

**ANIMAL
HEALTH**



OPERATIONAL GROUPS AND INNOVATIVE PROJECTS



Unión Europea

Fondo Europeo Agrícola
de Desarrollo Rural

Europa invierte en las zonas rurales



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COORDINATION:

National Rural Network Management Unit
Subdirección General de Dinamización del Medio Rural (General Sub-directorate of Rural Revitalization)
Dirección General de Desarrollo Rural, Innovación y Formación Agroalimentaria (General Directorate of Rural Development, Innovation and Agri-food Training)

EDITING AND CONTENT:

Subdirección General de Dinamización del Medio Rural (General Sub-directorate of Rural Revitalization)



June 2022

Edita:

© Ministry of Agriculture, Fisheries and Food,
General Technical Secretary
Publication Centre

Animal Health.
Operational Groups and Innovative Projects.
NIPO: 003220983

Catalogue of Publications by the General State Administration:

<https://cpage.mpr.gob.es/>



Distribution:

Paseo de la Infanta Isabel, 1
28014 Madrid
Teléfono: 91 347 55 41
Fax: 91 347 57 22

www.redruralnacional.es

www.mapa.gob.es
centropublicaciones@mapa.es

OPERATIONAL GROUPS AND INNOVATIVE PROJECTS

Animal Health

EsRuralEsVital

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Introduction

This publication is a compilation of **Operational Groups and Innovative Projects for animal health** in Spain. **The National Rural Network (NRN)** supports and disseminates innovative initiatives in rural areas and fosters the exchange and transfer of knowledge between the main stakeholders in the sphere of research and its application in practice.

Today, innovation plays a leading role in European, national and local public policies.

The main instrument to promote innovation in rural areas for agricultural productivity and sustainability is the **European Innovation Partnership for agricultural productivity and sustainability** or EIP-AGRI. The EIP-AGRI aims to speed up innovation in the agri-food and forestry sector in rural areas, as well as disseminating successful examples of experience in the territory through specific Innovative Projects. In addition, it seeks to match the range of science available to the demand from different sectors and help solve specific problems or make the most of opportunities to help increase competitiveness and improve living conditions in rural areas.

The Operational Groups (OGs) are groups of stakeholders from different sectors: agriculture, livestock, forestry, agri-food and forest-based industries, from public or private R&D&I centres, training and advisory centres, technology centres, non-profit institutions, and more. These parties get together to solve a problem or make the most of an opportunity using an innovative, multisectoral and collaborative approach via an Innovative Project. Their work is subsidised by **EAFRD** through **national and regional rural development programmes** to set up the group and prepare its Innovation Project, as well as to implement it.

Furthermore, in the European context, there are other policies with synergies appearing out of their commitment to innovation in rural areas. **The Horizon 2020 research framework programme** covers matters related to the agri-food and forestry sectors. Under this umbrella, there are thematic networks and research projects.

This dossier gives the results from the exchange of experiences between Operational Groups and Innovative Projects on Animal Health organised by the NRN, and information units describing the Operational Groups and Innovative Projects, fostered by Measure 16 of the rural development programme in Spain in this matter, as well as Horizon 2020 projects, whether or not they participated in the conference, in order to help disseminate them and to enable the various stakeholders to consult them.

Conference to exchange experiences between Operational Groups and Innovative Projects in the matter of animal health

On 12 May 2020, the National Rural Network (RRN) organised an exchange of experiences between Operational Groups, Innovative Projects and others from Horizon 2020 that are working on the matter of animal health. More than 90 people attended this virtual meeting to exchange experiences, representing research centres, agricultural organisations, cooperatives, companies and different Spanish Autonomous Community regions.

Objectives

The meeting was held with the following aims:

- To connect the different parties that work or have an interest in the field of animal health to establish synergies in developing solutions to the problem addressed.
- To help disseminate the results obtained by Measure 16 of the Rural Development Programmes, the National Rural Development Programme and the H2020 projects.
- To foster the flow of information about innovations obtained from different initiatives (the ones carried out by the EAFRD Operational Groups and the projects within the framework of the H2020 European research programme).



Conference held in two stages:

- An analysis was made of the work being carried out to develop regulations on resistance to antimicrobial products and the use of biosecurity techniques, specifically in extensive livestock farming, where barriers are seen to better awareness of risk prevention or the use of communal grazing land, hindering progress towards more sustainable management.
- In order to bring about an exchange of innovative solutions in the sphere of animal health, the attendees saw presentations by nine Operational Groups and Innovative Projects and projects from the H2020 programme, given in three parallel sessions, after which the key points discussed in each room were shared.

