

Diversified collection and valorisation system for corn residues

Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

MAIS 100%

Tematica

Gestione dei sottoprodotti agricoli

Information

Time frame

2019 - 2022

Durata

36 months

Partners (no.)

7

Regione

Lombardia

Comparto

Cerealicoltura

Localizzazione

ITC49 - Lodi

ITC4A - Cremona

ITC4C - Milano

Costo totale

€544.065,61

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP007: Italy - Rural Development

Programme (Regional) - Lombardia

Parole chiave

Fertilisation and nutrients management

Waste, by-products and residues management

Energy management

Farming equipment and machinery

Farming practice

Agricultural production system

Sito web

<http://www.mais100.it/it/>

Project status

completed



Objectives

The MAIS100% Project aims to enhance, through the introduction of specific harvesting systems, the valorisation of corn residues (stalks, cobs, bracts) from grain, dry or wet (mash), transforming them into materials that can be used in production chains typical of the cereal-zootechnical areas of Lombardy and, more generally, of the Po Valley.

Activities

"1.evaluate the applicability of harvesting systems for recovery of corn residues, using solutions both already present on the Italian market and innovative, quantifying their performance (technical, economic and environmental aspects) and identifying the most sustainable and coherent solution

2.measure the chemical-physical characteristics of the recovered co-products, in relation to their final destination (zootechnical supply chain and / or energy supply chain), optimizing the operating methods of the machines

3. Maximize the recovery of all corn residues

4. calculate and compare the production costs of the operations for collecting and transporting corn residues (stalks, cobs, bracts) to allow their use in both the livestock and energy supply chains."

Context

Currently the residues of corn (around 9-10 t / ha of SS), despite having extremely interesting characteristics for their possible use in both the livestock (food for cattle, bedding) and energy sectors (production of biofuels, such as biomethane) , are normally left in the field, shredded and buried with subsequent processing. The interest in their possible use is

evident in the lowland farms and livestock which - often equipped with anaerobic digestion system (now biogas, in biomethane perspective) identify the possibility of having, at extremely low costs, a valuable multipurpose product capable of containing production costs and improving process sustainability

Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	CIB - Consorzio Italiano Biogas e Gassificazione	Parco Tecnologico Padano Via Einstein Località Cascina Codazza 26900 Lodi LO Italy	0371 4662683	direzione@consorziobiogas.it
Partner	Università degli Studi di Milano - Dipartimento di Scienze Agrarie e Ambientali	Via Giovanni Celoria, 2 20133 Milano MI Italy	02 503111	sportello.ricerca@unimi.it
Partner	Fondazione CRPA Studi Ricerche	Viale Timavo 43/2 42121 Reggio Emilia RE Italy	0522- 436999	info@fondazionecrpa.it
Partner	Agricascinazza S.r.l. Società Agricola	Cascina Cascinazza, SNC 26843 MELETI LO Italy		
Partner	Società Agricola Palazzetto	Via Pasquale Folli - Frazione Zanengo 26023 GRUMELLO CREMONESE ED UNITI CR Italy		
Partner	Pieve Ecoenergia Società Cooperativa Agricola	Via Marconi, 33 26042 CINGIA DE' BOTTI CR Italy		

Role	Azienda	Address	Telephone	E-mail
Partner	La Castellana S.r.l. Società Agricola	Via Della Marzorata, 10 20011 Corbetta MI Italy		info@lacastallana.eu

Pratiche abstract

Description

Analysis of the mechanization chain (harvesting, shredding, transport) for corn residues (stalks, cobs, bracts) utilization, by identifying and verifying the optimal use of the machines in relation to the type of soil, the previous crops, the adjustments operating conditions (cutting height, forward speed, rotation speed of the cutting tools, etc.). In this way it will be possible to minimize the losses of uncollected residues and reduce their contamination from the soil. Furthermore, information will be collected on farm-scale taking into consideration the real technical, economic and environmental performance of the various mechanical solutions, determining -for each of them- the collecting unit cost of corn residues (€/ton dry matter).

Description

"To test the quantitative and qualitative results of innovative mechanization chains for the utilization of maize residues (already partially studied in Europe and the USA), adapting them to the Italian specific conditions. The accurate monitoring and quantification of the performances offered by the various solutions in different farming conditions will bring strong benefits to the entire Lombardy and Po Valley grain-livestock production sector which - in the short term - will be able to take advantage of valuable technical-operational information directly resulting from farm scale tests.

Having demonstrated the feasibility and suitability (on technical, economic and environmental levels) of some mechanical solutions, their widespread application will allow for deep innovation in the entire sector, radically changing the panorama of the use of "new raw materials", immediately available in farms and usable to improve -in a sustainable way- the final part of the production chains both in livestock (meat, milk) and energy (biogas, biomethane) sector.

"

Link utili

Titolo/Descrizione	Url	Tipologia
Sito web del progetto	http://www.mais100.it/it/	Sito web
Scheda tecnica I cantieri di raccolta dei residui del mais	https://www.consorziobiogas.it/wp-content/uploads/2022/06/Mais100-Schede-tecnic...	Materiali utili
Scheda tecnica - La qualità dei residui del mais	https://www.consorziobiogas.it/wp-content/uploads/2022/06/Mais100-Schede-tecnic...	Materiali utili

Titolo/Descrizione	Url	Tipologia
Scheda tecnica - Il mais in Italia	https://www.consorziobiogas.it/wp-content/uploads/2022/06/Mais100-Schede-tecnic...	Materiali utili