



Animal Health Ireland

Annual Report

21²⁰



www.AnimalHealthIreland.ie



AHI gratefully acknowledges the financial and other contributions of our stakeholders.



Contributing to a profitable and sustainable farming and agri-food sector through improved animal health

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Animal Health Ireland

Annual Report 2021

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Chair's Report



James Lynch, Chair, Animal Health Ireland

The annual report provides an opportunity to reflect on the activities of Animal Health Ireland over the past year. I would like to acknowledge the good work delivered across all the AHl programmes, BVD, Beef HealthCheck, CellCheck, Irish Johne's Control Programme, Pig HealthCheck, IBR, Parasite Control and CalfCare during such a challenging year due to Covid.

With regard to BVD, in excess of 2.43M calves were born in 2021 and at the year-end we had a positive or inclusive rate of 0.03% of calves, with the majority of counties around the country having no positive animals alive. While acknowledging some work remains to be done, we are now very quickly moving to the next phase of the programme where we are looking to the EU to begin the process of recognising the eradication of BVD through an official programme. After many years of hard work by farmers and industry, we have now reached such a milestone in this programme. Across all the other AHl programmes, significant work continues at a pace and you will see this when you read each of the reports.

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The annual report offers me the chance to thank those involved directly or indirectly in the work of AHl. I would like to thank David Graham for his leadership, vision and commitment, the Programme Managers, management and all the administrative staff in Carrick on Shannon for their continued hard work and dedication to their work. To the individual Technical Working Group members who give freely of their time and without payment, their work and involvement is vital to give scientific backing to all our programmes. To our Implementation Group members, you ensure our programmes are delivered independently and in the best interest for our industry. To DAFM, our stakeholders and members, your guidance and financial support is crucial and allows us to deliver the programmes you have entrusted us with. Finally, I would like to thank my fellow Board members for their continued support and help.



I cannot conclude my report without mentioning and giving recognition and sincere thanks to my predecessor, Mike Magan who retired as Chair in December. For his stewardship, leadership and hard work over the course of his tenure, we are indebted to you as our founding Chair. Mike can be very proud of what he has achieved and for me now, it is my intention to continue to build on Mike's great work. I believe this organisation has the capacity to further grow and develop to ensure the profitability and sustainability for Irish farmers and our Irish agricultural industry through continued improvements in animal health.

James Lynch,
Chair



CEO's Address



Dr David Graham CEO, Animal Health Ireland

Welcome to Animal Health Ireland's annual report for 2021. Despite the ongoing challenges presented by the continuation of the COVID pandemic, this was another year of continued activity and progress across a number of fronts, as described in detail in the updates provided by the various managers.

Our programmes and activities have taken place against a changing background in relation to both new legislation and drivers. From a legislative perspective, two new major pieces of EU legislation came forward in 2021. Firstly, the Animal Health Law (AHL; Regulation [EU] 2016/429) came into effect in April. For the first time, this provides the basis for the Commission to approve our national programme to eradicate BVD and for recognition of the eradication of BVD through an official programme. A series of Delegated and Implementing Regulations define the requirements for programme approval and eradication and the templates for applying for both. The BVD Implementation Group saw the potential and used the opportunity this new legislation provided, to have our programme approved in the first instance, and thereafter to have eradication officially recognised. This was also considered when agreeing enhanced programme measures for 2021 and beyond, with the benefits of these being seen in the further improvement of programme figures in 2022.

An application was submitted to the Commission in early 2022 for approval of the programme, with the goal of making an application for eradication in 2023. Thus far, Germany is the only other Member State to have made an application, with the majority of the country now recognised as free. The AHL also offers a number of alternatives for approval of a national eradication programme for IBR, and the requirements for freedom to be recognised. As described in the report on IBR, AHI have been using a specially-developed national model to compare these various options for Ireland.



Another important measure in 2021 for BVD, IBR and Johne's disease has been the continuation by DAFM of spring and autumn national bulk milk tank surveillance. Agreements are now in place to share the data with ICBF for targeted communication to herdowners. For BVD, this will start to contribute to post-eradication surveillance strategies; for IBR, to help herds understand their current status and how best to manage this, and for Johne's disease it will mean identifying herds at high risk of being infected and encouraging them into the programme.

The other key legislative change has been in preparation for the introduction of the Veterinary Medicinal Products Regulation (EU 2019/6). While not coming into force until January 2022, it has been a major focus during 2021, in preparation for the changes it will require in relation to antibiotic use. We see particular challenges for the dairy sector in terms of dry cow therapy (DCT) and the need to move to a selective DCT, and also for the pig sector where levels of usage are relatively high. Associated with the introduction of this legislation, DAFM has also indicated that the basis of provision of anthelmintic products will change in 2022, becoming available only through prescription.

Collectively, these changes have been a major focus for Animal Health Ireland, impacting on the work of CellCheck, Beef HealthCheck and the Parasite Control Technical Working Group.

More generally, this legislation highlights the increased significance of the sustainability agenda within our activities. While profitability (i.e. economic sustainability) has always been at the core of our programmes, increasing their contributions to social (particularly related to antimicrobial and anti-parasitic use) and environmental (Greenhouse gas emissions) sustainability are coming increasingly to the fore.

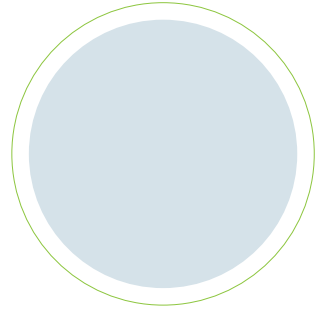
In response, AHI are making significant contributions to the Irish National Action Plans on antimicrobial resistance (*iNAP2*) and anti-parasitic resistance drawn up by DAFM-convened stakeholder groups, as well as undertaking research within the Beef HealthCheck programme to quantify the economic and environmental impacts of the recorded conditions. More generally, the contribution of a suite of our programmes to improving the efficiency of production in relation to GHG emissions per unit of output is recognised in a number of measures assigned to AHI within the government's Climate Action Plan (2021) that was published recently.

Finally, I would like to express my thanks to our stakeholders and members for their continued support, both financial and otherwise, without whom this work would not be possible; to the staff of AHI for their consistent dedication to the work of the organisation; and to the board of AHI for their continued guidance. I am sure that you will also join with me in thanking Mike Magan for his service to the organisation for more than a decade and in wishing James Lynch every success as he takes over as Chair.

David Graham,
CEO



About Us



THE COMPANY

Constituted as a Company Limited by Guarantee, AHI functions as a public-private partnership between private sector organisations and businesses in the agri-food sector and the Department of Agriculture, Food and the Marine. It is a not-for-profit organisation which receives no guaranteed income from the State; government funding is provided on the basis of strict matching with private sector contributions up to an agreed limit.

AHI provides benefits to livestock producers and processors by providing the knowledge, education and coordination required to establish effective control programmes for diseases of livestock which are not subject to international regulation.

THE BOARD

The Board of Animal Health Ireland comprises seven non-executive Directors. During 2021, the Directors of Animal Health Ireland were:

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| Director | Date of Appointment (Reappointment) | | |
|--------------------------|-------------------------------------|-----------------|-----------------------|
| Mike Magan | May 2009 | (December 2012) | Retired December 2021 |
| Seán Brady | March 2013 | (April 2016) | |
| Ivor Deverell | May 2020 | | |
| Michael Doherty | May 2009 | (April 2016) | Retired July 2021 |
| Róisín Hennerty | March 2019 | | |
| John Malone | March 2019 | | |
| Darran McKenna | October 2020 | | |
| James Lynch | October 2021 | | |
| Company Secretary | | | |
| Nuala Morgan | March 2010 | | |

THE MEMBERS

The Members are the various organisations that set the overall strategic direction of Animal Health Ireland and provide the necessary financial and other resources to enable the organisation to operate effectively.

As of the 31st December 2021, the following organisations were Stakeholders and/or Members in Animal Health Ireland (*indicates membership).

Farmer, Breeder And Livestock Organisations

Irish Cattle and Sheep Farmers' Association*
Irish Co-Operative Organisation Society*
Irish Creamery Milk Suppliers' Association*
Irish Farmers' Association*
Irish Holstein-Friesian Association*
Irish Livestock Exporters' Association*
Milk Quality Ireland
Macra na Feirme*
Pedigree Cattle Breeders' Council of Ireland*

Dairy and Beef Processors

ABP Food Group
Arrabawn Co-Operative Society Ltd*
Ashbourne Meats
Aurivo Co-Operative Society Ltd*
Carbery Group*
Centenary Thurles Co-Operative Society Ltd*
Dairygold Co-Operative Society Ltd*
Dawn Meats
Foyle Food Group
Glanbia Ireland*
Kepak
Kerry Agribusiness*
Kildare Chilling Company
Lakeland Dairies*
Liffey Meats
Meat Industry Ireland*
Mullinahone Co-Operative Society Ltd*
North Cork Co-Operative Society Ltd*
Slaney Foods
Strathroy Dairy Ltd*
Tipperary Co-Operative Society Ltd*

Government & State Agencies

Bord Bia*
Department of Agriculture, Food and the Marine* (DAFM)
Teagasc*

Professional, Advisory, Support Services

DAFM-Veterinary Laboratory Services*
ICBF*
Ornua
UCD*
Veterinary Ireland*

AI Companies

Dovea Genetics*
Eurogene AI Services*
Munster Bovine*
Progressive Genetics*



THE MANAGEMENT TEAM

| Member | Title |
|-------------------|---|
| David Graham | Chief Executive Officer |
| Nuala Morgan | Company Secretary |
| Jackie Dempsey | Administrator (BVD Programme) |
| Grainne Dwyer | Manager, Communications and Events |
| Finola McCoy | Programme Manager (CellCheck) |
| Nicola McKeon | Administrator (Johne's disease Programme) |
| Lisa Byrne | IT Systems Support/Operations |
| Maria Guelbenzu | Programme Manager (BVD & IBR) |
| Jonas Brock | PhD Student for IBR Programme |
| Natascha Meunier | Programme Manager (Beef HealthCheck) |
| Lawrence Gavey | Programme Manager (Johne's disease) |
| Carla Gomes | Programme Manager (Pig HealthCheck) |
| Michelle McGrath | Assistant Programme Manager (CellCheck) |
| Lisa Hyland | Financial Administrator |
| Jennifer O'Rourke | Administrator |
| Aoife Kelly | Laboratory Analyst (VLS, Backweston) |
| Oisín Morgan | Administrator |
| Alison Burrell | Health Psychologist |

TECHNICAL WORKING GROUPS (TWGs)

The Technical Working Groups (TWGs) comprise experts and experienced practitioners from a variety of fields who are tasked with drawing up factual resources, the development of decision-making tools, and the identification of areas for further Research and Development.

Furthermore, in areas where AHI is developing disease control and eradication programmes of national scope, the Technical Working Groups, in conjunction with the relevant Implementation Group (IG), are responsible for the development and implementation of these programmes. By giving of their time free of charge, these experts enable AHI to access the technical resources required to develop its various programmes at a fraction of the true economic cost of such expertise. Animal Health Ireland gratefully acknowledges the generosity of these individuals and that of their parent organisations and employers. As of 31st December, 2021, eight Technical Working Groups were operational.



Biosecurity Technical Working Group

2 meetings held during 2021

| Member | Title |
|--------------------------|---|
| John Mee (Chair) | Teagasc Research Centre, Moorepark |
| Lawrence Gavey | Animal Health Ireland |
| Alison Burrell | Animal Health Ireland |
| Stephen Conroy | Tully Bull Performance Centre, Kildare (ICBF) |
| Bosco Cowley | MSD Animal Health |
| Grainne Dwyer | Animal Health Ireland |
| Carla Gomes | Animal Health Ireland |
| Michael Houlihan | Bord Bia |
| Pat Kirwan | Highfield Veterinary Group, Wicklow |
| Conor McAloon | University College Dublin |
| John Moriarty | DAFM, Veterinary Laboratory Services |
| Luke O'Grady | University College Dublin |
| George Ramsbottom | Teagasc, Oakpark |
| Eoin Ryan | DAFM, Veterinary Laboratory Services |
| Michael F Sexton | Riverview Veterinary Hospital, Bandon |



BVD Technical Working Group

8 meetings held during 2021

| Member | Title |
|-------------------------------|--|
| Damien Barrett (Chair) | Department of Agriculture, Food and the Marine |
| Maria Guelbenzu | Animal Health Ireland |
| Jonas Brock | Animal Health Ireland |
| Emma Campbell | Agri-Food and Biosciences Institute, NI |
| Bosco Cowley | MSD Animal Health |
| Niamh Field | Teagasc Research Centre, Moorepark |
| David Graham | Animal Health Ireland |
| Elizabeth Lane | Department of Agriculture, Food and the Marine |
| Jose Maria Lozano | DAFM, Veterinary Laboratory Services |
| Michelle McGrath | Animal Health Ireland |
| Luke O'Grady | University College Dublin |
| Michael F Sexton | Riverview Veterinary Hospital, Bandon |
| Sharon Verner | Animal Health and Welfare NI |



About Us



CalfCare Technical Working Group

1 meeting held during 2021

| Member | Title |
|---------------------------|--|
| Catherine McAloon (Chair) | UCD Veterinary Hospital, Dublin |
| Michelle McGrath | Animal Health Ireland |
| Charles Chavasse | Zoetis Ireland |
| Muireann Conneely | Teagasc Research Centre, Moorepark |
| Christine Cummins | Bonanza Calf Nutrition |
| Grainne Dwyer | Animal Health Ireland |
| Bernadette Earley | Teagasc Research Centre, Grange |
| Tom Fallon | Teagasc, Kildalton |
| Liam Gannon | Volac Ireland |
| John Gilmore | Emlagh Lodge Veterinary Centre, Elphin |
| Ciara Hayes | DAFM, Veterinary Laboratory Services |
| Ian Hogan | DAFM, Veterinary Laboratory Services |
| Emer Kennedy | Teagasc Research Centre, Moorepark |
| Mark Little | Fane Valley Co-op, NI |
| John Mee | Teagasc Research Centre, Moorepark |
| Katie Tiernan | Trouw Nutrition Ireland |