Key ideas:

- It was verified that it is important to continue to advance in the joint work between the public administration, veterinarians, livestock farmers and game managers to address the problem of livestock infections. Moreover, the need to reinforce the transfer of learning and results among the stakeholders involved was identified.
- The activities held underlined the importance of identifying and evaluating the critical points and factors in farms and in pre-slaughter procedures by using innovative tools that help biosecurity activities.
- The projects presented showed the development of health check strategies that can be extrapolated to other livestock sectors.
- It became evident that there is a need to hold meetings for discussion and exchange to raise awareness about innovative responses to infection control in the livestock production sector.

For more information about the conference, click [here](#)



EsRuralEsVital

GOSTU. A project to apply innovative measures for early diagnosis and efficient control of tuberculosis in extensive livestock farming and wildlife

1

RURAL DEVELOPMENT PROGRAMME
RDP

YEAR CREATED
2017

PROJECT COORDINATOR
Fundación ARTEMISAN

PARTNERS

Asociación Agraria Jóvenes Agricultores (ASAJA) | Asociación Interprofesional de la Carne de Caza (ASICCAZA) | Federación Española de Asociaciones de Ganado Selecto (FEAGAS) | APROCA Extremadura | Instituto de Investigación en Recursos Cinegéticos de la Universidad de Castilla-La Mancha (IREC) | Centro de Vigilancia Sanitaria Veterinaria de la Universidad Complutense de Madrid (VISAVET) | Asociación de Propietarios Rurales para la Gestión Cinegética y la Conservación del Medio Ambiente de Castilla-La Mancha (APROCA Castilla-La Mancha)



www.gostu.es



director@fundacionartemisan.com

Description

Tuberculosis is one of the most worrying animal health problems for public administrations. Indeed, it is the disease that has caused the most human and animal deaths throughout history. This chronic mammalian disease is caused by infection with the *Mycobacterium tuberculosis* bacteria. This leads to a drop in production, seizures by the authorities in abattoirs and restrictions on the movement of live animals, all of which causes economic losses in livestock farming.

The GOSTU project aims to reduce the prevalence of animal tuberculosis rates via integrated management of the problem, implementing solutions via healthcare management and new diagnostic tools, and providing a training programme to ensure the transfer of knowledge to the sectors affected. The project is being carried out in ten livestock farms and ten hunting reserves throughout Spain, where innovative measures are being taken to control risks.

Objectives

- Transferring knowledge and technology related to controlling health risks.
- Promoting and setting up protocols for health certifications for extensive livestock farms.

- Maximising the understanding and use of livestock sanitation campaigns carried out by the EU and the Government of Spain, in coordination with the Autonomous Community regions.
- Creation of a network of specialists on a national scale to advise livestock farmers and game managers about the health of wild and domestic animals.
- Disseminating good hunting practices and management of natural areas through a network of specialists.

Expected results

- ▶ An improvement in the trial control farms' economic yields.
- ▶ Setting up a systematised protocol for health certification in livestock farms.
- ▶ A reduction in the rates of prevalence for the disease and the number of wild animals affected by animal tuberculosis by using good healthcare practices and handling of by-products.

"We consider the closer relationship between research centres and the affected sectors to be one of the most relevant aspects that is giving the best results".

Epidemiological Monitoring and Transfer: detection of diseases in pigs and cattle. Innovation Project. Use of technology to assess livestock's state of health, welfare and productivity

2

RURAL DEVELOPMENT PROGRAMME

NRDP

YEAR CREATED

2019

PROJECT COORDINATOR

Centro de Vigilancia Sanitaria Veterinaria (VISAVET) de la Universidad Complutense de Madrid

DISSEMINATION PARTNER:

Fundación Vet+i- Plataforma Tecnológica Española de Sanidad Animal

PARTNERS

PigCHAMP Pro Europa S.L | Vall Companys S.A. | Infomicro Comunicaciones S.L. | Asociación Española de Productores de Vacuno de Carne (ASOPROVAC)

COLLABORATORS

Asociación Nacional de Productores de Ganado Porcino (ANPROGAPOR) | Fundación Vet+i- Plataforma Tecnológica Española de Sanidad Animal | Ministerio de Agricultura, Pesca y Alimentación (MAPA)



secretaria@vigiasan.es

Description

One of the priority recommendations in healthcare programmes is the monitoring and early detection of animal diseases. Despite all of the existing tools and technologies in livestock farming, the pork and beef sectors continue to suffer from serious consequences due to numerous animal diseases, which have a great impact on national and international economies.

