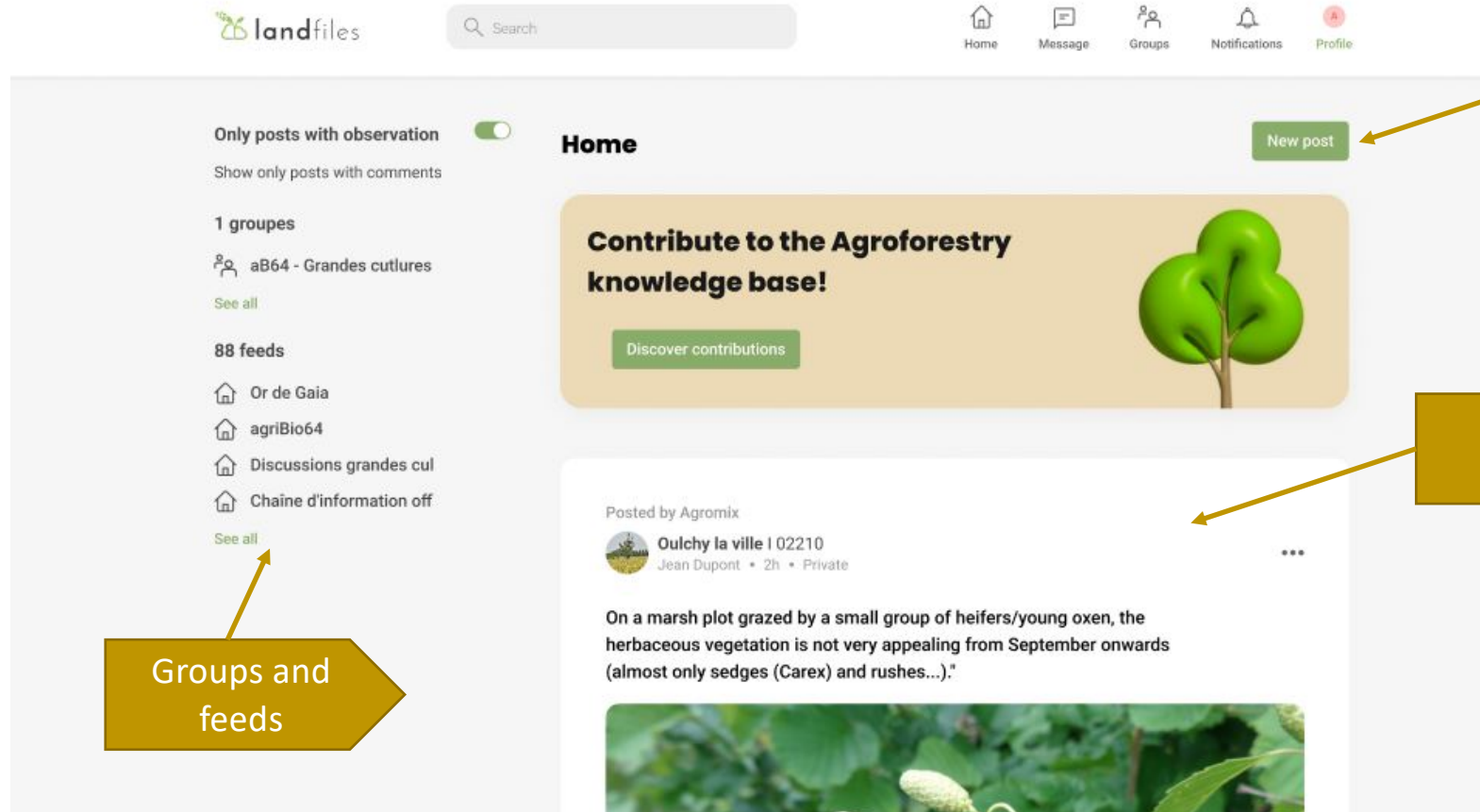
Make a new post

Timeline

Groups and feeds

agromix

7

Draft visual: observation forms to share knowledge

Agromix	Valider

○ Common name

○ Latin name

○ Soil texture

○ pH range (MIN)

○ Tree stand density

○ Produce from tree crop

○ Tree height

○ Leafing moment

○ Yield (MIN)

○ Yield -irrigated (MIN)

○ Years to first harvest

○ Labour (MIN)