CellCheck Technical Working Group

8 meetings held during 2021

| Member | Title |
|---------------------------|---|
| Simon More (Chair) | CVERA, University College Dublin |
| Finola McCoy | Animal Health Ireland |
| Michelle McGrath | Animal Health Ireland |
| Pablo Silva Bolona | Teagasc Research Centre, Moorepark |
| Willie Buckley | Riverview Veterinary Hospital, Bandon |
| Alison Burrell | Animal Health Ireland |
| Don Crowley | Teagasc, Clonakilty |
| Brendan Dillon | Glanbia Ireland |
| Kevin Downing | Irish Cattle Breeding Federation (ICBF) |
| Alan Johnson | DAFM, Veterinary Laboratory Services |
| Patrick Kelly | Irish Holstein-Friesian Association |
| Catherine McAloon | UCD Veterinary Hospital, Dublin |
| Padraig O'Connor | Teagasc, Grange |
| Luke O'Grady | University College Dublin |
| Frank O'Sullivan | Patrick Farrelly & Partners, Trim |
| Francis Quigley | Teagasc, Kildalton |
| George Ramsbottom | Teagasc, Oakpark |
| Eoin Ryan | UCD Veterinary Hospital, Dublin |
| John Upton | Teagasc Research Centre, Moorepark |



About Us



IBR Technical Working Group

5 meetings held during 2021

| Member | Title |
|----------------------|--|
| Michael Gunn (Chair) | Director of DAFM Laboratories (Retired) |
| Maria Guelbenzu | Animal Health Ireland |
| Jonas Brock | Animal Health Ireland |
| Emma Campbell | Agri-Food and Biosciences Institute, NI |
| Charles Chavasse | Zoetis Ireland |
| Stephen Conroy | Tully Bull Performance Centre, Kildare (ICBF) |
| Doreen Corridan | Munster Bovine |
| Bosco Cowley | MSD Animal Health |
| Laura Garza-Cuartero | DAFM, Veterinary Laboratory Services |
| Niamh Field | Teagasc Research Centre, Moorepark |
| David Graham | Animal Health Ireland |
| Elizabeth Lane | Department of Agriculture, Food and the Marine |
| Donal Lynch | Slieve Bloom Veterinary Limited, Tullamore |
| Michelle McGrath | Animal Health Ireland |
| Sam Strain | Animal Health and Welfare NI |
| Joris Somers | Glanbia Ireland |

Johne's Disease Technical Working Group

11 meetings held during 2021

| Member | Title |
|---------------------------|--|
| Simon More (Chair) | CVERA, University College Dublin |
| Lawrence Gavey | Animal Health Ireland |
| Colm Brady | DAFM, Veterinary Laboratory Services |
| Alison Burrell | Animal Health Ireland |
| Siobhán Corry | Agri-Food and Biosciences Institute, NI |
| Lindsey Drummond | Agri-Food & Biosciences Institute, NI |
| Niamh Field | Teagasc Research Centre, Moorepark |
| John Gilmore | Emlagh Lodge Veterinary Centre, Elphin |
| Margaret Good | Department of Agriculture, Food and the Marine (Retired) |
| David Graham | Animal Health Ireland |
| Aideen Kennedy | DAFM, Veterinary Laboratory Services |
| Elizabeth Lane | Department of Agriculture, Food and the Marine |
| Bryan Markey | University College Dublin |
| Conor McAloon | University College Dublin |
| Michelle McGrath | Animal Health Ireland |
| Ciaran Mellett | Smith & Foley, Kells |
| Peter Mullaney | Department of Agriculture, Food and the Marine (Retired) |
| Padraig O'Sullivan | Irish Cattle Breeding Federation (ICBF) |
| George Ramsbottom | Teagasc, Oakpark |
| Cosme Sanchez | DAFM, Veterinary Laboratory Services |
| Sam Strain | Animal Health and Welfare NI |



About Us



Parasite Control Technical Working Group

1 meeting held during 2021

| Member |
|------------------------------------|
| James O'Shaughnessy (Chair) |
| Natascha Meunier |
| Charles Chavasse |
| Bosco Cowley |
| Martin Danaher |
| John Gilmore |
| Fintan Graham |
| Ian Hogan |
| Orla Keane |
| Mark McGee |
| Grace Mulcahy |
| Mark Robinson |
| Maresa Sheehan |
| Bruce Thompson |
| Theo de Waal |
| Annetta Zintl |

Title

| |
|--|
| DAFM, Veterinary Laboratory Services |
| Animal Health Ireland |
| Zoetis Ireland |
| MSD Animal Health |
| Teagasc, Ashtown |
| Emlagh Lodge Veterinary Centre, Elphin |
| Mountrath Veterinary Centre, Mountrath |
| DAFM, Veterinary Laboratory Services |
| Teagasc Research Centre, Grange |
| Teagasc Research Centre, Grange |
| University College Dublin |
| Queen's University Belfast |
| DAFM, Veterinary Laboratory Services |
| Dairy Farmer, Laois |
| University College Dublin |
| University College Dublin |

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Pig HealthCheck Technical Working Group

6 meetings held during 2021

| Member |
|--------------------------------|
| Finola Leonard (Chair) |
| Carla Gomes |
| Abigail Armstrong |
| Julie Bolton |
| William Byrne |
| Bernadette Doyle |
| Edgar Garcia Manzanilla |
| Jimmy O'Connor |
| Keelin O'Driscoll |
| Paul Spillane |
| Margaret Wilson |

Title

| |
|--|
| University College Dublin |
| Animal Health Ireland |
| Department of Agriculture, Environment and Rural Affairs, NI |
| Department of Agriculture, Food and the Marine |
| DAFM, Veterinary Laboratory Services |
| Department of Agriculture, Food and the Marine |
| Teagasc Research Centre, Moorepark |
| Rosderra Irish Meats |
| Teagasc Research Centre, Moorepark |
| Moss Veterinary, Naas |
| DAFM, Veterinary Laboratory Services |



IMPLEMENTATION GROUPS

In conjunction with the relevant Technical Working Group, the Implementation Groups are responsible for the development, implementation and monitoring of major animal health programmes. Members of the Implementation Groups are drawn from the relevant AHI stakeholder organisations. Over the course of 2021, Implementation Groups for the BVD Eradication Programme, Johne's disease Control Programme, CellCheck, Pig HealthCheck and IBR were chaired by Dr David Graham. Further details of the Implementation Groups are available from the Animal Health Ireland Website.

BVD Implementation Group

10 meetings held during 2021

Animal Health Ireland

Department of Agriculture, Food and the Marine

Glanbia Ireland

Irish Cattle and Sheep Farmers' Association

Irish Cattle Breeding Federation

Irish Co-Operative Society

Irish Creamery Milk Suppliers' Association

Irish Farmers' Association

Irish Holstein Friesian Association

Pedigree Cattle Breeders' Council of Ireland

Teagasc

Veterinary Ireland



CellCheck Implementation Group

4 meetings held during 2021

Animal Health Ireland

Agricultural Consultants' Association

Arrabawn Co-Operative Society Ltd

Aurivo Co-Operative Society Ltd

Bord Bia

Carbery Group

Centenary Thurles Co-Operative Society Ltd

Dairygold Co-Operative Society Ltd

Department of Agriculture, Food and the Marine

Glanbia Ireland

Irish Co-Operative Society

Irish Cattle Breeding Federation

Irish Creamery Milk Suppliers' Association

Irish Farmers' Association

Milk Quality Ireland

Kerry Agribusiness

Lakeland Dairies

Munster Bovine

North Cork Co-Operative Society Ltd

Ornua

Progressive Genetics

Teagasc

Tipperary Co-Operative Society Ltd

University College Dublin

Veterinary Ireland



Johne's Disease Implementation Group

7 meetings held during 2021

| |
|--|
| ABP Ireland |
| Animal Health Ireland |
| Animal Health and Welfare NI |
| Arrabawn Co-Operative Society Ltd |
| Aurivo Co-Operative Society Ltd |
| Carbery Group |
| Centenary Thurles Co-Operative Society Ltd |
| Department of Agriculture, Food and the Marine |
| Dairygold Co-Operative Society Ltd |
| Glanbia Ireland |
| Irish Cattle Breeding Federation |
| Irish Cattle and Sheep Farmers' Association |
| Irish Co-Operative Organisation Society |
| Irish Creamery Milk Suppliers' Association |
| Irish Farmers' Association |
| Irish Holstein Friesian Association |
| Kerry Agribusiness |
| Lakeland Dairies |
| Meat Industry Ireland |
| Munster Bovine |
| North Cork Co-Operative Society Ltd |
| Ornua |
| Pedigree Cattle Breeders' Council of Ireland |
| Progressive Genetics |
| Strathroy Dairy Ltd |
| Teagasc |
| University College Dublin |
| Veterinary Ireland |



IBR Implementation Group

0 meetings held during 2021

| |
|--|
| Animal Health Ireland |
| Bord Bia |
| Department of Agriculture, Food and the Marine |
| Dovea Genetics |
| Eurogene AI Services |
| Irish Cattle Breeding Federation |
| Irish Cattle and Sheep Farmers' Association |
| Irish Co-Operative Organisation Society |
| Irish Creamery Milk Suppliers' Association |
| Irish Farmers' Association |
| Irish Holstein Friesian Association |
| Irish Live Exporters' Association |
| Kerry Agribusiness |
| Lakeland Dairies |
| Meat Industry Ireland |
| Milk Quality Ireland |
| Mullinahone Co-Operative Society Ltd |
| Munster Bovine |
| Pedigree Cattle Breeders' Council of Ireland |
| Progressive Genetics |
| Teagasc |
| Tipperary Co-Operative Society Ltd |
| Veterinary Ireland |





Pig HealthCheck Implementation Group

5 meetings held during 2021

Animal Health Ireland

Bord Bia

Department of Agriculture, Food and the Marine

Highfield Veterinary Group

Irish Cattle Breeding Federation

Irish Farmers' Association

Meat Industry Ireland

Rosderra Irish Meats

Staunton Foods Ltd.

Teagasc

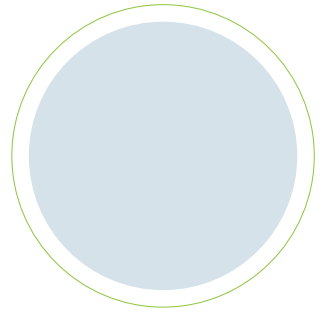
University College Dublin

Veterinary Ireland





AHI Corporate Governance



GENERAL MEETINGS OF MEMBERS

The Twelfth Annual General Meeting of the Company was held in the Mullingar Park Hotel, Mullingar on the 21st July. The financial statements for the year ended the 31st December 2020 and the report of the Directors and Auditors thereon were adopted. Gilroy Gannon were re-appointed as auditors.

BOARD MEETINGS

The Board met on five occasions in 2021 and the attendance of Directors at these meetings is summarised below.

| Member | Attendance | |
|-----------------------|------------|--------------------------|
| Mike Magan (Chairman) | 5 | (Retired December 2021) |
| Seán Brady | 5 | |
| Ivor Deverell | 5 | |
| Michael Doherty | 3 | (Retired July 2021) |
| Róisín Hennerty | 5 | |
| James Lynch | 1 | (Appointed October 2021) |
| John Malone | 5 | |
| Darran McKenna | 5 | |

COMMITTEES

The Audit, Finance & Risk Committee met twice during 2021 and the Remuneration Committee also met twice during 2021.



PERFORMANCE MONITORING

Detailed business plans are produced annually by AHI, following consultation with the Board, the Members, the Technical Working Groups and the Implementation Groups. Progress reports are provided to Members annually at the AGM and at least quarterly through the AHI Stakeholders' Newsletter, Programme Newsletters and Monthly News Sheets. Quarterly management accounts of the Company are available on request to Members. The Annual Report sets out in detail the extent to which the deliverables agreed at the start of the year have been achieved.

MEMORANDA OF UNDERSTANDING

Over the course of 2021, the Memoranda of Understanding between AHI and the organisations listed below were in force. These memoranda are available for inspection by Members upon request.

| Organisation | Date Of Entry Into Force |
|--|--------------------------|
| Department of Agriculture, Food and the Marine | 01/01/2021 |
| Irish Cattle Breeding Federation | 01/01/2020 |
| Joe Garahy | 01/01/2020 |
| Teagasc | 01/01/2021 |
| University College Dublin | 18/06/2012 |
| Animal Health and Welfare NI | 21/02/2018 |
| Agri-Food and Biosciences Institute | 22/09/2010 |
| Gaelink Design | 01/01/2021 |



Our Activities



Gráinne Dwyer • Events and Communications Manager

CALFCARE VIRTUAL WEEK

As Covid continued to impact on our lives during 2021, we continued to deliver our events and training virtually. This commenced with the CalfCare Virtual Week run in partnership with Teagasc which took place from Monday 18th to Thursday 21st of January. One benefit of delivering this event online was to allow us to provide a more comprehensive range of topics over the course of the four days. Events comprised of two live streamed webinars from Moorepark Research Centre, Fermoy (Monday 18th and Wednesday 20th), information videos, podcasts, in addition to on-line and print articles in the farming press. The target audience were primarily dairy and beef farmers (both suckler and calf rearers).

Nine new information videos were produced. Contributors were Teagasc dairy and beef specialists, AHI staff and members of the CalfCare Technical Working Group.

Calf management topics covered over the week included:

- Preparing for calving.
- Calf housing.
- 1,2,3, of colostrum management.
- Colostrum quality.
- Johne's disease control at calving.
- Vaccinating the pregnant cow.
- Diseases of young calves.
- Treating the scouring calf.
- Guidance on milk feeding.
- Introducing concentrate feeding into the diet of the young calf.

The CalfCare Virtual Week received considerable coverage in the farming media, with attendance and engagement at the two webinars very encouraging, with over 1,000 farmers, advisors and industry representatives attending.

CAVI

The CAVI conference was held on the weekend of the 15th of October in Galway. This was the first major in-person conference AHI attended since the pandemic began. Our Programme Managers attended and presented on topics including CellCheck and mastitis control, parasite control and IBR. We also had an information stand at the conference.

CELLCHECK VIRTUAL WEEK

The CellCheck Virtual Week ran from the 18th to 22nd of October. The CellCheck Virtual Week was a collaboration between the Dairy Co-ops, Animal Health Ireland and Teagasc. The topics covered addressed the main areas of mastitis control for the dry period, with a view to improving herd SCC and reducing antibiotic usage.

The four main areas covered were:

- How to best manage winter housing with a view to preventing and managing mastitis.
- Effective tubing of cows in the parlour and how to perfect the technique.
- The full benefits of milk recording and how to make the most of the data it provides.
- Promotion of the CellCheck Dry Cow Consult TASAH service.

A series of information videos and farmer interviews, or case studies, were developed. The main key message each day was distributed by the Co-ops via SMS, in addition to a link to the AHI website where ancillary or supporting materials were available. Social media channels were used to promote and highlight the daily messages also.

As part of the CellCheck Virtual Week, Finola McCoy and members of the CellCheck Technical Working Group were contributors to a series of three targeted 'Let's Talk Dairy Podcasts' facilitated by Teagasc on the key messages of the week.



