STAR IDAZ International Research Consortium on Animal Health

Annual state-of-the-art report on animal health research on IRC priorities

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Introduction

The STAR IDAZ International Research Consortium (IRC) on Animal Health brings together research funders, programme owners and partners worldwide to coordinate and align animal health research. Its mission is to accelerate the development of vaccines, diagnostics, therapeutics and other tools for the prevention and control of priority animal diseases.

The annual State-of-the-Art (SoA) Report provides an overview of progress across STAR IDAZ priority diseases and cross-cutting themes, bringing together recent research advances, ongoing projects, research gaps, funding opportunities and relevant international initiatives.

The 2026 edition is streamlined and closely integrated with the STAR IDAZ website, enabling more timely updates and easier access to information. Dedicated chapters cover each priority area, complemented by information on the wider animal health research and innovation landscape, including international initiatives, infrastructures and databases supporting R&D.

The report provides funders, researchers and other stakeholders with a concise overview of recent progress, remaining research needs and opportunities for international collaboration.

Executive Summary

During the reporting period, STAR IDAZ activities continued to focus on the **identification and refinement of priority research gaps and facilitating international coordination and alignment of research strategies, to support investment into those priority research areas**.

For the **identification and refinement of priority research gaps**, activities included identifying research needs for crustacean, mollusc and amphibian health; reviewing priorities for brucellosis vaccine development; and gap-analysis and roadmap development for capripoxviruses and contagious bovine pleuropneumonia (CBPP). The Global African Swine Fever Research Alliance (GARA) and Global Foot-and-Mouth Disease Research Alliance (GFRA) continued to work closely with STAR IDAZ to review scientific developments and research gaps for ASF and FMD, while revision of the helminth research roadmaps is under way. Preparations have also started for a dedicated Diagnostics Working Group and workshop addressing emerging technologies and challenges related to validation and uptake. These activities complement the Consortium's existing portfolio of disease-specific and cross-cutting research roadmaps. Regional interest from Europe and Africa and the Middle East on the impact of climate change on animal health has lead to complementary and coordinated expert consultation activity, with two regional workshops to be held in November 2026 looking at priority research, knowledge and innovation gaps on the topic.

Alongside these priority-setting activities, **STAR IDAZ partners continue to invest in research addressing Consortium priorities**. Relevant funding opportunities and ongoing projects demonstrate continued research activity across the portfolio, while recent peer-reviewed scientific advances highlight progress in vaccines and immunology, diagnostics, epidemiology, therapeutics and disease-control approaches.

The report also places STAR IDAZ activities within the **wider international animal health R&D landscape**, highlighting international initiatives, research infrastructures and databases that support and accelerate research. These resources facilitate access to expertise, facilities, data and other capabilities relevant to the development of effective disease prevention and control tools.

Overall, the 2026 SoA reflects an active international research landscape in which scientific advances and continued investment are addressing important animal health research needs. By bringing together **research priorities, funding and ongoing projects, scientific advances and international research capacity**, STAR IDAZ aims to strengthen coordination between funders and researchers, reduce unnecessary duplication and help direct research efforts towards areas where coordinated investment can accelerate the development of effective animal health solutions.

Updates on Executive Committee, Scientific Committee, Regional Network and SIRCAH activities can be see in the Summer Newsletter:

STAR IDAZ SUMMER NEWSLETTER

State-of-the-Art in IRC priority diseases

01 African Swine Fever

ASF is a highly contagious viral disease of pigs.

PAGE 8

02 Animal Genomics/ Genetics for Animal Health

Explores the inheritance of traits in animals, aiming to enhance health, productivity, and biodiversity through genetic research and applications.

PAGE 11

03 Antimicrobial Resistance and Alternatives to Antimicrobials

Antimicrobial resistance (AMR) happens when microorganisms like bacteria become strong against drugs that usually kill them, making it hard to treat infections in animals. Researchers are exploring safer, natural alternatives to these drugs to keep animals healthy and reduce the spread of resistant germs.

PAGE 14

04 Aquatic Diseases

Aquatic diseases affect the health and sustainability of fish and other aquatic species, posing significant risks to global aquaculture and natural ecosystems.

PAGE 18

05 Bovine Tuberculosis (bTB)

Bovine Tuberculosis (bTB) is a contagious disease in cattle caused by the bacterium Mycobacterium bovis, leading to significant economic losses and posing a risk to public health.

PAGE 23

06 Brucellosis

Brucellosis is a highly contagious bacterial disease affecting cattle, swine, goats, and sheep.

PAGE 26

07 Coronaviruses

A cause of important diseases in livestock, poultry, companion animals, and humans.

PAGE 29

08 Diagnostics (tools and technologies)

Diagnostics are crucial for the early detection and management of animal diseases, guiding effective interventions to protect animal health.

PAGE 33

09 Emerging Issues

Emerging issues threaten animal agriculture.

PAGE 36

10 Epidemiology

Epidemiology is the study of the distribution, patterns, and causes of health and disease conditions within a defined animal population

PAGE 39

11 Foot and Mouth Disease

A highly contagious disease of cattle with significant socio-economic impact.

PAGE 41

12 Foresight

Foresight involves preparing for long-term challenges by identifying trends, envisioning possible futures, and shaping strategies to guide decision-making.

PAGE 45

13 Helminths (including anthelmintic resistance)

Helminths are parasitic worms causing disease in animals. Anthelmintic resistance occurs when these worms become resistant to treatment.

PAGE 48

14 Influenza

Influenza is a highly contagious viral disease that affects multiple animal species, posing significant risks to both animal and human health.

PAGE 52

15 Mastitis

Bovine mastitis is an inflammation of the udder tissue in the mammary gland, typically caused by physical an infection, and is the most common disease leading to economic losses in dairy production.

PAGE 56

16 Mycoplasmas including CBPP/CCPP

Mycoplasma species are responsible for several clinically important diseases of large and small ruminants, swine, and poultry. CBPP and CCPP, caused by mycoplasmas, remain poorly controlled.

PAGE 59

17 One Health (including food-borne pathogens)

One Health is an integrated approach that recognizes the interconnectedness of human, animal, and environmental health to effectively prevent and manage global health challenges.

PAGE 63

18 Porcine Reproductive & Respiratory Syndrome

Porcine reproductive and respiratory syndrome (PRRS) is a significant viral disease responsible for devastating economic losses to the swine industry.

PAGE 67

19 Porcine Respiratory Disease Complex

A multifactorial syndrome affecting the respiratory system of pigs.

PAGE 70

20 Poxviruses

A group of contagious viruses that primarily cause skin lesions, pustules, and other symptoms, affecting a wide range of species, including livestock and wildlife.

PAGE 73

21 Vaccinology (tools and technologies)

Vaccinology is a field of microbiology and immunology covering vaccine development as well as the use of vaccines and their effects on animal health and public health

PAGE 77

22 Vector Transmission and Control

Vector-borne diseases pose a significant risk to animal and human health.

PAGE 80

Recent Advances

The following selection of recent scientific advances for the State-of-the-Art Report 2026 has been curated by SIRCAH, in collaboration with members of the STAR IDAZ Scientific Committee and sectoral experts. This compilation highlights peer-reviewed research published over the past year that represents significant progress across the STAR IDAZ priority areas. Each entry includes a concise summary and a direct link to the original publication, providing evidence of innovation and emerging directions in animal health research relevant to global disease prevention, diagnosis, and control.

RECENT ADVANCES

International Initiatives Accelerating Research and Development Beyond STAR IDAZ IRC

Research and development (R&D) are fundamental for developing effective disease prevention and control tools, utilising existing knowledge, and mitigating disease impacts. Several initiatives have been launched at both regional and global levels to accelerate research and deliver timely solutions for emerging issues.

This chapter aims to provide a list of key network initiatives, funding opportunities and regulatory easing measures. These initiatives are designed to accelerate the delivery of R&D relevant to the animal health sector.

SEE ALL INTERNATIONAL INITIATIVES

This chapter is included at the end of this report, starting on page 88.

Infrastructures and Databases to Facilitate R&D

Conducting scientific research requires significant research infrastructure, including facilities, resources and related services. The establishment of common databases, allowing for the sharing of knowledge and facilitating networking, is important to facilitate and accelerate R&D.

This chapter provides a list of significant infrastructures and databases relevant to the animal health sector.

SEE ALL INFRASTRUCTURES AND DATABASES

This chapter is included at the end of this report, starting on page 84.

Projects

This link to the projects database will include new projects added after the state-of-the-art report published on 31/10/26

SEE ALL PROJECTS

Help build the STAR IDAZ community.
Share reports and updates on social channels.

PRIORITY TOPIC 01

African Swine Fever



ASF is a highly contagious viral disease of pigs.

Source: star-idaz.net/priority-topic/african-swine-fever/

STAR IDAZ Approach

African Swine Fever (ASF) is a highly destructive viral disease that has a profound impact on the global swine industry. STAR IDAZ International Research Consortium (IRC) collaborates closely with the Global African Swine Fever Research Alliance (GARA) to develop strategic roadmaps for diagnostics, vaccines, and control strategies. These roadmaps are based on thorough gap analyses and expert workshops, with the aim of expediting research and development in critical areas. STAR IDAZ IRC and GARA work in unison to ensure that the most up-to-date scientific insights and innovations are incorporated into these roadmaps, which are regularly updated to address emerging challenges and research funding requirements.

Information

- DISCONTOOLS - ASF
- WOAH - ASF
- Sciensano - ASF

Working group

Global African Swine Fever Research Alliance (GARA)

The Global African Swine Fever Research Alliance (GARA) operates as STAR IDAZ IRC's working group for African Swine Fever (ASF). This partnership unites leading experts and institutions globally, dedicated to advancing research on ASF. Through GARA's leadership, the group coordinates international efforts, focusing on the development of advanced diagnostic tools, effective vaccines, and robust control strategies. GARA is pivotal in organising key workshops, driving global research initiatives, and facilitating knowledge exchange, ensuring a coordinated and effective response to the ASF challenge.

Reports

Reports and outcomes from meetings and workshops



IRC, Report, Research review

2022 African Swine Fever Virus Research Review

Published 8th August, 2022

↓ DOWNLOAD



Gap Analysis, Report

African Swine Fever

Published 22nd November, 2018

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Research roadmaps for the development of candidate vaccines, control strategies, and diagnostic tests for African Swine Fever were developed and published in 2019. The roadmaps were reviewed and updated where relevant in October 2025, following the GARA Scientific Meeting, April 2025 and review by the Scientific and Executive Committees. Key challenges and significant research gaps noted include achieving cross-protection against various strains of the ASF virus, improving the specificity and sensitivity of diagnostic tests, and understanding the mechanisms of immune response and virus persistence. Workshops and scientific meetings organized by GARA have played a crucial role in highlighting these gaps, leading to focused research efforts aimed at addressing them. The insights gained from these activities are continuously integrated into the STAR IDAZ roadmaps to guide future research and innovation.

- Roadmap for the development of a candidate vaccine for ASF — Published 16th December, 2024
- Roadmap for the development of control strategies for ASF — Published 29th November, 2024
- Roadmap for the development of diagnostic tests for ASF — Published 27th November, 2024

Projects

Displaying **4** of **51** projects

VIEW ALL PROJECTS

In-field detection of economically important viral veterinary pathogens.

Planned Completion date: 01/11/2025

Source countries: United Kingdom

Ghana livestock disease meeting

Planned Completion date: 01/02/2025

Source countries: United Kingdom

Vaccines, diagnosis and epidemiology for control and prevention of African swine fever (SE1520)

Planned Completion date: 31/12/2028

Source countries: UK

Research, Development, Testing, and Technical Services to Advance the Technology Transfer of Veterinary Medical Countermeasures at the NBAF

Planned Completion date: 21/06/2027

Source countries: United States

Recent publications

African swine fever: Vaccine advancement and major gaps

Source: L Wang, J Shi - Microorganisms, 2026 - mdpi.com

↓ DOWNLOAD

The multi-pronged entry of African swine fever virus: from host factors to therapeutic targets

Source: J Li, C Liu, W Huang, Y Wang, L Huang... - Journal of ..., 2026 - journals.asm.org

↓ DOWNLOAD

The Prospects and Challenges of Live Attenuated Vaccines Against African Swine Fever Virus in Vietnam

Source: TTN Ngo, T Oh, DT Do - Vaccines, 2026 - mdpi.com

↓ DOWNLOAD

Transcriptional architecture of African swine fever virus

Source: G Wang, P Li, X He, H Cao, A H. Ghonaim... - PLoS ..., 2026 - journals.plos.org

↓ DOWNLOAD

Potential economy-wide impacts of an African swine fever outbreak in the United States

Source: TC de Menezes, AM Countryman... - Frontiers in Veterinary ..., 2026 - frontiersin.org

↓ DOWNLOAD

PRIORITY TOPIC 02

Animal Genomics/ Genetics for Animal Health



Explores the inheritance of traits in animals, aiming to enhance health, productivity, and biodiversity through genetic research and applications.

Source: star-idaz.net/priority-topic/animal-genomics-genetics-for-animal-health/

STAR IDAZ Approach

Animal genomics and genetics is a cross-cutting STAR IDAZ IRC priority with the potential to improve animal health through greater disease resistance and resilience, improved genomic prediction and the development of new tools for disease prevention and control. STAR IDAZ monitors developments across the field, including advances in functional genomics, phenotyping, genomic selection and gene editing, and considers their relevance across its wider animal health priorities. In the absence of a dedicated active working group, current activity focuses on horizon scanning, research mapping and identifying opportunities for coordination across the STAR IDAZ network.

Information

- Science Media Centre of Canada: Improving Animal Health with Genomics
- Animal genome database
  This resource provides factsheets on the genome sizes of a wide range of animal species. It's a valuable tool for researchers and educators looking for specific genetic data on various animals.
- FAO - Animal Diversity Genome System
  The FAO offers extensive resources on animal genetic resources, including detailed datasheets on various livestock species. These datasheets include information on genetic diversity, conservation status, and genetic improvement strategies.
- National Center for Biotechnology Information (NCBI) Animal Genome Project
  The NCBI provides access to genomic data for various animal species. While not a traditional factsheet, it offers extensive data that can be used to create detailed genetic profiles for research and study.

Working group

No Active Working Group

No active working group is currently in place for Animal Genomics/Genetics. We continue to monitor the field and coordinate where it intersects other STAR IDAZ IRC themes.

Key People

No STAR IDAZ Experts within Genomics/Genetics
N/A Global

No STAR IDAZ Experts within Genomics/Genetics 1
N/A Global

Research roadmaps and gap analyses

Gap analysis summary

A dedicated STAR IDAZ research roadmap for Animal Genomics/Genetics has not yet been developed. Areas of continuing relevance include improved phenotyping for animal health and disease-resilience traits; genomic prediction and selection for disease resistance and resilience; functional annotation linking genetic variation to biological mechanisms; maintaining genetic diversity within livestock populations; and responsible application of emerging genomic technologies, including gene editing. These areas will inform future priority-setting and could provide the basis for a formal gap analysis or research roadmap if activity in this area is expanded.

Projects

Displaying **4** of **37** projects

VIEW ALL PROJECTS

Whole genome sequencing of strains isolated from animal and human populations in Italy: One Health molecular epidemiology approaches to a re-emerging zoonosis (Epi-Leish)

Planned Completion date: 01/01/2025

Source countries: Chile

Surveillance of pathogens of veterinary importance and their antimicrobial resistance profiles

Planned Completion date: 01/12/2026

Source countries: United Kingdom

Ionophore coccidiostats: risk of CO-selectioN of antImicrobial resistance – Clinical impact and intervention strategies

Planned Completion date: 31/03/2025

Source countries: United Kingdom

550. Extensive functional genomics information from early developmental time points for pig and chicken

Planned Completion date: 31/12/2022

Source countries: Netherlands

Recent publications

Framework for assessing genetic variation in livestock using demographic, pedigree, and genomic measures

Source: G Mészáros, I Curik, D Ouedraogo, J Windig… - … in Genetics, 2026 - frontiersin.org

↓ DOWNLOAD

Invited review: the application of runs of homozygosity and heterozygosity-rich regions to infer population history in livestock species

Source: F Biscarini, A Cesarani, A Criscione, S Mastrangelo - Livestock Science, 2026 - Elsevier

↓ DOWNLOAD

CRISPR Technology for Livestock Improvement: Advances and Future Directions

Source: S Kim, YG Park, J Choi, SH Moon - Molecular biotechnology, 2026 - Springer

↓ DOWNLOAD

Do Genomic Patterns and Fibonacci-Like Regularity Hold the Key to Reproductive Fitness in Livestock?

