



# HIDROSOPH

# CASE STUDY

## CASTRO DUARTE— PORTUGAL—MAIZE






### BASE INFORMATION

- Portuguese maize producer for grain and silage
- Hidrosoph customer since 2009
- Main goal was to have a decision tool to decide to continue or not growing these crops
- Provide field staff with tools to improve their irrigation management practices

### WORKING PROCESS—Hidrovolution™ at work

- Use of IRRISTRAT™ TOTAL software service
- Characterisation of soil hydrodynamics based on laboratory analysis and farmer local knowledge
- Mapping of existing irrigation zones indicating crops and monitoring equipment
- Evaluation of irrigation practices previously in use and determination of scope for improvement
- Parameterisation of irrigation units—Soil, climate, crop, irrigation system

### RESULTS

-  Water and energy savings. Better irrigation management during the last month of the campaign resulted in drier seed and savings in post harvest processing
-  Better understanding of soil plant water relations
-  More uniform crop stand
-  Optimization of production potential of each field through adoption of a site specific irrigation strategy
-  Development of in-house field staff skills on maize irrigation management

“At present there are little alternatives available for irrigated agriculture in our area. Gross margins are getting smaller and we therefore need to improve the way we grow our crops.

To do so we need to have a more scientific approach to understand what is happening inside the soil. Without this approach we would never get this understanding. At that point we have contacted Hidrosoph to assist us with irrigation management and the result was encouraging. It's clear that irrigation management is a continuous process that we will continue to learn.”

José Castro Duarte, Farmer and Owner

Co-financiamento



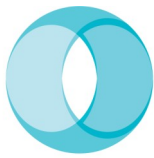
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CS001EN Castro Duarte Maize Case Study © 2009, HIDROSOPH



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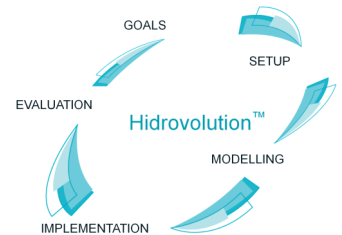
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CASTRO DUARTE—PORTUGAL

### HIDROVOLUTION AT WORK

#### SUPPORT SERVICES SCOPE

- ✓ Daily and automatic generation of irrigation plan
- ✓ Weekly remote consulting support to farmer
- ✓ Regular site visits to evaluate the strategy and impact
- ✓ End of season evaluation
- ✓ During a working meeting the inputs, outputs and results are discussed and documented. The results will be used during the next campaign to improve the implementation strategy



#### TRAINING

- ✓ The field staff has been fully involved in the process from planning to implementation and evaluation and they have been present on all field visits and weekly phone support
- ✓ This process of working jointly in irrigation management during the campaign has resulted in a lot of transfer of knowledge and improved irrigation practices

#### MONITORING EQUIPMENT

- ✓ Automatic weather station (GPRS communication)  
Real time weather data time including of ET<sub>0</sub> data (Penman-Monteith) and Precipitation
- ✓ Soil Moisture EnviroSCAN Solo (GPRS communication)  
Permanent measurement of soil moisture at different depths in the root zone  
Analysis of soil moisture dynamics

smart  
irrigation  
works