CELLCHECK MILKING FOR QUALITY AWARDS

The CellCheck *Milking For Quality* Awards ceremony fell victim to Covid again this year. Similar to 2020, we announced the individual winners in each of the 16 Co-op regions with a special feature in the Irish Farmers' Journal on 9th of December. 15 of the 16 winners appeared with their families, Co-op representatives and a representative from AHL.

Apart from the individual winners, the Best 500 winners also received their plaques from their Co-op. The CellCheck *Milking For Quality* Awards have been running now for seven years, with this year's winners having an SCC of 73,300 cells/mL or less, compared to 103,000 cells/mL in 2014, the first year of the awards.





MILKING FOR QUALITY AWARD WINNERS 2021

| | |
|---|--|
| A | Arrabawn Co-op - Paul Kelly, Kilaltenagh, Co. Galway |
| B | Aurivo - Bernard, Maria and Noah Brennan, Liskeavy, Tuam, Co. Galway |
| C | Bandon Co-op - James and Anne Walsh, Enniskeane, Co. Cork |
| D | Barryroe Co-op - Jerry and Carmel Keohane, Clonakilty, Co. Cork |
| E | Boherbue Co-op - Eoin and Mary O'Riordan, Boherbue, Mallow, Co. Cork |
| F | Callan Co-op - Seán and Caroline Bogue, Callan, Co. Kilkenny |
| G | Centenary Thurles Co-op - Patrick, Mary and Philip Joyce, Templemore, Co. Tipperary |
| H | Dairygold Co-op - Tadhg O'Brien, Kilbehenny, Mitchelstown, Co. Cork |
| I | Drinagh Co-op - Richard and Narelle Jennings, Leap, Co. Cork |
| J | Glanbia Ireland - Shane and Aoife O'Rourke, Foulksmills, Co. Wexford |
| K | Kerry Agri - Michael O'Connor, Farranfore, Co. Kerry |
| L | Lakeland Dairies - Noelyn Moffett, Ballybay, Co. Monaghan |
| M | Lee Strand Co-op - Ivan Groves, Tralee, Co. Kerry |
| N | Lisavaird Co-op - Stephen Buttimer, Ballineen, Co. Cork |
| O | Tipperary Co-op - Martin Ryan, Michael and Eamon Slattery, Rossmore Co. Tipperary |
| | North Cork Co-op - John Murphy, Cullen, Mallow, Co. Cork, (no photo available) |

PIG HEALTHCHECK WEBINAR

An information webinar on the National Salmonella Control Programme was held on the 9th of November. Partnering with Teagasc and the IFA, we delivered a webinar that provided a background as to why controlling Salmonella is vital for the pig industry and highlighted and discussed some of the initiatives required to help farmers control it. National and International speakers participated with Harry van Veen from Saxony-Anhalt in Germany detailing his journey to controlling Salmonella on his farm.

AHI TRAINING

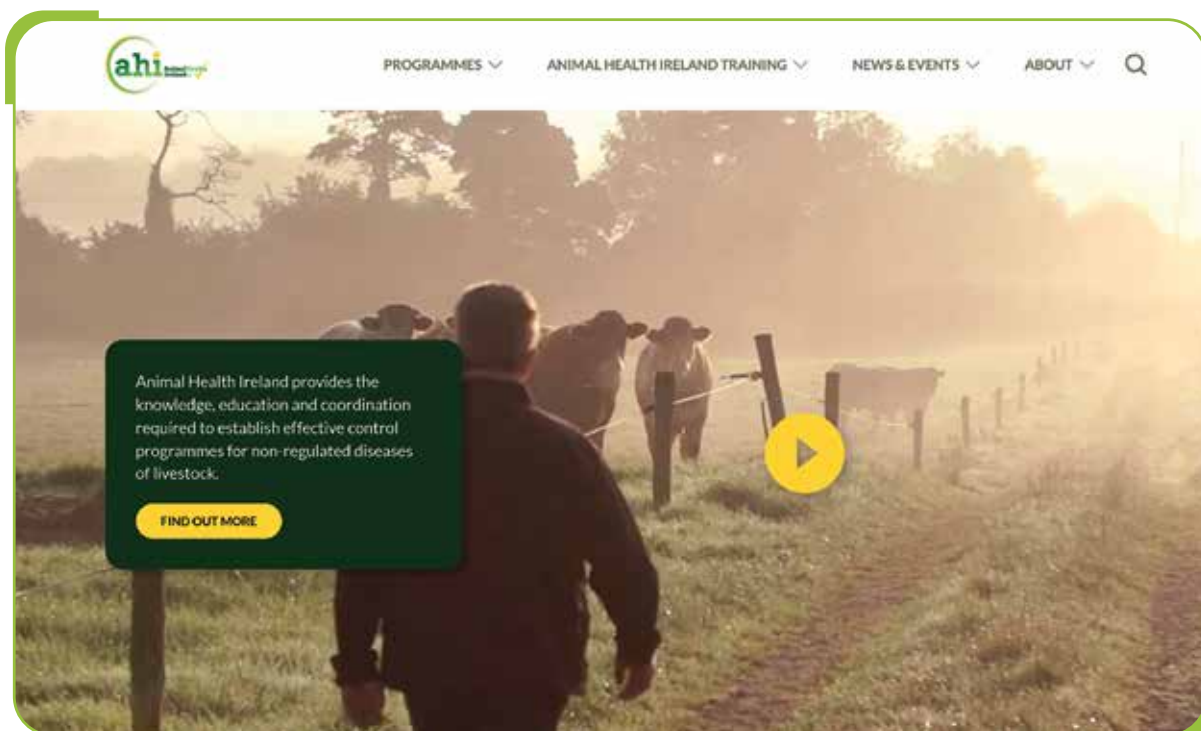
Under the Targeted Advisory Service on Animal Health (TASAH) we continued to deliver veterinary training relating to the following programmes: BVD; Pig HealthCheck (tail biting and biosecurity); CellCheck; TB; Johne's disease, parasite control and sheep. The Sheep TASAH training was part of a pilot TASAH programme and the training centred around parasite control and anthelmintic resistance.

Furthermore, we prepared a series of five videos, in collaboration with Veterinary Ireland and the Veterinary Council of Ireland, which formed part of CPD training for veterinary practitioners on parasite control covering the topics of: Irish parasites on the horizon; anthelmintic resistance and delaying its development; farm specific parasite control – best practice considerations for farm health planning; diagnostics and species and production system differences. Practitioners had to complete a MCQ to be eligible for their CPD credits.

In addition to our involvement in the TASAH training programme, we delivered other training mainly associated with the Irish Johne's Control Programme with two refresher AVP training webinars and Johne's disease VRAMP training for veterinary practitioners to become an Approved Veterinary Practitioner. This in-person training was held in Gurteen Agricultural College, Roscrea.

AHI WEBSITE

The decision was taken at the end of 2020 to update the Animal Health Ireland website. After several months of planning and development work, our new website went live on Friday 25th of June 2021. The fresh new-look website has enhanced searchability features and easier navigation to allow for greater access to information on our programmes and to our considerable bank of resources





PUBLICATIONS

AHI continues to produce a monthly News Sheet which incorporates the AHI bulletin, Johne's disease bulletin and CellCheck Tip of the Month. In addition, we produced a quarterly Stakeholders' Newsletter and a Beef HealthCheck Newsletter plus a yearly Pig HealthCheck Newsletter. During the year we contributed articles to the Irish Farmers' Journal, Veterinary Ireland Journal, It's Your Field, Farm Examiner and several of the on-line farm media.

NEW AHI INFORMATION LEAFLETS

As part of the development of our new website, we undertook the process of updating and individually producing the CellCheck Farm Guidelines in a user-friendly manner. The user can now download and print off individual guidelines where previously it was only possible per section. This work is in addition to the production of the following new information leaflets during 2021.

- CalfCare Housing Leaflet – New design.
- CalfCare Housing Leaflet – Existing shed design.
- Fact Sheet – The principles of milk testing as part of the Johne's disease programme.
- Fact Sheet – Diagnostic testing for Salmonella.
- Fact Sheet – Salmonella in pig production.
- Step by step guide to viewing data on the Pig HealthCheck database.
- Fact Sheet – Product listings available in Ireland for parasite control in cattle for veterinary practitioners.
- TB Checklist for farmers and veterinary practitioners in the TB pilot areas.
- Fact Sheet – 10 reasons to join the Irish Johne's Control Programme.
- Fact Sheet- How can I prevent new mastitis infections at drying off.
- Common problems at drying off – your questions answered.
- Winter Housing Checklist for Mastitis Control.
- Cysts in Sheep Carcasses at Slaughter.



National BVD Eradication Programme



Dr Maria Guelbenzu • Programme Manager

RESULTS

Since the beginning of 2021, animals with an initial positive or inconclusive BVD virus result that are not subject to re-test, or are negative on re-test at least 21 days later, are considered suspect. A confirmed case is considered persistently infected (PI) with BVD virus as defined by the OIE (OIE, 2021), having an initial positive or inconclusive result by PCR or antigen capture ELISA which is again positive or inconclusive on a subsequent test at least 21 days later and without a subsequent negative result. Over 2.43 million calves were born in 2021. As in previous years, a high level of compliance with the requirement to tissue tag test these calves was observed, with results available for over 99.3% of these calves. Only 0.03% of calves tested in the year had positive or inconclusive results (Figure 1), which when put in the context of all the animals in Ireland, the animal level prevalence is 0.01%. The prevalence of herds with a suspect or confirmed BVD case continued to decrease to only 0.51% of 83,000 breeding herds. When all herds are taken into account (circa 109k), the herd-level prevalence is 0.32%. At the end of the year only a handful of suspect animals remained alive (Figure 2), with many counties not containing any. Updated programme results are available on a weekly basis on the BVD section of the AHI website.

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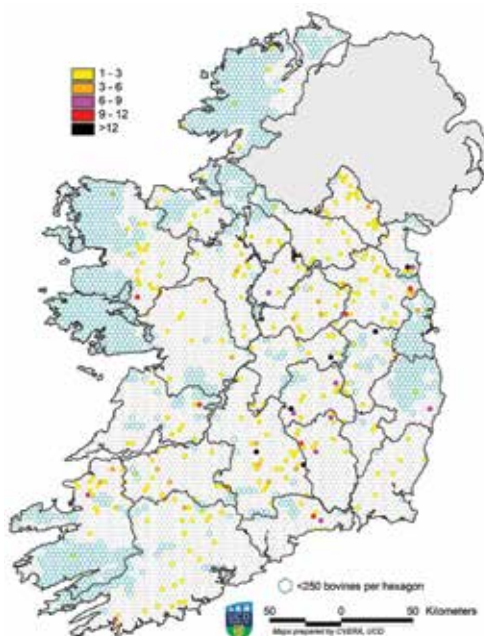


Figure 1. Map showing distribution of suspect or confirmed animals born in 2021 up to the 31st of December 2021. Each hexagon represents an area of approximately 10km².

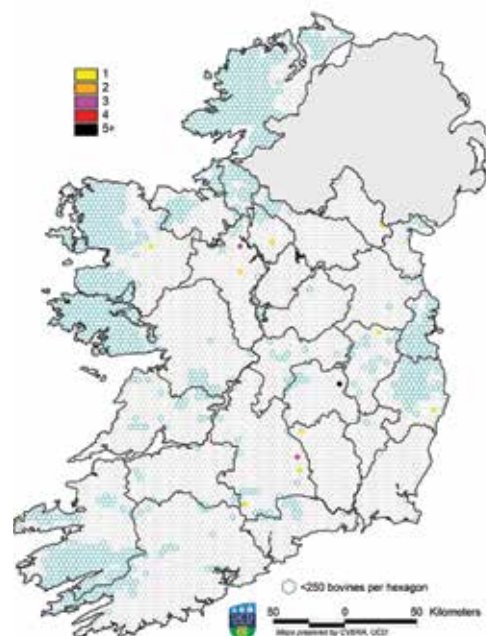


Figure 2. Map showing distribution of suspect animals alive at the 31st of December 2021. Each hexagon represents an area of approximately 10km².



A series of enhancements to the programme were introduced in 2021 in order to progress to eradication and to align the programme with the new European Animal Health Law (AHL). The AHL sets out the requirements for approval of national BVD eradication programmes at EU level for the first time, and the conditions that must be met for recognition of freedom under an approved programme. The conditions for freedom under the AHL include having negative herd status (NHS) for 99.8% of all herds (currently over 96% of breeding herds) representing at least 99.9% of cattle (currently 99.6%). To achieve this goal the BVD Implementation Group developed a series of enhanced measures that were first introduced in 2021 to:

- Maximise the proportion of herds (including non-breeding herds) with NHS.
- Rapidly identify and resolve the small number of herds with positive/inconclusive results and minimise the risk of onward transmission of infection.

For the majority of negative herds, the programme is similar to previous years. For herds where a positive or inconclusive result is disclosed, an immediate restriction of animal movements (as opposed to the situation previously where only retaining herds were restricted) for both moves in and out to reduce the risk of infected animals leaving the herd and spreading the virus. A series of requirements must be completed before the restriction may be lifted and these include an initial three-week period of herd restriction, beginning on the date of removal of the suspect animal, which will serve as a 'circuit-breaker' to allow circulation of any additional transient infections established by the suspect or confirmed animal(s) to diminish or cease. After this period, the restrictions are lifted following completion of each of the following three measures by a trained veterinary practitioner nominated by the herd owner: an epidemiological investigation, carrying out a full herd test, and vaccinating all female breeding animals. By the end of 2021, over 46,000 animals had been blood tested and close to 37,000 had been vaccinated.

The measures have had an impact in reducing the period from test to removal of positive calves when compared to previous years. Analysis of the time in days showed that in 2019 this took a median of 7 days whilst in 2020 it reduced to 6 days and in 2021 it was further reduced and took a median of 3 days. While this further improvement is encouraging, it is critical that calves are tested as soon as possible and that suspect or confirmed cases are removed without delay in order to deliver further progress in the programme.



NEGATIVE HERD STATUS (NHS)

Herds qualify for negative herd status (NHS) by meeting the following requirements:

- Existence of a negative BVD status for every animal currently in the herd (on the basis of either 'direct' or 'indirect' results).
- Absence of any suspect or confirmed animal(s) from the herd in the 18 months preceding the acquisition of NHS.

By the end of 2021, over 96% of herds had acquired NHS, with a further 2,900 only being ineligible due to the presence of a small number of untested animals. While an important programme milestone for any herd, NHS also brings with it an economic benefit, with the number of laboratories that use the RT-PCR test method offering testing at reduced costs to herds with NHS. See BVD designated laboratories on the BVD page of the AHI website.