This project aims to develop technology and innovations in terms of monitoring for pigs and cattle to enable early detection of health problems that can be extrapolated to other species. With this technology, disease control will be optimised, thus minimising the economic impact and ensuring a high level of animal health and welfare. This will be carried out by installing technological infrastructures in farms and setting up software to obtain data from video surveillance.

Objectives

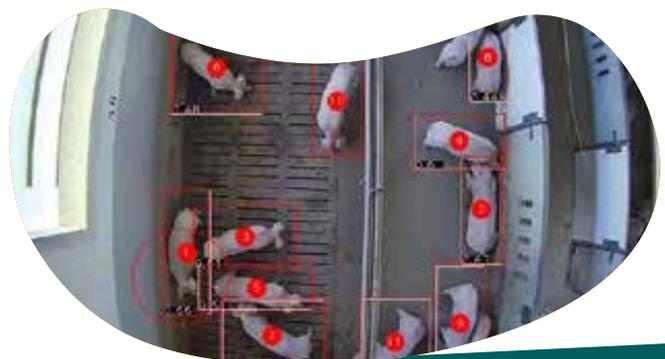
- Setting up systematic, continuous methods to collect data from video surveillance in a population in order to analyse and interpret it.

- Identifying physiological and behavioural patterns during the onset of health problems.
- Detecting the early appearance of diseases and animal behaviour problems in a population and extrapolating the results to other species.

Expected outcomes

- ▶ Development of monitoring technologies and innovation for pigs and cattle.
- ▶ Guaranteed animal and public health.

"We emphasise the importance of prediction in animal health and the need to develop technology and strategies to improve today's systems so as to prevent the spread of diseases".



Improvement in Animal Health Data Collection and Alert Systems (MESRASA)

3

RURAL DEVELOPMENT PROGRAMME

NRDP

YEAR CREATED

2019

PROJECT COORDINATOR

COAG IR

PARTNERS

Universidad Politécnica de Madrid

MOVILDAT

Universidad Autónoma de Barcelona (UAB),
Departamento de Sanidad y Anatomía Animales



 coagmadrid@coag.org

- Creation of a network of veterinarians to collaborate in recording clinical outbreaks
- Development of IT tools.

Expected outcomes

- ▶ Greater monitoring of diseases with real-time information, using indicators based on clinical data from farms.
- ▶ Development of a participatory monitoring system via a network of veterinarians.

The project has no negative environmental impact. In the long term, it means greater efficiency with resources, since it will help reduce livestock losses due to health issues, thus also reducing waste in resources".

Description

Globalisation and climate change have increased the risk of disease spreading. The appearance of an emerging infectious disease in an area requires a great effort to eradicate it, which has an even greater impact. In Spain, the significant importance of livestock farming and its foreign trade means that the meat and livestock sectors are more vulnerable to such health risks. Currently, the livestock sector needs to improve the monitoring and control of diseases on farms with new alert mechanisms based on the latest advances.

The MESRASA project is intended to create a Veterinary Syndrome-Monitoring Computer Platform with the aim of strengthening the current Veterinary Alert Network by providing health information about most of the livestock population in real time and fostering communication among farmers, veterinarians, data collection management companies and official services.

Objectives

- Creation of a pilot system to monitor dairy cattle in Catalonia and Galicia and assess the state of the population's health.
- Monitoring various health indicators.



InnoTuber: New measures and techniques to control bovine tuberculosis in Andalusia

4

RURAL DEVELOPMENT PROGRAMME

RDP - Andalucía

YEAR CREATED

2018

PROJECT COORDINATOR

ceiA3

PARTNERS

Universidad de Córdoba

DCOOP

CICAP

COVAP

Cooperativas Agroalimentarias de Andalucía



 opi02.op@ceia3.es

Description

Bovine tuberculosis is a disease that can affect different animal species, whether domestic or wild. It causes significant economic losses for the livestock sector due to production losses, seizures from the abattoir by the authorities and restrictions on transporting animals and products.

Current disease eradication programmes have managed to reduce the prevalence of this disease in cattle, but it has become clear that there is a need to take up the challenge using an approach that includes all of the sectors involved, evaluating new diagnosis tools in addition to the official ones and applying control strategies as regards the interface between farm animals and wildlife.

The project aims to evaluate different innovative risk prevention and diagnosis techniques that can be implemented in Andalusian programmes to control bovine tuberculosis.

Objectives

- Adapting, improving and validating the diagnostic techniques used with tuberculosis to the Autonomous Community region's own circumstances.
- Designing, monitoring and evaluating measures to combat tuberculosis in Andalusian ecosystems.

Expected results

- ▶ Preparation of a series of recommendations for hunting and livestock management.
- ▶ Inclusion of the results in the management of the National Programme for the Eradication of Bovine Tuberculosis in Andalusia.