Source: SS Nayak, S Parida, T Dutt, M Panigrahi - Biochemical Genetics, 2026 - Springer

Insights in livestock genomics

Source: XL Wu, SY Chen, J Sölkner, M Cassandro - Frontiers in Genetics, 2026 - frontiersin.org

↓ DOWNLOAD

PRIORITY TOPIC 03

Antimicrobial Resistance and Alternatives to Antimicrobials



Antimicrobial resistance (AMR) happens when microorganisms like bacteria become strong against drugs that usually kill them, making it hard to treat infections in animals. Researchers are exploring safer, natural alternatives to these drugs to keep animals healthy and reduce the spread of resistant germs.

Source: star-idaz.net/priority-topic/amr-and-innovative-alternatives-to-antibiotics/

STAR IDAZ Approach

STAR IDAZ IRC partners recognise antimicrobial resistance (AMR) as a priority area for collaborative action. Given the broad and complex nature of AMR and to avoid duplication with other existing initiatives on the subject, it was decided to focus efforts on the development of Alternatives to Antimicrobials (ATA). Alternatives to antimicrobials are crucial in combating AMR for the benefit of both animal health and One Health and Research and Development is critical to advance these alternatives.

To enhance global collaboration in the identification of research gaps, overlaps and potential for cross-sectoral collaboration, STAR IDAZ IRC organised several activities and partnered with the Global AMR R&D Hub [https://globalamrhub.org/], optimising information sharing that can support the more efficient use of international resources.

Information

- WOAH AMR Webpage
- Global AMR R&D Hub
- Global Leaders Group on Antimicrobial Resistance
  GLG recommendations to address the antibiotic pipeline and access crisis in human health
- The application of bacteriophage to veterinary and One-Health medicine—a road map (Atterbury et al, 2026)
- Livestock immunomodulators as alternatives to antimicrobials – a roadmap for the fight against drug resistance (Ackerman et al, 2026)

Working group

STAR-IDAZ Working Group

Since 2019, several workshops involving international experts were held to identify research gaps and develop research roadmaps on Alternatives to Antimicrobials to fight antimicrobial resistance. The first workshop in December 2019 in Bangkok focused on the identification of key areas for research. In October and November 2021, STAR IDAZ IRC and IDRC organised five ATA workshops to develop research roadmaps on the identified areas and discuss marketability. Results were shared with STAR IDAZ partners and beyond to focus research where most needed and speed up the development of ATA.

Key People

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Nisha Dixit Huidobro
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Reports

Reports and outcomes from meetings and workshops



Report, Workshops

Report of the workshop on the Americas' Regional perspectives on Alternatives to Antimicrobials (ATA)

Published 6th December, 2023

↓ DOWNLOAD



Executive summary, Gap Analysis

Executive summary of priority research needs: Alternatives to antibiotics

Published 23rd June, 2023

↓ DOWNLOAD



IRC, Report, Workshops

Research Roadmap Development for Alternatives to Antibiotics

Published 4th October, 2022

↓ DOWNLOAD



Workshops

Research needs for developing innovative alternatives to antibiotics, STAR-IDAZ IRC Workshop

Published 2nd June, 2020

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Research roadmaps on Alternative to Antimicrobials have been developed and published highlighting research gaps on the role of the microbiome and how it can be influenced, the development of immunomodulators and phage technologies. An executive summary is available for consultation. These roadmaps are linked with other ATA roadmaps for vaccine development and disease controls, including biosecurity and vaccination strategies.

- Roadmap for Microbiota optimisation — Published 19th December, 2024
- Roadmap for Immunomodulators — Published 19th December, 2024
- Roadmap for Phage technologies — Published 19th December, 2024

Projects

Displaying **4** of **33** projects VIEW ALL PROJECTS

Interventions for improved knowledge and awareness of antimicrobial resistance using a One Health approach in Tanzania

Planned Completion date: 30/06/2027

Source countries: United Kingdom

RADAR – Risk and Disease Burden of Antimicrobial Resistance

Planned Completion date: 31/12/2020

Source countries: United Kingdom

Antibiotics in horse breeding – a double-edged sword threatening horses in the future?

Planned Completion date: 31/12/2027

Source countries: United Kingdom

Antibiotic sales and use for animals

Planned Completion date: 31/12/2027

Source countries: United Kingdom

Recent publications

Vaccines and antimicrobial resistance—a veterinary pharmaceutical industry perspective

Source: F Descamps, L Dreesen… - Philosophical …, 2026 - royalsocietypublishing.org

↓ DOWNLOAD

One Health perspective on antimicrobial resistance in bovine mastitis pathogens—A narrative review

Source: B Dhital, R Pudasaini, JC Hsieh, R Pudasaini, YT Chen… - Antibiotics, 2026 - mdpi.com

↓ DOWNLOAD

Alternatives to Antibiotics

Source: R Bhatia - Drug-Resistant Infections: Global Burden, Antimicrobial …, 2026 - Springer

Biosurfactants as next-generation antimicrobials: mechanistic insights and applications in antibiofilm strategies for combatting antimicrobial resistance

Source: I Bahrini, AJ Siddiqui, AM Awadelkareem… - Naunyn-Schmiedeberg's …, 2026 - Springer

The Use of Plant-Based Antimicrobials: A Natural Alternative for Food Safety and Combating Antimicrobial Resistance

Source: S Korkmaz - Uygulamalı Mühendislik ve Tarım Dergisi, 2026 - dergipark.org.tr

↓ DOWNLOAD

PRIORITY TOPIC 04

Aquatic Diseases



Aquatic diseases affect the health and sustainability of fish and other aquatic species, posing significant risks to global aquaculture and natural ecosystems.

Source: star-idaz.net/priority-topic/aquatic-diseases/

STAR IDAZ Approach

Aquatic diseases pose significant threats to the health and sustainability of fish and other aquatic species, with wide-reaching impacts on global aquaculture and natural ecosystems. These diseases can spread rapidly through water systems, affecting wild populations and farmed species alike, leading to economic losses and ecological imbalances. STAR IDAZ IRC recognizes the critical importance of monitoring and researching aquatic diseases to protect aquatic biodiversity and ensure food security. Under the framework of the WOAH Aquatic Animal Health Strategy, STAR IDAZ IRC joined forces with the World Organisation for Animal Health (WOAH) to identify the highest priority research areas for advancing aquatic health research.

Information

- WOAH Aquatic Animal Health Code
  WOAH provides comprehensive information on various aquatic animal diseases, including prevention and control measures. The factsheets cover diseases affecting fish, mollusks, and crustaceans.
- FAO Aquatic Factsheets:
  The Food and Agriculture Organization (FAO) offers detailed factsheets on several aquatic diseases that impact aquaculture, including their symptoms, transmission, and management practices.
- USGS: Aquatic Animal Health Program - U.S. Geological Survey (USGS):
  The USGS provides factsheets on various aquatic animal diseases, particularly those affecting fish in the United States. The resource includes information on disease symptoms, diagnostics, and impacts on fisheries.
- Australian Government: Aquatic Disease Field Guide app
  The field guide aims to help people recognise diseases of significance to aquaculture and fisheries in Australia. This edition incorporates new and updated information gathered from an extensive review of the fourth edition. It now covers 53 aquatic animal diseases of significance to Australia that affect species of finfish, crustaceans, molluscs and amphibians.

Working group

Aquatic Diseases Working Group

In early 2025, STAR IDAZ and WOAH united the global aquaculture scientific community to identify the highest research priorities for improving the management of aquatic animal diseases worldwide. Through a global online consultation, over 440 experts from 187 countries were invited to participate. The initiative received an impressive response rate (43%, n=184), with contributors sharing insights via a survey focused on key

aquaculture sectors: finfish, molluscs, crustaceans, and amphibians. To build on these findings, a dedicated workshop was held at the WOAH Headquarters, bringing together more than 40 international experts. The discussions focused on advancing aquaculture research with an emphasis on finfish, the most productive aquaculture sector globally in terms of both volume and value.

Key People

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Saraya Tavornpanich
Norwegian Veterinary Institute Norway

Dr Bruno Goddeeris, Belgium

Dr Ruth Zadoks, Australia

Dr Valeria Mariano, Italy

Reports

Reports and outcomes from meetings and workshops



Workshops

Advancing Aquaculture Health Research: Workshop Report 20-21 February, 2025

Published 16th April, 2025

↓ DOWNLOAD



Survey report

Aquaculture Health Research Survey: March 2025

Published 16th April, 2025

↓ DOWNLOAD



Executive summary

Highest Priority Research Areas for Finfish Health: Policy Brief April 2025

Published 16th April, 2025

↓ DOWNLOAD



Survey report

Aquaculture Health Research Survey: Amphibians Section

Published 28th April, 2026

↓ DOWNLOAD



Survey report

Aquaculture Health Research Survey: Crustaceans Section

Published 28th April, 2026

↓ DOWNLOAD



Survey report

Aquaculture Health Research Survey: Molluscs Section

Published 28th April, 2026

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

At STAR IDAZ, we recognise the increasing importance of tackling aquatic animal diseases to support the growth of sustainable aquaculture. Although a formal roadmap has not yet been established, thanks to global consultation a set of gaps for finfish, molluscs, crustaceans and amphibians has been identified. Additionally,

through collaborative expert discussions, the highest-priority research gaps for finfish have been indicated. Details of research priorities for finfish are outlined in the reports and include emerging diseases, antimicrobial resistance (AMR), diagnostics, vaccines, and biosecurity. These priorities aim to guide future research towards a healthier, more sustainable, and innovative aquaculture industry.

Projects

Displaying **4** of **38** projects

VIEW ALL PROJECTS

Collaborative project: Brackish water-based multitrophic cultivation systems for sustainable, demand-driven and local food production – Subproject E (muKs)

Planned Completion date: 31/03/2029

Source countries: Denmark

Collaborative project: Brackish water-based multitrophic cultivation systems for sustainable, demand-driven and local food production – Subproject A (muKs)

Planned Completion date: 31/03/2029

Source countries: Denmark

Collaborative project: Testing technological approaches to minimize cannibalism losses in the rearing of pikeperch fry – Subproject A (MINIKANZA)

Planned Completion date: 31/01/2029

Source countries: Denmark

Collaborative project: Testing technological approaches to minimize cannibalism losses in the rearing of pikeperch fry (MINIKANZA) – Subprojekt B (MINIKANZA)

Planned Completion date: 31/01/2029

Source countries: Denmark

Recent publications

Industry Development and Diseases in the Norwegian Salmon Aquaculture Industry

Source: F Asche, B Misund, T Osmundsen… - … in Aquaculture, 2026 - Wiley Online Library

High-Throughput Sequencing in Aquaculture Disease Investigations: Challenges and Opportunities for Implementation

Source: F Samsing, P Arbon, M Arnold, AC Barnes… - … in Aquaculture, 2026 - Wiley Online Library

↓ DOWNLOAD

Aquaculture at risk in a changing climate: a review of the future of aquatic food production.

Source: S Sanyal, A Chatterjee - 2026 - researchgate.net

↓ DOWNLOAD

Artificial intelligence in aquaculture and fisheries: from precision breeding to environmental monitoring and intelligent health management

Source: MS Khan, A Ghaffar, MAK Mahsud, Q Ullah, S Naz... - All Life, 2026 - Taylor & Francis

↓ DOWNLOAD

A Systems-Based Integrative Framework for Biosecurity and Disease Resilience in Global Aquaculture

Source: S Bagheri, A Gholamhosseini - Environmental and Sustainability Indicators, 2026 - Elsevier

↓ DOWNLOAD

PRIORITY TOPIC 05

Bovine Tuberculosis (bTB)



Bovine Tuberculosis (bTB) is a contagious disease in cattle caused by the bacterium Mycobacterium bovis , leading to significant economic losses and posing a risk to public health.

Source: star-idaz.net/priority-topic/bovine-tuberculosis-btb/

STAR IDAZ Approach

Bovine tuberculosis (bTB) remains an important animal health priority with significant impacts on livestock health, production and trade, as well as implications for wildlife and public health. STAR IDAZ has developed three complementary research roadmaps covering diagnostics, vaccines and disease control strategies. Developed with international bTB experts, these identify research gaps and dependencies across the pathway from fundamental research to practical disease-control tools. STAR IDAZ continues to promote the roadmaps, map relevant research activity and support international coordination around the identified research needs.

Information

- WOAH Bovine Tuberculosis
- DISCONTOOLS - Bovine Tuberculosis
- TBhub
  The home of UK TB information

Working group

GrabTB is no longer active

The Global Research Alliance for Bovine Tuberculosis (GRAbTB) was established through STAR IDAZ to facilitate international research cooperation and technical exchange on bTB. The alliance brought together 15 partners from Asia, Australasia, the Americas and Europe.

GRAbTB is no longer active as a dedicated working group. STAR IDAZ nevertheless continues to treat bTB as a research priority, supporting coordination through its research roadmaps, project mapping and wider international network.

Key People

Vivek Kapur
Penn State University United States

James Wood
University of Cambridge United Kingdom

Robin Skuce
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Adrian Allen
Agri-Food and Biosciences Institute (AFBI) United Kingdom

Tom Ford
Agri-Food and Biosciences Institute (AFBI) United Kingdom

Nathalie Winter
Animal Health Division France

Reports

Reports and outcomes from meetings and workshops



Workshops

The Future of Bovine Tuberculosis Research: Insights from the STAR-IDAZ IRC Workshop

Published 21st March, 2023

↓ DOWNLOAD



Executive summary

Executive summary of priority research needs: Bovine tuberculosis

Published 16th September, 2024

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Three STAR- IDAZ roadmaps highlight urgent needs for: (1) accurate diagnostics, particularly DIVA tests; (2) effective vaccines capable of differentiating between infection and vaccination; and (3) integrated control measures across herd, regional, and national levels. These priorities were refined through a Birmingham, UK workshop in February 2023, and summarized in the Executive Summary of Research Gaps.

- Roadmap for the development of candidate vaccine for bTB — Published 27th November, 2024
- Roadmap for development of disease control strategies for bTB — Published 26th November, 2024
- Roadmap for the development of diagnostic test for bTB — Published 25th November, 2024

Projects

Displaying **4** of **26** projects

VIEW ALL PROJECTS

Diagnostic and Mitigation Strategies to Control Tuberculosis in Cattle and Wildlife

Planned Completion date: 30/09/2026

Source countries: United States

Accelerating Bovine Tuberculosis Control in Developing Countries

Planned Completion date: 01/10/2026

Source countries: United States

EDWD: The evolutionary epidemiology and demography of "endemic" wildlife disease in an open, fluctuating host population

Planned Completion date: 01/10/2030

Source countries: United Kingdom

Can Bulk Milk Revolutionise TB Testing?

Planned Completion date: 01/03/2025

Source countries: United Kingdom

Recent publications

Global prevalence and risk factors of bovine tuberculosis in cattle: a systematic review and meta-analysis

Source: AH Kifouly, O Kouin, G Alowanou... - Frontiers in Veterinary ..., 2026 - frontiersin.org

↓ DOWNLOAD

A systematic review of machine learning approaches to bovine tuberculosis in cattle

Source: K Borodziuk, AH Marshall, MJH O'Hagan... - Research in Veterinary ..., 2026 - Elsevier

↓ DOWNLOAD

Association between risk factors and the occurrence of bovine tuberculosis in cattle and buffalo herds: evidence from a multivariate analysis (2017–2023)—Campania ...

Source: F Gargano, R Brunetti, M Tamba, G Galletti... - Frontiers in Veterinary ..., 2026 - frontiersin.org

↓ DOWNLOAD

Knowledge, attitudes and practices regarding bovine tuberculosis in cattle and humans in Malawi

Source: A Ngwira, SOM Manda, ED Karimuribo, SI Kimera - PLoS One, 2026 - journals.plos.org

↓ DOWNLOAD

Prevalence of bovine tuberculosis in cattle, camels and goats and awareness among pastoral and agro-pastoral communities of the Somali Region, Ethiopia

Source: Y Gizaw, G Tesfamaryam, MM Kebeta... - Veterinary and Animal ..., 2026 - Elsevier

↓ DOWNLOAD

PRIORITY TOPIC 06

Brucellosis

Brucellosis is a highly contagious bacterial disease affecting cattle, swine, goats, and sheep.