The status of almost all animals (99.6%) in the 83,000 breeding herds in Ireland is now known, with the main exception being a decreasing number of animals born before the start of the compulsory programme in 2013 that have neither been tested nor produced a calf. At the end of 2021, after a number of phone calls by the BVD Helpdesk, the number of these animals was approximately 410. The majority of these animals are in beef herds.

Legislation was amended in May 2020 (Statutory Instrument No. 182/2020 (Bovine Viral Diarrhoea (amendment) Regulations 2020) making compulsory the testing of all cattle, including animals born before the 1st of January 2013, for the presence of BVD virus. This excludes female animals that have had one or more calves which have been tested for BVD.

The number of animals born since January 2013 that do not have a valid test result and are therefore not compliant with the requirements of the legislation has also reduced to 10,266 at the end of 2021. The majority of these have never been tested, while a small number have had an initial empty result and not been retested. Most of these animals are 2021-born (88%), with smaller numbers from preceding years. During the last year DAFM has issued letters to these herds and the BVD Helpdesk has also made contact, informing them of the need to test these animals.

Herdowners can check their herd's details in ICBF and find out the BVD status of all the animals in the herd by accessing their own account. A full guide is available from the Animal Health Ireland website. In addition, BVD data in ICBF can now be accessed from any mobile phone's browser as long as the username (herd number) and associated password are provided (www.bvd.icbf.com).





TARGETED ADVISORY SERVICE ON ANIMAL HEALTH (TASAH)

Since 2017 all herds with positive results are required to undergo an RDP-funded TASAH herd investigation by a trained veterinary practitioner. These investigations seek to review herd biosecurity, identify a plausible source or sources of infection, ensure that the herd is left free from BVDV and agree farm-specific measures to prevent its re-introduction. Investigations have now been completed for 321 herds that had positive results in 2021 (92% of positive herds). A small number have not been completed and these are now being contacted to progress the investigations.

KEY MESSAGES FOR 2022

In 2021, the Irish BVD programme was aligned with the new Animal Health Law (AHL). This legislation sets out the requirements for approval of BVD eradication programmes at EU level.

KEY MESSAGES FOR ALL HERDS IN 2022

Outlined below are key messages for all herds in 2022, with a focus on prompt testing of calves and increasing the proportion of herds with NHS by testing of animals of unknown status, including those born before the 1st of January 2013.

- Tissue tag testing remains compulsory for 2022.
- Tissue tag-test all calves as soon as possible after birth. Where positive or inconclusive results are obtained, remove these promptly to obtain the higher level of financial support provided by DAFM. Confirmatory testing of these animals is no longer permitted.
- Negative Herd Status. Herds will require to be free of confirmed cases for 18 months instead of 12 months, as previously. This change is necessary to align with the AHL.
- Test animals of unknown status to obtain NHS. Around 3% of herds contain small numbers of animals that either do not have a valid test result or have not yet produced a negative calf. The presence of these animals prevents herds attaining NHS and accessing lower cost testing. It is now a legal requirement to test animals of unknown status born before 2013, in addition to those born after this date.
- Review biosecurity to minimise the risk of accidental introduction of BVD virus, with a focus on movement of animals, people (including the farmer) or equipment or across farm boundaries.



KEY MESSAGES FOR HERDS WITH POSITIVE OR INCONCLUSIVE RESULTS

- Immediate herd restriction and neighbour notification. DAFM will restrict moves both in and out. While restricted, movements out of the herd to slaughter or to non-breeding herds may be granted on a case-by-case basis under permit by the RVO, provided that the animals move directly to their destination. Neighbouring herds will immediately receive a biosecurity notification informing them of their increased risk, and on a monthly basis thereafter in the absence of removal of animal(s) with positive or inconclusive results.
- Isolation and removal of all animals with an initial positive or inconclusive test result; re-testing of these animals is no longer permitted. Remove these promptly to obtain the higher level of financial support provided by DAFM.

BEEF HERDS

€220 for beef breed animals removed with a registered date of death on AIM within 10 days of the initial test, reducing to €30 if removed between 11 and 21 days after the initial test.

DAIRY HERDS

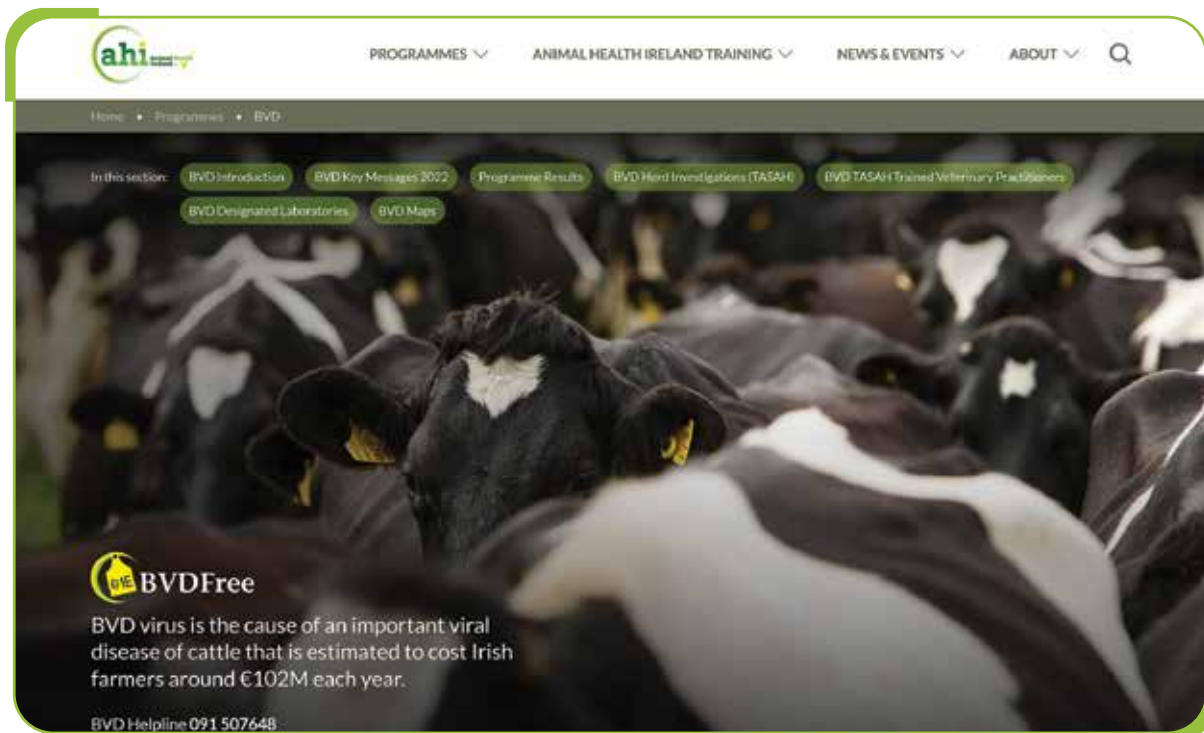
Dairy heifers and dairy cross animals: €160 if removed within 10 days of the initial test, reducing to €30 if removed between 11 and 21 days after the initial test.

€30 for removal of bull calves within 14 days of the initial test.

- Cleaning and disinfection of buildings and handling facilities which may have been contaminated, as soon as practicable but in advance of the next breeding season.
- Conditions for lifting of restrictions. These will be lifted following completion of each of the following three measures by a nominated trained private veterinary practitioner (PVP), beginning at least 3 weeks after removal of the animal with positive or inconclusive results, and fully funded by DAFM/RDP:
 - » Whole herd test: blood sampling and testing of all animals in the herd with negative results or removal of any further virus-positive or inconclusive animals identified.
 - » Epidemiological Investigation. Conducted under the Targeted Advisory Service on Animal Health (TASAH) within the Rural Development Programme.
 - » Vaccination of all female animals aged 12 months old and above by the nominated PVP.
- Continued herd measures. Following lifting of restrictions, herds are required to:
 - » Continue to tissue tag test for a minimum of 24 months after the removal of the last animal with positive or inconclusive results.
 - » Continue the vaccination programme in the herd in the following year, with this again delivered by the PVP and funded by DAFM.
 - » Not sell any potential trojan female i.e. that was in calf at the time of birth of the animals with positive or inconclusive results until its calf has been born and tested for BVD.

KEY MESSAGES FOR HERDS THAT HAD POSITIVE OR INCONCLUSIVE RESULTS IN 2021

Herds that had a positive or inconclusive result in 2021 are required to undertake a second round of DAFM-funded vaccination in 2022 of all female animals aged 12 months old and above. Reminders will be sent to the herd owners and their nominated veterinary practitioner.





National Mastitis Control Programme



Finola McCoy • Programme Manager

INDUSTRY-AGREED TARGETS FOR 2025

A consultation process was carried out in 2021 to facilitate the industry to agree appropriate udder-health and related targets for the CellCheck programme post-2020. This involved engaging with all stakeholders on a one-to-one basis, to gain their perspectives and opinions. Following further consideration by stakeholders within the Implementation group, the following series of industry-agreed targets for the CellCheck programme were identified.

SCC TARGET

- By 2025, 80% of milk supplied annually will have an SCC of 200,000 cells/mL or less.
- By 2025, 75% of milk supplied in T1 (January - April) will have an SCC of 200,000 cells/mL or less.

MILK RECORDING TARGET

- An increase of 15 percentage points per annum for 2 years, and 5 percentage points per annum thereafter, to achieve 90% of herds by 2025.
- Increase the average number of recordings per annum from 4.5 to 6, by 2025.

DATA COLLECTION TARGET

- 30% of dairy farmers recording mastitis treatments online by 2025.
- 75% of dairy farmers recording dry cow treatments online by 2025.

NATIONAL SOMATIC CELL COUNT (SCC) DATA COLLATION AND ANALYSIS

Analysis of the previous year's bulk tank SCC data (2021), collated by the Department of Agriculture, Food and Marine (DAFM) directly from each of the processors was carried out. Data is collected at 4 monthly intervals, with 8 months of data (January-August 2021) collated by year end. This dataset accounts for over 95% of the milk supplied in Ireland and is invaluable in monitoring the udder health of the national herd. The proportion of both herds and milk volume with an annual SCC <200,000 cells/mL for the first 8 months of 2021 was 68% and 70% respectively (Figure 3). The national average bulk tank SCC over the same period (January-August 2021) was 167,000 cells/mL (Figure 4).

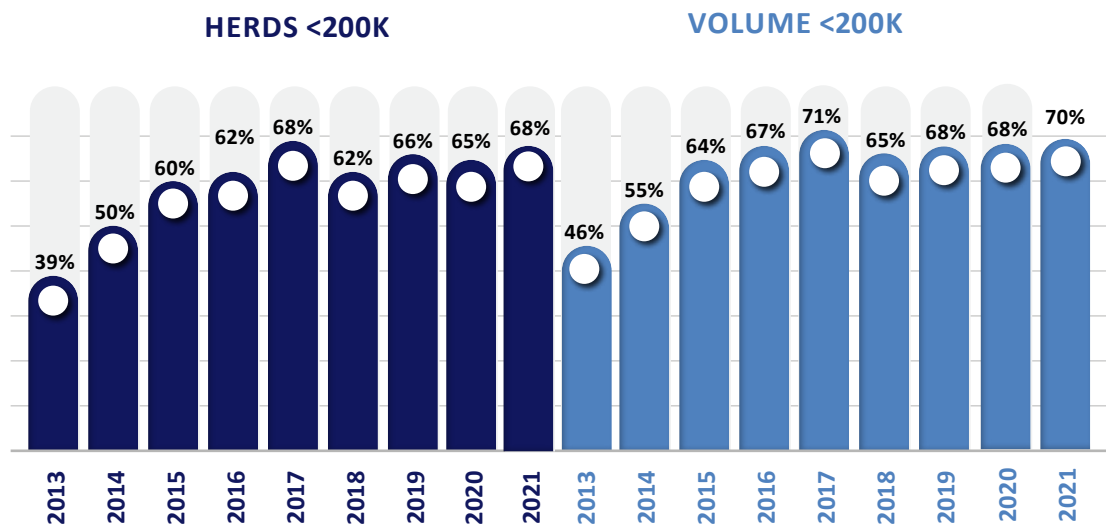


Figure 3. Annual proportion of herds/milk volume with an SCC <200,000 cells/mL.

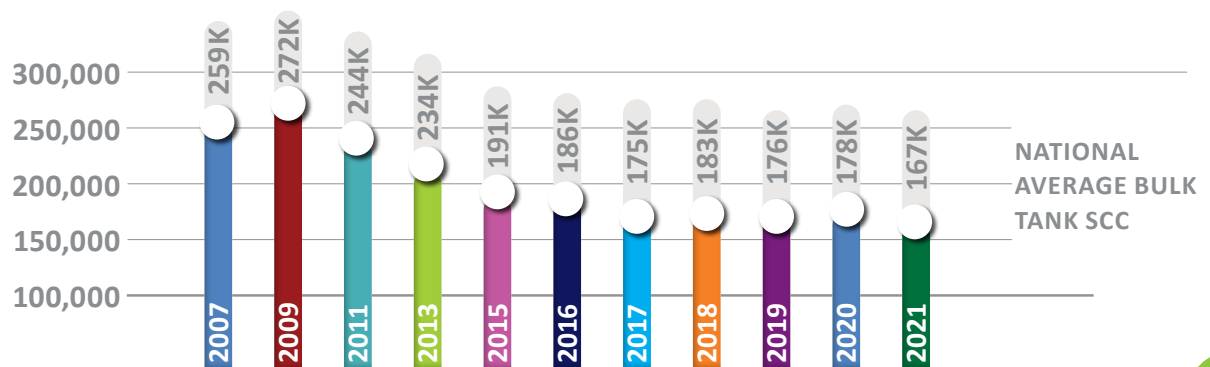


Figure 4. Annual average SCC (2007-2021).

CELLCHECK MILKING FOR QUALITY AWARDS

The annual CellCheck *Milking For Quality* Awards, now in their eighth year, were announced. These awards were based on the 2020 bulk SCC data collated by DAFM. The udder health standard of the winners continues to be outstanding, with all award winners this year with an SCC <73,500 cells/mL. As in 2020, the top winner from each of the 16 participating co-ops were featured in a 2-page spread in the Irish Farmer's Journal.





ANTIMICROBIAL USAGE (AMU) DATA

Findings from the analysis of the complete intramammary (IM) sales dataset for 2013-2019 were written up and following a robust peer-review process, were published in the Journal of Dairy Science. This dataset is estimated to represent 99% of all IM sales, comprising data sourced from Kynetec, as well as additional sales data from one manufacturer, and another four distributors of IM antimicrobials, whose sales data are not supplied directly to Kynetec.