○ Planting costs (MIN)

○ Gross yield (MIN)

○ Tree height

○ Pollination type

○ Flowering moment

○ Suitability for organic production

○ Frost resistance

2 examples of data entry :

Soil texture

Clay

Loam

Silt

Sand

Annuler

Leafing moment

Very early

Early

Middle

Late

Very late

Evergreen

Annuler

agromix

Draft visual: farm page

← Retour

Ferme de l'Auberge
📍 Divajeu

Observations   Parcelles   **À propos**

Informations

Filière :	Elevage viande, Maraîchage, Grandes cultures
Moyen humain (nb UTH) :	3.5
Structure technique de suivi :	
Surface agricole utile:	16 ha
Taille cheptel :	45 brebis à viande
Labels :	Bio, Nature et Progrès

Adresse

26400 Divajeu

Témoignage

Motivation, objectif et pratiques innovantes
Diversifier la production : polyculture élevage, agroécologie, agroforesterie,
Viser l'autonomie de la ferme en fumier (présence d'un troupeau de 40 brebis sur la ferme),
Pas ou peu de traitements,
pas d'utilisation de plastique

Historique
2008 : Année d'installation agricole
2012 : Première année de plantation d'arbres fruitiers sur moins de 3000 m2 dans l'espace maraîcher situé autour de la pépinière de plants maraîchers
2017 : Deuxième vague de plantation d'arbres fruitiers et de haies d'arbres champêtres sur environ 8 ha

Présentation de la ferme

Description des pratiques innovantes (Méthode de fertilisation, travail du sol, couverts...)
Agroforesterie maraîchère associée aux arbres fruitiers + haies sur 3,5 ha et espace pour légumes de plein champs/fourrages/céréales sur 4,8 ha. Pâtures associées à des noyers et arbustes champêtres sur environ 2 ha.

Méthodes de culture : Labour sur engrais verts longue durée (luzerne) sinon utilisation de disques, cultivateur à dents et actisol. Travail final au rotovator ou à la motobineuse. Herse étrille et bineuse pour la gestion de l'enherbement

Parc matériel

Alimentation des animaux
100 %, pâtures, foin de luzerne et sainfoin et céréales (triticale et orge)

Haies et arbres présents
Espèces fruitières : Pommiers, amandiers, figuiers, oliviers, noyers
Des abricotiers, pêchers, cerisiers raisins de table ont été plantés mais se développent difficilement
7 km de haies champêtres plantées en 2017

Ressource en eau
Problème d'accès à l'eau du réseau en 2022, absence d'arrosage pendant 4 semaines, difficulté d'accès à la borne d'arrosage pendant plusieurs années, régulations sur la gestion de l'eau compliquée avec le Syndicat d'eau
origine de l'eau : Borne du Syndicat d'eau

Contexte pédo-climatique

Sol (type, %éléments, %MO)
limono-sableux, pH basique

Pluviométrie
environ 800 mm/an

Climat
pré-méditerranéen avec des étés très secs

Altitude
220 m

agromix

Draft visual: farm page

Tree database comparison

- The tree database provides specific knowledge on tree species and cultivars, to be used for Agroforestry systems
- The database is interactive, because it gathers users' input and experiences from the user groups aswell
- The database is available in English but results can be translated in the following languages: fr, es, cat, it, pt, pl, de, nl

agromix

Request for Quotation

Regarding the

Agromix-app

to

Wageningen Field Crops, part of Wageningen Research

Author:	Arwen van der Gugten, Jasper Verkuilen
Date:	23-12-2022
Version:	final

Contents

Appendices

Appendix A – Registration Form

Appendix B – State of acceptance of the conditions

Appendix C – RFQ Requirements Agromix-app

1   Introduction

1.1   Definitions

Acceptance	The approval by Buyer of the Deliverable or parts thereof.
Agreement	The documents in hierarchical order as mentioned in paragraph 3.3 of this RFQ;
ProQme	The electronic ordering system of WUR;
RFQ	Request for quotation;
Buyer	Buyer issuing this RFQ and using these Purchasing Conditions
Quote	Quotation in response to the RFQ
Tenderer	Person or company applying for RFQ
Contractor	Tenderer that gets selected by Buyer to perform the described service / deliver the described product in this RFQ

1.2   General

The aim of this Request for quotation (RFQ) is to conclude an Agreement for Product Development, publication, hosting and maintenance, under the conditions mentioned in this document.