Source: star-idaz.net/priority-topic/brucellosis/



STAR IDAZ Approach

Brucellosis is a significant zoonotic disease that affects livestock and humans globally. The STAR IDAZ IRC is dedicated to addressing this challenge through a structured roadmap for vaccine development. This roadmap guides the research and development of effective and safe vaccines to prevent Brucellosis. By coordinating international efforts, STAR IDAZ aims to advance the creation of vaccines that can be widely implemented to control and eventually eradicate the disease, improving both animal and public health.

Information

- WOAH - Brucellosis
- DISCONTOOLS - Brucellosis
- Sciensano - Brucellosis

Working group

Brucellosis Working Group

The Brucellosis Working Group of STAR IDAZ IRC met during a dedicated workshop held in San José, Costa Rica, on 3 November 2025. This brought together leading experts, including members of the International Society for Brucellosis, to review and update the Brucellosis Vaccine Development Roadmap, identify key research gaps, and strengthen international collaboration in the fight against brucellosis.

Key People

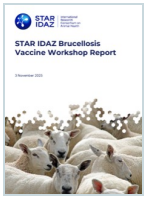
Cynthia Baldwin
University of Massachusetts (Amherst) United States

Clara Marín Alcalá
Centro de Investigación y Tecnologia Agroalimentaria de Aragón Spain

Ruth Zadoks
Sydney School of Veterinary Science Australia

Reports

Reports and outcomes from meetings and workshops



Workshops

STAR IDAZ Brucellosis Vaccine Workshop Report

Published 11th December, 2025

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

The brucellosis vaccine research roadmap, first published in 2018, identified the main scientific challenges in developing improved vaccines for B. abortus, B. melitensis, and B. suis. This initial gap analysis explored a wide range of vaccine approaches from rationally attenuated live vaccines and killed or inactivated options, to DNA, subunit, and vectored platforms, as well as the need to identify protective antigens, virulence factors, and immune correlates of protection. It also highlighted the importance of understanding host–pathogen interactions, improving delivery systems and adjuvants, and ensuring safety in pregnant animals and mixed-species contexts.

The workshop held in San José, Costa Rica, on 3 November 2025, alongside the Brucellosis International Conference, provided an opportunity to revisit these priorities. In December 2025 the STAR IDAZ Brucellosis Vaccine Workshop Report 2025 was published. An update of the brucellosis vaccine development roadmap is in progress.

- Roadmap for development of a candidate vaccine for Brucella — Published 24th February, 2025

Projects

Displaying **4** of **21** projects

VIEW ALL PROJECTS

The epidemiology of Brucella melitensis in dairy herds in Israel and development of a risk-based surveillance & control program

Planned Completion date: 01/01/2024

Source countries: India

Development of Improved Diagnostic and Control Strategies for Brucellosis in Livestock and Wildlife

Planned Completion date: 06/10/2026

Source countries: United States

Multi-sector strategy for combatting brucellosis in East Africa

Planned Completion date: 31/08/2021

Source countries: Denmark

Training towards Personalized Antibiotic Treatment

Planned Completion date: 31/08/2024

Source countries: Europe

Recent publications

Socio-economic impact of bovine brucellosis and the need for effective control strategies

Source: J Gharekhani, J Zinsstag, A Emadi, M Dadar - Veterinary Research ..., 2026 - Springer

Bayesian hierarchical mixture modelling to derive probabilistic iELISA thresholds for bovine brucellosis in endemic dairy systems

Source: MS Alam, MN Islam, BJ Adhikari, S Islam... - PLoS ..., 2026 - journals.plos.org

↓ DOWNLOAD

Seroprevalence and associated risk factors of bovine brucellosis in the Dasenech and Gnangatom districts of the South Omo zone, southern Ethiopia

Source: S Fekadu, W Mitiku, G Desa, N Diriba - Scientific Reports, 2026 - nature.com

↓ DOWNLOAD

Bayesian Latent Class Analysis for evaluating diagnostic performance of three serological tests of bovine brucellosis in Pakistan

Source: M Taimoor, ASAK Shirwany, MM Awais... - Preventive Veterinary ..., 2026 - Elsevier

From Global to Local: A Multiscale Geographically Weighted Regression Analysis of Bovine Brucellosis Risk Factors

Source: Z Tian, Y Dong, P Yuan, X Wang... - Transboundary and ..., 2026 - Wiley Online Library

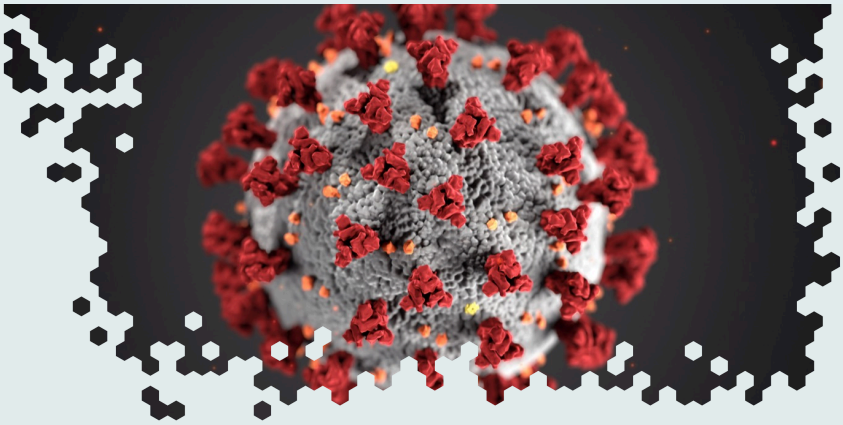
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PRIORITY TOPIC 07

Coronaviruses

A cause of important diseases in livestock, poultry, companion animals, and humans.

Source: star-idaz.net/priority-topic/coronaviruses/



STAR IDAZ Approach

Coronaviruses cause a number of important diseases in livestock, poultry, companion animals and humans, including infectious bronchitis (poultry), transmissible gastroenteritis virus (pigs), calf diarrhoea, enteritis (turkeys) and porcine epidemic diarrhoea (PED). The emergence of zoonotic coronaviruses causing MERS, SARS and COVID-19 has increased interest in this group of viruses and their ability to jump species.

On June 2020, STAR IDAZ IRC with the Collaborative Working Group on Animal Health and Welfare Research (CWG-AHW) organised the online webinar, 'Pandemic: a one health view of emerging infectious diseases'. STAR IDAZ IRC conducted gap analyses and developed research roadmaps focusing on diagnostic development, vaccine development and disease control strategies.

Information

- DISCONTOOLS: Coronavirus in pigs and poultry
- WOAH: Middle East respiratory syndrome (MERS)
- WOAH: Avian infectious bronchitis
- WOAH: SARS-CoV-2
- WOAH: Porcine epidemic diarrhoea
- CABI Compendium datasheet: Avian infectious bronchitis

Working group

UK-ICN

During the COVID-19 pandemic, STAR IDAZ partners (BBSRC and DEFRA) promptly opened a call for a Coronavirus International Network (ICN) to support global coordination for the delivery of collaborative, long-term One Health research investigations. The UK-ICN network partnered with STAR IDAZ IRC for the organisation of different international activities to identify research gaps to develop research roadmaps for coronavirus research.

Key People

Louise Cosby
Queen's University Belfast United Kingdom

Dalan Bailey
The Pirbright Institute United Kingdom

Zoltan Penzes
Ceva Santé Animal Hungary

Margaret Hosie
University of Glasgow United Kingdom

Sharon Brookes
Animal and Plant Health Agency United Kingdom

Alan Radford
University of Liverpool United Kingdom

Rachael Tarlinton
University of Nottingham United Kingdom

Richard Delahay
University of Exeter United Kingdom

Wim van Der Poel
Wageningen University & Research Netherlands

Linfa Wang
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Alessio Lorusso
IZSAM Italy

Karl Stahl
Swedish Veterinary Agency Sweden

Elma Tchilian
The Pirbright Institute United Kingdom

Pastor Alfonso
CENSA Cuba

Naif Alharbi
Gulf CDC Saudi Arabia

Hassan Ali Ishag
ADAFSA United Arab Emirates

Shahan Azeem
UVAS Pakistan

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Markus Keller
FLI Germany

Abd Elmalik Khalafalla
ADAFSA United Arab Emirates

Anna Lacasta
ILRI Kenya

John Dustin Loy
University of Nebraska United States

Wander Markotter
University of Pretoria South Africa

Lorraine McElhinney
APHA United Kingdom

Bradley Pickering
National Centre for Foreign Animal Disease Canada

José A Quinteros
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Masood Rabbani
Veterinary University Pakistan Pakistan

Helen Roberts
Defra United Kingdom

Linda Saif
The Ohio State University United States

Nazia Thakur
The Pirbright Institute United Kingdom

Lonneke Vervelde
Royal GD Animal Health Netherlands

Qiuhong Wang
Ohio State University United States

Gary Whittaker
Cornell University United States

James Wood
University of Cambridge United Kingdom

Shanshan Yang
Jiangsu Academy of Agricultural Sciences China

Reports

Reports and outcomes from meetings and workshops



Gap Analysis, Report, Workshops

Report of the workshops on Coronavirus gap analysis, 26 May Belfast

Published 26th July, 2023

↓ DOWNLOAD



Workshops

Report of the STAR IDAZ workshops on coronavirus research roadmaps development

Published 3rd March, 2025

↓ DOWNLOAD



Deliverables, Executive summary

Executive summary of research gaps: Coronaviruses

Published 3rd March, 2025

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

A first gap analysis workshop was held in Belfast in 2023. The workshop discussed results from an online survey circulated among approximately 60 experts in 21 countries. Results were used to draft research roadmaps that were further discussed in three international workshops held in October 2024. Reports and research roadmaps are currently publicly available on STAR IDAZ website.

- Research roadmap for coronavirus vaccine development — Published 7th March, 2025
- Roadmap for the development of diagnostic tests for coronaviruses — Published 5th March, 2025
- Roadmap for the development of disease control strategies for coronaviruses — Published 4th March, 2025

Projects

Displaying **4** of **41** projects

VIEW ALL PROJECTS

A novel self-adjuvanting vaccine platform

Planned Completion date: 01/09/2026

Source countries: United Kingdom

OPTIclean UV

Planned Completion date: 01/03/2026

Source countries: United Kingdom

Intervention Strategies to Control Endemic and New Emerging and Re-Emerging Viral Diseases of Swine

Planned Completion date: 04/10/2026

Source countries: United States

Pathogenesis of Swine Acute Diarrhea Syndrome Coronavirus

Planned Completion date: 31/08/2026

Source countries: United States

Recent publications

Metagenomic and serological evidence of emerging tick-borne viruses in livestock, humans, and rats in Pakistan

Source: M Ammar, Y Fang, M Saqib, J Xiao, AUR Sial, Q Wu... - Virologica Sinica, 2026 - Elsevier

↓ DOWNLOAD

Porcine epidemic diarrhea virus: a model for coronavirus persistence and immune escape in intensive livestock systems

Source: L Wogick, SM Goyal - Porcine Health Management, 2026 - Springer

↓ DOWNLOAD

Metavirome Analysis of Viruses Carried by Dairy Cows in Shaanxi, Gansu and Ningxia, China

Source: Y Liu, G Zhang, H Gao, M Fang, L Jiang, Y Kong, Q Liu... - Animals, 2026 - mdpi.com

↓ DOWNLOAD

The Dual Roles of Autophagy in Important Picornaviruses Infecting Livestock and Poultry

Source: H Ma, R Liu, M Liao - Veterinary Sciences, 2026 - mdpi.com

↓ DOWNLOAD

Wastewater as sentinel for emerging viral diseases in livestock: a systematic review

Source: M Shaha, A Das, J Saha, MM Rahaman, MD Gupta... - Viruses, 2026 - mdpi.com

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PRIORITY TOPIC 08

Diagnostics (tools and technologies)



Diagnostics are crucial for the early detection and management of animal diseases, guiding effective interventions to protect animal health.

Source: star-idaz.net/priority-topic/diagnostics-tools-and-technologies/

STAR IDAZ Approach

Diagnostics play a vital role in the early detection, monitoring, and management of animal diseases, enabling timely and effective interventions to safeguard animal health. In the context of STAR IDAZ, diagnostics are recognised as a priority area due to their critical importance in disease control and prevention.

Information

- WOAH - Diagnostics
  WOAH provides a comprehensive manual on diagnostic tests for various animal diseases, including protocols, methodologies, and applications in disease control. The manual includes detailed factsheets on different diagnostic tools and their use in veterinary medicine.
- Diagnostic gap analysis in animal health through combining public databases (Elhachimi et al, 2026)
- Whole genome sequencing in animal health: applications, challenges, and future directions (Charlier et al, 2026)

Working group

No Working Group

STAR IDAZ does not currently have an active Diagnostics Working Group. However, diagnostics are a central focus in its research planning via a dedicated research roadmap on diagnostic test development. This roadmap is applied in several disease-specific roadmaps, including those for African swine fever, foot-and-mouth disease, helminths and bovine tuberculosis. The experts involved in these disease-specific diagnostics contribute on an ad-hoc basis to the diagnostics activities within STAR IDAZ IRC.

Key People

No Active Working Group
N/A Global

Reports

Reports and outcomes from meetings and workshops



Gaps and Opportunities in Animal Health Diagnostics: A STAR IDAZ Survey Report

Published 19th September, 2025

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Diagnostics are a critical priority for STAR IDAZ, supporting the early detection, monitoring and control of animal diseases. Accurate and fit-for-purpose diagnostic tools are essential for effective surveillance, disease management and informed decision-making across multiple priority diseases.

To guide future research and innovation, STAR IDAZ has developed a dedicated Diagnostic Test Development Roadmap, which identifies key research challenges and opportunities across areas such as test validation, technology optimisation, biomarker discovery, host-pathogen interactions, organism detection, and sample handling and preparation. The roadmap complements disease-specific research roadmaps and helps inform international research priorities and funding strategies. Reports and gap analyses developed through STAR IDAZ activities continue to support the identification of research needs and opportunities for collaboration.

- Roadmap for diagnostic test development — Published 31st October, 2025

Projects

Displaying **4** of **23** projects VIEW ALL PROJECTS

Vaccines, diagnosis and epidemiology for control and prevention of African swine fever (SE1520)

Planned Completion date: 31/12/2028

Source countries: UK

BIO-Direct: Biomarkers and Bioassays for Veterinary Research and Diagnostics

Planned Completion date: 31/12/2023

Source countries: United Kingdom

A Multi-Laboratory Comparison of Methods for Detection and Quantification of African Swine Fever Virus

Planned Completion date: 07/03/2022

Source countries: Netherlands

Improved control of priority animal diseases: Novel vaccines and companion diagnostic tests for African horse sickness, peste des petits ruminants and foot-and-mouth disease

Planned Completion date: 31/12/2025

Source countries: Europe

Recent publications

Multimodal animal health monitoring in extensive livestock production systems

Source: X Zhao, Q Liao, D Wang, E Meijering... - Frontiers in Veterinary ..., 2026 - frontiersin.org

↓ DOWNLOAD

The evolution and applications of molecular diagnostics in veterinary and clinical medicine: from traditional methods to emerging technologies

Source: A Naveed - Molecular Biotechnology, 2026 - Springer

One Health Diagnostic Strategies For Bovine TB: Conventional Platforms To Cutting-Edge Technologies

Source: D Kumar, P Dhir, RS Kataria, S Islahi... - Genetics and ..., 2026 - geneticsmr.com

↓ DOWNLOAD

Advances in rapid microbiological testing for animal diseases: A review

Source: Z Zhen, L Shuhua, M Baihe, C Xin, G Meiliang... - Journal of ..., 2026 - Elsevier

Biosensors in precision livestock farming in dairy production: decoding animals' needs

Source: M Lee, LO Tedeschi, S Seo - Animal Bioscience, 2026 - pmc.ncbi.nlm.nih.gov

↓ DOWNLOAD

PRIORITY TOPIC 09

Emerging Issues



Emerging diseases increasingly threaten animal agriculture due to global changes in food production and consumption. STAR-IDAZ fosters coordination and collaboration to enhance rapid detection and response.

Source: star-idaz.net/priority-topic/emerging-issues/

STAR IDAZ Approach

The risk of emergence of pathogens has increased as a consequence of global changes in the way food is produced, moved and consumed. Rapid detection and response to emerging diseases are critical to animal agriculture because these diseases threaten the livelihood of producers. Rapid and effective response can also prevent or limit negative impacts on animal health, the economy, food security, and public health.

