

## Circular Economy: valorisation of residual straw for the production of innovative, bio-based, compostable and biodegradable packaging.

### Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

RICREA

Tematica

Diversificazione e multisettorialità

Information

Time frame

2020 - 2023

Durata

36 months

Partners (no.)

6

Regione

Marche

Comparto

Cerealicoltura

Localizzazione

ITI32 - Ancona

ITI34 - Ascoli Piceno

ITI35 - Fermo

Costo totale

€399.362,19

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP008: Italy - Rural Development

Programme (Regional) - Marche

Parole chiave

Climate and climate change

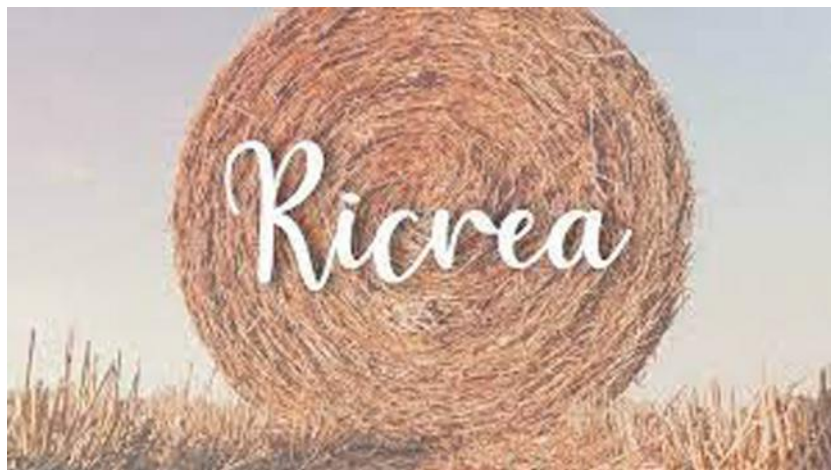
Farming/forestry competitiveness and diversification

Waste, by-products and residues management

Sito web

<https://muliniepastifici1875.com/site/progetto-ricrea/>

Project status



### Objectives

The overall objective of the project is to reduce the environmental impacts from the production and use of packaging made out of plastics, replacing its market share with bio-packaging products produced by straw and biopolymers; realization of a complete pilot process for the production of bio-packaging, analyzing the market and calibrating the products according to the needs of the targeted farms.

### Activities

"Packaging prototypes will be made using different methodologies. We will start from the combination of bio-polymers and straw to verify the minimum quantity of bio-polymers that can be used.

Verification of the concentration of straw at various pressures and its mechanical resistance.

Tests of mechanical resistance and compostability of the product.

The final result will be the obtaining of several prototypes of various shapes and combinations that will be tested in the shipment to identify the most optimal one for each use."

### Context

For some years we have witnessed a growing crisis in the cereal sector in the Marche Region due to the increase in production costs and the drop in market prices at the origin (20 € / q for durum wheat against a survival price of at least 40 € / q). The collapse of prices for grain due to market speculation with large quantities of imported grain occurs even more for the straw product, considered a waste material of the supply chain. The scarce re-use for agronomic and zootechnical needs has determined a contraction of the straw market with fluctuating economic prices, strengthened by modest prospects of convenience in the harvest and post-harvest phases.

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The alternative uses of straw to those relating to the agro-livestock sector currently concern the use of straw as a building material, the use of straw for energy purposes to produce and cogenerate heat. Straw can also be used for energy purposes in different supply chains, for example for the production of ethanol (2nd generation biofuel). From an environmental point of view, the use of straw with destruction, for example for the production of energy, involves the release of CO2 into the atmosphere and therefore the loss of its "Carbon Sink" value: 1.00 ton of straw produces, when it burns, about 1.35 tons of CO2 (Behzad Sodagar et al., 2011) that is more than its own weight as it removes oxygen from the atmosphere. RICREA is an innovation project that proposes an alternative and experimental solution for the production of packaging for industrial products in various commercial sectors.

Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	Molini e Pastifici 1875	Via Ancona, 3 63085 Maltignano AP Italy	075367807	info.mp1875@gmail.com
Partner	Azienda agricola La Quarta	Via Ernesto Ciucci n. 12 63064 Cupra Marittima AP Italy		agriturismolaquarta@libero.it
Partner	Umani Ronchi	S S 16 KM 310+400 N 74 60027 Osimo AN Italy	0717108019	wine@umanironchi.it
Partner	Conca d'Oro Bio Società Semplice Agricola	Via Valle Chifenti, 142 63083 Appignano del Tronto AP Italy		concadorbiossa@gmail.com
Partner	Vie en.ro.se. Ingegneria s.r.l.	Viale Belfiore, 36 50144 Firenze FI Italy	0554379140	raffaella.bellomini@vienrose.it

# Economia Circolare: valorizzazione della paglia residuale per la produzione di packaging innovativo, bio-based, compostabile e biodegradabile.

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<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/economia-circolare-valorizzazione-della-paglia-residuale>

Role	Azienda	Address	Telephone	E-mail
Partner	Università politecnica delle Marche - Dipartimento di scienze agrarie alimentari ed ambientali	Via Breccie Bianche 2-8 60131 Ancona AN Italy	071 2204935	dip.d3a@univpm.it

## Pratiche abstract

### Description

The innovation concerns the industrial development of two national patents to produce a bio-based material starting from organic fibers from existing supply chains. The waste of the cereal supply chain is the residual straw: this is coupled with a biopolymer film which, through a mechanical process followed by a heat treatment, allows to produce stabilized molded elements. The bio-based material can be engineered by assuming different shapes defined by design and density in order to meet the technological needs in different areas and in particular it can be a substitute for expanded polystyrene. The products that can be obtained guarantee its use in various fields: from tertiary packaging to the creation of thermal insulating panels. In the project, the production of low-density printed matter will be used in protective packaging: in the protection of glassware such as bottles of wine, oil and preserves.

## Link utili

Titolo/Descrizione	Url	Tipologia
Sito web del progetto	<a href="https://muliniepastifici1875.com/site/progetto-ricrea/">https://muliniepastifici1875.com/site/progetto-ricrea/</a>	Sito web
Sito web del Progetto2	<a href="http://www.progettoricrea.it/">http://www.progettoricrea.it/</a>	Sito web
Elenco Gruppi Operativi PSR con schede di progetto	<a href="https://www.innovamarche.it/gruppi-operativi/gruppi-operativi-2020">https://www.innovamarche.it/gruppi-operativi/gruppi-operativi-2020</a>	Link ad altri siti che ospitano informazioni del progetto
Ricrea short description - LinkedIn post	<a href="https://www.linkedin.com/posts/muliniepastifici1875_mp1875-progettoricrea-packa...">https://www.linkedin.com/posts/muliniepastifici1875_mp1875-progettoricrea-packa...</a>	Materiali utili
Ricrea information and kick off invitation - Instagram Highlights	<a href="https://www.instagram.com/stories/highlights/17928824896744869/">https://www.instagram.com/stories/highlights/17928824896744869/</a>	Materiali utili

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Ricrea first packaging photo e information on Instagram	<a href="https://www.instagram.com/p/CXivqC2tMrl/">https://www.instagram.com/p/CXivqC2tMrl/</a>	Materiali utili
Ricrea first packaging photo e information on Facebook	<a href="https://www.facebook.com/muliniepastifici/posts/4680250548734996">https://www.facebook.com/muliniepastifici/posts/4680250548734996</a>	Materiali utili