"The project's success depends on the importance placed on cooperation between the parties involved, and the commitment, teamwork and scientific potential of Andalusian researchers".

Innovative strategies to tackle dysentery

5

RURAL DEVELOPMENT PROGRAMME

RDP Aragón

YEAR CREATED

2019

PROJECT COORDINATOR

Agrupación de defensa sanitaria de porcino N°1 de Tauste (ASD de Tauste)

PARTNERS

Agrupación de defensa sanitaria de ganado porcino de Ejea de los Caballeros (ADS de Ejea)



 triniads@gmail.com

Expected results

- ▶ An integrated dysentery control plan set up on pig farms.
- ▶ Fewer losses in production and yield caused by the disease.

“The IT app developed makes it possible to improve the technology used and the control over farms, in this case associated with dysentery, though it is applicable to all production and frequent pathologies”.

Description

Dysentery is a disease that had remained latent until a few years ago. However, new outbreaks have recently emerged which are increasing and affecting pig herds. The *Brachyspira* bacterium that causes the disease is highly resistant and transmissible. Moreover, there is currently no effective control programme for the disease. Treatment is based on the use of antibiotics, but this is not completely effective.

This project therefore aims to develop and implement a collective, preventive and global programme to control and eradicate the disease. The pioneering creation of an IT tool will carry out epidemiological monitoring of the disease and enable the pathology to be controlled more effectively.

Objectives

- Jointly carrying out a global study of the situation.
- A study on the epidemiology and a summary of the diagnostic techniques available.
- Determining, evaluating and controlling the disease's transmission vectors.
- Designing and developing innovative strategies and software to prevent, reduce and eliminate the disease.

Minimising the impact from caudophagy in pig farms

6

RURAL DEVELOPMENT PROGRAMME

RDP Aragón

YEAR CREATED

2018

PROJECT COORDINATOR

Sociedad Cooperativa Agraria San Miguel

PARTNERS

Ganadería Unida Comarcal Guco Sociedad Cooperativa



✉ joaquinduasos@cooperativasanimiguel.net
✉ cesefor@cesefor.com

Description

Caudophagy is an anomalous type of behaviour occasionally seen in intensively-farmed pigs, mainly in the fattening phase. It involves one pig biting another's tail, causing wounds of varying severity and great economic losses, mainly arising from the decrease in production-related figures (speed of growth, worsening yield conversion rate), greater mortality, and expenditure on veterinarians and treatment.

There are considered to be multiple factors behind the complex aetiology of this behaviour, with numerous ones related to the facilities and management possibly contributing. This behaviour usually appears sporadically, making it difficult to predict and understand its causes. So far, it has not been possible to reproduce the behaviour under experimental conditions to carry out an in-depth study.

This project aims to develop strategies aimed at minimising its impact, obtaining satisfactory solutions to the problem and contributing to the economic, sustainable optimisation of farms.

Objectives

- Designing suitable diets to prevent or correct outbreaks of caudophagy.

- Determining the climatic and environmental conditions in which the behaviour arises and decide how to control them.
- Setting up an early detection protocol based on monitoring the symptoms, thus enabling immediate, suitable steps to be taken to prevent the spread of outbreaks on farms when the first signs of such behaviour appear.
- Studying the data collected to determine its prevalence and incidence on farms.

Expected results

- ▶ Helping animal welfare and mitigating the behaviour's negative effects.
- ▶ An improvement in the farm's economic results.

"We have managed to make progress in drawing up a protocol for early detection of the disease in a standardised way, making it possible to anticipate outbreaks of caudophagy and prevent it from spreading and affecting animals".

Rational and prudent use of antibiotics in pig farms

7

RURAL DEVELOPMENT PROGRAMME

RDP Castilla y León

YEAR CREATED

2019

PROJECT COORDINATOR

Agricultural Center AGROCESA S.A.

PARTNERS

COBADU | COPESE | COPISO | PROGATECSA |
SAT LOS CHICOS | UVESA | PROINSERGA
ALIMENTACIÓN | NUTRIGANSE



www.porcinosostenible.com



ana.carvajal@unileon.es

Description

Antibiotics are used in animal production around the world to treat infections and stimulate growth in animals. However, their use in animal production has been identified as a risk due to bacteria developing resistance to these products, since such bacteria can be transferred to humans.

The emergence and spread of infections caused by bacteria resistant to antibiotic treatment is one of the most serious threats facing public health and one of the greatest challenges for medicine.