This data collection process was completed for 2020 sales data, and detailed analysis delivered the following findings:

- Sales of lactating cow intramammary products in 2020 remain similar to previous years, at 0.44 DCDvet (Defined Course Dose) per cow per year.
- A significant increase in dry cow intramammary product sales in 2020, equivalent to a national dry cow coverage of 113% compared to 94% in 2019.
- An ongoing increase in the sales of HP-CIAs, both for dry cow and in-lactation therapy. For example, in 2020 compared to 2019, there was an increase to 13% (from 7%) in the percentage of in-lactation intramammary tubes containing at least one HP-CIA.

DRYING-OFF AWARENESS AND EDUCATION

An autumn education and awareness campaign, called the 'CellCheck Virtual Week', was developed and delivered in October by the TWG and IG and focused on maximising dry period outcomes. The topics covered during the week looked at main areas of mastitis control for the dry period with a view to improving herd SCC and reducing the need for antibiotic usage at this key time. Several new resources were developed for this week, including new video material, a FAQ page and a self-assessment tool, and all resources used during the week are available on the CellCheck page of the AHI website. The updated CellCheck Farm Guidelines for Mastitis Control are also available on the CellCheck page of the AHI website.

TASAH-FUNDED DRY COW CONSULTS

664 eligible applications for Dry Cow Consults and Reviews were received this year (388 Consults and 276 Reviews). Eligibility criteria for Consults remain the same as in previous years:

- Average bulk milk tank SCC for the last 12 months is <200,000 cells/mL.
- At least 4 whole herd milk recordings in the last 12 months.
- HerdPlus member.

Herdowners that previously completed a Dry Cow Consult were automatically entitled to apply for a Dry Cow Review. In preparation for this year's consults, an additional 9 training events were held around the country, bringing the number of CellCheck TASAH-trained PVPs nationally to over 400.



CELLCHECK PARTNER LABORATORIES

Throughout the year there has been ongoing work with DAFM, the Veterinary Laboratory Services (VLS) and the private laboratories (CellCheck Partner Labs), to explore how the private labs can be supported in the development and delivery of antimicrobial susceptibility testing (AST) services in Ireland. This is in support of *iNAP 2*, within which one of the activities is to develop a partnership of laboratories to address quality and capability in relation to culture and AST and data management. One of the first steps has been for DAFM to propose a core panel of antibiotics, based on science and the most recent international guidelines, for all private labs to use when carrying out AST on mastitis-causing pathogens.

ENGAGEMENT WITH MILK RECORDING SERVICES

Several meetings were facilitated between the milk recording organisations, DAFM and ICOS to explore some of the opportunities and challenges to increasing engagement with milk recording services in the future. Milk recording metrics are now being reported at each Implementation Group meeting. Full-year analysis shows that 49.7% of herds participated in recording in 2021, compared to 43.5% in 2020, with an average of 4.6 recordings over the lactation, compared to 4.5 in 2020. In 2021 30.6% and 68.7% of cows recorded had a recording within 30 and 60 days in milk respectively, compared to 26.2% and 56% in 2020.

KEY SUMMARY FOR 2021

- Proportion of herds and milk volume with SCC <200,000 cells/mL was 68% and 70% respectively for January to August 2021.
- Previous reduction in in-lactation mastitis treatments maintained in recent years.
- Increase in the number of dry cow antibiotic treatments sold, indicating 113% coverage of the national herd in 2020 compared to 94% in 2019.
- 13% of in-lactation antibiotic treatments sold in 2020 contained a HP-CIA, compared to 7% in 2019.
- Milk recording participation increased from 43.5% of herds in 2020 to 49.7% in 2021.
- Delivery of CellCheck Virtual Week.
- TASA Dry Cow Consult service:
 - » 9 veterinary training events.
 - » In excess of 240 trained Private Veterinary Practitioners (total).
 - » 660 eligible applications received from herdowners.



National IBR Eradication Programme



Dr Maria Guelbenzu • Programme Manager

During 2021, the IBR Technical Working Group activities have focused on the testing and assessment of different strategies for a national IBR programme. These strategies align with the requirements of the new Animal Health Law (AHL) Regulations which came into effect in April 2021. Therefore, the proposed programme would allow Ireland to seek and obtain approval of the programme at EU level and, with time, recognition of freedom. Reducing the prevalence of IBR nationally is one of the animal health measures under Action 5 (Further enhance animal health strategies to support climate ambitions and environmental sustainability through promotion of sustainable animal health and welfare practices and enhancing food safety and authenticity) of the AgClimatise Roadmap. In addition to contributing to environmental sustainability, reducing the prevalence of IBR will contribute to reducing antimicrobial usage and resistance (AMU, AMR) consistent with the goals of the Irish National Action Plan on AMR (iNAP2) and improve the profitability of the sector (economic sustainability). For example, an Irish study estimated a reduction of 250 litres in milk yield per cow per year in herds with a positive bulk tank milk result for IBR, which amounts to an annual cost of €62 million to the Irish dairy industry. Addressing IBR through an EU-approved programme would also facilitate both the export of animals to the increasing number of European countries with either approved IBR programmes, or recognised freedom, and the introduction of enhanced IBR requirements for animals coming into Ireland.





VACCINATION

A key tool for reducing prevalence in infected herds that will be central to an IBR programme is vaccination. It is encouraging to note that there has been a year on year increase in the number of doses sold in Ireland. During 2020, over 3 million IBR vaccine doses were sold (Figure 5), nearly 15% more than in the previous 12 months. However, in the absence of a formal programme, it will be necessary to continue this high level of expenditure on vaccination indefinitely.

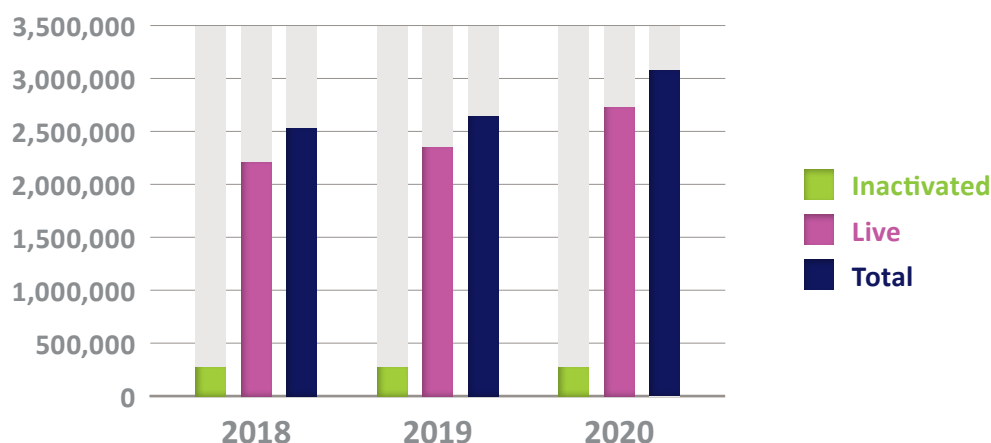


Figure 5. Doses of IBR vaccine sold in Ireland per year and vaccine type.

BULK MILK SURVEILLANCE

Since 2019, DAFM have undertaken national IBR surveillance of dairy herds using bulk tank milk samples, with two rounds of testing per year being undertaken each spring and autumn. The results from this testing will shortly be made available to herd owners through ICBF, with targeted messaging in advance of any decision on a national programme. This will encourage measures to reduce prevalence, consistent with one of the Animal Health Actions contained within the AgClimatise Roadmap. To gain a better understanding of the results available to date, and factors associated with being test-positive, a detailed analysis by the Centre for Veterinary Epidemiology and Risk Analysis (UCD) and Animal Health Ireland is under way.

MODELLING WORK

A DAFM-funded PhD student, Jonas Brock, based at the Helmholtz Centre for Environmental Research (Germany) has worked on the development of a national IBR model. One of the outputs, published during the first quarter of 2021, consisted of a new classification system for Irish herds that was developed as part of this work by combining expert knowledge and a machine-learning algorithm called self-organising-maps (SOMs) (Brock et al., 2021). This approach was applied to the cattle sector in Ireland, generating a detailed understanding of herd categories which will assist with on-going discussions on control and surveillance for both IBR and bovine viral diarrhoea (BVD). In total, seventeen herd categories were identified (Figure 6).

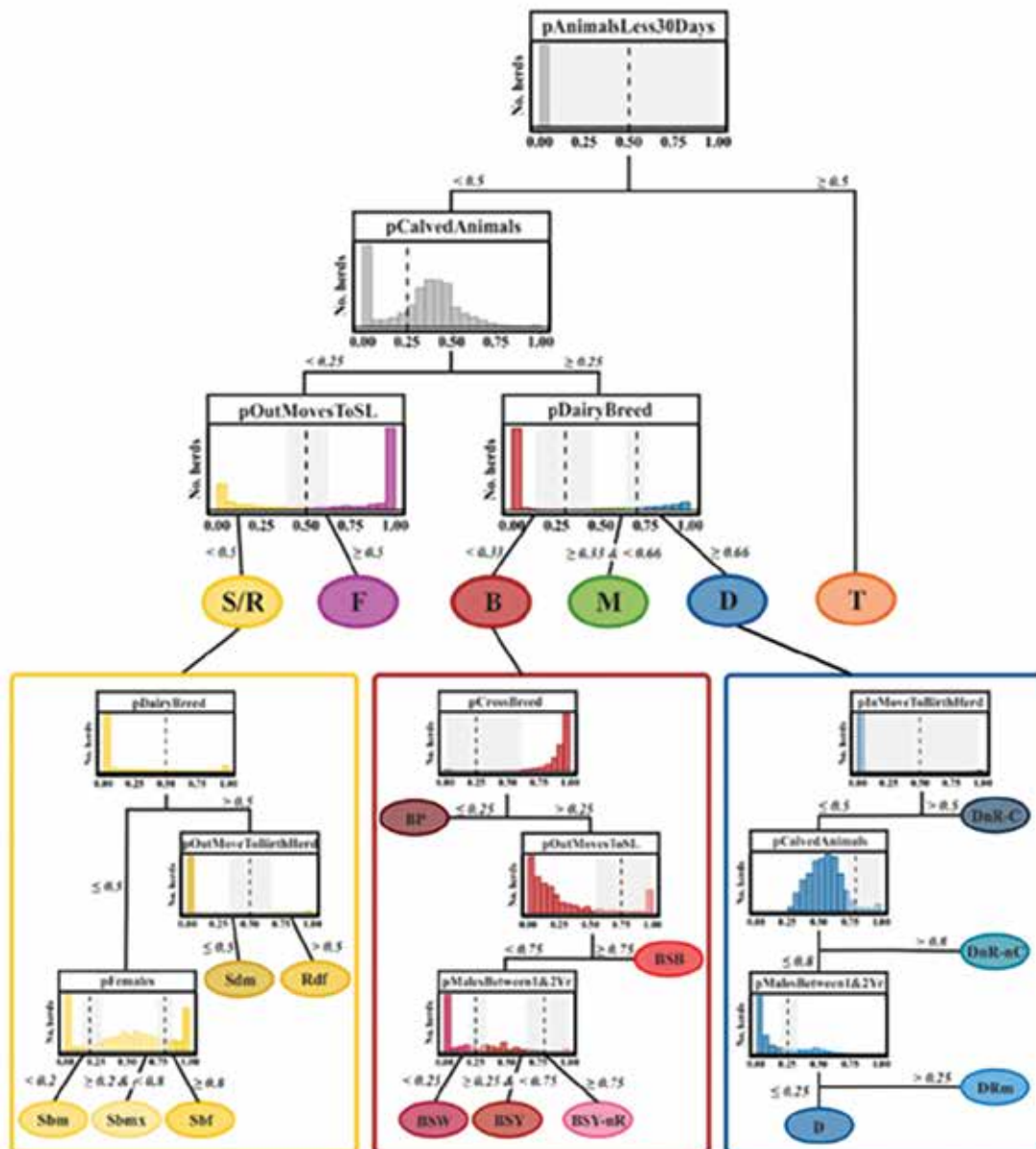


Figure 6. Decision tree for the classification of the Irish cattle sector. Histograms represent herds remaining at the respective node. Numbers and dashed line demarcate thresholds for class assignment. Main herd types: dairy (D), beef (B), mixed (M), store/rearing (S/R), fattening (F), and trading (T) herds. Dairy sub-types: dairy (D), dairy no rearing—contract (DnR-C), dairy no rearing—no contract (DnR-nC), dairy rearing male calves (DRm). Beef sub-types: beef pedigree (BP), beef suckling to weanlings (BSW), beef suckling to youngstock (BSY), beef suckling to youngstock—no rearing (BSY-nR), beef suckling to beef (BSB). Store/rearing sub-types: store dairy males (Sdm), store beef males (Sbm), Store beef females (Sbf), store beef mixed (SbmX), rearing dairy females (Rdf). The grey rectangles among the thresholds indicate the range in which the classification threshold would have to be moved in order to assign 10% of the herds classified in the respective step to the other class.

In addition, having demonstrated its representativeness of the national herd, a decision was made to evaluate a regional model of County Kerry which includes 5,000 farms and 360,000 animals. The model has been calibrated and now the process of simulating the spread of IBR in Kerry and identifying primary, latently infected, and naïve animals initiated, with the intention to progress the testing of different strategies and their effects on the success, duration and cost of such a programme.

To test that the model can indeed mirror what happens on the ground, plots were created to show the transport flows between herd types using different colors to represent the transport network both from observed data and the model (simulation) (Figure 7). The thickness of the arrows is a measure of the transport volume. It can be seen that the ratio of the transport flows between observed data and the simulation results is consistent, although some differences are observed in the transport behavior of Store herds.

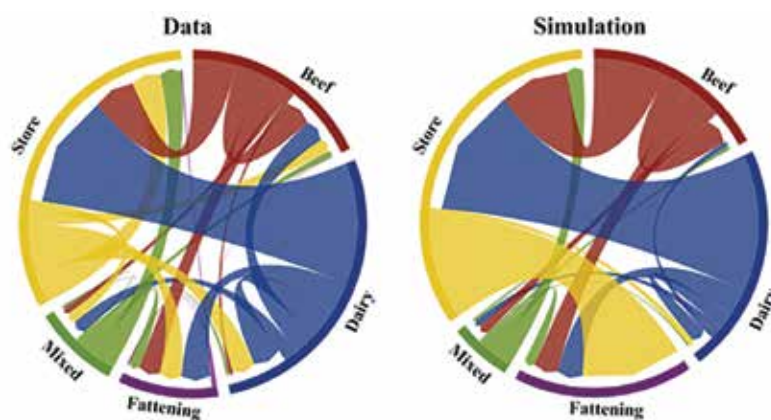


Figure 7. Comparison of observed (left) and simulated (right) transport flows per herd type. The thickness of the flows indicates the transport volume.