If you do not intend to send us a quote, please let us know.

1.3   Contact information

WUR will be represented by one contact person. Any request for information shall be requested in writing by email. The contact information is:

Name of Contracting Authority	Foundation Wageningen Research

Contact name	Arwen van der Gugten
Position	Project manager WUR Field Crops
E-mail address	Arwen.vandergugten@wur.nl

It is not allowed, without permission, to contact people of WUR other than the contact person.

1.4   Contracting Authority

Wageningen University & Research is a joint venture between the legal entities Wageningen University and Foundation Wageningen Research. This collaboration is set up as five Science Groups, in which a department of Wageningen University is functionally integrated with one or more specialised research institutes. All participating interests in Wageningen University & Research, including institutions which currently or in the future will be part of a Sciences Groups, as well as all institutions and/or businesses which in terms of organisation are part of the joint venture Wageningen University & Research, may make use of the Agreement arising from this call for Tenders.
Below is the organisational diagram:
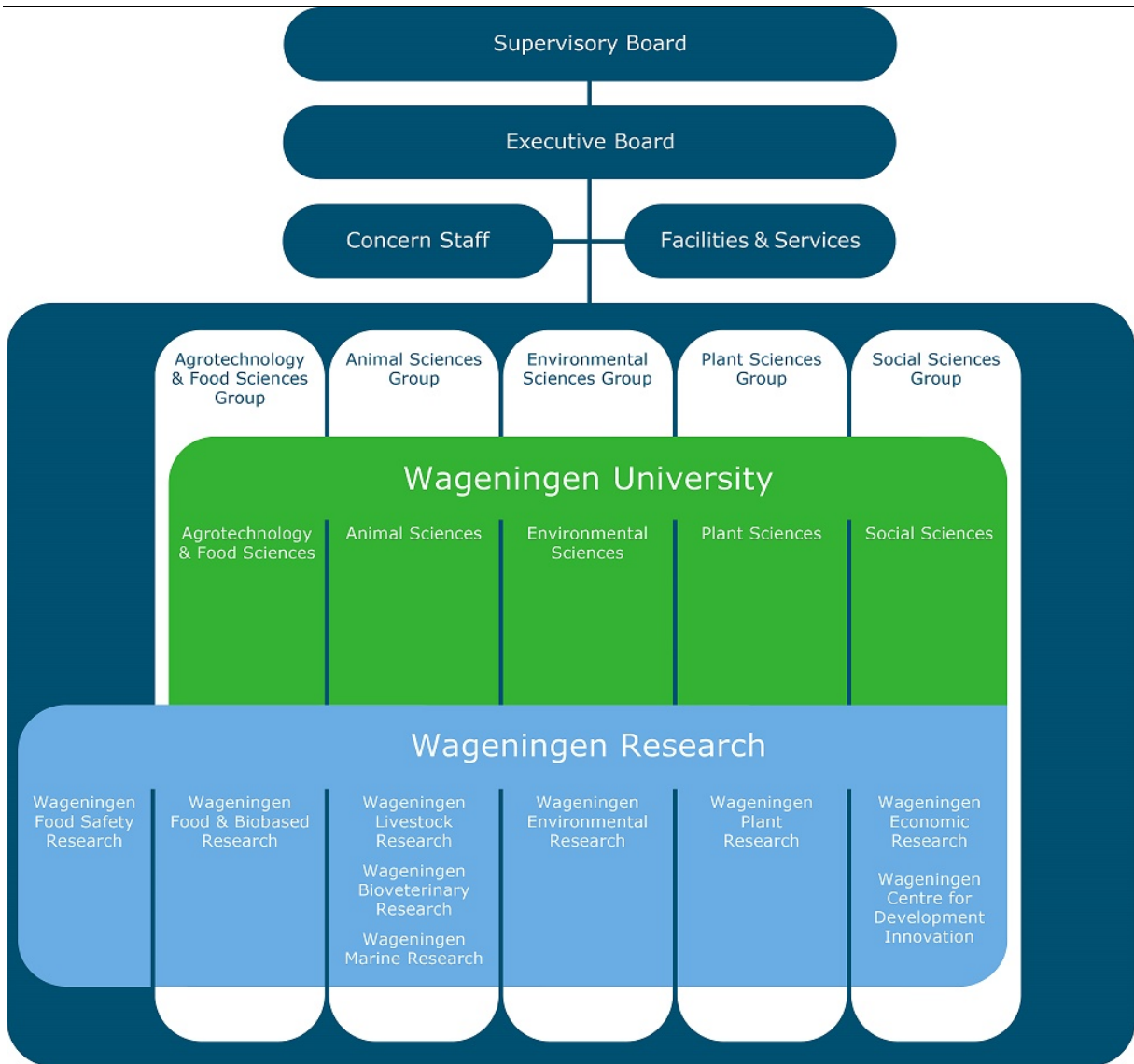
2 Statement of requirements

