

Valorization of livestock waste by the innovative technology based on the use of the bioconverter insect *Hermetia illucens*

Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

ValorizZoo

Tematica

Gestione dei sottoprodotti agricoli

Information

Time frame

2018 - 2021

Durata

36 months

Partners (no.)

5

Regione

Basilicata

Comparto

Zootecnia

Localizzazione

ITF51 - Potenza

ITF52 - Matera

Costo totale

€260.000,00

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP017: Italy - Rural Development

Programme (Regional) - Basilicata

Parole chiave

Fertilisation and nutrients management

Soil management / functionality

Waste, by-products and residues management

Project status

completed

Objectives

This project proposal aims to transfer and demonstrate the functioning of alternative and innovative technology for the disposal and valorisation of waste derived from the livestock sector, with particular focus on animal husbandry. It is intended to provide a service in order to reach a concrete solution to the issue, concerning the disposal of nitrogen from livestock sewage in order to allow nutrients and fertilizers to play a useful role in agricultural land. This process aims to develop new production mechanisms and innovative products from waste materials addressed to the bioconversion process.

Activities

The project includes:

1. The creation of a completely equipped biofabric for large-scale breeding of *Hermetia illucens*.
2. Realization of a single travelling bioconversion unit to demonstrate the process of the disposal of the organic substrate.
3. Management of larvicompost
5. The sale of live larvae for feeding reptiles, fur animals and other insectivorous and companion animals.
6. Promotion of field days, workshops, seminars and other sectoral thematic events and dissemination meetings on regional territory with experts in the field, in order to disseminate the technology.

Context

The project intends to offer a cross service addressed to the whole region, in order to provide a solution to the problems arising from the improper management of waste from the whole livestock sector, represented by different species (beef, pigs, sheep, goats and rabbits). Inadequate management of livestock waste can have a negative impact on the environment, primarily due to the so-called polluting action on the ground and the aquifers, due to the spillage of slurries from farms. The pollutants and eutrophic substances present in the slurry can reach the underground aquifers and rivers by land drainage. Secondly, this problem also affects the deterioration of air quality (odor, ammonia, hydrogen sulfide, fine dust) and has important repercussions on the greenhouse effect (carbon dioxide emission, methane, nitrogen oxide). In addition, along with livestock waste, the waste products derived from agri-food industries will be also addressed to the bioconversion process, in order to offer a strategy for the enhancement of these matrices and to improve the physical and nutritional characteristics of livestock waste (increased degree of compactness and nutrient content).

Valorizzazione dei reflui zootecnici mediante tecnologia innovativa basata sull'utilizzo dell'insetto bioconvertitore *Hermetia illucens*

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Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	Università degli Studi della Basilicata - Dipartimento di Scienze	Via dell'Ateneo Lucano, 10 85100 Potenza PZ Italy	0971 205085	dis.ricerca@unibas.it
Partner	Università degli Studi della Basilicata - Scuola di Ingegneria	Via dell'Ateneo Lucano 10 85100 Potenza PZ Italy	0971 205104	scuolaingegneria.ricerca@unibas.it
Partner	Associazione regionale allevatori della Basilicata - ARA	Via Dell'Edilizia 85100 Potenza PZ Italy	0971 470000	segreteria@arabasilicata.it
Partner	ALSIA - Pantano di Pignola POC	C.da Pantano di Pignola 85010 Pignola PZ Italy	0835 244640	azienda.pantano@alsia.it
Partner	Azienda agricola di Leone Antonio	Via S. Agostino 3/2 75022 Irsina MT Italy	0835628380	
Partner	Azienda Agricola D'Effremo Stefano	Contrada Torre Spagnola 75100 Matera MT Italy	0835 339196	
Partner	Azienda Agricola Iannetti Lorenzo	CONTRADA LAME SNC 75022 Irsina MT Italy	0835 629208	
Partner	Azienda Agricola Fortunato Anna	Italy		