STAR IDAZ IRC focuses on facilitating international collaboration and coordinated responses to emerging diseases and issues, to reduce duplication, speed up response and support the faster development of control tools.

Information

- 'PANDEMIC! A One Health View on Emerging Infectious Diseases webinar' report
- PREZODE (PREventing ZOonotic Diseases Emergence)

Working group

Emerging Issues

For Emerging Issues, STAR IDAZ aims to act as an ad-hoc 'real time' early warning group to foster international collaboration and promote a coordinated response amongst the IRC Partners. STAR IDAZ provides opportunities to share information and knowledge, and share lessons learned from previous outbreaks to explore future preparedness strategies.

STAR IDAZ collaborates with other organisations and projects working in this area and disseminates resources to IRC Partners to support research coordination. Further activities are envisaged in the future.

Key People

Wim van der Poel
Wageningen University Netherlands

Reports

Reports and outcomes from meetings and workshops



Webinar report

Pandemic! A One Health view of emerging infectious diseases

Published 4th August, 2020

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Due to the scope of this Priority Topic research roadmaps will not be developed. However, research is required to support more effective surveillance, monitoring, and preparedness and to develop control tools and methods.

Projects

Displaying **4** of **43** projects

VIEW ALL PROJECTS

Etiopathogenesis and epidemiology of emerging pathogens in the poultry sector: persistence and adaptation of emerging clones of Salmonella Infantis and new biocontrol strategies

Planned Completion date: 01/01/2025

Source countries: Chile

Role of small rodents in local-scale epidemiology of emerging zoonoses: Echinococcus multilocularis and Hantavirus (RodiZoon)

Planned Completion date: 01/01/2025

Source countries: Chile

BSL4ZNet Support and Maintenance

Planned Completion date: 30/09/2025

Source countries: United States

BSL4ZNet Secretariat Support and Maintenance

Planned Completion date: 31/07/2026

Source countries: United States

Recent publications

Rodent-borne pathogens as economic and zoonotic health threat to livestock farming: a review

Source: F Huels, J Jacob - One Health, 2026 - Elsevier

↓ DOWNLOAD

Extended spectrum beta lactamase producing multidrug resistant Enterobacteriaceae in livestock-derived foods: global trends, threats, impact and mitigation

Source: H Hossain, MSR Chowdhury, S Islam, T Ahmad... - Food Safety and ..., 2026 - Springer

↓ DOWNLOAD

Analyzing the perceived sensitivity of Murrah buffalo-based livestock production system toward changing climate using the Analytical Hierarchy Process

Source: R Singh, S Maiti, S Garai, M Bhakat, SK Jha, AK Dixit... - Scientific Reports, 2026 - nature.com

↓ DOWNLOAD

Veterinarians' perception of livestock infectious disease: results from a five country cross-European survey (2024)

Source: A Antonopoulos, S Sweeney, K McCall... - BMC Veterinary ..., 2026 - Springer

↓ DOWNLOAD

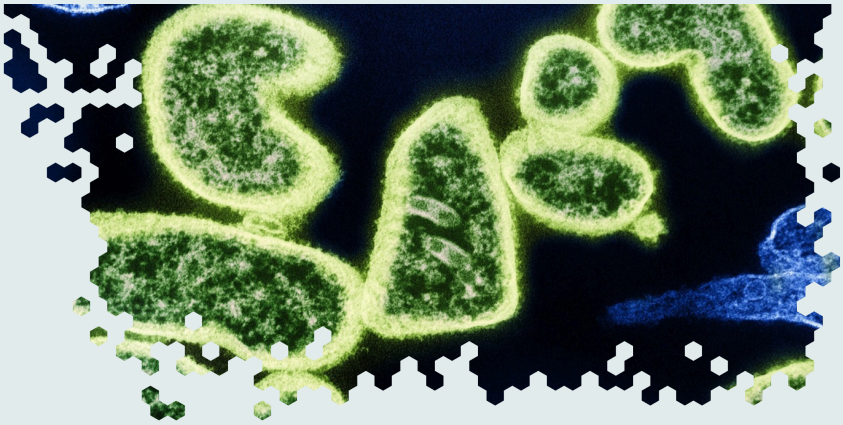
Prevalence and risk factors of zoonotic diseases on the human-wildlife-livestock interface in Eastern Cape and KwaZulu-Natal Provinces, South Africa

Source: N Ngcobo, L Mdoda, AJ Verschoor... - Frontiers in Veterinary ..., 2026 - frontiersin.org

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PRIORITY TOPIC 10

Epidemiology



Epidemiology is the study of the distribution, patterns, and causes of health and disease conditions within a defined animal population

Source: star-idaz.net/priority-topic/epidemiology/

STAR IDAZ Approach

Veterinary epidemiology plays a crucial role in understanding, preventing, and controlling diseases that affect animal populations. With the resurgence and rapid (global) spread of diseases such a African swine fever, lumpy skin disease or bluetongue the discipline has gained global importance. Epidemiologists study patterns of disease occurrence, transmission, and risk factors to develop effective control strategies. The field also supports livestock production by minimizing economic losses caused by infectious diseases.

Current trends in veterinary epidemiology emphasize the One Health approach, integrating animal, human, and environmental health. Advances in molecular epidemiology, GIS-based disease mapping, and predictive modelling are transforming disease surveillance and outbreak response. Big data analytics and artificial intelligence are increasingly used to detect emerging threats early. Moreover, climate change, wildlife interactions, and antimicrobial resistance have become key focus areas. Overall, veterinary epidemiology is a vital discipline in preventing epidemics, improving animal welfare, and protecting global health. The discipline has a major role in the development of the STAR IDAZ research roadmaps on control strategies.

Working group

No active working group

There is currently no specific working group for Epidemiology.

Key People

No STAR IDAZ experts within epidemiology
N/A Global

Reports

Reports and outcomes from meetings and workshops

None listed on the website.

roadmap

Gap analysis summary

A formal roadmap for Epidemiology has not yet been established. Related roadmaps can be found:

Roadmap for the development of control strategies for liver fluke

Roadmap for the development of disease control strategies for influenza

Roadmap for the research to underpin the development of control strategies for FMD

Roadmap for the development of disease control strategies for coronaviruses

Roadmap for development of disease control strategies for bTB

Roadmap for the development of control strategies for ASF

Roadmap for nematode control strategies

Projects

Displaying **4** of **15** projects

VIEW ALL PROJECTS

Advancing knowledge of non-aureus Staphylococci epidemiology in dairy cattle: species and strain typing matters

Planned Completion date: 01/01/2024

Source countries: United States

Etiopathogenesis and epidemiology of emerging pathogens in the poultry sector: persistence and adaptation of emerging clones of Salmonella Infantis and new biocontrol strategies

Planned Completion date: 01/01/2025

Source countries: Chile

Role of small rodents in local-scale epidemiology of emerging zoonoses: Echinococcus multilocularis and Hantavirus (RodiZoon)

Planned Completion date: 01/01/2025

Source countries: Chile

The epidemiology of Brucella melitensis in dairy herds in Israel and development of a risk-based surveillance & control program

Planned Completion date: 01/01/2024

Source countries: India

PRIORITY TOPIC 11

Foot and Mouth Disease



Foot-and-mouth disease (FMD) is a highly contagious and serious disease that spreads rapidly, causing significant socio-economic impacts by severely affecting livestock productivity.

Source: star-idaz.net/priority-topic/foot-and-mouth-disease/

STAR IDAZ Approach

Foot and mouth disease (FMD) is a highly contagious viral disease that primarily affects cloven-hooved livestock and wildlife. Although adult animals generally recover, the morbidity rate is very high in naive populations, and significant pain and distress occur in some species.

STAR IDAZ IRC is a partner in the Global Foot-and-Mouth Research Alliance (GFRA) which aims to establish and sustain global research partnerships to generate scientific knowledge and discover the tools for prevention, control, and eradication of FMD.

Information

- The World Organisation for Animal Health
- FMD on DISCONTOOLS
  DISCONTOOLS identifies the gaps in knowledge to speed up the development of new Disease Control TOOLS
- CFSPH Technical Factsheet: Foot and mouth disease

Working group

GFRA (Global Foot-and-Mouth disease Research Alliance)

A coordinated global alliance of scientists producing evidence and innovation that enables the progressive control and eradication of FMD. To establish and sustain global research partnerships to generate scientific knowledge and discover the tools to successfully prevent, control and eradicate FMD.

Key People

Alejandra Capozzo
INTA Argentina

David Lefebvre
Sciensano Belgium

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University of Glasgow United Kingdom

Stéphan Zientara
ANSES/ENVA France

Souheyla Benfrid
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Antonello Di Nardo
The Pirbright Institute United Kingdom

Nick Knowles
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Tiziana Lembo
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Toby Tuthill
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Mariano Pérez-Filgueira
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Nagendra Singanallur
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Melanie Chitray
ARC: Onderstepoort Veterinary Research Vaccine and Diagnostic Development South Africa

Gisselle Medina
United States Department of Agriculture United States

Phaedra Eble
Wageningen Bioveterinary Research Netherlands

Reports

Reports and outcomes from meetings and workshops



Gap Analysis, IRC, Report

Foot-and-Mouth Disease

Published 4th May, 2022

↓ DOWNLOAD



Deliverables, Executive summary

Executive Summary of Priority Research Needs: Foot-and-Mouth Disease

Published 25th November, 2025

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Research roadmaps for the development of diagnostic tests, control strategies and candidate vaccines were developed and published in 2019. The roadmaps were reviewed at the STAR IDAZ IRC workshop held at the 2019 GFRA Scientific Meeting, Bangkok, Thailand, October 29-31, 2019. Participants at the workshop (others were also participating) are listed as the Working Group on this page. The roadmaps were reviewed and

updated where relevant in November 2025, following the GFRA Scientific Meeting in October 2025, by the STAR IDAZ IRC Scientific Committee. Workshops and scientific meetings organised by GFRA play a pivotal role in highlighting the latest scientific developments and key research gaps. The insights gained from these activities are continuously integrated into the STAR IDAZ roadmaps to guide future research and innovation.

- Roadmap for the research to underpin the development of control strategies for FMD — Published 5th November, 2024
- Roadmap for the development of candidate vaccines for FMD — Published 30th October, 2024
- Roadmap for the development of diagnostic tests for FMD — Published 8th October, 2024

Projects

Displaying **4** of **30** projects

VIEW ALL PROJECTS

To support foot-and-mouth disease control in India

Planned Completion date: 01/06/2026

Source countries: United Kingdom

Develop novel vaccines for foot-and-mouth disease virus in cattle

Planned Completion date: 01/05/2023

Source countries: United Kingdom

Evaluating a Self-Boosting Vaccine Delivery Platform Using Ad5-FMD

Planned Completion date: 31/07/2026

Source countries: United States

Determining Immune Cells Draining to Lymph Nodes and the Factors Affecting the Cell Drainage

Planned Completion date: 31/07/2027

Source countries: United States

Recent publications

An Overview of Epidemiological Tools That Support the Progress of Foot-and-Mouth Disease Control in Southeast Asia

Source: U Gunasekera, NT Diep, PT Long, VD Chuong, J Arzt... - Pathogens, 2026 - mdpi.com

↓ DOWNLOAD

Prevalence and Serotype Distribution of Foot and Mouth Disease (FMD) Virus in Asian Countries: A Systematic Review and Meta-Analysis

Source: MJ Ahmed, MI Hossain, MA Rahman... - Veterinary Medicine ..., 2026 - Wiley Online Library

↓ DOWNLOAD

Current situation and emerging foot-and-mouth disease virus lineages in Egypt: Historicment SAT1 Introduction, and Vaccine Policy Implications

Source: MS Abousenna - Veterinary Immunology and Immunopathology, 2026 - Elsevier

Incubation phase transmission of foot-and-mouth disease virus in cattle: experimental evidence and simulated impacts

Source: C Stenfeldt, JM Humphreys, J Arzt - Scientific Reports, 2026 - nature.com

↓ DOWNLOAD

Preparation and evaluation of a monovalent foot and mouth disease vaccine as a rapid response to the emerging serotype SAT1 in Egypt

Source: SA Rizk, HI Abu-Elnaga, HM Daoud, W Mossad… - Veterinary Immunology …, 2026 - Elsevier

PRIORITY TOPIC 12

Foresight

Foresight involves preparing for long-term challenges by identifying trends, envisioning possible futures, and shaping strategies to guide decision-making.

Source: star-idaz.net/priority-topic/foresight/



STAR IDAZ Approach

Foresight describes a readiness to deal with long-term issues. It aims to identify long term trends and thus guide decision-making, by identifying possible - and desirable - futures, and defining strategies. Results are generally fed into public decision-making, but they also help participants themselves to develop or adjust their strategy.

STAR IDAZ looks at how global trends might impact on animal health. Priority topic foresight activities will be carried out, when requested by our partners.

Information

- WOAH Embracing Uncertainty - Using Strategic Foresight Methods to Support Decision-Making:
- SCAR Foresight Group - Meta Analysis
- CWG AHW Strategic Research Agenda
  A foresight study was carried out as part of the ANIHWA project in order to produce an EU Strategic Research Agenda on Animal Health and Welfare
- WOAH Seventh Strategic Plan for Period 2021-2025
- AU-IBAR Animal Health Strategy for Africa (2019-2035)
- European Partnership on Animal Health and Welfare (EUP AH&W) Strategic Research and Innovation Agenda for the (2023)

Working group

No Active Working Group

For Foresight, there is currently no active Working Group. Instead, STAR IDAZ aims to conduct ad-hoc activities, at the request of the IRC Partners. STAR IDAZ also collaborates with other organisations and projects working in this area and disseminates resources to IRC Partners to support research coordination.

Key People

Marina Bagni
Ministry of Health Italy

Reports

Reports and outcomes from meetings and workshops



Strategic Research Agendas

FORE-Med Report - Building a Strategic Research Agenda for Animal Health for the Mediterranean

Published 16th June, 2015

↓ DOWNLOAD



Report

Inventory of Foresight Methodologies and Studies

Published 1st October, 2012

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Due to the scope of this Priority Topic research roadmaps will not be developed. However, STAR IDAZ does utilise foresight activities to identify its current priorities and support long-term priority setting, including the development of Strategic Research Agendas (SRAs).

Projects

Displaying **4** of **41** projects

VIEW ALL PROJECTS

To support institutional strengthening of CGIAR monitoring, evaluation, learning, impact assessment and foresight (MELIAF) capabilities for improved impact reporting, decision making and adaptive management.

Planned Completion date: 01/12/2027

Source countries: United Kingdom

To generate and disseminate evidence-based and policy-relevant research, analysis, and foresight exercises at the nexus of food systems, climate change, and security

Planned Completion date: 01/03/2027

Source countries: United Kingdom

Advancing Applied Climate Science Action for Diverse Agro-ecological Applications Across California

Planned Completion date: 29/09/2026

Source countries: United States

Development of mRNA-based Vaccines for Heterosubtypic Protection Against Infectious Bronchitis and Infectious Laryngotracheitis Viruses

Planned Completion date: 02/02/2026

Source countries: United States

Recent publications

Foresight scanning of wildlife health: Emerging risks, surveillance needs, and capability shifts for preparedness

Source: Enetwild Consortium, F Occhibove… - EFSA Supporting …, 2026 - Wiley Online Library

↓ DOWNLOAD

Multi-Agency Foresight with One Health Approach

Source: K Cuhls, ISI Fraunhofer, M Banchs-Piqué, M Priebe… - isi.fraunhofer.de

↓ DOWNLOAD

Mapping the Digital One Health/One Digital Health paradigm: A bibliometric and foresight-based analysis of emerging trends and future directions

Source: J Kong, NL Bragazzi - Digital Health, 2026 - journals.sagepub.com

↓ DOWNLOAD

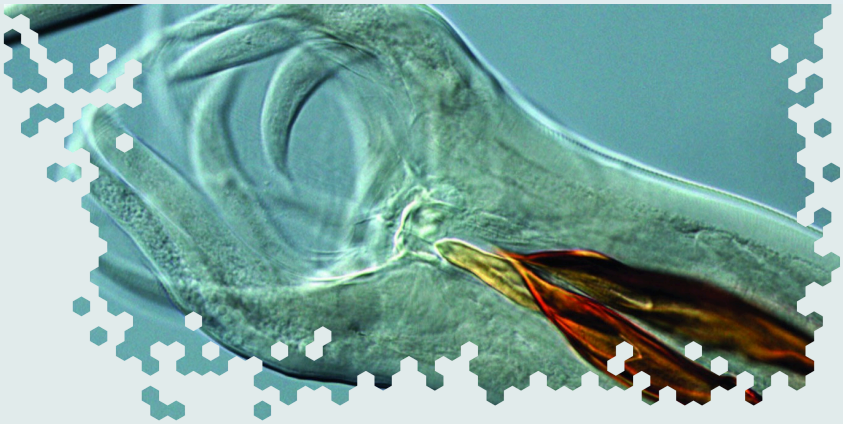
The futures of livestock farming in agri-food systems: Foresight analysis and multicriteria assessment of scenarios

Source: A Wilfart, J Vayssières - 2026 - books.google.com

Multi-Agency Foresight with One Health Approach: Deliverable 5

Source: T Könnölä, A Ferrari, S Giesecke… - EFSA Supporting …, 2026 - Wiley Online Library

↓ DOWNLOAD



PRIORITY TOPIC 13

Helminths (including anthelmintic resistance)

Helminths are parasitic worms causing disease in animals. Anthelmintic resistance occurs when these worms become resistant to treatment.