Each individual animal in the model is subject to an ageing process with animal age increasing by one week per simulation step. Ageing can trigger other processes, for example transfer between management units. In addition, each animal is assigned to one of four IBR epidemiological states as described in Figure 8.

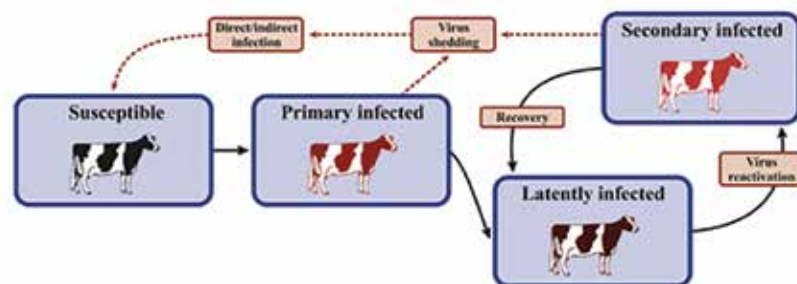


Figure 8. IBR infection states in the model.



Finally, the validated model was applied to support the current discussions regarding the structure and implementation of a potential national IBR eradication programme in Ireland. Simulation experiments were conducted to compare the impact of various intervention strategies on herd-level prevalence. The scenarios modelled are either single interventions or a combination of up to three different intervention measures (Table 1).

| | | Intervention Measures | | |
|----------|---------------------------------------|---|--|--|
| | | Transport Restrictions | Culling Strategy | Vaccination Strategy |
| | | Only sero-negative animals are allowed to be traded | Sero-positive animals culled in herds where prevalence is <15% | Animals vaccinated in herds where prevalence is >15% |
| Single | S1 - Base | - | - | - |
| | S2 - Transport | + | - | - |
| | S3 - Culling | - | + | - |
| | S4 - Vaccination | - | - | + |
| Combined | S5 - Transport & Culling | + | + | - |
| | S6 - Culling & Vaccination | - | + | + |
| | S7 - Transport, Culling & Vaccination | + | + | + |

Table 1. Overview of simulated IBR control strategy scenarios (+; strategy applied).

Figure 9 shows a comparison of the simulated idealised strategies. In the base-line scenario S1 (red line), no intervention strategies were applied, and herd-level prevalence remained at a constant high level over the simulated years. The transport restriction strategy (S2) alone (blue line) resulted in a decrease of herd-level prevalence (Figure 9a). In contrast, as outlined in S4, annual and consequent IBR vaccination of all herds lead to the eradication of IBR from the cattle population in Kerry. All scenarios in which intervention measures were combined are more effective in reducing overall herd-level prevalence (Figure 9b).

It is important to note that these simulations are preliminary in terms of the scenarios modelled. The intervention measures described in Table 1 are idealised, assuming, for example, a full annual herd test per herd, or consistent annual vaccination regardless of the epidemiological status of the herds. This does not fully replicate the proposed strategies or the requirements of the AHL in relation to establishing a herd as free from infection but can help to gain a theoretical understanding of how specific intervention strategies can be used to reduce the overall prevalence of IBR under Irish cattle management conditions.

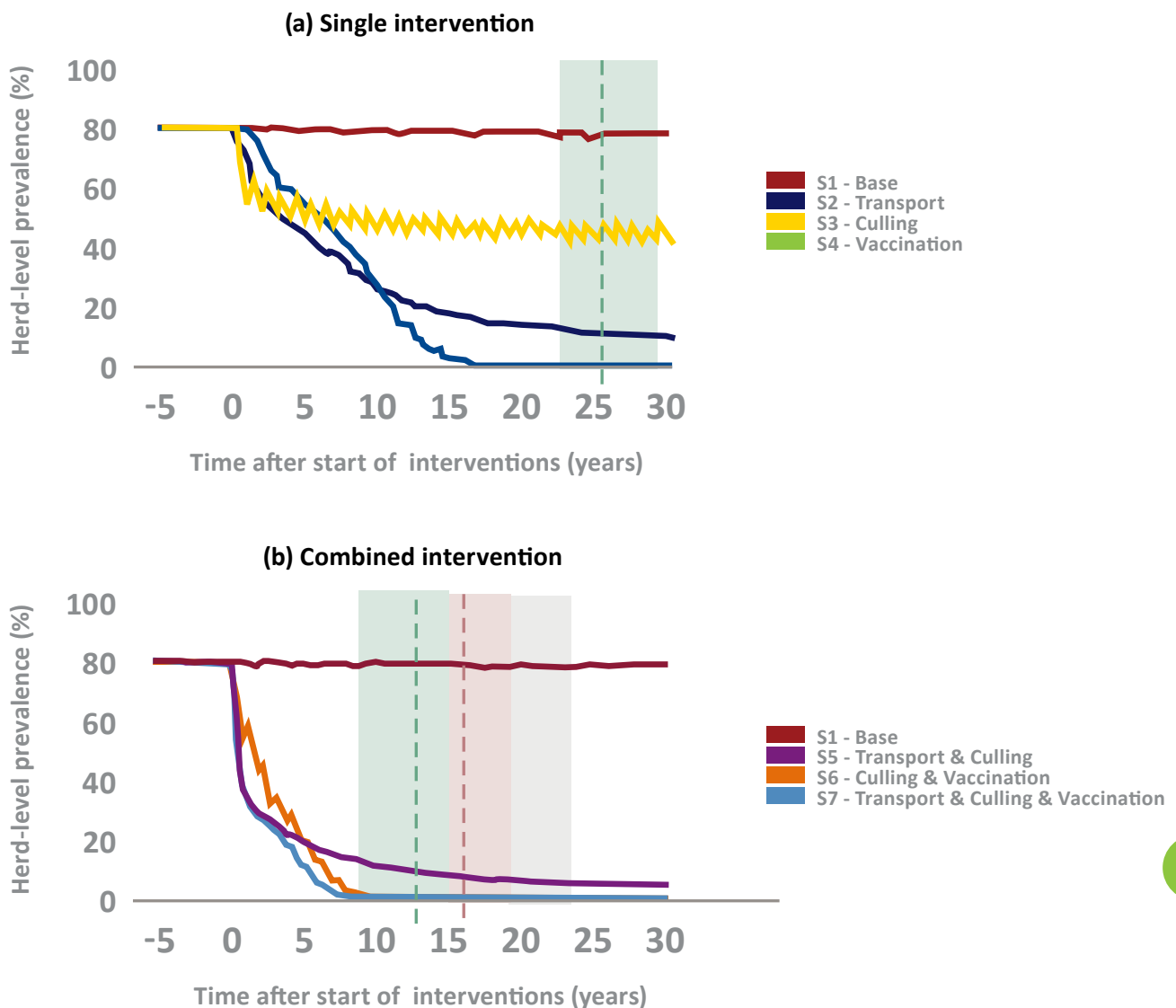


Figure 9. Comparison of the simulated idealised strategies to reduce herd-level prevalence in Kerry (all herds in Kerry). Each intervention scenario was simulated for 30 years. For each scenario, the solid-coloured lines indicate the median herd-level prevalence in Kerry calculated for each model step. In addition, the 95th and the 5th percentile for each scenario is plotted. The coloured vertical dashed lines indicate the time of virus eradication (median) along with the 95th and 5th percentile.

Brock, J., Lange, M., Tratalos, J. A., More, S. J., Graham, D. A., Guelbenzu-Gonzalo, M., et al. (2021a). Combining expert knowledge and machine-learning to classify herd types in livestock systems. *Sci. Rep.* 11, 2989. doi:10.1038/s41598-021-82373-3.

Brock, J., Lange, M., Tratalos, J. A., More, S. J., Guelbenzu-gonzalo, M., Graham, D. A., et al. (2021b). A large-scale epidemiological model of BoHV-1 spread in the Irish cattle population to support decision-making in conformity with the European Animal Health Law. *Prev. Vet. Med.* 192, 105375. doi:10.1016/j.prevetmed.2021.105375.



Irish Johne's Control Programme



Lawrence Gavey • Programme Manager

SUMMARY

The Irish Johne's Control Programme (IJCP) continues to be supported by dairy and beef industry stakeholders to control the spread of Johne's disease in Ireland.

Recruitment of herds to the programme recovered in 2021, but late completion of herd testing and VRAMPs is an ongoing issue, now under investigation through a behavioural research project.

OBJECTIVES

The objectives of the Irish Johne's Control Programme (IJCP) are to:

- Enhance the ability of participating farmers to keep their herds clear of Johne's disease (JD).
- Assist participating farmers to reduce the level of infection in their herds, where present.
- Provide additional reassurance to the marketplace in relation to Ireland's efforts to control Johne's disease.
- Improve calf health and farm biosecurity in participating farms.

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KEY DELIVERABLES

Communications

Core communications channels of the AHI website and monthly JD Bulletins were maintained, with the latter now incorporated into the AHI Newsheet. Messaging to approved veterinary practitioners (AVPs) were delivered by a variety of channels, including email, SMS, and a Facebook group.

A new Herd Johne's Summary Report (Figure 10), available to all registered herds via their herd's IJCP dashboard on ICBF, presenting a summary of annual herd testing outcomes, VRAMP scores, and animal introductions, was released and promoted. This report enables herdowners and AVPs to readily at any time, review their herd's performance over the course of their participation in the programme and also benchmarks their VRAMP scores against other participating herds. These new displays of VRAMP scores and benchmarking will be incorporated in a revised VRAMP.

A description of the IJCP was published in the peer-reviewed journal, *Frontiers of Veterinary Science*.



The Technical Working Group and Implementation Group continued to meet on-line during the year to progress the programme. Key issues were the development of the Herd Johne's Summary Report, the continuing development of the Johne's Herd Indicator and engagement of milk processors in communicating with their suppliers in the IJCP.

Completion reports (notifying milk processors of herds that have met the conditions for payment of herd testing assistance) are now issued monthly.



ICT DEVELOPMENT

There have been routine maintenance and refinements of the programme databases and reports in ICBF and AHI.

Each herd's Johne's dashboard screen (Figure 11) now displays all information essential to understand and meet programme requirements, including:

- If a whole herd test has not yet been started for the year, which animals on the farm will be eligible for ELISA testing for any specified test start date.
- Whether the whole herd test is complete, and if incomplete, which eligible animals are untested.
- Whether there are animals that are required and funded for ancillary PCR testing, or for recommended ELISA re-testing, and if so a list of relevant animals.
- Date of the last VRAMP and whether a VRAMP is still required for the current year.
- Date of the last positive faecal PCR or culture test result, if any.
- Most recent and next scheduled TB test dates.

Outstanding programme requirements are highlighted in red type on the screen, for both computer and mobile device versions, to ensure farmers and their AVPs can easily identify activities that require their attention.

The ICBF database has been enhanced with development and implementation of the Herd Johne's Summary Report and relief from the VRAMP requirement for herds in Year 4, Test-Negative Pathway.

Development of the Johne's Herd Indicator (JHI), aiming to provide an objective measure of assurance against infection, is continuing.

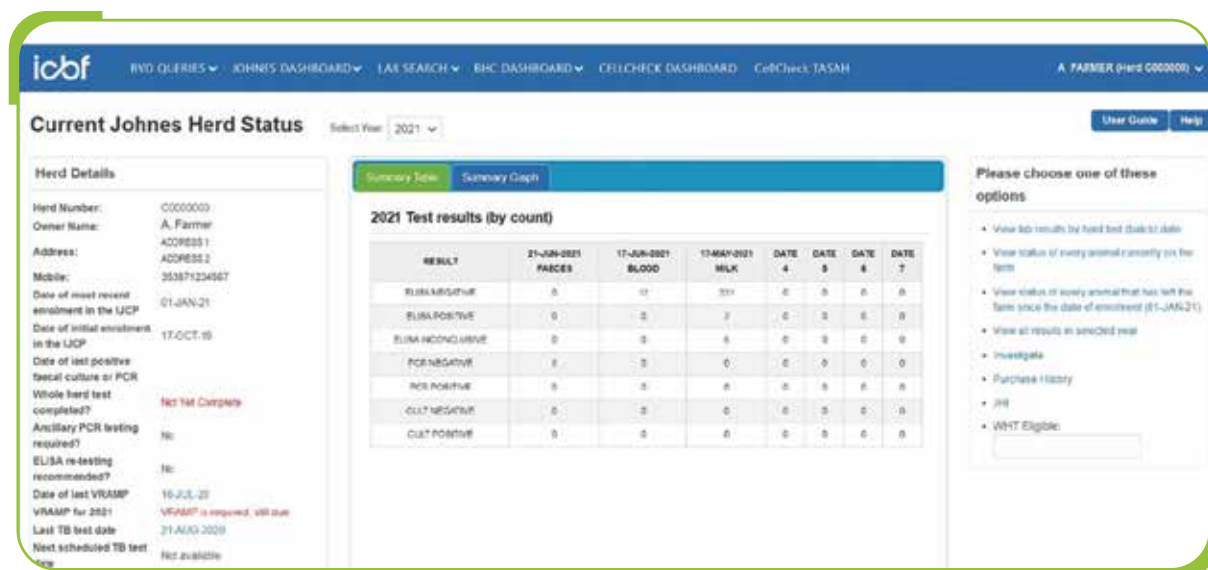


Figure 11. Johne's disease dashboard screen.



RESEARCH

Through the Technical Working Group, the programme has been evaluating the performance of ELISA testing on milk and blood samples and ancillary PCR testing on faecal samples and factors associated with positive and negative test outcomes. An inter-laboratory comparison of PCR testing is being conducted by the National Reference Laboratory.

AHI is researching farmers' experiences of being part of the IJCP with the aim of improving recruitment and engagement with the programme. The objectives of this research are to learn about farmers' motivations to join and be part of the IJCP, what encourages or challenges farmers to complete testing and risk assessments, and farmers' perspectives on communication tools and strategies. The first part, one-to-one interviews, has been conducted and data analysis is pending. This will be followed by a farmer workshop where IJCP participants will contribute to the design of a tool to communicate the details of the yearly programme requirements to other farmers.

In parallel, 67 veterinary practitioners have participated in a survey of their experiences of providing support and services to farmers enrolled in the IJCP; analysis of this data is also pending.

Analysis of programme data suggests that most animals that were introduced to a programme herd and then found to be infected were likely infected prior to being introduced. Consequent recommendations to the programme are pending.