This project aims to carry out a research study on the most appropriate lines of action to reduce the use of antibiotics in pig farming. To do so, the body of current knowledge will be expanded by studying antimicrobial resistance to antibiotics, as well as the markers and risk factors arising from high consumption of antibiotics on pig farms. In addition, the effectiveness of some control strategies will be determined, so that the farms participating in the project will have updated information on alternatives to antibiotics, which they can then use to reduce consumption of them.

Objectives

- Finding out the impact of the main diseases caused by bacteria, whether digestive or respiratory, on pig farms.
- Learning the main bacterial pathogens' profile of antimicrobial resistance.
- Designing and evaluating initiatives and activities other than using antibiotics.

Expected results

- ▶ An improvement in the levels of biosecurity and management on farms.
- ▶ Knowledge about the use of antibiotics and resistance to them on farms.
- ▶ A search for alternatives in disease prevention.
- ▶ Extrapolation of the results obtained to the rest of Spanish pig farms.

"We consider it necessary to improve protocols for diagnoses and to determine antimicrobial sensitivity in order to optimise antibiotic treatment for outbreaks of infectious diseases on pig farms".

Improvement in biosecurity for extensive cattle farming in the Alcudia Valley

8

RURAL DEVELOPMENT PROGRAMME

RDP - Castilla-La Mancha

YEAR CREATED

2018

PROJECT COORDINATOR

IREC-UCLM

PARTNERS

FEDEHESA

GAL Alcudia

ADSG La Unión

Sabiotec spin-off SL

Collaborators: Dr. Lucas Domínguez (VISA-VET) and Dr. Ana Balseiro (ULE)



christian.gortazar@uclm.es

Description

Tuberculosis is a complex disease that can take advantage of multiple hosts, so it requires integrated control beyond the classic “cattle only” approach. Controlling tuberculosis is often perceived as a management problem. Based on this, biosecurity allows for the livestock and hunting sectors to get involved. Traditional methods (intradermal tuberculosis (IDTB) + control over movement + inspection in abattoirs) do work, but it is advisable to innovate so as to extend the range of tools available.

This project aims to apply innovative environmental DNA detection techniques to identify risks in extensive cattle farms. Veterinarians from the Health Defence Groups (ADS in Spanish) in charge of developing innovative biosecurity protocols are also involved in the project. Innovative detection techniques will be transferred to the extensive cattle sector in particular, working on the risks associated with interaction around food and water points between different animal species hosting bacteria from the tuberculosis complex.

Objectives

- Applying innovative techniques to detect environmental DNA so as to identify risks on extensive cattle farms, and transferring innovations in biosecurity to the extensive cattle sector.

- Involving veterinarians from the Health Defence Groups (ADS in Spanish) in developing innovative biosecurity protocols.

Expected results

- ▶ A lower prevalence of tuberculosis in cattle by applying biosecurity measures at water and feeding points, using integrated control that goes beyond the classic “bovine only” approach.

“Biosecurity is not enough; we must go further and innovate in health control strategies for shared infections”.

WELBEEF: Creation of management guidelines before slaughtering calves to improve their welfare and reduce the appearance of DFD and petechiae

RURAL DEVELOPMENT PROGRAMME

RDP Catalunya

YEAR CREATED

2018

PROJECT COORDINATOR

Associació d'Empresaris del Boví d'Alcarràs-Alcarràs (Lleida)

PARTNERS

Grup Viñas- Vic (Barcelona) IRTA-Caldes de Montbuí (Barcelona) Cooperativa d'Ivars (Lleida)

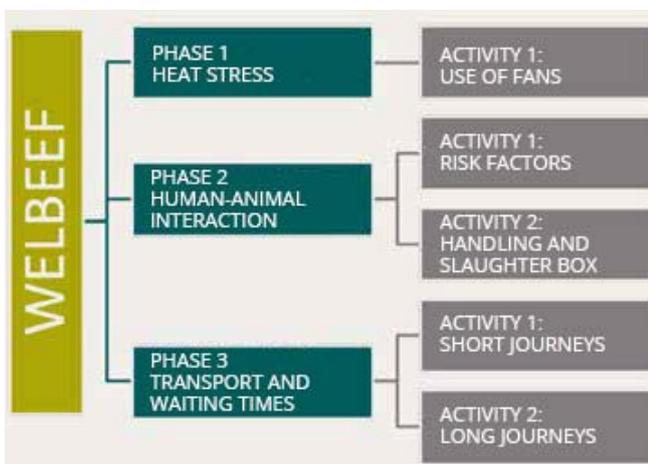


guillemdeplanell@grupvinas.com

Description

This group was originated from the from the Catalan beef cattle innovation group, which held a meeting annually as of 2015, from which the Operational Group "Extending the commercial shelf life in the refrigeration of beef" (2015-2017) was created. The points to be evaluated included the quality of the raw material, which includes animal welfare, a point that led to the development of the Welbeef project. The pH of meat 24 hours after slaughter is used as an indicator of animal welfare (it has been proven that high levels of stress in the animal cause a lesser drop in pH).