Source: star-idaz.net/priority-topic/helminths-including-anthelmintic-resistance/

STAR IDAZ Approach

Infections with helminthic parasites are a major threat to animal health, welfare, and production and include several zoonoses. If uncontrolled, they have worldwide a serious negative impact on the income of farmers, the viability of livestock industries, and the sustainable development of rural areas. The control of these infections is complicated due to climate change and the expansion of anthelmintic resistance (AR).

STAR IDAZ works together with the Livestock Helminth Research Alliance (LiHRA) to coordinate the activities of the Helminth Working Group.

Information

- DISCONTOOLS - Nematodes
- DISCONTOOLS - Liver Fluke
- COMBAR Best Practice
- Helminth Infection Control in Farmed Ruminants
  PDF from COMBAR (combatting anthelmintic resistance in ruminants)

Working group

LiHRA

STAR IDAZ Helminth WG activities are coordinated by the Livestock Helminth Research Alliance (LiHRA). LiHRA is an international network of researchers, founded in 2014, that brings together, expands and optimizes skills and expertise in different disciplines within livestock helminth research. LiHRA grew out of EU-funded research projects addressing challenges in the control of gastrointestinal nematodes and liver fluke in ruminants and related projects investigating alternative control approaches for livestock parasites.

LiHRA members meet annually to review current challenges, recent results, research gaps and future opportunities for collaborative research.

Key People

Johannes Charlier (COMBAR Chair)
COMBAR and LiRHA Argentina

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Diana Williams
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Ghent University Belgium

Peter Geldhof
Ghent University Belgium

Carlos Lanusse
CIVETAN Argentina

Candela Canton
CIVETAN Argentina

Luis Alvarez
CONICET Argentina

Ray Kaplan
St. George's University Grenada

Jozef Vercruysse
Ghent University Belgium

Grace Mulcahy
University College Dublin Ireland

Philip Skuce
Moredun Research Institute United Kingdom

Eric R. Morgan
Queen's University of Belfast United Kingdom

Felipe Torres Acosta
Universidad Autonoma de Yucatán Mexico

Theo De Waal
University College Dublin Ireland

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University of Copenhagen Denmark

Hervé Hoste
INRAE France

Smaro Sotiraki
HAO Demeter, Greece Greece

Andy Greer
University of Lincoln New Zealand

Jan Van Wijk
University of Pretoria South Africa

Alasdair Nisbet
Moredun Research Institute United Kingdom

Reports

Reports and outcomes from meetings and workshops

None listed on the website.

Research roadmaps and gap analyses

Gap analysis summary

Six research roadmaps have been developed covering diagnostics, therapeutics, vaccines and control strategies for gastrointestinal nematodes and liver fluke. The original roadmaps were adopted by STAR IDAZ in 2019 and published in 2020. Following preparatory discussions in 2024 and the launch of the roadmap revision process during the 2025 LiHRA meeting, expert groups are currently updating the 4 nematode roadmaps, trematode roadmaps to follow later. Publication of revised roadmaps and a summary report is planned for 2027.

- Roadmap for nematode control strategies — Published 30th October, 2025
- Roadmap for nematode vaccine development — Published 30th October, 2025
- Roadmap for development of therapeutics for helminths — Published 9th December, 2024
- Roadmap for development of diagnostic tests for helminths — Published 5th December, 2024

- Roadmap for the development of control strategies for liver fluke — Published 3rd December, 2024
- Roadmap for the development of candidate vaccines for liver fluke — Published 3rd December, 2024

Projects

Displaying **4** of **13** projects VIEW ALL PROJECTS

Improving the performance of forage legumes through the use of optimal symbiotic partners using the example of sainfoin (Onobrychis viciifolia)

Planned Completion date: 31/12/2023

Source countries: Denmark

Development of a web application for the risk assessment of the worm load of free-range laying hens (Wurmfrei)

Planned Completion date: 31/12/2026

Source countries: Denmark

Sustainable, biodiversity-promoting pasture farming of cattle in Schleswig-Holstein (NaBiWei)

Planned Completion date: 31/12/2026

Source countries: Denmark

Upscaling efficient alternatives for contentious inputs in organic farming (SCALE-it)

Planned Completion date: 30/04/2029

Source countries: Denmark

Recent publications

Appraisal of knowledge, attitudes and practices regarding helminth infections and anthelmintic resistance among cattle farmers in Kwara State, Nigeria

Source: SD Ola-Fadunsin, MA Abdullateef, OO Ogunleye... - BMC Agriculture, 2026 - Springer

↓ DOWNLOAD

Anthelmintic stewardship: an essential step towards sustainable dairy farming

Source: HJC Bijkerk, AFG Antonis, JA Wagenaar... - Veterinary ..., 2026 - Elsevier

↓ DOWNLOAD

Anthelmintic resistance in canine parasitology: a critical review of an emerging global challenge

Source: AA Sher, G Fatima, MY Zahoor, S Ashraf... - Animal Health Research ..., 2026 - cambridge.org

↓ DOWNLOAD

One health perspectives on anthelmintic resistance: mechanisms, surveillance gaps and control strategies.

Source: SU Haq, RB Kharl, M Saqib, HB Yan, AAM Alkhaldi... - 2026 - pvj.com.pk

↓ DOWNLOAD

Gastrointestinal and respiratory helminths of free-ranging red deer at the wildlife–livestock interface in Türkiye

Source: Hİ Aydoğanoğlu, E Madak - Tropical animal health and production, 2026 - Springer

PRIORITY TOPIC 14

Influenza

Influenza is a highly contagious viral infection affecting various animal species, with significant impacts on health and productivity.

Source: star-idaz.net/priority-topic/influenza/



STAR IDAZ Approach

Influenza outbreaks have a major impact at global level, causing significant economic losses in the poultry sector. Moreover, the pervasive nature of influenza viruses across an expanding array of mammals, coupled with sporadic zoonotic transmissions, raises concerns about their potential to precipitate into a human influenza pandemic.

Influenza is an important focus of research within the STAR IDAZ IRC, driven by the urgency to expedite enhanced control measures for animal influenza outbreaks. The STAR IDAZ IRC has extensively worked to identify research gaps to highlight areas where research effort needs to be focused to accelerate the delivery of improved control methods for animal influenza outbreaks for the benefit of both human and animal health. See our research roadmaps below.

Information

- STAR IDAZ summer newsletter 2024
  In response to the increasing outbreaks of High Pathogenicity Avian Influenza (HPAI) in mammals, STAR IDAZ partners have conducted extensive research and surveillance to enhance prevention and management of the outbreaks. For more information, see pg. 10-12
- WOAH epidemiological updates
  Epidemiological updates from the World Organisation for Animal Health (WOAH) on avian influenza
- Annual state-of-the-art report on animal health research on IRC priorities
  A partial list of partner projects on influenza can be found in the STAR IDAZ annual state-of-the-art report

Working group

Influenza Working Group

STAR IDAZ engaged more than 60 international experts, including members of the OFFLU network, in a series of workshops to identify research gaps and develop research roadmaps for influenza.

Key People

Munir Iqbal
The Pirbright Institute United Kingdom

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Friedrich-Loeffler-Institut Germany

Ann Cullinane
Irish Equine Centre Ireland

Thijs Keiken
Erasmus University Medical Center Netherlands

Zoltan Penzes
Ceva Santé Animale Hungary

Kristen Van Reeth
Ghent University Belgium

Marta Barral
Basque Institute for Agricultural Research & Development (NEIKER) Spain

Dario Zammerini
IDEXX Italy

Ian Brown
The Pirbright Institute United Kingdom

Peter Wijnan
Private Veterinarian Netherlands

Gwenaëlle Dauphin
Ceva Santé Animale France

Mathias Voss
Lohmann Breeders Germany

Ash Banyard
Animal and Plant Health Agency United Kingdom

Paul Digard
The Roslin Institute United Kingdom

Daniel Perez
University of Georgia United States

Julie Gauthier
Animal & Plant Health Inspection Service United States

David Swayne
Southeast Poultry Research Laboratory United States

Celia Abolnik
University of Pretoria Faculty of Veterinary Science South Africa

Youn-Jeong Lee
Animal and Plant Quarantine Agency Republic of Korea

Carol Cardona
University of Minnesota United States

Marie Culhane
University of Minnesota United States

Alan Young
Medgene United States

Taki Saito
National Institute of Animal Health Japan

David Suarez
Southeast Poultry Research Laboratory United States

Mustapha Oumouna
Médéa University Algeria

Lia Rotherham
ARC - Onderstepoort Veterinary Institute South Africa

Carl Heeder
Mountaire Farms United States

Folorunso Fasina
Food and Agriculture Organization of the United Nations Kenya

Rafiqul Islam
Bangladesh Agriculture University Bangladesh

Teguh Yodiantara Prajitno
Animal Health and Livestock Equipment Indonesia

Guillermo Zavala
Private Veterinarian United States

Gary Garcia
University of Mexico Mexico

Khaled Hussein
Almarai Company ® Saudi Arabia

Rabeh El-Shesheny
Human Link Egypt

Erik Karlsson
Institut Pasteur du Cambodge Cambodia

Manabu Nemoto
Equine Research Institute Japan

Dilmara Reischak
Ministry of Agriculture and Livestock Brazil

Louise Dufour-Zavala
Georgia Poultry Laboratory Network Georgia

Samatha Letsholo
Ministry of Agriculture Botswana

Kwang-Nyeong Lee
Animal and Plant Quarantine Agency Republic of Korea

Reports

Reports and outcomes from meetings and workshops



Executive summary, Gap Analysis

Executive summary of priority research needs: Influenza

Published 5th May, 2023

↓ DOWNLOAD



Workshops

Report of the STAR-IDAZ Workshops on Influenza Research Roadmap Development

Published 5th April, 2023

↓ DOWNLOAD



IRC, Report, Research review

2021 Animal Influenza Research Review

Published 3rd August, 2021

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

To support long-term research planning, STAR IDAZ IRC commissioned an Animal Influenza Research Review in 2021, in collaboration with USDA-ARS. This review synthesised global research progress since previous gap analyses by USDA, OFFLU, the EC, and WHO. Its findings informed a gap analysis workshop co–organized with USDA-ARS and held in June 2022 at the National Animal Disease Center in Ames, Iowa. Expert insights, current research, and countermeasure efficacy were used to identify critical knowledge gaps. These gaps formed the basis for the 2023 research roadmaps.

Three online workshops held on 30–31 January and 1 February 2023 focused on finalising research roadmaps for control strategies, diagnostics, and vaccine development. These roadmaps aim to guide research efforts toward areas of greatest need, improving preparedness and response to future outbreaks. The executive summary of priority research needs reflects the consortium's commitment to strategic influenza research.

- Roadmap for the development of disease control strategies for influenza — Published 22nd November, 2024
- Roadmap for the development of candidate vaccines for influenza — Published 21st November, 2024
- Roadmap for the development of diagnostic test for influenza — Published 6th November, 2024

Projects

Displaying **4** of **71** projects

VIEW ALL PROJECTS

Mechanisms of Candida albicans commensalism and pathogenicity

Planned Completion date: 01/05/2028

Source countries: United Kingdom

GPU compute cluster for structural biology and novel artificial intelligence approaches to study medically important viruses

Planned Completion date: 01/03/2026

Source countries: United Kingdom

Accelerating infectious disease modelling using general purpose GPUs

Planned Completion date: 01/03/2026

Source countries: United Kingdom

Control of T cell immunity by TNFRSF induced IKK-dependent inflammatory signalling pathways

Planned Completion date: 01/05/2030

Source countries: United Kingdom

Recent publications

Distinct influenza interfaces in cattle: repeated spillovers of highly pathogenic avian influenza A (H5N1) from wild birds and enzootic circulation of influenza D virus

Source: S Wang, K Gao, L Li, Y Chang, L Mao... - Frontiers in Cellular ..., 2026 - frontiersin.org

↓ DOWNLOAD

Dairy cows infected with influenza A (H5N1) reveals low infectious dose and transmission barriers

Source: C Lee, NN Tarbuck, HJ Cochran, BM Foreman... - Nature ..., 2026 - nature.com

↓ DOWNLOAD

Can H5N1 avian influenza in dairy cattle be contained in the US?

Source: JE Pekar, A Crespo-Bellido, P Lemey, AS Bowman... - Cell, 2026 - cell.com

Stability of influenza viruses in the milk of cows and sheep

Source: J Schafers, CJ Warren, J Yang... - Journal of General ..., 2026 - microbiologyresearch.org

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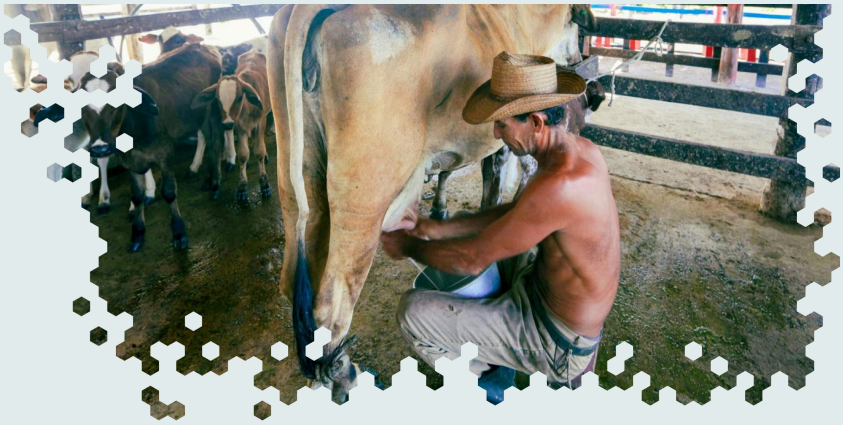
... Implications and Control Measures for Lumpy Skin Disease, Highly Pathogenic Avian Influenza, and Foot-and-Mouth Disease in European Livestock

Source: C Baptista, B de Leeuw, V Busin, J Van Hout-van Dijk... - Viruses, 2026 - mdpi.com

↓ DOWNLOAD

PRIORITY TOPIC 15

Mastitis



Bovine mastitis is an inflammation of the udder tissue in the mammary gland, typically caused by physical an infection, and is the most common disease leading to economic losses in dairy production.

Source: star-idaz.net/priority-topic/mastitis/

STAR IDAZ Approach

Mastitis, inflammation of the mammary gland is primarily caused by bacterial intramammary infection. For control we often rely on the use of antimicrobials. Mastitis has many potential causative agents, of which the most common are staphylococcal, streptococcal, coliform and Mycoplasma species. These agents may cause both subclinical and clinical infections, with major consequences for animal health, economic viability of dairy farms and animal welfare. As mastitis is the major component in antimicrobial usage on dairy farms, treatment with antimicrobials is an important One Health aspect of mastitis control in livestock, as some of these active ingredients are also used in human medicine.

STAR IDAZ IRC works along activities of the National Mastitis Council to set up and coordinate activities of the Mastitis Working Group.

Information

- DISCONTOOLS - Contagious agalactia
- DISCONTOOLS - Environmental Mastitis
- NMC factsheets
- DISCONTOOLS - Staphylococcus Aureus

Working group

The National Mastitis Council

The National Mastitis Council is a not-for-profit professional organization devoted to reducing mastitis and enhancing milk quality. The NMC promotes research and provides information to the dairy industry on udder health, milking management, milk quality, and milk safety. Founded in 1961, NMC now has about 1,100 members in more than 40 countries throughout the world. The NMC is headquartered in Minnesota.

