

# Development and adaptation of rice dry seeding in the Ebro Delta

## Summary

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Our aim is to develop a system for the dry seeding of rice in the Delta de l'Ebre. We will assess the effect of this seeding methodology on the germination and subsequent establishment of the crop, depending upon salinity, water management, soil type, seeding rate and crop variety.

## Objectives

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Main objective:

- To adapt and optimise a dry seeding system for rice in the Delta de l'Ebre.

Specific objectives:

- To optimise water management according to the soil type (texture and salinity)
- To identify and evaluate the impact of dry seeding on weeds, pests and diseases
- To identify the optimum seeding rate for the dry seeding of rice.

## Description of project activities

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- Evaluation of the different textures and salinity levels in sandy, clayey, saline and non-saline soils.

- Evaluation of the different varieties and seeding rates:

Four rice varieties that are amongst the most representative for the Delta de l'Ebre have been chosen for the trial.

Depending on each variety's tolerance for salinity, water management and dry seeding, we expect to determine an optimum seeding rate and characterise their adaptation to this seeding methodology and to the agronomic practices evaluated.

- Water management

Water management is extremely important for cleaning, salt displacement and, consequently, for achieving good crop establishment and development.

The following water management techniques will be assessed:

- In saline soils and for different textures (sand/clay):
- Winter injection of sediment into the irrigation network (siltng)
- Advancing seeding dates and agronomic practices to preserve the water table prior to flooding.

- In soils with low salinity levels and for different textures:

- Continuous flooding from the 4-leaf stage
- Intermittent irrigation from the 4-leaf stage

Depending on soil type, water management and agronomic practices, we expect to obtain results that indicate which irrigation and cultivation methods are best in order to guarantee the correct establishment and development of the crop.

- Weeds, pests and diseases:

The impact of dry seeding on the weed population, pests and diseases will also be evaluated. We expect that modifications to the soil's hydrological conditions will result in differences in weed populations, pests and diseases. While such changes may help to control some of the existing threats, they may also lead to the emergence or augmentation of new ones.

## Expected results and practical recommendations

Based on the findings of the present project, we expect to produce recommendations for the dry seeding of rice that allows productivity to be maintained, while increasing the profitability and environmental sustainability of rice cultivation in an ecosystem as fragile as that of the Delta de l'Ebre.

In this context, we expect that application of the identified practices will help to relieve the pressure placed on crops by pests, weeds and diseases, with a consequent reduction in the use of phytosanitary products.

In addition, alternative irrigation systems that help to optimise water management will be investigated. We believe that all of the above will lead to agronomic practices that favour sustainable cultivation in areas of high environmental value.

Finally, it is our intention is to provide farmers with a series of practical recommendations on this matter.

## Operational Group Leader

Entitat: **COMUNITAT DE REGANTS SINDICAT AGRÍCOLA DE L'EBRE**

E-mail de contacte:

**comunitat@regantsesquerra.org**

Tipologia d'entitat:

**Comunitats de regants**

## Operational Group Coordinator

Entitat: **ASSOCIACIÓ DE PRODUCTORS AGRARIS DEL DELTA DE L'EBRE (PRODELTA)**

E-mail de contacte:

**info@prodelta.cat**

Tipologia d'entitat:

**Agrupació o associació de productors agraris**

## Other Operational Group members (beneficiaries of aid)

Entitat: **ARROSSAIRES DEL DELTA DE L'EBRE I S.C., SCCL**

E-mail de contacte:

**joan.tomas@arrossaires.com**

Tipologia d'entitat:

**Indústria agroalimentària**

Entitat: **CÀMARA ARROSSERA DEL MONTSIÀ I SECCIÓ DE CRÈDIT, SCCL**

E-mail de contacte:

**jjroig@lacamara.es**

Tipologia d'entitat:

**Cooperativa**

Entitat: **COMUNITAT GENERAL REGANTS CANAL DE LA DRETA DE L'EBRE**

E-mail de contacte:

**admin@comunitatregants.org**

Tipologia d'entitat:

**Comunitats de regants**

## Other Operational Group members

Entitat: **AGROGALGO, SL**

E-mail de contacte:

**agrogalgo@hotmail.com**

Tipologia d'entitat:

**Emp.de serveis/proveïdora de tecnologia o inputs**

Entitat: **AGRUPACIÓ DE DEFENSA VEGETAL DE L'ARRÒS I ALTRES CULTIUS AL**

E-mail de contacte: **L'EBRE (ADV)**

Tipologia d'entitat:

**advdelta@telefonica.net**

**Altres agents del sector**

Entitat: **EBRECULTIUS, SL**

E-mail de contacte:

**jcarlos@ebrecultius.com**

Tipologia d'entitat:

**Empresa agrària**

Entitat: **IRTA/EEE**

E-mail de contacte:

**mar.catala@irta.cat**

Tipologia d'entitat:

**Centre de recerca**

## Keyword-category

Agricultural production system  
Climate and climate change  
Plant production and horticulture  
Water management

## Territorial scope

<b>Province</b>	<b>County</b>
Tarragona	Montsià Baix Ebre

## Project dissemination (publications, seminars, multimedia...)

Jornades de camp i de resultats encara a determinar

## Project website

## Other project information

### Project period

Starting date (month-year): Maig 2017

End date (month-year):

Project status: *Ongoing*

### Approved budget

**Total budget: 228.120,00 €**

*Funding source DARP: 94.097,88 €*

*Funding source EU: 70.986,12 €*

*Own funds: 63.036,00 €*

## With the support of:

Project funded by Operation 16.01.01 (Cooperation for innovation) of the Rural Development Program of Catalunya 2014-2020.

*Basic regulation: Ordre ARP/96/2016, de 27 d'abril, per la qual s'aproven les bases reguladores dels ajuts a la cooperació per a la innovació a través del foment de la creació de grups operatius de l'Associació Europea per a la Innovació en matèria de productivitat i sostenibilitat agrícoles i la realització de projectes pilot innovadors per part d'aquests grups, i es convoquen els corresponents a 2016.*

*Project id.: E+C 2016*