This project intends to professionalise decision-making in order to shift towards more sustainable production and greater animal welfare. To do so, a guide will be created for management during the pre-slaughter stage of fattening calves, which will have repercussions on animal welfare and on reducing the incidence of DFD meat with petechiae.



Objectives

- Learning the effect of heat stress and assess heat reduction strategies on the farm prior to slaughter.
- Assessing the effect of transportation on different breeds.
- Evaluating the waiting time in the abattoir for short and long journeys.
- Studying the interaction between humans and animals in the waiting pens and at the time of slaughter.

Expected results

- ▶ An improvement in production efficiency based on better management practices on the farm, during transport, and before and during slaughter.
- ▶ Improved animal welfare through better pre-slaughter handling.

"The group's main challenge is to head towards more sustainable production with greater animal welfare, professionalising decision-making".

INNOTUBEX: Introducing new features to control tuberculosis in extensive livestock farms in Extremadura

RURAL DEVELOPMENT PROGRAMME

RDP - Extremadura

YEAR CREATED

2017

PROJECT COORDINATOR

APAG-ASAJA Cáceres

PARTNERS

Asociación Agraria de Jóvenes Agricultores (APAG-ASAJA Cáceres)

Federación Extremeña de Caza (FEDEXCAZA) COPRECA

Universidad de Extremadura

Centro de Investigaciones Científicas y Tecnológicas de Extremadura (CICYTEX)



 jeloyroducedo@asajacc.org

Description

Animal tuberculosis is a disease transmissible to humans. It also causes economic losses for livestock farming due to decreased production, seizures by the authorities in abattoirs and restrictions on the movement of live animals. Moreover, it reduces production for big game hunting and poses a threat to the conservation of certain endangered species such as the Iberian lynx.

The INNOTUBEX Operational Group was created with the aim of launching a project to put into practice innovative techniques for integrated management of tuberculosis in extensive livestock ecosystems, improving usage of the animals (for both livestock and hunting) on farms in Extremadura. While not losing sight of the concept of integrated management, the project will fundamentally concentrate on developing measures related to the environment where animals feed and drink, since these are considered to be critical points of contagion for the disease between game fauna and farm livestock, in an attempt to prevent them from sharing food and water.

Objectives

- Improve animal exploitation on extensive farms in Extremadura, including both livestock and hunting facilities, in a way that is harmonious with the natural environment and causes it minimal damage, while achieving integrated control over tuberculosis.

- Proving the effectiveness of different measures aimed at preventing water from being shared between game fauna and farm livestock, thus achieving a reduction in contagion.

Expected results

- ▶ Sustainable management on farms, enabling wildlife and farm livestock to coexist.
- ▶ The eradication of tuberculosis in livestock and control over it in wild animals.

“Biosecurity is certainly the most effective procedure against tuberculosis. It is important to verify that these measures work in the field”.

Monitoring and control of small ruminant lentivirus (SRLV) infections in Navarre

11

RURAL DEVELOPMENT PROGRAMME

RDP Navarra

YEAR CREATED

2017

PROJECT COORDINATOR

Instituto de Agrobiotecnología (CSIC – Gobierno de Navarra)

PARTNERS

INTIA

ASLANA



✉ ramses.reina@csic.es

Description

Lentiviruses cause slow-progression diseases that have no effective treatment or vaccines and lead to the death of the infected animal species or human being. In the case of sheep and goats, they produce a multisystemic disease that causes a drop in production depending on the production system, the genetics of the host, and the infecting strains.

Effective control of lentivirus infections in livestock is achieved by early diagnosis and removal of the infected animals from the herd. The preferred serological detection method used so far is ELISA, an enzyme-linked immunoassay technique, with which the first controlled herds have been achieved worldwide. However, this detection method has some disadvantages arising from its mono-strain design, which can lead to a prevalence of animals present in the herd that have been infected by strains other than those included in the test.

The project aims to develop new immunological tools from a diagnostic point of view as well as from a preventive and prophylactic perspective in order to rationally control lentivirus infections in small ruminants. It is necessary to update or develop new diagnostic methods or strategies to control lentiviruses and estimate losses arising from subclinical infection in sheep and goats.

Objectives

- Developing new ways of molecular characterisation and new molecular epidemiology tools to diagnose small ruminant lentivirus strains circulating in livestock in Navarre.
- Improved immune response and vaccination through viral vectors in sheep.