The specifications written in this document provide a description of the requirements. These specifications provide the information and guidelines for the Contractor to create a Quote.

2.1 Background

This tender concerns the development of the Agromix-app. This app is a deliverable of the H2020 project Agromix, dedicated to stimulating agroforestry and mixed farming systems. The client, Wageningen University & Research – Field Crops BU, is acting on behalf of the H2020 Agromix project (https://agromixproject.eu/) which is aiming to stimulate agroforestry and mixed farming systems in Europe. This tender is organized from work package (WP) 4 within the Agromix project structure.

2.1.1 Project objectives

The aim of WP4 is the participatory development of models and tools to support the transition towards more climate smart Mixed farming and Agroforestry systems at farm and landscape levels. This will be done through developing the Agromix-app, of which the objective is to provide users (farmers) with decision support in their transition towards agroforestry or mixed farming systems. The objective is also to facilitate peer-to-peer learning within the target group through sharing of experiences and knowledge. Furthermore, the project objective is to have the Agromix-app beta tested and evaluated by participating design pilots (including farmers) from the Agromix project.

2.1.2 stakeholder feedback

WP4 is based on a research driven bottom-up approach. In line with this approach an inventory of user needs has been done (T4.3.1) while building towards this RFQ.

The survey results of the inventory (T4.3.1) from stakeholders working with, or interested in, Agroforestry and Mixed farming systems show that they face numerous challenges in the development of their systems. They indicated that support for increased networking and communication with like-minded farmers and advisors would be valuable. It is well-known that farmers appreciate learning from each other. Current opportunities for digital networking between mixed farming and agroforestry stakeholders are limited due to the small number of pioneers spread over various platforms and countries. Because of this, the interaction and exchange of knowledge both within and between countries is marginal. By providing a dedicated networking platform to support exchange we aim to support learning and the development of agroforestry and mixed farming systems.

The stakeholders also indicated that decision support in choosing a suitable tree crop for their farming context would be valuable. One of the key hurdles in starting an agroforestry system for farmers is the choice of a tree crop species and cultivar suitable for the specific geographic location. Generally, the transition is from arable or livestock farming to farming with the inclusion of tree crops. There is a substantial learning curve for the farmers since growing trees requires knowledge that is currently not readily available for farmers, or advisors. The lack of possibilities to compare different tree choice options can act as a barrier to entry, or may lead to crop choices which are less suitable for the location or doesn't fit with farm management practices. By providing a searchable and interactive database to support the selection of the right tree crop, depending on different contexts, we aim to support farmers in learning about tree crops and choosing the right one for their situation, while at the same time connecting with other farmers and their knowledge.

We want to create a networking and learning platform that meets these two needs and that is helpful for European farmers.

Stakeholders that will be directly involved in the development of the platform include: Agromix project members (researchers and farmers) as well as European stakeholders on agroforestry such as (inter)national agroforestry associations.

2.2 Scope

WUR intends, through this RFQ, to conclude an Agreement for the development, publication, hosting and maintenance of the Agromix-app. This digital platform (i.e. Agromix-app) is developed for farmers and provides them with decision support in their transition towards agroforestry or mixed farming systems and facilitates peer-to-peer learning.

The deadline for delivery of the final product is planned for June, 2024.

2.2.1 Requirements

These requirements are also stated in Appendix C. The delivered product shall comply with the following:

- Contains a tree choice database to help farmers in decision support when transitioning towards agroforestry systems*;
- At least two years of free online access for new and existing users after delivery;
- At least two years of basic maintenance to keep the app performing in the same way as delivered after delivery;
- Compliance with GDPR and other relevant data management, privacy and security laws. The platform should be protected against unwanted intrusions and the user profile information needs to be protected;
- Availability of the Agromix-app via Android and IOS operating system and on the most common web browsers supported by Windows and MacOS;
- Delivery in (later agreed upon) Open Source format of the tree choice database source code.

