

Automation of water irrigation supply network by calculating the needs of farms according to IRRInet

Riferimenti

Tipo di progetto
Gruppo Operativo

Tematica
Risorse idriche

Information
Time frame
2016 - 2019

Durata
36 months

Partners (no.)
4

Regione
Emilia-Romagna

Comparto
Multifiliera

Localizzazione
ITH51 - Piacenza
ITH55 - Bologna

Costo totale
€198.854,85

Fonte di finanziamento principale
Programma di sviluppo rurale

Programma di sviluppo rurale
2014IT06RDRP003: Italy - Rural Development
Programme (Regional) - Emilia Romagna

Parole chiave
Landscape /land management

Sito web
<http://www.consorziocer.it/it/p/automazione-della-rete-di-consegna-delle-acque-irrigue>

Project status
completed



Objectives

The aim is to save water resources going to affect on efficiencies related to withdrawal and delivery of water by the Land Reclamation Consortia, to farms within the consortium districts.

The specific objectives are:

Saving water through the optimization of the openings of the consortium gates for withdrawal and delivery of irrigation water.

Couple the correct calculation of irrigation requirements of crops to water withdrawn by the Consortium.

Calculate the amount of water returned to the river system.

Evaluate the economic sustainability of the automatic water conveyance network to the Consortium of Reclamation.

Activities

Action 1: Development of a mathematical algorithm for the assessment of land irrigation crop requirements. The agronomic information will derived from IRRInet.

Action 2: Changes to the IRRInet software to apply the algorithm and adjust the opening and closing of the gates of irrigation networks.

Action 3: Application of that software in the test areas: Piacentina Test area, Bolognese Test area

Action 4: economic evaluation: The action will compute the economic sustainability of the automation of water conveyance network to the Consortium of Reclamation.

Automazione della rete di consegna delle acque irrigue mediante calcolo dei fabbisogni delle aziende agricole aderenti a Irrinet

2/3

<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/automazione-della-rete-di-consegna-delle-acque-irrigue>

Partenariato

Role	Azienda	Address	Telephone	E-mail
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Pratiche abstract

Description

The main result of the project aims is to save water resources. In the case introduced by this plan are assumed to follow mandatory outcome IRRInet and therefore it must be assumed to arrive at least 15% of water saving, thanks to overcome empiricism that affects the farmer's autonomous choices.

The main innovation benefit will save water resources, related to the entire regional irrigated area (257,000 ha), and to the entire network of conveyance (6000 km), it would be estimated:

- Water saving: $1405 \text{ Mm}^3 \text{ water withdrawn/year} * 15\% = 21.075.000 \text{ m}^3$
- Energy saving: $21.075.000 \text{ m}^3 / 0,0006 \text{ EUR} = 12645 \text{ EUR/m lifted}$, assuming an average prevalence of 10 meters, the result is 126.450 euro. To which one must add the energy savings achieved in the districts with the water delivery pressure who heads varying from 60 to 80 meters.

On the side of the farm calculating the savings achieved due to the reduction of water and energy supply costs by the consortium, charged to each farm of the district, it will be a measure of relief that innovation will bring to the agricultural production sector in terms of less production costs, whose certainty is, moreover, out of the question.

Link utili

Automazione della rete di consegna delle acque irrigue mediante calcolo dei fabbisogni delle aziende agricole aderenti a IrrNet

3/3

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Titolo/Descrizione	Url	Tipologia
Sito web del progetto	http://www.consorziocer.it/it/p/automazione-della-rete-di-consegna-delle-acque-...	Sito web
Consorzio cer	http://www.consorziocer.it/it/p/progetti-in-corso	Altro
Video del progetto	https://www.youtube.com/watch?v=KMKK2SEmYs	Materiali utili
Relazione tecnica finale	https://agricoltura.regione.emilia-romagna.it/progetti-innovazione/raccolta-pro...	Materiali utili