Key People

Fernando Nogueira Souza
Federal University of Alagaos, University of São Paulo Brazil

Vinicius da Silva Duarte
Norwegian University of Life Sciences Norway

Luís Melo
University of Minho Portugal

Orla Keane
Teagasc Ireland

Ruth Zadoks
University of Sydney Australia

Sofie Piepers
Mexcellence Belgium

Sarne De Vliegher
Ghent University Belgium

Gilles Foucras
Ecole Nationale Vétérinaire Toulouse France

Karlien Supré
Kreavet Belgium

Reports

Reports and outcomes from meetings and workshops



Workshops

Short Summary of the Workshop on Bovine Mastitis Gap Analysis

Published 6th November, 2024

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

A first workshop to initiate research roadmaps was held as a short course during the National Mastitis Regional Meeting in Ghent in August 2024. It brought together experts to identify priorities and knowledge gaps, and its outcomes laid the groundwork for developing the mastitis research roadmaps. In this workshop, mastitis vaccination was seen as a priority and the subject of further discussion.

After the workshop, additional external experts were consulted, and the mastitis vaccination roadmap is being finalised in 2026.

Projects

Displaying **4** of **44** projects

VIEW ALL PROJECTS

ACCED – Animal Centred Controlled Environment for Dairy

Planned Completion date: 01/03/2025

Source countries: United Kingdom

Queen's University of Belfast and Provita Eurotech Limited KTP 23_24 R6

Planned Completion date: 01/10/2028

Source countries: United Kingdom

Dissecting Bacterial Abscess Formation for Vaccine Design

Planned Completion date: 01/05/2028

Source countries: United Kingdom

Advancing knowledge of non-aureus Staphylococci epidemiology in dairy cattle: species and strain typing matters

Planned Completion date: 01/01/2024

Source countries: United States

Recent publications

Epigenetic and Epitranscriptomic Regulation of Mastitis in Dairy Cattle: A Review

Source: S Wu, M Tharwat, IF Halawani, FM Alzahrani... - Veterinary ..., 2026 - mdpi.com

↓ DOWNLOAD

Photobiomodulation of the mammary gland for the treatment of mastitis in dairy cattle

Source: P Sushil, H Madison, M Katelyn, N Rajesh - Animal Diseases, 2026 - Springer

↓ DOWNLOAD

A meta-analysis of prevalence of mastitis in dairy Cattle in Algeria

Source: B Mokhtar, B Fedoua, S Amina, E Abdelkader... - Tropical Animal Health ..., 2026 - Springer

Evaluation of tri-plate rapid on-farm culture system to make therapeutic decisions for mastitis cases in dairy cattle

Source: S Ahmed, J Ali Khan, M Avais, M Imran Rashid... - PLoS One, 2026 - journals.plos.org

↓ DOWNLOAD

Bovine mastitis epidemiology: Prevalence, risk factors, control program gaps and biosecurity recommendations to improve animal health in the Rwandan smallholder ...

Source: B Iraguha, MN Gasana, JPM Mpatswenumugabo - Plos one, 2026 - journals.plos.org

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PRIORITY TOPIC 16

Mycoplasmas including CBPP/CCPP



Mycoplasma species are responsible for several clinically important diseases of large and small ruminants, swine, and poultry. CBPP and CCPP, caused by mycoplasmas, remain poorly controlled.

Source: star-idaz.net/priority-topic/mycoplasmas-including-cbpp-ccpp/

STAR IDAZ Approach

Mycoplasma species are responsible for several clinically important diseases of large and small ruminants, swine, and poultry. The continuing spread of contagious bovine pleuropneumonia (CBPP), which is caused by Mycoplasma mycoides subsp mycoides, represents a real and immediate threat to livestock in sub-Saharan Africa, and there is the risk of the disease spreading to other countries. In addition, contagious caprine pleuropneumonia (CCPP), which affects small ruminants, remains poorly controlled in many areas of the world.

Following on from the publication of the 2023 Veterinary Mycoplasmas Research Report, STAR IDAZ IRC held some workshops in 2023 and 2024 on CBPP in association with USDA-ARS and ILRI. These mark the start of activity on mycoplasmas, CBPP and CCPP.

Information

- WOAH: Contagious bovine pleuropneumonia
- WOAH: Contagious caprine pleuropneumonia
- CABI Compendium: contagious bovine pleuropneumonia
- CABI Compendium: contagious caprine pleuropneumonia
- DISCONTOOLS Report: Contagious bovine pleuropneumonia
- CFSPH Technical Factsheet: Contagious bovine pleuropneumonia
- CFSPH Technical Factsheet: Contagious caprine pleuropneumonia
- Review and comprehensive analysis of knowledge, tools, and implementation gaps for the control of contagious bovine pleuropneumonia (Manso-Silván et al, 2025)

Working group

Mycoplasmas Working Group

A STAR IDAZ IRC Working Group has been created made up of experts who participated in the two CBPP workshops. The CBPP Working Group decided to start their activities with the production of a roadmap on CBPP vaccine development.

Key People

Vish Nene
STAR IDAZ IRC Scientific Committee
Kenya

Monicah Maichomo
KALRO Kenya

Hezron Wasonga
KALRO Kenya

Arlind Mara
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Jose Perez-Casal
University of Saskatchewan, VIDO
Canada

Massimo Scacchia
IZS Teramo Italy

Robin Nicholas
Consultant United Kingdom

Flavio Sacchini
IZS Teramo Italy

William Amanfu
Consultant Ghana

Musa Mulongo
ILRI Kenya

Elise Schieck
ILRI Kenya

Geoffrey Muuka
Ministry of Fisheries and Livestock
Zambia

Reports

Reports and outcomes from meetings and workshops

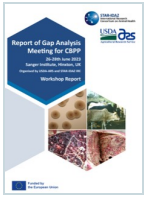


IRC, Report, Research review

2023 Veterinary Mycoplasmas Research Report

Published 10th July, 2023

↓ DOWNLOAD



Gap Analysis, IRC, Report, Workshops

Report of the Gap Analysis Meeting for CBPP

Published 27th September, 2023

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

A CBPP Gap Analysis Workshop was held in 2023. The report of the Gap Analysis Workshop is available. Following the Workshop the Working Group decided to focus on the CBPP vaccine development roadmap, and this has now been published.

- Research roadmap for contagious bovine pleuropneumonia (CBPP) vaccine development — Published 28th April, 2026

Projects

Displaying **4** of **3** projects

VIEW ALL PROJECTS

Collaborative project: Stressless examination for pathogens associated with bovine respiratory disease complex Stressless fUtuRE – subproject B (SURE)

Planned Completion date: 31/05/2024

Source countries: Denmark

Collaborative project: Stressless examination for pathogens associated with bovine respiratory disease complex Stressless fUtuRE – subproject A (SURE)

Planned Completion date: 31/05/2024

Source countries: Denmark

DIAGNOSTIC LABORATORIES AND ANIMAL HEALTH CONTROL OF UNIVERSITY HERDS

Planned Completion date: 03/02/2022

Source countries: United Kingdom

Recent publications

Antimicrobial practices for Mycoplasma infections in cattle: A survey of veterinary practitioners in light of current scientific evidence and national guidelines

Source: S Saudoyez, A Feberwee, J Bokma… - The Veterinary …, 2026 - Elsevier

↓ DOWNLOAD

Risk factors for post-calving intramammary infection with Mycoplasma spp. in first lactation cows on a conventional dairy farm: A retrospective case control …

Source: A Zapata-Salazar, M Wieland, FAL Yepes - JDS communications, 2026 - Elsevier

↓ DOWNLOAD

Inflammation markers are associated with small extracellular vesicle protein signatures in cows with Mycoplasma bovis

Source: MA Ross, E Maes, AVR Lake, J Pratt… - Frontiers in Veterinary …, 2026 - frontiersin.org

↓ DOWNLOAD

Identification of genes and mutations involved in antimicrobial low susceptibility in Mycoplasma bovirhinis isolates from Japan and development of a genetic method …

Source: E Hata - Microbiology Spectrum, 2026 - journals.asm.org

↓ DOWNLOAD

Bovine Respiratory Mycoplasmas and the Commensal–Pathogen Continuum: A Systematic Review of Vaccines and Diagnostic Approaches

Source: GM Werid, YM Ibrahim, AK Wubshet, JW Aleri… - Animals, 2026 - mdpi.com

↓ DOWNLOAD

PRIORITY TOPIC 17

One Health (including food-borne pathogens)



One Health is an integrated approach that recognizes the interconnectedness of human, animal, and environmental health to effectively prevent and manage global health challenges.

Source: star-idaz.net/priority-topic/one-health-including-food-borne-pathogens/

STAR IDAZ Approach

One Health recognises the interconnections between the health of humans, animals, plants and the environment, and the value of collaborative and interdisciplinary approaches to addressing complex health challenges. As an international consortium focused on animal health research coordination, STAR IDAZ promotes consideration of One Health approaches where these can strengthen research and disease control.

STAR IDAZ has undertaken dedicated work on the funding and coordination of research using a One Health approach, producing a series of reports exploring the global funding landscape, barriers to effective funding and practical opportunities to improve research coordination.

Information

- One Health Commission - One Health Tools and Toolkits
  These documents aid in health systems management, disease surveillance, research, learning, and much more. To help streamline awareness of and access to them, the One Health Commission has gathered tools and toolkits from across the web and presented them.

Working group

One Health Working Group

The STAR IDAZ One Health Working Group was established to explore how research funders could better support and integrate One Health approaches. Working with experts from across animal, human, plant and environmental health and the social sciences, the group examined the global One Health research funding landscape and identified opportunities to improve coordination and funding mechanisms.

The dedicated One Health Working Group is no longer active, having completed its programme of work. Its findings and recommendations remain available through the STAR IDAZ One Health reports and continue to inform the consortium's wider approach to research coordination.

Key People

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Reports

Reports and outcomes from meetings and workshops



Mapping One Health: An Exploration of the Global Funding Landscape for One Health Research

Published 28th August, 2024

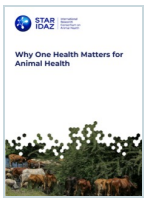
↓ DOWNLOAD



Investing in research with a One Health approach

Published 9th May, 2025

↓ DOWNLOAD



Why One Health Matters for Animal Health

Published 12th May, 2025

↓ DOWNLOAD



Report, Workshops

One Health funding workshop report

Published 4th June, 2025

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

STAR IDAZ's One Health work has focused particularly on improving the funding and coordination of research that uses integrated One Health approaches. The programme examined the global funding landscape, barriers to effective funding and opportunities to improve coordination between researchers, funders and other stakeholders. It highlighted challenges including fragmented governance and funding, short funding timeframes, limited flexibility and sustainability, and barriers to equitable participation. Recommendations include greater coordination between funders, longer-term and more flexible funding, co-creation of research, improved communication and greater consideration of sustainable financing mechanisms.

Projects

Displaying **4** of **28** projects

VIEW ALL PROJECTS

EU-JAMRAI 2 – Joint Action Antimicrobial Resistance and Health-care Associated Infections

Planned Completion date: 31/12/2027

Source countries: United Kingdom

IntelliRAS – Intelligent farming and health control in landbased recirculating aquaculture systems

Planned Completion date: 01/09/2024

Source countries: United Kingdom

Fish for Development in Ghana – Aquaculture

Planned Completion date: 31/12/2024

Source countries: United Kingdom

Phage-Driven Health: Undersøkelse av potensialet for å bruke bakteriofager i kampen mot patogener for å forbedre dyrehelsen og dyrevelferden i fjørfe

Planned Completion date: 31/12/2025

Source countries: United Kingdom

Recent publications

Foodborne disease burden in Sweden with a One Health perspective

Source: I Halawa, A Omazic, J Guo - iScience, 2026 - cell.com

↓ DOWNLOAD

One health, One crisis: Tackling India's alarming burden of food-borne pathogens and antimicrobial resistance at the human-animal interface

Source: N Taneja, J Mahindroo, C Narayan, V Modgil… - … of Infectious Diseases, 2026 - sljid.sljol.info

Fascioliasis and anisakidosis highlight the need for integrated One Health approaches to food safety and security

Source: A Chakroborty, S Shamsi - The Journal of Nutrition, 2026 - Elsevier

The efficacy of plant extracts against key food-borne pathogens: A mechanistic, applications, and advances

Source: SM Al Raish - Microorganisms, 2026 - mdpi.com

↓ DOWNLOAD

Emergence and Spread of Antimicrobial Resistance in Bacterial Food-Borne Pathogens

Source: AF Alsayeqh, AM Almuzaini - Volume: 32 Issue: 1 (January …, 2026 - vetdergikafkas.org

↓ DOWNLOAD

PRIORITY TOPIC 18

Porcine Reproductive & Respiratory Syndrome



Porcine reproductive and respiratory syndrome (PRRS) is a significant viral disease responsible for devastating economic losses to the swine industry.

Source: star-idaz.net/priority-topic/porcine-reproductive-respiratory-syndrome/

STAR IDAZ Approach

Porcine reproductive and respiratory syndrome (PRRS) is a viral disease characterized by two clinical presentations: reproductive impairment or failure in breeding animals, and respiratory disease in pigs of any age. PRRS is caused by a virus classified as a member of the genus Arterivirus. The disease causes significant problems and the virus is present in most pig producing countries in the world.
A vaccine exists and is effective. Commercial vaccines, both modified live and killed, have been used and they have been effective in controlling outbreaks and preventing economic losses. STAR IDAZ keeps ahead of the latest advancements in the PRRS field in readiness for future working group activity.

Information

- OIE Disease Information Summary: Porcine reproductive and respiratory syndrome
- DISCONTOOLS Report: PRRS

Working group

PRRS Working Group

In 2013 an expert group was formed on PRRS and conducted a research gap analysis. At this time STAR IDAZ collaborated with NAPRRS. No formal Working Group (WG) has since been established.

Key People

TBD
TBD Global

Reports

Reports and outcomes from meetings and workshops

None listed on the website.

Research roadmaps and gap analyses

Gap analysis summary

There is currently no active PRRS working group, however, thanks to previous gap analysis activities, a research roadmaps is available for the development of a candidate vaccine for PRRS.

- Roadmap for development of a candidate vaccine for PRRSV — Published 21st February, 2025

Projects

Displaying **4** of **20** projects VIEW ALL PROJECTS

Generating antibodies broadly neutralising porcine reproductive and respiratory syndrome virus (PRRSV)

Planned Completion date: 31/12/2025

Source countries: Denmark

Identification of interferon stimulated genes that control Toxoplasma in pig macrophages

Planned Completion date: 01/03/2026

Source countries: United Kingdom

Developing a complex in vitro airway model to study respiratory viral pathogenesis, lung macrophage function and herpesviral vaccine vectors in pigs

Planned Completion date: 01/04/2026

Source countries: United Kingdom

Immune responses induced by inactivated Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) vaccine in neonate pigs using different adjuvants

Planned Completion date: 01/02/2021

Source countries: Netherlands

Recent publications

Systematic review and meta-analysis on the diagnostic accuracy of various detection methods for porcine reproductive and respiratory syndrome virus

Source: W Zhang, T He, H Li, A Wu, X Li, Q Dong... - Porcine Health ..., 2026 - Springer

↓ DOWNLOAD

Current advances in recombinant porcine reproductive and respiratory syndrome virus vaccines in plants

Source: M Costantini, M Donini - The FEBS Journal, 2026 - Wiley Online Library

Porcine reproductive physiology.

Source: C Alarcón-Salazar, OF Prado-Rebolledo… - Scientia …, 2026 - openurl.ebsco.com

Comparative Epidemiology and Preparedness for African Swine Fever and Porcine Reproductive and Respiratory Syndrome in Four Major Asian Swine Industries

Source: TC Nguyen, N Pamornchainavakul… - Frontiers in Veterinary …, 2026 - frontiersin.org

↓ DOWNLOAD

Structural basis of porcine reproductive and respiratory syndrome virus 2 neutralization by a GP4-targeting monoclonal antibody

Source: B Veselkova, C Saikia, S Affeldt… - Journal of General …, 2026 - microbiologyresearch.org

↓ DOWNLOAD

PRIORITY TOPIC 19

Porcine Respiratory Disease Complex



A multifactorial syndrome affecting the respiratory system of pigs.