Expected results

- ▶ Detection of losses in production arising from infection, thanks to correctly identifying infected animals.
- ▶ Identification of a 10% drop in milk production on farms affected by a lentivirus.
- ▶ Evaluation of the innate, adaptive response in vivo and in vitro following treatment with a viral vector based on the murine Sendai virus (SeV-GFP) as a possible vaccine against ovicaprine lentiviruses.

"It is essential to identify all infected animals for subsequent studies. The SeV-GFP viral vector can provide the foundations for developing effective vaccines against small ruminant lentiviruses".

DISARM: Disseminating Innovative Solutions to deal with Resistance to Antibiotics

12

H2020 RESEARCH AND INNOVATION PROGRAMME

YEAR CREATED
2019

PROJECT COORDINATOR

Flanders Research Institute for Agriculture, Fisheries and Food (Belgium)

PARTNERS

Agricultural University of Athens

Association de Coordination Technique Agricole

French Livestock Institute



✉ asociacion@anrogapor.es

Description

The growing global threat of antibiotic resistance calls for a swift, effective response from sectors dealing with humans or animals. DISARM is a collaboration between livestock farmers of all species, veterinarians, advisory services, academia and industry to foster the prudent, responsible use of antibiotics in livestock production so as to alleviate the threat of antibiotic resistance.

By adopting appropriate innovative practices for livestock farm management, the use of antibiotics and resistance to them can be reduced.

This project is entrusted with disseminating these effective management practices among its community of good practices, which is made up of people working in livestock farming, industry and research, as well as veterinarians and consultants, so as to identify and widely disseminate the most profitable and beneficial strategies.

Objectives

- Fostering best practices in livestock farming in order to reduce the need to use antibiotics.
- Exchanging information between livestock farming sectors, species and countries.

- Building a community of people interested in reducing antibiotic resistance in livestock.
- Providing information resources on best practices, management strategies and new technology to ultimately bring down antibiotic resistance.
- Guiding and supporting research and innovation work in reducing antibiotic resistance on livestock farms.
- Ensuring that the project's momentum is kept up by launching platforms and programmes for the community to interact with and promote the initiative.

Expected results

- ▶ A legacy of information, commitment and awareness within a well-connected community of good practices.
- ▶ Information from the industry in general about the most beneficial results and procedures for animal welfare.
- ▶ A reduction in antimicrobial resistance thanks to an approach taking into account disease prevention and the prudent use of medicines.

"Without coordinated, urgent action by many stakeholders, the world is heading for a post-antibiotic era in which common infections and minor injuries that have been treatable for decades may start to kill again".

HEALTHSTOCK: Development of progressive antibiotic substitutes for preventive animal healthcare

13

HORIZON 2020 PROGRAMME

YEAR CREATED
2016

PROJECT COORDINATOR
Pentabiol S.L.

PARTNERS

China (Zhejiang University); USA (South Dakota University), Italy, Morocco and Holland (Verbeek and AVIVET).

Spain: NANTA, CARGILL, Universidad Politécnica de Valencia, CRESA



✉ jesus@pentabiol.es
✉ tania@pentabiol.es

Description

This project involves developing feed for livestock. Over the years, the search for greater livestock productivity has led to increased feed intakes, which has been altering the animals' digestive system, resulting in larger digestive organs, but also making them more vulnerable to digestive diseases. To prevent this, extensive use is made of preventive medications and antibiotics.

Furthermore, it has also been seen that in some cases the intake of meat and agricultural products has even influenced the genetic behaviour of human beings by generating or exacerbating acquired immune deficiencies or other illnesses. This is a matter that is being worked on through the EU.

The project aims to develop products capable of improving the exploitation of nutrients in a natural way, leading to healthier, more productive animals. It also fosters the stimulation of animals' immune defences so as to improve their health, and thereby human health, too.

Objectives

- Developing alternatives to antibiotics in animal production.
- Verifying the effects of developed feed on animals.

Results achieved

- ▶ The animals' digestive capacity has been significantly improved, especially when the digestive system is still developing.
- ▶ There has been better protection against digestive disorders and a possible improvement in conversion of up to 14%. These improvements occur when the animal is young, as has been verified in trials.
- ▶ The feed has been adapted not only to the needs of each animal species, but to each specific animal, by working with these animals' microbiota.

"The work group continues to foster new developments to enable better optimisation of digestive functions, so as to take better advantage of nutrients and thus make the animal stronger, healthier and more productive".