The programme has also been supported by priority research projects being conducted in collaboration with external partners. These projects included Herd Environmental Sampling (CVERA/Teagasc), Modelling spread (CVERA/INRAE, France), Assessing the impact of VRAMP provisions on productivity (UCD), PCR test factor study, including analysis of milk vs. blood ELISA tests (UCD), Novel testing using bacteriophage (Queen's University Belfast) and Risk factors for positive Bulk Tank Milk results (CVERA).

NATIONAL SURVEILLANCE

Bulk tank milk (BTM) surveillance data use has progressed significantly with all necessary agreements for data sharing and processing now in place, data shared, and analysis commenced. A steering committee has been convened to oversee protocols for sampling, testing, reporting and display of results, and analysis.

Results of BTM surveillance testing of dairy herds for four rounds (2019 and 2020, spring and autumn) have been reported and are being analysed. Only 3-4% (less than 500) of tested herds per round had a positive BTM result (excepting 7% in autumn 2020). This compares to the estimated herd prevalence of infection in the Irish dairy industry of 30% (est. 4,800 herds), consistent with the predicted low sensitivity of this test. Also, the majority of herds with a positive result do not consistently test positive. For example, there are only 27 herds that have positive results at all 4 BTM tests. Based on the lower sensitivity of the test, it is recognised that BTM surveillance has value for detection of high-risk herds for referral to the IJCP for control purposes, while negative results do not provide assurance of freedom from infection.

Notification to herdowners through calls from Regional Veterinary Offices of positive results to retrospective testing of BTM samples commenced late in 2020 and continued in 2021. Standardised communication of positive results through ICBF will be introduced in 2022.



21 herds registered in the IJCP after a positive BTM result was reported and undertook herd testing in 2021. 18 (86%) of those herds has at least one positive or inconclusive result to ELISA testing, 10 herds (48%) had high (S/P value > 100%) ELISA results, 9 herds (45%) had an apparent prevalence exceeding 5%, and 6 herds (29%) had a PCR result of positive. These results from just one year of herd testing confirm that herds with positive BTM results are likely to be infected.

AWARENESS AND TRAINING

The programme resumed training in 2021 with one AVP training session in Gurteen College, Roscrea in November. We also held an on-line refresher course for existing AVPs to bring them up to date with changes in the programme. In September two Johne's disease TASAH training sessions were held once Covid restrictions allowed us to hold in-person training.

OUTCOMES

At the end of December, there were 1,987 herds registered in the Irish Johne's Control Programme, comprising 1,971 dairy and 16 beef herds. This compares to 1,661 registered herds at the end of 2019, and 1,760 at the end of 2020.

231 herds joined the programme in 2021. There were two peaks in recruitment (Figure 12), the first in March due to promotion of the programme by a single milk processing organisation, demonstrating the value of engagement and promotion by industry stakeholders. 21 herds with positive bulk tank milk test results have been recruited into the programme.

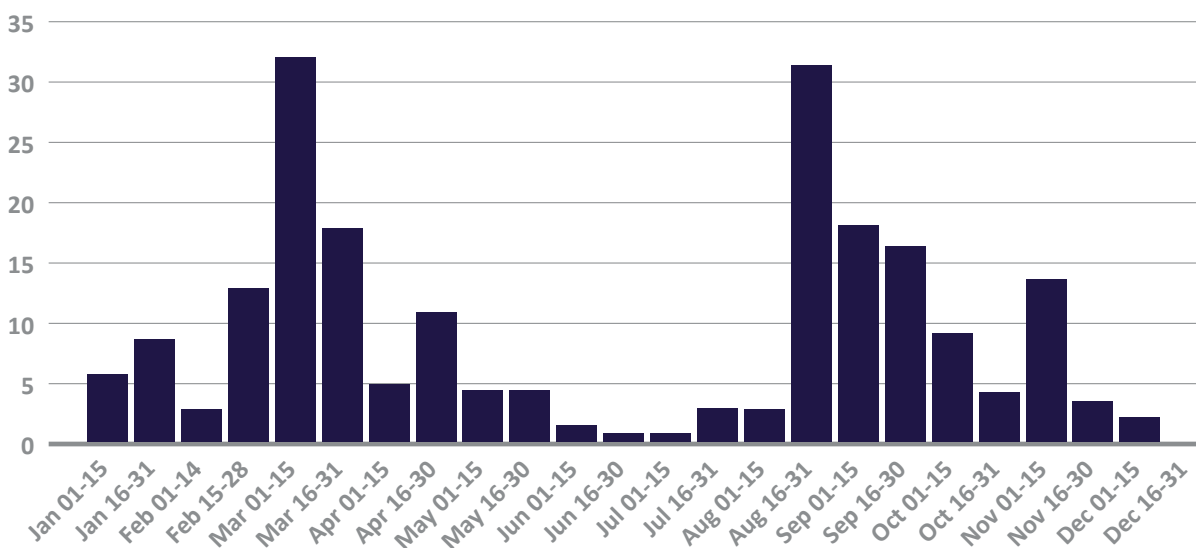


Figure 12. Recruitment of herds into IJCP.



As in previous years, completion of veterinary testing (blood-ELISA and PCR) and VRAMP activities (Figures 13-15) are concentrated at the ends of the year.

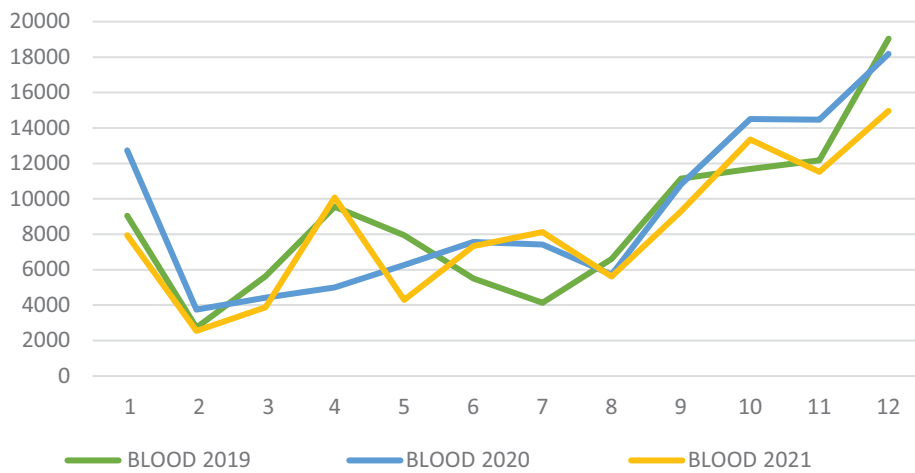


Figure 13. Number of blood-ELISA tests completed per month per year.

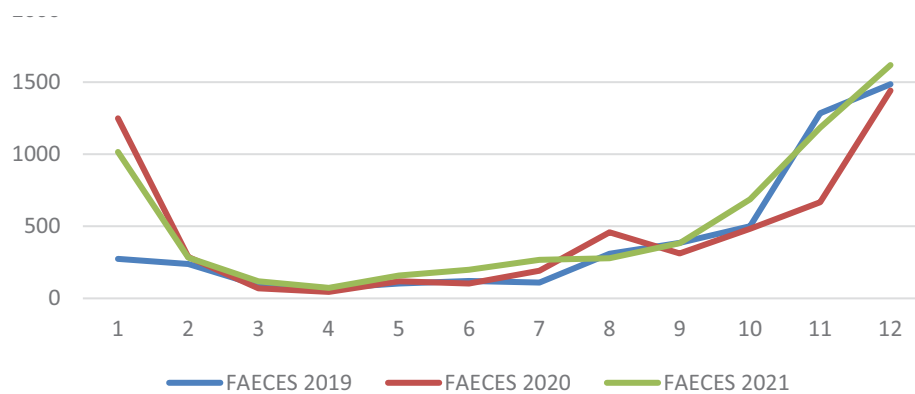


Figure 14. Number of PCR tests completed per month per year.

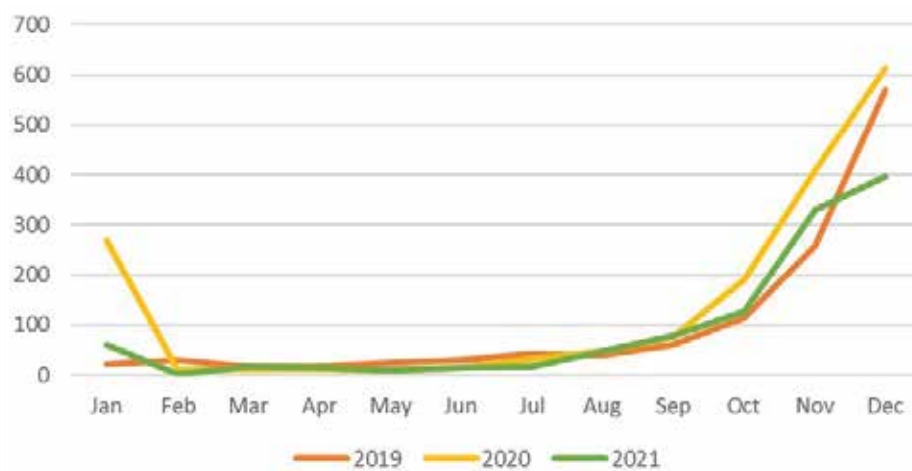


Figure 15. Number of VRAMPs completed per month per year.



Irish Johne's Control Programme

The reasons for this seasonality are under investigation through behavioural research, to inform programme changes to improve compliance with programme requirements. The research comprised surveys during December 2021 of farmer and AVP participants in the IJCP, yet to be analysed and reported. The end of the programme year coincides with winter housing and reduced farming workload.

At the end of the programme year, 1,286 dairy herds (66%) had completed both of the annual requirements for whole herd test and VRAMP (Table 2), 380 herds were inactive for the year, and 191 herds had only partly undertaken the WHT and/or VRAMP. One third of the 2021 completions of VRAMP + WHT by dairy herds occurred during January 2022, validating the decision by the Implementation Group to again extend the programme year until the end of January 2022.

| | | WHT | | | |
|-------|-------|-------------|------------|-------------|-------|
| | VRAMP | Complete | Incomplete | Not started | Total |
| Dairy | Y | 1,242 (63%) | 70 | 78 | 1,390 |
| | N | 73 | 92 | 418 (21%) | 583 |
| | Total | 1,315 | 162 | 496 | 1,973 |
| Beef | Y | 1 | 1 | 0 | 2 |
| | N | 10 | 0 | 4 | 14 |
| | Total | 10 | 1 | 4 | 16 |
| Total | | 1,326 | 163 | 500 | 1,989 |

Table 2. Completions of VRAMP and WHT in 2021 programme year at the end of Q3 with figures to the same point in 2020 included for comparison.

To encourage completion of herd testing and VRAMPs, phone calls were made over the course of Q4 to 1,710 herdowners with outstanding actions.

224,372 ELISA tests (44% blood samples, 56% milk samples) were conducted in 2021 (Table 3), with almost one third of these conducted in Q4. (Note: This data does not include tests conducted in January 2022 towards completion of 2021 WHTs.)



IJCP TESTING CONDUCTED DURING 2021

| Test | Sample | No. of Tests | Negative | Positive | Inconclusive |
|-------|--------|--------------|----------|--------------|--------------|
| ELISA | BLOOD | 98,987 | 94,899 | 2,810 (2.8%) | 1,040 (1.1%) |
| ELISA | MILK | 125,623 | 117,871 | 3,972 (3.2%) | 3,671 (2.9%) |
| PCR | FAECES | 6,266 | 6,019 | 222 (3.5%) | 25 |

Table 3. IJCP testing conducted during 2021.

As in previous years, there are higher proportions of positive and especially inconclusive ELISA test results obtained from milk than blood samples. The implications of these results for the programme are being analysed.

There were 6,266 ancillary PCR tests done in 2021. The proportion of PCR tests with positive results (animal level of testing) is only 3.5% for the year, continuing the decline seen since 2019. The programme is collaborating with UCD to investigate the factors contributing to this low rate of positive results, and collaborating with DAFM to evaluate the performance of testing conducted in designated laboratories.

Of 1,571 herds which have completed at least one year of testing to enable them to be in Years 2 or 3 of their Test Pathway, 735 herds (47%) are in the Test Negative Pathway, with no infection detected (Table 4). There are 305 herds (19%) which have confirmed infection from a positive result to an ancillary test (faecal culture or PCR). There are a further 533 herds which are considered to be infected due to one or more Positive or Inclusive ELISA results without the required ancillary testing having yet been undertaken.

| | Total | TNP | TPP |
|---------------------|-------|------------------|-----------------|
| Year 1 | 416 | | |
| Year 2 | 403 | 201 | 203 |
| Year 3 | 1,168 | 534 | 635 |
| Totals | 1,987 | 735 (47%) | 838 |
| Confirmed infection | | Yes 305 (19%) | No 533 (34%) |

Table 4. Numbers of herds in Test-Positive and Test-Negative Pathways, and Years.



National Beef Health Programme

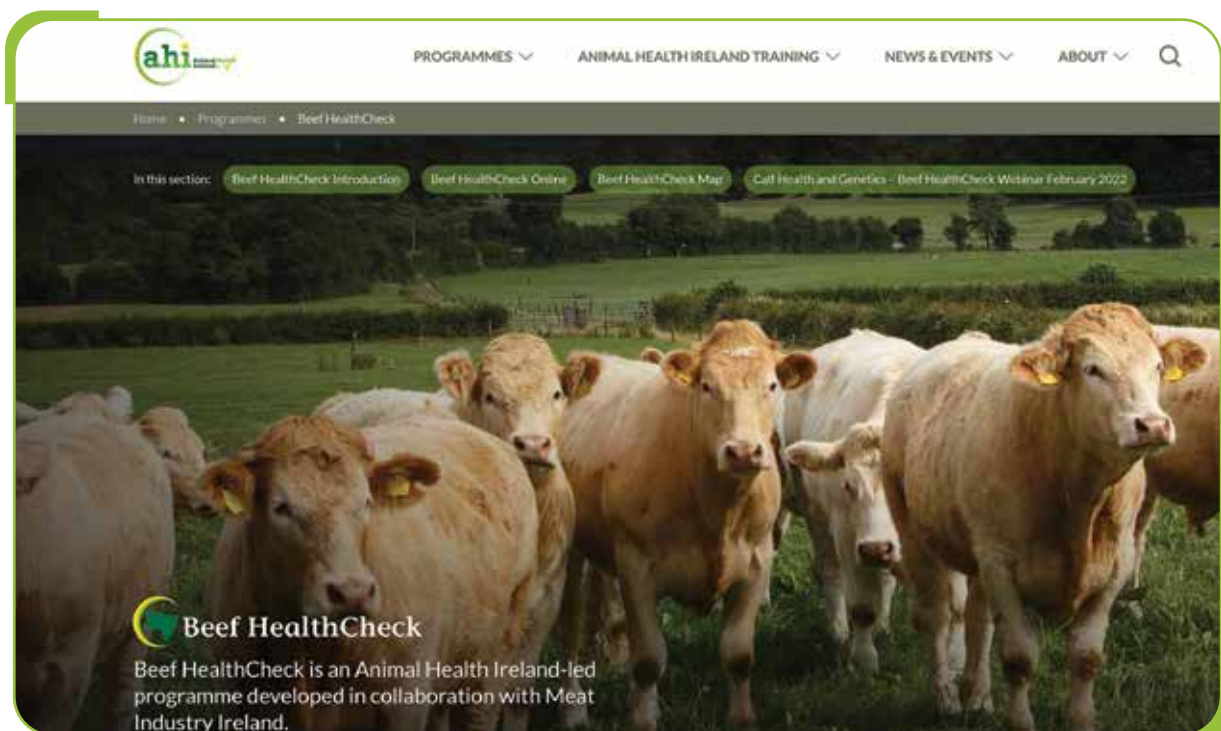


Dr Natascha Meunier • Programme Manager

The Beef HealthCheck programme has completed its sixth year reporting health data to farmers. We are grateful to the participating factories, their staff and the TVIs as the programme would not be possible without their continued hard work and support. To date, over 4.3 million animals have been examined and 620,000 reports issued to farmers across the country as part of the programme. In 2021, just over 28,600 farmers received Beef HealthCheck reports after sending cattle to slaughter, giving them information on the health status of their animals relating to liver fluke, pneumonia and liver abscesses.