Source: star-idaz.net/priority-topic/porcine-respiratory-disease-complex/

STAR IDAZ Approach

Porcine respiratory disease complex (PRDC) is a multifactorial syndrome affecting the respiratory system of pigs in the swine industry. Environmental factors and management practices can trigger PRDC pathogens to cause severe health problems. The causative agents of PRDC include primary pathogens such as porcine reproductive and respiratory syndrome virus (PRRSV), porcine circovirus type 2 (PCV2), swine influenza A virus (IAV), Aujeszky's disease virus (ADV), as well as Mycoplasma hyopneumoniae and Actinobacillus pleuropneumoniae.

Information

- DISCONTOOLS Report: PCV II
- DISCONTOOLS Report: Swine Mycoplasmas
- AHPC datasheet: Mycoplasma hyopneumoniae infections
- AHPC datasheet: porcine circovirus infections
- Knowledge gaps in research and control of porcine circovirus 2 (PCV2) infections (Segalés et al, 2025)

Working group

No Active Working Group.

STAR IDAZ focuses on porcine respiratory disease complex (PRDC) by staying ahead of the latest research in the field to ensure that consideration is given to the impact of this global disease on the pig industry in readiness for future activities. However, there is currently no active working group.

Key People

TBD
TBD Global

Research roadmaps and gap analyses

Gap analysis summary

There is currently no active PRDC working group and no research roadmaps have been produced by STAR IDAZ IRC to date.

Projects

Displaying **4** of **14** projects VIEW ALL PROJECTS

In Vivo Evaluation of Avirulent Live B. Bronchiseptica Vaccine to Reduce PRDC Severity
Planned Completion date: 31/01/2025
Source countries: United States

Data-driven control and prioritisation of non-EU-regulated contagious animal diseases
Planned Completion date: 30/06/2026
Source countries: United Kingdom

PATHOGENESIS OF EXACERBATED PNEUMONIA IN PRRSV-BACTERIAL CO-INFECTIONS
Planned Completion date: 14/06/2022
Source countries: United Kingdom

PRRSV REGULATION FOR INFLAMMATORY MEDIATORS AND CLINICAL ATTENUATION DURING BACTERIAL CO-INFECTION
Planned Completion date: 14/06/2023
Source countries: United Kingdom

Recent publications

Large-scale landscape of porcine respiratory disease complex–associated pathogens in Spanish swine production
Source: G Chacón-Pérez, AI Pastor-Calonge... - The Veterinary ..., 2026 - Elsevier
↓ DOWNLOAD

Exploring definitions of porcine respiratory disease complex in the literature: a scoping review protocol
Source: B Garcia-Morante, M Rodrigues da Costa... - Frontiers in Veterinary ..., 2026 - frontiersin.org
↓ DOWNLOAD

Epidemiology of Major Bacterial Pathogens Associated with Porcine Respiratory Disease Complex: A Cross-Sectional Study from Intensive Swine Farms in ...
Source: Y Guo, Y Li, Z Wen, Y Liang, K Lian, P Zheng, Y Qu - Veterinary sciences, 2026 - mdpi.com
↓ DOWNLOAD

Exploring the functional microbiome of pigs within the porcine respiratory disease complex: viral-bacterial co-infections and virulence factor profiling

Source: A Panattoni, I De Boeck, S Wittouck… - Microbiology …, 2026 - journals.asm.org

↓ DOWNLOAD

Epidemiology of Major Bacterial Pathogens Associated with Porcine Respiratory Disease Complex: A Cross-Sectional Study from Intensive Swine Farms in Xinjiang ...

Source: G Yaqi, Y Li, W Zhenglong, Y Liang… - Veterinary …, 2026 - search.proquest.com

PRIORITY TOPIC 20

Poxviruses

A group of contagious viruses that primarily cause skin lesions, pustules, and other symptoms, affecting a wide range of species, including livestock and wildlife.

Source: star-idaz.net/priority-topic/pox-viruses/



STAR IDAZ Approach

Poxviruses are a group of viruses that cause contagious diseases in animals, leading to skin lesions, pustules, and other symptoms that can significantly impact animal health and productivity. These viruses affect a wide range of species, including livestock and wildlife, making them a concern for animal health worldwide.

STAR IDAZ IRC has initially focused on capripoxviruses. The geographic range of capripoxviruses has historically been largely confined to Africa, Asia and the Middle East. However, recent incursions into Europe, together with changes in vector distribution associated with climate change, are increasing the risk of further global spread. Recognising both their growing international threat and the need for a more coordinated research response, STAR IDAZ IRC activated its Capripoxvirus Working Group in early 2026 to assess the current evidence, identify important gaps in knowledge and help establish priorities for future research investment. A Capripoxvirus Scientific Symposium was held and the presentations are available on YouTube.

Information

- WOAH - Sheep and Goat Pox
- WOAH - Lumpy Skin Disease
- DISCONTOOLS - Sheep and Goat Pox
- CFSPH IASTATE - Contagious Ecthyma
- DISCONTOOLS - Lumpy Skin Disease
- DISCONTOOLS - Orthopox
- DISCONTOOLS - Parapox
- Capripoxvirus Scientific Symposium - Five Decades of Capripoxvirus infections in Nigeria - Adeyinka Adedeji
- Capripoxvirus Scientific Symposium - Global dynamics and WOAH's strategic initiatives - Waroonsiri Charoenlarp
- Capripoxvirus Scientific Symposium - Phylogenetic epidemiology of lumpy skin disease virus - Antoinette van Schalkwyk
- Capripoxvirus Scientific Symposium - Current situation of capripoxvirus diseases in India - Manjunatha Reddy

Working group

Poxvirus Working Group

In June 2026, STAR IDAZ IRC launched an online, global consultation which invited experts to give feedback on specific scientific knowledge or research gaps relating to the prevention, detection, and control of lumpy skin disease virus (LSDV), goatpox virus (GTPV), and sheeppox virus (SPPV). To build on the insights gathered by the online consultation, STAR IDAZ IRC in collaboration with the National Research Innovation Centre, Indonesia (BRIN), held an in-person gap analysis and prioritisation workshop. The capripoxvirus gap analysis workshop brought together 21 international experts from 15 countries across Africa and the Middle East, Asia and the Pacific, Europe, and the Americas, representing academia, government, research institutes, and international organisations. Participants included specialists in epidemiology, virology, vaccinology, immunology, disease control, diagnostics, One Health, and policy. Following a successful workshop, the expert group now seeks to develop key resources to support the scientific and funding community, including research roadmaps for the development of candidate vaccines, diagnostics tests, and integrated control strategies.

Key People

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Dejan Vidanović
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Jing Zhizhong
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Georgina Limon-Vega
Pirbright United Kingdom

Reports

Reports and outcomes from meetings and workshops



Strategic Research Agendas

European Animal Health Strategic Research Agenda: 2017 update

Published 2nd August, 2024

↓ DOWNLOAD



Research review

Capripoxvirus Research Review 2015-2026

Published 17th August, 2026

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

Three research roadmaps, one each for the development of candidate vaccines, diagnostics tests, and integrated control strategies, are currently being developed by the Capripoxvirus Expert Working Group. Following validation by the STAR IDAZ Scientific Committee, the roadmaps will be published on the STAR IDAZ website.

Projects

Displaying **4** of **12** projects

VIEW ALL PROJECTS

Viral DNA sensing by the non-homologous end joining machinery

Planned Completion date: 01/06/2028

Source countries: United Kingdom

Structural basis of monkeypox virus A41L and CrmB proteins' interaction with chemokines

Planned Completion date: 01/01/2026

Source countries: China

How MHC-I editing complexes shape the hierarchical immune response

Planned Completion date: 31/12/2024

Source countries: Europe

Modulation of the Ubiquitin Proteasome System During Multiple Stages of the Poxvirus Lifecycle

Planned Completion date: 31/08/2021

Source countries: Europe

Recent publications

Poxvirus antigenic proteins: from fundamental biology to translational applications

Source: S Pei, S Ali, S Ma, A Guo, P Tao - Animal Diseases, 2026 - Springer

↓ DOWNLOAD

Development and application of TaqMan qPCR assays for detecting monkeypox virus, lumpy skin disease virus, goatpox virus, fowlpox virus and swinepox ...

Source: L Li, X Wang, X Wang, T Yang, W Su, J Bi, Y Li, S Qi... - 2026 - pvj.com.pk

↓ DOWNLOAD

Sheep and Goat Pox

Source: H Esmaeili, SM Joghataei - Encyclopedia of Livestock Medicine for Large ..., 2026 - Springer

AI-enabled structural bioinformatics identifies repositioned kinase inhibitor against Poxviridae kinases

Source: V Racha, A Sinha, A Chengalvala, J Gupta... - Computers in Biology ..., 2026 - Elsevier

Lumpy Skin Disease Virus: Emerging Threat to Indian Cattle Health and Economy

Source: V Maurya, K Srivastava, D Kumari, R Singh - rebioinjournal.com

↓ DOWNLOAD

PRIORITY TOPIC 21

Vaccinology (tools and technologies)



Vaccinology is a field of microbiology and immunology covering vaccine development as well as the use of vaccines and their effects on animal health and public health

Source: star-idaz.net/priority-topic/vaccinology-tools-and-technologies/

STAR IDAZ Approach

The STAR IDAZ IRC roadmap for development of candidate vaccines outlines the key steps in developing candidate vaccines. The roadmap considers several common criteria that needs to be considered for all types of vaccine – safety, delivery route, delivery platform, and efficacy in a challenge model. The generic vaccine roadmap is then used to develop disease-specific roadmaps for the development of candidate vaccines, these can be found under the relevant priority topics.

Information

- The International Veterinary Vaccinology Network (IVVN)
- The Immunological Toolbox
- • WOAH Manual of Diagnostics Tests and Vaccines for Terrestrial Animals
- • Applications of platform technologies in veterinary vaccinology and the benefits for one health (Entrican, G. & Francis, M. 2022)
- • Opportunities and challenges for the adoption of novel platform technologies to develop veterinary bacterial vaccines (Entrican, G. et al. 2025)

Working group

International Veterinary Vaccinology Network (IVVN)

STAR IDAZ IRC links closely with the International Veterinary Vaccinology Network (IVVN) - a multidisciplinary vaccinology research and development community that aims to help collaboration between international researchers and stakeholders.

Key People

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International Livestock Research Institute (ILRI) Kenya

Gary Entrican
The Roslin Institute, The University of Edinburgh United Kingdom

Mike Francis
BioVacc Consulting Ltd United Kingdom

Reports

Reports and outcomes from meetings and workshops



IRC, Report

Global Veterinary Vaccinology Research and Innovation Landscape Survey Report

Published 20th June, 2022

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

The STAR IDAZ IRC roadmap for development of candidate vaccines outlines the key steps in developing candidate vaccines, based on a number of common criteria that need to be considered for all vaccine types.

The generic vaccine roadmap has been used to develop disease-specific vaccine roadmaps, these can be found under the relevant priority topics.

Following discussions within STAR IDAZ IRC on the importance of platform vaccine technologies, 'Applications of platform technologies in veterinary vaccinology and the benefits for One Health' (Entrican & Francis, 2022) was published in Vaccine, covering the key technological underpin vaccine design, defining vaccine platform technologies and setting the veterinary vaccinology and One Health context. In November 2023, a number of funders and networks came together to organize a vaccinology workshop at the 13th International Veterinary Immunology Symposium (IVIS) to discuss the opportunities and challenges for adopting novel platform technologies to develop next-generation vaccines against bacteria in veterinary species. 'Opportunities and challenges for the adoption of novel platform technologies to develop veterinary bacterial vaccines' (Entrican et al., 2025) summarised the presentations and discussions from the workshop.

- Roadmap for vaccine development — Published 9th May, 2025

Projects

Displaying **4** of **18** projects VIEW ALL PROJECTS

Vaccines, diagnosis and epidemiology for control and prevention of African swine fever (SE1520)

Planned Completion date: 31/12/2028

Source countries: UK

MucoProtect – Novel bio-mimicking nanocarriers for oral delivery of mucosal vaccines – protection at the first line of defence

Planned Completion date: 01/05/2019

Source countries: United Kingdom

MucoPath – mucosal pathogenesis and pathogens

Planned Completion date: 31/12/2016

Source countries: United Kingdom

Development of a plant expressed, protein-based subunit vaccine against Brucellosis

Planned Completion date: 30/11/2029

Source countries: South Africa

Recent publications

Artificial Intelligence-Driven Reverse Vaccinology and Immunoinformatics for Veterinary Vaccine Development Against Bacterial and Viral Pathogens: A Systematic ...

Source: HA Vo, A Kurniawan, BHA Villanueva... - Indian Journal of ..., 2026 - Springer

↓ DOWNLOAD

Bovine viral diarrhea virus and vaccine protection strategies

Source: X Hu, J Huang, Y Cai, W Zhang, Y Cheng - Veterinary Sciences, 2026 - mdpi.com

↓ DOWNLOAD

Design of a Multi-Epitope Vaccine Against Bovine Mastitis Using Reverse Vaccinology and Immunoinformatics Approaches

Source: A Venkatesh, P Suresh, R Kothandan - Next Research, 2026 - Elsevier

Modern Strategies for Brucellosis Vaccination: From Traditional Approaches to Innovative Platforms

Source: N Assanzhanova, K Zhugunissov, O Chervyakova... - Vaccines, 2026 - mdpi.com

↓ DOWNLOAD

Recombinant listeriolysin-O as a platform for next-generation vaccines: Mechanisms, immunological evidence, and translational applications in human and ...

Source: TJ Shihab, EH Yousif - Open Veterinary Journal, 2026 - pmc.ncbi.nlm.nih.gov

↓ DOWNLOAD

PRIORITY TOPIC 22

Vector Transmission and Control



Vector-borne diseases pose a significant threat to global animal and human health. Spread by vectors like mosquitoes and ticks, these diseases include zoonotic illnesses that cross the animal-human interface.

Source: star-idaz.net/priority-topic/vector-transmission-and-control/

STAR IDAZ Approach

Vector-borne diseases pose a significant risk to animal and human health worldwide. These diseases can be transmitted by various vectors such as mosquitoes, ticks, fleas, and flies, and can cause a range of illnesses, from mild to severe, including zoonotic diseases that can cross the animal-human interface. In recent years, there has been an increase in the incidence of vector-borne diseases, highlighting the need for effective control strategies.

Control strategies for vector-borne diseases can either target the pathogen or target transmission by the vector. Currently, STAR IDAZ IRC activity and the roadmap focuses on the need and methods for vector transmission control.

Information

- EFSA: Systematic literature review on the vector status of potential vector species of 36 vector-borne pathogens
- DISCONTOOLS Report on African Trypanosomiasis
- DISCONTOOLS Report on Bluetongue
- DISCONTOOLS Report on Crimean-Congo Haemorrhagic Fever
- DISCONTOOLS Report on Epizootic Haemorrhagic Disease
- DISCONTOOLS Report on Leishmaniasis
- • DISCONTOOLS Report on Rift Valley Fever
- DISCONTOOLS Report on West Nile Virus
- Questing for sustainable control of cattle ticks: bottlenecks in developing efficacious vaccines (de Miranda Santos et al, 2026)

Working group

VTC Working Group

Since 2018, international experts have convened to define the scope for a research roadmap on vector transmission control and develop the research roadmap. To develop the Vaccine Tranmission Control roadmap, a scientific gap analysis workshop to develop the roadmap and lead summaries was held in Weimar, Germany in March 2023 followed by a final review by the Scientific Committee leads in Nairobi, Kenya in June 2023. In June 2024, STAR IDAZ convened a workshop titled 'Shaping the Future of Livestock Tick Vaccines' in São Paulo, Brazil. The workshop fostered collaboration between researchers, funders and industry representatives, focused on mitigating the impact of ticks and tick-borne diseases on livestock health and productivity. A workshop report summarising the agenda and discussions is available under Reports. Building on these discussions, STAR IDAZ IRC experts published an opinion piece titled 'Questing for sustainable control of cattle ticks: bottlenecks in developing efficacious vaccines' (de Miranda Santos et al., 2026) in Trends in Parasitology.

