

## Animal Welfare for Consumer Health. Zotechnical products treated with natural health devices

### Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

BASC

Tematica

Difesa da malattie e infestazioni

Information

Time frame

2020 - 2023

Durata

36 months

Partners (no.)

8

Regione

Campania

Comparto

Zootecnia - ovi-caprini

Localizzazione

ITF32 - Benevento

Costo totale

€398.734,93

Fonte di finanziamento principale

Fondi nazionali/regionali

Programma di sviluppo rurale

2014IT06RDRP019: Italy - Rural Development

Programme (Regional) - Campania

Parole chiave

Animal husbandry and welfare

Sito web

<https://www.progetto-basc.net/>

Project status

completed



### Objectives

Parasitoses are a source of zootenic risk, both for the decrease in production and for health, due to the possible incidence of pathologies related to them. The use of synthetic pesticides allows to limit these risks but involves serious problems of drug resistance, high economic costs and a high environmental impact. Specific phytocomplexes will be identified for parasites coming from plant species naturally present in the Mediterranean basin. The pastures will be oriented towards sustainable and integrated management, with the help of rotation shifts and choices of plant species that naturally lower the level of infection.

### Results

In the context of the project, both in vitro laboratory tests and field trials have demonstrated good anthelmintic efficacy of extracts of Borage (*Borago officinalis* L.) and Mallow (*Malva sylvestris* L.), with threshold values of faecal egg count reduction (FECR) ranging from 24% to 64%. Although these results do not represent very high egg reduction values of gastrointestinal nematodes, in comparison with data from synthetic drugs, they can still be considered encouraging. The overall data show that the number of hatched eggs, after evaluation by follow-up on co-cultures of each test group, decreased. Mallow and Borage do not yet have a direct anthelmintic function, but they do act on the biological cycle of the parasite, resulting in less contamination of the environment, pastures and therefore the animals. Treatments with Borage and Mallow extracts, in vivo, did not change the basic chemical-physical composition of the milk. basic physico-chemical composition of the milk. The acid profile data showed, in the two groups treated, an increase in the saturated fatty acid content. The results of the determinations, using the electronic nose, of the cheeses obtained from the different groups, show, on the basis of the LDA analysis that the cheeses obtained (Malva administration) clearly differ from the others,

confirming that the extracts influence the aromatic characteristics of the cheeses. The results obtained in terms of 'forage yield' for Sulla (Sulla coronaria (L.) B.H.Choi & H.Ohashi) cv. Centauro, a variety selected in the Mediterranean environments of Southern Italy and not yet on the market, showed no significant differences with the preliminary data available. Root biometry indicates that Centauro is characterised by a higher root investment. A significant effect of water stress on resource allocation led to an increased root/shoot ratio (pval= 0.06).

### Activities

The plant material will undergo a fractional extraction process using classical techniques, or instrumental approaches. Secondary metabolites will be isolated from the extracts showing interesting biological activity through modern analytical technologies. Different types of phytoextracts will be prepared which will be tested in the CREMOPAR center on parasites of the gastrointestinal Strongili group present in 90 - 100% of sheep and goat farms.

### Context

The use of synthetic pesticides allows to limit these risks but involves serious problems of drug resistance, high economic costs and a high environmental impact. The management of parasitosis based on the use of sustainable and integrated practices, such as the rotation of pastures, and various environmental and management measures associated with the use of natural medicines. In animal husbandry that pursues models of environmental sustainability, "natural medicine" is included as a first choice health approach due to the absence of residues, the global approach to health and the deepening of animal-environment-human interactions. The integrated approach to the management of parasitosis involves maintaining the natural host-parasite balance, and rejects the view of the complete elimination of parasites in animals. On the one hand, this elimination is impossible, in breeding based on grazing, and on the other it has been shown that the presence of a low parasitic charge in the animal helps to limit the onset of massive infestations. Grazing is the main source of parasitic infestation of animals, therefore it is appropriate to limit the infesting load of pastures.

### Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	Università degli Studi del Sannio - Dipartimento di Scienze e Tecnologie DST	Via Port'arsa, 11 82100 Benevento BN Italy	+390824305170	scienze@unisannio.it

## Benessere Animale per la Salute dei consumatori. Prodotti zootecnici trattati con presidi sanitari naturali

3/5

<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/benessere-animale-la-salute-dei-consumatori-prodotti>

Role	Azienda	Address	Telephone	E-mail
Partner	Università degli Studi di Napoli Federico II - Dipartimento di Medicina Veterinaria e Produzioni Animali	Via Federico Delpino,1 80137 Napoli NA Italy	081 2536012	dip.medicina-veterinaria-prodan@unina.it
Partner	FONDAZIONE MEDES	C.da San Licandro, 1 84029 Sicignano degli Alburni SA Italy	0828 189 722 1	medes@medes.eu
Partner	CREA-ZA Sede di Bella	Via Appia Bella Scalo 85054 Muro Lucano PZ Italy	0976-72915	za.bella@crea.gov.it
Partner	Azienda Agricola di Santo Filomena	via C.da Lagoni 83040 GUARDIA LOMBARDI AV Italy	082741590	filo.disanto08@alice.it
Partner	Società Cooperativa Falode	Via Onofrio, 26 81010 Caserta CE Italy	3276115930	lafalodecooperativa@legalmail.it
Partner	Azienda Agricola Mercorella Raffaele	via C.da Cardito, 19 82020 Benevento BN Italy	3332716236	raffaele.mercorella@pec.agritel.it
Partner	Azienda Agricola De Leonardis Vito	Via Cappella, 1 84090 Salerno SA Italy	3331751621	vito.deleonardis@pec.agritel.it

Pratiche abstract

Description

The BASC project intends to promote the use of plant extracts (phytochemicals) as phytotherapy for zootechnical use. In

this way, the project intends to offer companies in the regional sheep and goat sector a possible alternative to the synthetic drug, thus counteracting the environmental impacts that derive from it, reducing the drug-resistance of pathogens and parasites; reducing the impact of parasites on livestock farms valued in the order of 30-40% of gross salable production. Indicator: number of sheep and goat farms where phytotherapy treatments are adopted / number of total regional sheep and goat farms Identification of ecotypes and local varieties of fodder legumes for the improvement of regional pastures and agronomic characterization of the same especially in relation to climate change scenarios.

### Description

The ethnobotanical studies will be articulated through interviews with breeders, phytotherapeutic enthusiasts, specific flora and documents belonging to the popular tradition of an area will be consulted, producing a list of species. The tools used are updated analytical flora, binocular for the determination of species, floristic vacancies, cartographies, computers for database management and processing of a GIS. The plant material will undergo a fractional extraction process using classic techniques, such as maceration, or instrumental approaches (Naviglio extractor). Secondary metabolites will be isolated from the extracts showing interesting biological activity through modern analytical technologies. Different types of phytoextracts will be prepared and tested in the CREMOPAR center on parasites of the gastrointestinal Strongili (SGI) group present in 90 - 100% of sheep and goat farms.

### Link utili

Titolo/Descrizione	Url	Tipologia
Sito web del progetto	<a href="https://www.progetto-basc.net/">https://www.progetto-basc.net/</a>	Sito web
Video del progetto	<a href="https://www.youtube.com/watch?v=aNMTM5twsoY&amp;t=9s">https://www.youtube.com/watch?v=aNMTM5twsoY&amp;t=9s</a>	Link ad altri siti che ospitano informazioni del progetto
Video del progetto parte 2	<a href="https://www.youtube.com/watch?v=g95iRvbjB8c&amp;t=17s">https://www.youtube.com/watch?v=g95iRvbjB8c&amp;t=17s</a>	Link ad altri siti che ospitano informazioni del progetto
Video del progetto parte 3	<a href="https://www.youtube.com/watch?v=gtZT_ZW_yCo&amp;t=27s">https://www.youtube.com/watch?v=gtZT_ZW_yCo&amp;t=27s</a>	Link ad altri siti che ospitano informazioni del progetto
Video del progetto parte 4	<a href="https://www.youtube.com/watch?v=C2DWcjEjvbQ&amp;t=32s">https://www.youtube.com/watch?v=C2DWcjEjvbQ&amp;t=32s</a>	Link ad altri siti che ospitano informazioni del progetto
Video intervista a Salvatore Claps- Direttore del CREA ZA di Bella	<a href="https://www.youtube.com/watch?v=HmZb1jxe5-Q&amp;t=41s">https://www.youtube.com/watch?v=HmZb1jxe5-Q&amp;t=41s</a>	Link ad altri siti che ospitano informazioni del progetto

## **Benessere Animale per la Salute dei consumatori. Prodotti zootecnici trattati con presidi sanitari naturali**

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