(*required data will be supplied by Buyer)

The quotation should include:

- An offer detailing the Agromix-app outline based on the abovementioned requirements and quality criteria cited in paragraph 4.2.
- A plan for the development including multiple development cycles, milestones, beta testing and collaboration with the Agromix T4.3 project team.
- A general budget breakdown including development cycles, material costs, hosting and maintenance costs (see paragraph 4.1, Price)

2.3 Financial and Management information

2.3.1 Ordering procedure

The final award of the offer will (only) take place through a procurement order sent by the Buyer via it's purchasing system ProQme. ProQme generates an email message with the order, which will be sent to the E-mail address of the Contractor.

2.3.2 Invoicing and Payment terms

Invoicing may only occur after Acceptation of a deliverable by Buyer and may only amount to the work in relation to the Accepted deliverable.

The invoices should state the following information:

- ProQme ordering number
- name of the awarding organization
- Cost centre/ project number
- Description of the project
- VAT identification number, VAT percentage and VAT amount
- Subtotal exclusive VAT
- Total amount inclusive VAT
- Invoice address
- Invoice number
- Invoice date

Payment terms: 30 days after receipt of invoice.

2.4 Price

Quoted prices need to be stated in euro's, excl. VAT. The Contractor is to honour the bid for a period of 60 days from the date of submitting the offer.

2.5 Organization and communication

2.5.1 Contacts

Relevant specialist:
The Contractor shall appoint a relevant specialist for WUR. This person will be the first contact. In absence of the relevant specialist he will be replaced adequately.

3 Quotation process

This section describes the procedures which must be followed by WUR and the Contractor throughout the quotation process.

3.1 Invitation process

Parties are selected based on the results of a public market consultation held in the fall of 2022. The market consultation was published on both the Negometrix and TenderNED platforms, asking potential tenderers to show their interest in the contract. Out of four tenderers, three are selected for this RFQ based on relevant prior experience with developing agricultural apps.

3.2 Time table

The time table of this RFQ is as follows:

1. Request for quotation (by e-mail)   23th of December 2022
2. Deadline for asking questions   13th of January 2023
3. Publication of the SAIC   19th of December 2023
4. Latest possible date to send quotation   27th of January 2023
5. Preliminary awarding   3th of February 2023
6. Verification meeting   9th of February 2023
7. Awarding (ordering by Buyer)   12th of February 2023

Contractor shall conform to the planning as stated. No rights can be derived from this planning. WUR reserves the right to adjust said planning.

3.3 Summary of Additional Information and Changes

Any questions about the Request for Quotation, and any proposals regarding the General Government Terms And Conditions For IT Contracts 2022 (ARBIT 2022) using Appendix B, _must be submitted before the deadline for asking questions as mentioned in 3.1 of this RFQ. Any such proposals or reservations made in a later stadium will in no case be part of the Agreement._

Based on these questions and proposals a Summary of Additional Information and Changes (SAIC) will be drawn up containing the questions submitted and the answers given, as well as any possible changes to the Request for Quotation and/or appendices. The Summary of Additional Information and Changes forms part of this Request for Quotation and prevails over the rest of this document. In the event of inconsistencies between multiple Summaries of Additional Information and Changes, the most recent Summary of Additional Information and Changes will prevail.

3.4 Agreement and conditions

By making an offer Contractor confirms acceptance of the conditions and procedures stated in this RFQ and all related addenda.
General Government Terms And Conditions For IT Contracts 2022 (ARBIT 2022) shall apply to any documents related to this RFQ. In addition, the conditions which have been set out in this RFQ shall apply to the delivery of the specified products and the execution of specified services. The following documents together form the Agreement resulting from this RFQ, whereas the higher placed document prevails over the lower mentioned:
1. ProQme order
2. Verification report (if relevant / present)
3. Summary of Additional Information and Changes
4. This RFQ
5. ARBIT-2022
6. Quote from Contractor

Any general conditions of the Contractor, under whatever name, are hereby expressly rejected.