Key People

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Reports

Reports and outcomes from meetings and workshops



Gap Analysis, Workshops

Heartwater: Potential Worldwide Threats for Livestock

Published 27th November, 2019

↓ DOWNLOAD

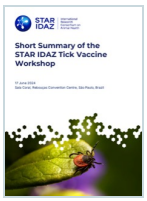


Executive summary

Executive Summary of Priority Research Needs for Vector Transmission Control

Published 14th February, 2025

↓ DOWNLOAD



Report, Workshops

Short Summary of the STAR IDAZ Tick Vaccine Workshop

Published 23rd April, 2025

↓ DOWNLOAD

Research roadmaps and gap analyses

Gap analysis summary

The generic roadmap for Vector Transmission Control considers the control of transmission through three routes;

1. Control of the host

2. Control through the vector

3. Looking at the vector ecology or biotope.

The generic roadmap can be used in conjunction with STAR IDAZ IRC roadmaps for specific vector-transmitted diseases.

- Roadmap for Vector Transmission Control (VTC) — Published 16th December, 2024

Projects

Displaying **4** of **20** projects

VIEW ALL PROJECTS

A randomized controlled trial of Tickoff® (Metarhizium anisopliae ICIPE 7) for control of tick infestations and transmission of tick-borne infections in extensively grazed zebu cattle in coastal Kenya

Planned Completion date: 01/01/2024

Source countries: Netherlands

Impact of cattle on the abundance of indoor and outdoor resting malaria vectors in southern Malawi

Planned Completion date: 26/08/2021

Source countries: Netherlands

Hotspots and super-spreaders:Modelling fine-scale malaria parasite transmission using mosquito flight behaviour

Planned Completion date: 06/07/2022

Source countries: Netherlands

Species identity, life history, and geographic distance influence gut bacterial communities in lab-reared and European field-collected Culicoides biting midges

Planned Completion date: 01/01/2021

Source countries: Netherlands

Recent publications

Integrating zooprophylaxis, insecticide-treated livestock and mosquito nets for malaria control: a One Health proposal

Source: GR Otolorin, OA Adegboye, CH Dishon… - Transactions of the …, 2026 - academic.oup.com

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Microbiota-immune crosstalk in livestock: implications for tick-borne disease control

Source: M Tonk-Rügen, T Schilling, A Cabezas-Cruz… - Frontiers in …, 2026 - frontiersin.org

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A Stochastic Model of East Coast Fever Incorporating a Wildlife–Livestock Interface

Source: M Chinyoka, G Muchatibaya, M Helikumi… - Mathematics, 2026 - mdpi.com

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Social–Ecological Factors Influencing Mosquito Presence in Livestock Areas: Implications for Vector Control

Source: A Santjaka, N Utomo, M Firdaust, F Ma'ruf… - Journal of Cultural …, 2026 - jcasc.com

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What are the vectors in European livestock farms? Case studies in Hungary and Spain

Source: C Girault, REL Paul, Q Narpon, C Del Alamo, R Sipos… - … & Vectors, 2026 - Springer

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Infrastructures and Databases to Facilitate R&D



Conducting scientific research requires significant research infrastructure, including facilities, resources and related services. The establishment of common databases, allowing for the sharing of knowledge and facilitating networking, is important to facilitate and accelerate R&D.

This chapter provides a list of significant infrastructures and databases relevant to the animal health sector.

ACDP - Australian Centre for Disease Preparedness

A high-containment animal research centre in Australia, part of the CSIRO, working globally to support animal and human health organizations and enhance biosecurity.

https://www.csiro.au/en/about/facilities-collections/acdp/acdps-global-role

ANIMUSE - ANImal antiMicrobial USE Enabling Data-Based Decision Making

WOAH's global database that tracks antibiotic use in animals, helping stakeholders report, access and analyse data to promote responsible antimicrobial use.

https://amu.woah.org/amu-system-portal/home

ARS Microbial Genomic Sequence Database (USDA)

Houses annotated genomic sequences of pathogens relevant to animal health, supporting the development of diagnostics and vaccines.

https://www.ars.usda.gov/research/programs-projects/microbial-genomics/

CAB Abstracts – CABI (Centre for Agriculture and Bioscience International)

A major bibliographic database covering international scientific literature on agriculture, veterinary sciences, animal production and health, including grey literature. It facilitates access to global research and trends in animal health.
https://www.cabidigitallibrary.org

Diagnostics for Animals (D4A) – List of Animal Health Diagnostics (LAHD)
Open database mapping commercially available veterinary diagnostic solutions by disease, target species, producer and test principle. It currently includes **over 3,500 diagnostic tests covering more than 260 diseases**, and is continuously updated by diagnostic manufacturers.

https://diagnosticsforanimals.com/

DISCONTOOLS - Disease Control Tools

An open-access database identifying research gaps in animal health, helping funders and researchers prioritize and plan future studies on over 50 infectious diseases.

http://www.DISCONTOOLS.eu/

EMPRES-i+ - Emergency Preventions System for Animal Health

An FAO web application supporting Veterinary Services by organising and accessing global disease data, aiming to control and eliminate serious livestock diseases.

https://empres-i.apps.fao.org/

ERINHA - European Research Infrastructure on Highly Pathogenic Agents

A pan-European infrastructure providing access to high containment facilities to accelerate research on high-risk pathogens and enhance outbreak preparedness.

https://erinha.eu/

EVAg - European Virus Archive global

A non-profit organisation offering a global collection of virus samples and reagents, facilitating scientific research, education and disease control.

https://www.european-virus-archive.com/

GLASS - GLobal Antimicrobial resistance and use Surveillance System

A WHO global database for surveillance of antibiotic use and antimicrobial resistance in human health, including environmental and food chain data.

https://www.who.int/initiatives/glass

GLEWS - FAO Global Information and Early Warning System on Food and Agriculture

Monitors global food security, issuing reports and warnings to help countries and development partners plan and respond to potential food crises.

http://www.fao.org/giews/en/

Global AMR R&D Hub - Global Antimicrobial Resistance Research and Development Hub

A collaboration hub for coordinating global antimicrobial research efforts, providing a dashboard with real-time data on AMR R&D initiatives and funding flows.

https://dashboard.globalamrhub.org/

ISIDORe II - Integrated Services for Infectious Disease Outbreak Research

Offers an integrated portfolio of research services and resources to study epidemic-prone pathogens, enhancing Europe's capacity for controlling infectious diseases.

https://isidore-project.eu/

The Immunological Toolbox

A platform for veterinary researchers to find reagents and collaborate, aiming to facilitate veterinary vaccine development by providing a comprehensive resource database.

https://www.ed.ac.uk/roslin/facilities-resources/immunological-toolbox

US NADC - National Animal Disease Center

One of the largest animal health research centres in the world, conducting research on animal diseases and serving as a reference laboratory for diagnostics and vaccines.

https://www.ars.usda.gov/midwest-area/ames/nadc/

VectorByte

The VectorByte initiative is establishing a global open access data platform to study disease vectors.

https://www.vectorbyte.org/

WAHIS - World Animal Health Information System

WOAH's global animal health database, reporting outbreaks of listed and emerging diseases, with interactive tools for data visualisation and extraction.

https://wahis.woah.org/#/home

International Initiatives Accelerating Research and Development Beyond STAR IDAZ IRC



Research and development (R&D) are fundamental for developing effective disease prevention and control tools, utilising existing knowledge, and mitigating disease impacts. Several initiatives have been launched at both regional and global levels to accelerate research and deliver timely solutions for emerging issues.

This chapter aims to provide a list of key network initiatives, funding opportunities and regulatory easing measures. These initiatives are designed to accelerate the delivery of R&D relevant to the animal health sector.

AgResults Brucellosis and FMD vaccine prizes

AgResults offers pay-for-results prize competitions to encourage innovative solutions for brucellosis control and foot-and-mouth disease through vaccination.

https://brucellosisvaccine.org/

https://www.galvmed.org/foot-and-mouth-project/

AREF - African Research Excellence Fund

AREF supports African researchers in addressing health challenges through capacity building and funding opportunities.

https://www.africaresearchexcellencefund.org.uk/

CaribVET - Caribbean Animal Health Network

CaribVET enhances animal health in the Caribbean through collaborative surveillance, diagnostics and research activities.

Caribbean animal health network (caribvet.net)

CEPI - Coalition for Epidemic Preparedness Innovations

CEPI is a global partnership working to accelerate the development of vaccines and other biologic countermeasures against epidemic and pandemic threats. Its principal mandate is human epidemic preparedness, but zoonotic pathogens, platform technologies and vaccine preparedness create significant animal–human health R&D interfaces.

http://cepi.net/

CWG AHW - Collaborative Working Group on European Animal Health and Welfare Research

CWG AHW coordinates animal health and welfare research efforts across Europe, fostering collaboration and innovation. It acts as the STAR IDAZ European Union Regional Network.

http://www.scar-cwg-ahw.org/

ECOHEALTH ALLIANCE

A global organisation focused on the intersection of wildlife, ecosystems and human health. It conducts research and implements strategies to prevent pandemics and promote environmental health.

https://www.ecohealthalliance.org/programs

GPP-TAD – FAO Global Partnership Programme for Transboundary Animal Diseases

Food and Agriculture Organization of the United Nations

A global, country-driven partnership bringing together governments, research organisations, financial institutions and other partners to strengthen prevention, preparedness and progressive control of transboundary animal diseases. It promotes coordinated investment and innovation in surveillance, early warning, disease control and emergency response.

https://www.fao.org/animal-health/our-programmes/fao-global-partnership-programme-for-transboundary-animal-diseases-(gpp-tad)/en

Global Health EDCTP – European & Developing Countries Clinical Trials Partnership

Global Health EDCTP3

While focused on human health, EDCTP supports research on zoonotic and poverty-related diseases, especially in sub-Saharan Africa. Its One Health-relevant research complements efforts in AMR, TB, and vector-borne diseases.

https://www.global-health-edctp3.europa.eu/

Global One Health Diagnostics Access Compact (GO-Dx)

GO-Dx

A global initiative launched in 2026 to expand equitable access to high-quality human and veterinary diagnostics and environmental surveillance. It brings together public and private partners to strengthen disease detection, surveillance,

antimicrobial stewardship and preparedness for emerging infectious diseases and AMR.

https://gdx-corp.com/

ERFAN II- Enhancing Research for Africa Network

ERFAN strengthens veterinary and animal health research capacities in Africa through collaborative projects and training.

https://www.izs.it/IZS/Cooperazione_1/IZSAM_in_Africa/ERFAN_-_Enhancing_Research_For_Africa_Network

ERRAZE@WUR - Early Recognition and Rapid Action in Zoonotic Emergencies

The WUR initiative aims to improve early detection and response to zoonotic disease outbreaks through research and innovation.

https://www.wur.nl/en/Research-Results/Research-programmes/Cross-WUR-programmes/ERRAZE-at-WUR.htm

EUPAHW - European Partnership on Animal Health and Welfare

EUPAHW fosters collaboration among European stakeholders to enhance animal health and welfare through research and policy.

European Partnership on Animal Health and Welfare - Home (eupahw.eu)

FIND: Foundation for Innovative New Diagnostics

FIND works to accelerate the development and delivery of accurate and affordable diagnostic tests for diseases of poverty.

https://www.finddx.org/

GALVmed - Global Alliance for Livestock Veterinary Medicines

GALVmed focuses on developing and delivering vaccines and medicines for livestock diseases in LMICs.

https://www.galvmed.org/

GARA - Global African Swine Fever Research Alliance

GARA coordinates international research efforts to control and prevent African swine fever through scientific collaboration.

https://www.ars.usda.gov/GARA/

GBADs- Global Burden of Animal Diseases

GBADS aims to quantify the global impact of animal diseases on economies, food security and public health to guide policy.

https://animalhealthmetrics.org/

Global Vector Hub

Global Vector Hub
The global open access community for vector control information and research

A comprehensive platform for vector control and research collaboration

The Global Vector Hub provides resources, data, and networking opportunities for vector control professionals worldwide.

https://globalvectorhub.tghn.org/

GFRA - Global Foot-and-mouth Research Alliance

GFRA promotes international research collaboration to control and eradicate foot-and-mouth disease globally.

https://www.ars.usda.gov/gfra/

GloPID-R - Global Research Collaboration for Infectious Disease Preparedness

GloPID-R coordinates research funding and activities to respond rapidly to infectious disease outbreaks worldwide.

https://www.glopid-r.org/

GOARN - Global Outbreak Alert and Response Network

GOARN unites institutions and networks to respond to disease outbreaks and public health emergencies globally.

https://goarn.who.int/

GRAbTB - Global Research Alliance for Bovine Tuberculosis

GRAbTB fosters international collaboration to advance research and control measures for bovine tuberculosis.

https://www.STAR IDAZ.net/global-research-alliance-for-bovine-tuberculosis-grabtb/

HERA Invest

HERA Invest supports the development and deployment of medical countermeasures for health emergencies in the EU.

https://health.ec.europa.eu/hera-invest_en

IHI - Innovative Health Initiative

IHI drives innovation in healthcare by funding collaborative projects that address major human health challenges in Europe.

https://www.ihi.europa.eu/

InnoVet-AMR - Innovative Veterinary Solutions for Antimicrobial Resistance

InnoVet-AMR supports the development of novel veterinary solutions to combat antimicrobial resistance globally.

https://www.idrc.ca/en/initiative/innovet-amr-innovative-veterinary-solutions-antimicrobial-resistance

IOM - The International Organization for Mycoplasmology

IOM advances research on mycoplasmas, fostering scientific exchange and collaboration among researchers worldwide.

http://iom-online.org/

IVVN - International Veterinary Vaccinology Network

IVVN supports the development of vaccines for livestock and zoonotic diseases through international collaboration and funding.

http://intvetvaccnet.co.uk/

LiHRA - Livestock Helminth Research Alliance

LiHRA is an international network of researchers to strengthen collaboration and expertise in livestock helminth research. It supports research and innovation on the control of gastrointestinal nematodes, liver fluke, and other parasitic infections affecting livestock.

LVIF - Livestock Vaccine Innovation Fund

LVIF invests in the development and commercialisation of vaccines to improve livestock health and productivity.

https://www.idrc.ca/en/initiative/livestock-vaccine-innovation-fund

OFFLU - WOAH/FAO Network of Expertise on Animal Influenza

OFFLU enhances global coordination and expertise on animal influenza, contributing to pandemic preparedness and response.

https://www.offlu.org/

One Health AMR partnership

The European Partnership on One Health Antimicrobial Resistance (EUP OHAMR) brings together 55 organisations from 30 countries in EU and beyond, providing joint support to research and innovation and mobilising to address the challenges of antimicrobial resistance (AMR) with a One Health approach.

https://ohamr.eu/about/about-eup-ohamr/

One Health EJP- European Joint Programme Co-fund on One Health

One Health EJP integrates efforts across human, animal and environmental health to tackle zoonotic diseases in Europe. The programme officially ended in 2023. Archive and outputs still accessible. https://onehealthejp.eu/

PANDORA - Pan-African Network for Rapid Research, Response and Preparedness for Infectious Diseases

PANDORA focuses on enhancing Africa's capacity for rapid response and research during infectious disease outbreaks.

https://www.pandora-id.net/

PREZODE - Preventing Zoonotic Disease Emergence

PREZODE aims to reduce the risk of zoonotic disease emergence through interdisciplinary research and international cooperation.

https://prezode.org/

UK-ICN: International Coronavirus Research and Innovation Network

UK-ICN fosters global collaboration on coronavirus research, aiming to accelerate the development of diagnostics, treatments and vaccines. The programme officially ended in 2025. Archive and outputs still accessible.

https://uk-icn.co.uk

VectorBite Research Coordination Network

VectorBite coordinates research efforts on vector biology, focusing on vector-host interactions and disease transmission dynamics.

https://vectorbite.org/about-rcn/

VectorNet

European network for sharing data on the geographic distribution of arthropod vectors. VectorNet facilitates data exchange on arthropod vectors, enhancing the understanding and control of vector-borne diseases in Europe.

https://ecdc.europa.eu/en/about-us/partnerships-and-networks/disease-and-laboratory-networks/vector-net

VetLAB: International Atomic Energy Agency's veterinary laboratory network

VetLAB enhances veterinary diagnostics and disease control through a global network of laboratories and technology transfer.

https://www.iaea.org/services/networks/vetlab

WHO R&D Blueprint

The WHO R&D Blueprint aims to fast-track the availability of effective tests, vaccines and medicines during epidemics.

http://www.who.int/blueprint/en/

WOAH Reference Laboratories Network

This network supports global animal health through standardised diagnostics, proficiency testing and disease surveillance.

https://www.woah.org/en/what-we-offer/expertise-network/

ZODIAC - Zoonotic Disease Integrated Action

ZODIAC focuses on early detection and control of zoonotic diseases, leveraging nuclear and nuclear-derived techniques.

https://www.iaea.org/services/zodiac