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Role	Azienda	Address	Telephone	E-mail
Partner	Azienda Agricola LUFER	Contrada Torrette 70 85057 Tramutola PZ Italy	0975 356920	
Partner	Azienda agricola Forte Lucia	Italy		
Partner	Azienda agricola Tamburrino Antonio	CONTRADA SCANZANO SNC 85015 Oppido Lucano PZ Italy		
Partner	Azienda Agricola San Giuliano	contrada Foggia di Lupo 75010 Miglionico MT Italy	335 840 8107	info@agriturismosangiuliano.it
Partner	Bykes Beer S.r.L.	C.da Fiumicello Zona Ind. 85040 Rivello PZ Italy	0973 428033	luciano.deodati@bykesgroup.com
Partner	Azienda Agricola e Zootecnica di FORTUNATO Giovanni	C.da Ospedale Marina 75020 Nova Siri MT Italy	334 353 4008	giannifortunato52@libero.it
Partner	Azienda Agricola Al Giardino del Principe	Contrada Giardino snc 85050 Grumento Nova PZ Italy		ulissedit@libero.it
Partner	AZIENDA AGRICOLA LADAGA SALVATORE	Italy		

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Role	Azienda	Address	Telephone	E-mail
Partner	Fattorie GiPa di Ponzio Rosita	Contrada Mattina 34 85050 Grumento Nova PZ Italy		
Partner	Azienda agricola Tamburrino Mariano	Contrada Scanzano 85015 Oppido Lucano PZ Italy		
Partner	Masserie Carbone	Contrada Prati 85010 Vaglio Basilicata PZ Italy	342 1123595	

Pratiche abstract

Description

The proposal aims to offer alternative, innovative technology, widely used in Europe and around the world, for the disposal and valorisation of livestock waste of different nature, with particular attention to the meat sector (cattle, pigs, sheep and goats and rabbits). Animal feedstocks will be added to by-products derived from agro-food companies, which will help to give the right texture and degree of moisture to the substrate to be bioconverted, complementing the nutritional value as well. It is proposed to raise the value of livestock sludge in high quality products, with an environmentally friendly technology, using the bioconverter insect *Hermetia illucens*. This project aims to create a virtuous circuit aimed at operators in the livestock sector, which aims to transform the problem of wastewater disposal into a resource to be exploited.

The project includes:

1. The implementation of an operative unit for the large-scale breeding of the bioconverter insect *Hermetia illucens*.
2. Realization of a demonstration, mobile and itinerant bioconversion unit, cyclically available to all companies that are part of the Operating Group
3. Management of the "larvicompost" resulting from the bioconversion process
4. Sale of live larvae destined for game feeding, reptiles, fur animals and other insectivorous and companion animals.
5. In the future perspective, use of larvae for technical uses (lipid extraction and biodiesel production).
6. Promotion of workshops, field days, seminars and other sectoral thematic events and dissemination meetings on regional territory with experts in the field.

Link utili

Titolo/Descrizione	Url	Tipologia
Bioconversion of pig manure	http://www.youtube.com/watch?v=7CWKdnhU5s4	Materiali utili

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Titolo/Descrizione	Url	Tipologia
Biofarm/production of <i>Hermetia illucens</i>	https://www.youtube.com/watch?v=eDhC4ggC-Ek	Materiali utili
Protix technology	https://www.youtube.com/watch?v=kdcSE6eS9do	Materiali utili
Rearing of <i>Hermetia illucens</i> in Spain	https://www.youtube.com/watch?v=ywGdPvXIUt0	Materiali utili
Rearing of <i>Hermetia illucens</i> in Spain	https://www.youtube.com/watch?v=Rv_lg7envnc	Materiali utili
Production system of <i>Hermetia illucens</i>	https://www.youtube.com/watch?v=-VYEwykq0pE	Materiali utili
Production of <i>Hermetia illucens</i> in South Africa	http://www.agriprotein.com/index.html	Materiali utili
Protix, Netherlands	http://protix.eu/	Materiali utili
Enterra Feed Corporation, Canada	http://www.enterrafeed.com/	Materiali utili
Enviroflight, USA	http://www.enviroflight.net/	Materiali utili
Brochure	https://www.alsia.it/opencms/export/sites/alsia/.allegati/Progetti/risultati/BR...	Materiali utili
Opuscolo	https://www.alsia.it/opencms/export/sites/alsia/.allegati/Progetti/risultati/Op...	Materiali utili