3.5 Reservations

WUR reserves the right to stop the RFQ in whole or in part, temporarily or definitively, and to not award the RFQ. In this situation, the Contractor has no right to reimbursement of costs incurred in connection with this RFQ.

3.6 Confidentiality obligation

Information exchanged between WUR and each Contractor is strictly confidential. WUR and the Contractor shall ensure that absolutely no information relating in any way to the activities of Contractor is made available to another party.

The Contractor is further prohibited from communicating with third parties regarding the subject of the call for RFQs without prior written permission from WUR. Consultation with subcontractors or syndicate members designated by RFQ, insofar as necessary for the performance of their duties, is an exception to this. Publications are also considered to be communication with third parties in this context. Any violation of this condition will result in the exclusion of the Contractor from the quotation procedure.

3.7 Property and intellectual property

The offer and all Supplements which the Contractor submits in connection with this RFQ will become the property of WUR of the moment of receipt. WUR reserves the right to use and/or adapt any and all ideas, suggestions, proposals, and other information submitted by the Contractor in connection with this RFQ, regardless of whether the Agreement is awarded to the Contractor. Usage, adaptation, or other forms of modelling implies no right to any compensation under whatever name or form. However, WUR guarantees that information obtained from the Contractor, which WUR knows or should know to be confidential, will be treated with confidentiality; and that in any case, the Contractor's legitimate interests, including business interests, will be taken into account.

3.8 Composition of the Quote

The offer must be arranged in the following sections, each with file tabs:
  a. Contents;
  b. Introduction;
  c. Short description of your company and the offer, containing a response to the quality criteria as described in chapter 4 of this RFQ;
  d. Registration form, according to Appendix A;
  e. A detailed specification of the price compliant with chapter 2 of the award model;
  f. The requirements specifications confirmed with "yes", if relevant with explanation, in compliance with Appendix C;

The deadline for the subscription is stated in the time table, chapter 3.1. Subscriptions shall be submitted by e-mail to the contact mentioned in chapter 1.3 of this RFQ. WUR cannot acknowledge any subscriptions submitted after stated date and time of receipt, hence these subscriptions shall be excluded from participation.

3.9 Continuation period

The Contractor is to honour the quotation for a period of 60 days from the date of submitting the offer.

3.10 Acceptance

Buyer will not make any payments before Acceptance has taken place. Pre-Acceptance payments are always made subject to the condition precedent of Acceptance. Buyer will inform Contractor within 30 days after delivery / completion of a deliverable whether it accepts the deliverable. It may do this by means of an explicit notification to this effect. If Buyer is unable to notify Contractor within the period referred to above whether it accepts the deliverable, it will notify Contractor of its inability to do so before the expiry of the period concerned, stating its reasons and specifying within what period it will notify Contractor whether it accepts the deliverable. If no such notification is given or if the additional period for Acceptance expires without further notice from Buyer, the deliverable will be deemed to have been accepted by Buyer.

If the Buyer accepts the deliverable despite having discovered that it has one or more defects, it will inform Contractor of this in the notification of Acceptance. Contractor guarantees that defects that are discovered by Buyer during the Acceptance Procedure but are not regarded by it as a reason for not proceeding with Acceptance will be repaired with due dispatch at the expense of Contractor after Acceptance.

The development approach should include the following milestones and corresponding Acceptance and payment cycles:
- First prototype (after 4 months)
    - *The first prototype should be a minimal viable product that can be tested with the user group for feedback to confirm functionalities and usability*
- Second prototype (after 8 months)
    - *The 2nd prototype should update functionalities and usability based on feedback and also gain feedback on desirable form*
- Third prototype (after 12 months)
    - *The 3rd should complete form and be suitable for final testing of all intended functions and form*
- Final product delivery (after 16 months)
    - *Including publication and delivery of source code*

4 Awarding of the contract

The award is based on a value for money principle. Quality is the most important factor to ensure the project goals (cited in chapter 2) will be met. Value for money will be assessed with the following method:

Criterion	Maximum score	Weight
Quality criterion A to D	16 points	80%
Price	4 points	20%
Total	20 points	100%

The formula for assessing the Quote is:
obtained score for quality + obtained score for price = total score of Quote

4.1 Price

The quote price has a maximum of €100.000,-(ex. VAT).
The maximum score for price is 4 points. Quotes will be scored on price as followed:
- Quote price up to €80.000 receives 4 points
- Quote price from €80.000 to €85.000 receives 3 points
- Quote price from €85.000 to €90.000 receives 2 points
- Quote price from €90.000 to €95.000 receives 1 point
- Quote price from €95.000 to €100.000 receives 0 points

Abovementioned prices are ex. VAT

This price covers all specified features in the requirements plus all the offered features in response to the quality criteria. No additional cost may be billed.