VACDIVA: A new vaccine for African swine fever

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HORIZON 2020 PROGRAMME

YEAR CREATED

2019

PROJECT COORDINATOR

Universidad Complutense de Madrid

PARTNERS

Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria OA MP | Intervet International BV | Inmunología y Genética Aplicada SA | Istituto Zooprofilattico Sperimentale Della Sardegna G. Pegreffi | Nemzeti Élelmiszerlánc- Biztonsági Hivatal | Veterinaar Ja Toidulaboratoorium | Statni Veterinari Ustav Jihlava; Partikas Drosibas, Dzivnieku Veselibas un Vides Zinatniskais Institusbior; Nacionalinis Maisto Ir Veterinarijos Rizikos Vertinimo Institutas | Istituto Zooprofilattico Sperimentale Dell'Umbria e Delle Marche | Faculdade de Medicina Veterinaria; Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften Ev | Stichting Wageningen Research | FGI Federal Centre for Animal Health | Institute of Animal Science (IAS), Chinese Academy of Agricultural Sciences (CAAS) | International Livestock Research Institute | China Animal Health and Epidemiology Center | European Coordination Via Campesina | Horizcience S.L.



 info@vacdiva.eu

Description

African swine fever is an infectious disease that is devastating and often fatal to pigs. As yet, there is no vaccine to combat this virus. The European Union has set out prevention and control measures that must be applied when this disease is suspected or confirmed to be present. However, these measures are not enough to stop the spread of swine fever.

The VACDIVA project aims to solve the problem of this disease in Europe and in the affected countries by developing three safe, effective vaccines for pigs and wild boar.

the world that are profitable and effective. The monitoring and control strategies are intended to show the influence of vaccination in halting the spread of the disease and eradicating it.

Expected results

- ▶ To provide decision support tools for policymakers in an aim to better prevent and control swine fever.

Objectives

- Creation of three experimental vaccines to be registered so as to ensure their necessary safety and effectiveness.
- Strategies developed to monitor and control vaccinations in different epidemiological scenarios around

"The project can count on participation from numerous exemplary laboratories around the world, in addition to active participation from pig farmers, agricultural associations and international organisations such as the FAO".

PALE-BLU: Interactions between pathogens, livestock and the environment related to the bluetongue virus

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HORIZON 2020 PROGRAMME

YEAR CREATED

2017

PROJECT COORDINATOR

The University of Nottingham

PARTNERS

L'Agence Nationale de la Sécurité Sanitaire de l'alimentation de l'environnement et du travail | Centre de Coopération Internationale en Recherche Agronomique Pour Le développement – C.I.R.A.D. EPIC | Istituto Zooprofilattico Sperimentale Dell'Abruzzo e del Molise G Caporale | Friedrich Loeffler Institut – Bundersforschungsinstitut Fuer Tiergesundheit | Environmental research Group Oxford Limited | Universite Libre de Bruxelles | Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria OA MP | Stichting Wageningen Research | University of Glasgow | Kimron Veterinary Institute | Universidad Complutense de Madrid | Statens Veterinaermedicinska Anstalt | Kafkas Universitesi | Institut Agronomique et Veterinaire Hassan II | The Pirbright Institute LBG | International Livestock Research Institute | Institut Senegalais de Recherches Agricoles | Institut Pasteur de Tunis.



Description

The bluetongue virus is one of the most significant pathogens among ruminant livestock. It is capable of infecting all ruminant species, causing serious diseases, above all in sheep and some species of deer. The virus is transmitted by mosquitoes.

This project aims to study and assess the interaction between the virus, its ruminant hosts, insect vectors and the environment. To do so, complete genetic analyses are being carried out to improve the precision of the maps showing the virus strains' distribution in order to identify the ways and mechanisms used by these pathogens to propagate.

Objectives

- Creation of a detailed, updated molecular epidemiological map of the virus' strains.
- Mapping the interactions between the environment and the vectors.

 info@paleblu.eu



- Innovative diagnostic tools developed to identify the virus.
- New vaccines, vaccination strategies and antiviral approaches developed.
- Creation of an integrated communication strategy.

Expected results

- ▶ Understanding the risks from incursion of the different bluetongue virus strains.
- ▶ Improved effectiveness of the strategies to control the virus.

"The virus has significant economic repercussions, not only from direct losses caused by the infection, but also indirect losses such as restrictions on trade of the animals and the cost of animal control and monitoring measures".

The NRN is the hub connecting all of the people and entities related to the rural environment with the aim of raising awareness of Rural Development Programmes and providing access to them. At the same time, its purpose is to make the population aware of the importance of the rural environment for our present and our future.

The unit responsible for the NRN is the Subdirectorate General for Rural Revitalization within the Directorate General of Rural Development, Innovation and Agri-food Training of the Ministry of Agriculture, Fisheries and Food.

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