Wageningen Research expects a quote in which Tenderer is aware that Wageningen Research is an excellent reference for the Contractor. When the Contractor is mentioned in published research results this could be profitable for the Contractor.

Tenderer's quote has to be specified in a separate appendix breaking down the price into the following components:
- Development cycles and costs (employee hours)
- Material costs
- Hosting and maintenance costs (including requirement hosting after delivery)

Upon submission, the appendices must be fully filled in thereby confirming to meet all the requirements as mentioned in appendix D and describing the offered features / additional quality on top of the set out minimum requirements.

4.2 Quality

WUR believes it is of great importance to choose a Contractor who can deliver proven quality. The quality is questioned in 4 quality criteria. These criteria with the associated amount of points for quality that may be earned are described in paragraph 4.2.1. Points will only be awarded for additional quality on top of the minimum requirements as specified in this RFQ.

Rating
When assessing each Quote, the project group defines the quality score per quality criterion as follows:

Assessment	rating
Maximum added value	4
Excellent added value	3
Good added value	2
Minimum added value	1
No added value	0

The members of the project group score each quality (sub)criterion between 0 and 4. Two employees from Buyer, one from Coventry University and one from Wervel will assess the Quote as part of the Agromix Consortium and 4.3 project team.

The average assessment of the members of the project group will then be calculated for each requirement. The amount of points for quality is then calculated for every separate criterion separately as follows:

Amount of points awarded = Maximum score for quality X Mean rating given / 4

The same is done for all quality criteria. The sum of the scores awarded for all the criteria make up the total score for quality which decides which Quote will be awarded the contract.

4.2.1 Quality Criteria written out

The Quotation should include a written or graphic description of the proposed Agromix-app, detailing different functions matching the below mentioned quality criteria.

	Criterion description	Maximum score for quality
Question A	Give a general description of the <u>system design and user journey</u> (max 2 pages) The description should contain: - The main features, from a user perspective - A plan for motivating users / user engagement, also after delivery This criterium will be assessed based on: - Short and concise descriptions - Substantiated choices in the design - Ambition and feasibility - Extent to which the project objectives of Buyer are fulfilled - User friendly and intuitive design	4
Question B	Give a general description of the <u>tree choice database</u> (max 2 pages) The description should contain: - Proposal for the tree choice database for agroforestry systems in varying European Climatic zones - How the database supports decision making of the target group Expectations: - Various possibilities for data visualization (for example: pictures of tree species, visual indication of climatic zones, yield numbers) - Easy comparison of different tree species - Adaptive display of information based on availability (given the wide variety of tree species and depth of research not every tree will have the same amount of information available) This criterium will be assessed based on: - Short and concise descriptions - Substantiated choices in the design - Extent to which the project objectives and expectations of Buyer are fulfilled	4
Question C	Give a description on <u>user interaction</u> (max 1 page) The description should contain: - Interaction possibilities between users and/or user groups - Interaction possibilities between user and the tree choice database Expectations: - Easy navigation for user - Uncluttered design - Relevant information for the user according to their interests This criterium will be assessed based on: - Short and concise descriptions - Substantiated choices in the design - Degree to which effectiveness is demonstrated - Ambition and feasibility	4

		Extent to which the project objectives and expectations of Buyer are fulfilled	
Question D	Give a description for the development approach (max 2 pages) The description should contain: - How collaboration with the Agromix 4.3 project team will be organized using a co-creative approach - Development cycles and planning (corresponding to Acceptance terms described in chapter 3) - A clear plan for beta testing with external participants (participants can be found via the Agromix project - Mid term evaluation and end-evaluation - Risk paragraph including risks and mitigation measures Data security and compliance with the GDPR This criterium will be assessed based on: - Short and concise descriptions - Ambition and feasibility - Extent to which the project goals of Buyer are fulfilled	4
	Total amount of points for quality that can be earned	**16**