All slaughter health records are available online at ICBF (beefhealthcheck.icbf.com) to both herd owners and their veterinary practitioners. These reports appear online within a few days after the animals have been slaughtered and show the scores for liver fluke, pneumonia and liver abscesses for individual animals. Reports from previous years are also available as well as summary graphs to compare results. From this year, farmers can also grant access to these records for their Teagasc advisors.

For those herd owners that don't send animals directly to slaughter and therefore do not have access to this information, summarised quarterly liver fluke results presented as county level maps are available on the AHI website. This also allows farmers to compare their data from ICBF against the average liver fluke levels in their county and across the country.





BEEF HEALTHCHECK RESULTS

In 2021, health data were received for 847,594 cattle, of which 70% were beef breeds and 30% dairy. The majority of animals sent to slaughter were steers (43%) and heifers (30%), with a smaller proportion of young bulls (9%) and cows or bulls (18%). 72% of animals recorded were younger than 30 months old at slaughter.

The average liver fluke prevalence in 2021 was similar to 2020, although slightly decreased (Figure 16). Liver fluke damage was recorded in 7.3% of cattle and live liver fluke were seen in an average of 1.3% of cattle livers. Liver abscesses were seen in 4.0% of cattle, which is similar to previous years, and pneumonia was seen in 1.6% of lungs examined, which is a slight increase on previous years.

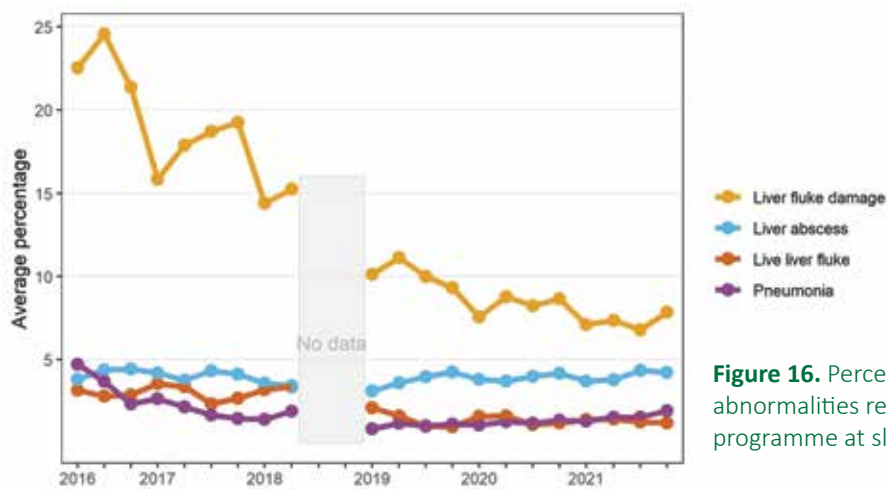


Figure 16. Percentage of abnormalities reported in the BHC programme at slaughter per quarter.

The percentage of health abnormalities observed differed by the age of the animals, with cattle older than 30 months having 3.2 times higher liver fluke damage and 2.2 times higher live liver fluke percentages. The risk of liver fluke infection increases with each grazing season because animals are exposed to the parasites at pasture, so the higher levels in older animals are not unexpected. Levels of liver abscesses and pneumonia were more similar in all ages, but still higher in older cattle (Figure 17).

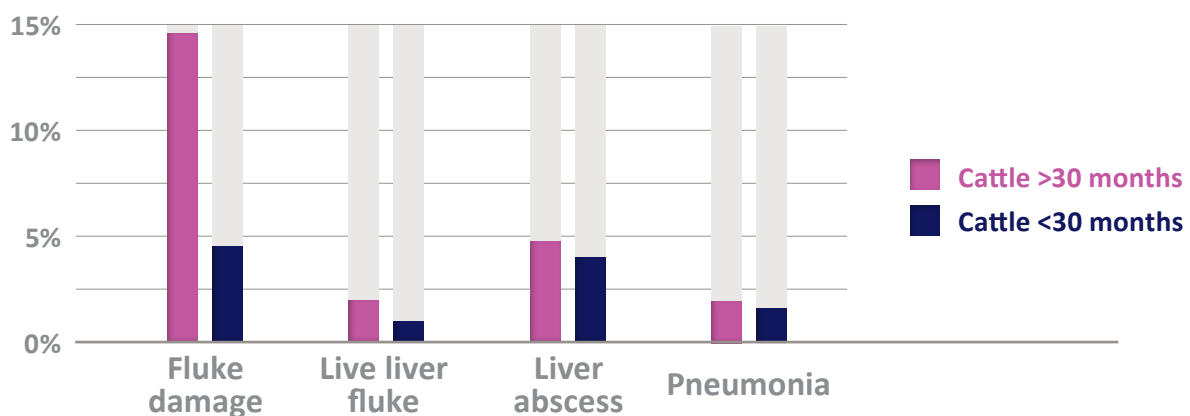


Figure 17. Proportion of health abnormalities in animals older or younger than 30 months old at slaughter.



There are major geographical differences in liver fluke distribution in Ireland, with the north-western counties particularly affected (Figure 18). At the herd level, in herds that sent at least 5 animals to slaughter in 2021, an average of 56% of herds had at least one animal with any sign of liver fluke, down 4% since last year, and 18% of herds had at least one animal in which live liver fluke parasites were observed. Live liver fluke at slaughter implies an absence of treatment or that that treatment given has been unsuitable or ineffective. The counties with the highest percentage of herds with live liver fluke were Donegal, Leitrim, Longford, Monaghan and Sligo, ranging from 36%-54% of herds. However, the percentage of herds with any sign of liver fluke, including previous liver damage from a cured infection, was much higher, with more than 80% of herds in the north-western counties affected. At the individual animal level, the prevalence of liver fluke is lower, suggesting that while liver fluke infection is common in herds, particularly in some regions, few animals in these herds are likely affected.

Although a large percentage of herds in Ireland are affected by liver fluke, overall, 11.5% of herds that have slaughtered ten or more animals have had no evidence of liver fluke at slaughter over the 6 years of the programme. Prudent use of veterinary medicines encourages their use only as needed and this indicates that flukicides may not be needed in these herds. Other factors such as faecal egg counts, biosecurity and pasture management practices should be also considered by farmers and their veterinary practitioners when making these treatment decisions.

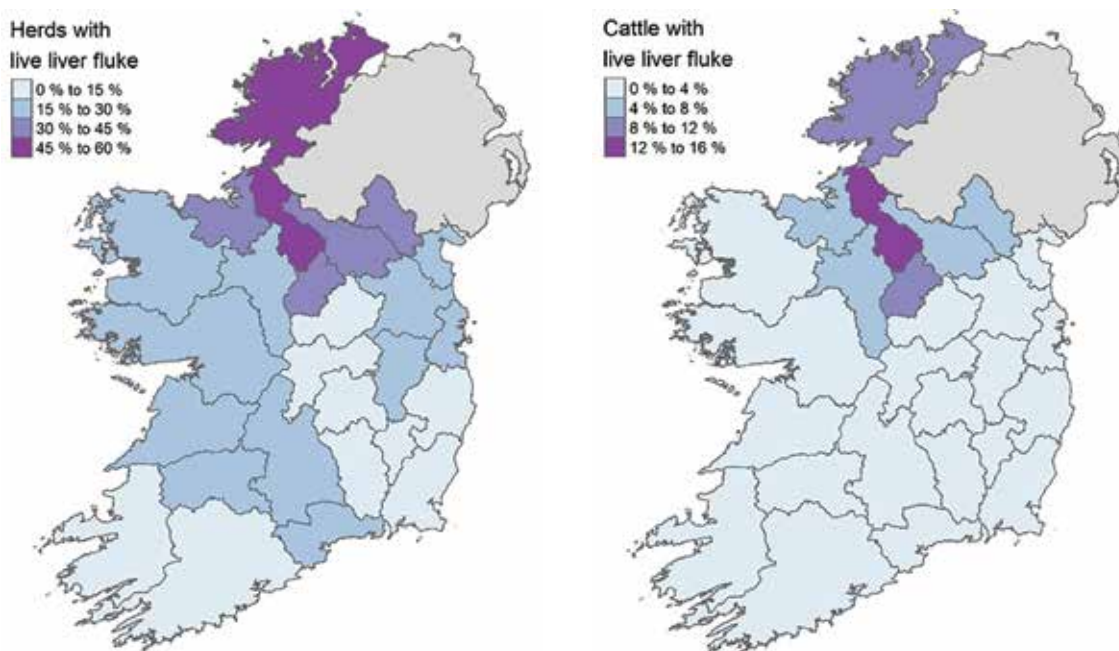


Figure 18. Live liver fluke levels reported at the herd level (for 5 or more animals sent to slaughter in a herd) and at the animal level (home-bred animals) in 2021.



PROGRAMME DEVELOPMENTS

The data collected as part of the programme continues to be used by ICBF to produce breeding values for genetic resistance to liver fluke infection. The selection of bulls included in these values includes all animals that have been genotyped. These tools allow farmers to select AI bulls that are less likely to have progeny that may become infected by liver fluke, breeding a healthier herd. As more progeny data are captured in the programme, the breeding values are updated and will give improved reliability. AHI is working with Teagasc to promote the use of these indexes in breeding decisions, particularly in high prevalence areas. Additionally, these breeding value improvements have been directly referenced in the AgClimatise roadmap as a method of promoting sustainable animal health to support Ireland's climate ambitions for reducing greenhouse gas emissions.

The Beef HealthCheck data is also undergoing analysis to look at risk factors associated with the health outcomes, as well as whether the health outcomes are related to increased days to slaughter. Poor health generally influences production and this analysis hopes to measure this loss in efficiency, which is also related to an economic cost and additional greenhouse gas emissions.

AHI has contributed to the early stages of a study looking at the Global Burden of Animal Diseases with Liverpool University. The aim of the study is to standardise production losses due to disease across countries. This piece of work has estimated the biomass for the national herd in combination with the classification of the herd types, an output of IBR modelling work undertaken by Jonas Brock as part of his PhD work with AHI.

PROGRAMME COMMUNICATIONS

Beef HealthCheck continues to produce a quarterly newsletter covering a range of seasonal topics relevant to Irish beef farmers and providing programme updates. Articles were also contributed to the national farming press about the Beef HealthCheck programme and how farmers can access the information on their animals. This highlighted the potential economic losses due to liver fluke and the benefits of dosing appropriately. An additional article in an animal health and agri-trade journal on how the programme contributes to sustainable and profitable beef farming further promoted the use of liver fluke results to reduce economic losses to a different audience.





Parasite Control Programme



Dr Natascha Meunier • Programme Manager

The Parasite Control programme underwent a number of new developments ahead of EU veterinary medicines Regulation 2019/6 coming into force on the 28th of January 2022. Although there was a decision to defer the implementation of a prescribing requirement for antiparasitic medicines until 1st of June, the planned parasite control activities, including the continuing education of veterinarians, proceeded as planned. A series of online videos were made available to veterinary practitioners to complete at their own pace in partnership with the Veterinary Council of Ireland and Veterinary Ireland. We had a good uptake of 481 veterinarians completing the training. We are grateful to the Irish parasite experts who contributed to the contents of these videos covering a range of topics on diagnostics, planning, anthelmintic resistance, epidemiology and species differences in parasite risks. This video series was also pre-requisite learning material for the newly developed parasite control TASAH.

A pilot sheep parasite control TASAH was developed and delivered in the last quarter of 2021. The objective of the pilot TASAH was to facilitate discussions between farmers and their veterinary practitioners on the best practices around parasite control with the long view of minimising the further development of anthelmintic resistance. In September, 70 veterinary practitioners were trained with both the online video series in general parasite control and in-person training focussed on sheep parasite control. Of these, 54 PVPs participated in the programme with 171 flock visits and 181 optional faecal egg count tests completed from 108 farms. Analysis of the results is underway.

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The pilot Parasite Control TASAH will be expanded in 2022 to a national programme to include all cattle and sheep farms. The main aim of the Parasite Control TASAH will be to support cattle and sheep farmers in addressing antiparasitic resistance through increased veterinary involvement in parasite control and the provision of best practice advice. This will be done by means of an on-farm parasite control veterinary advisory measure for ruminant livestock. The measure will assist in identifying non-effective treatments, reducing the frequency of treatments where necessary, and increase the capacity for monitoring and testing as part of a health plan.

AHI is represented on a Department of Agriculture, Food and the Marine established Antiparasitic Resistance Stakeholder Group (APRSG) which is addressing issues relating to anthelmintic resistance in Irish farming. AHI has been assigned responsibility for a range of activities within the Action Plan developed by this group, and to which the Technical Working Group has been contributing, particularly in the area of knowledge exchange and best practice.

The Technical Working Group published a leaflet on sheep parasitic lesions at slaughter, which highlights parasitic cysts that may be important for public health but do not necessarily affect sheep performance and may go unnoticed until slaughter. Additionally, AHI has contributed parasite control information shared in the national farming press, with articles on coccidiosis, lungworm, liver fluke and parasite control planning. By this we hope to promote the message of sustainable use of anthelmintics to farmers while minimising production losses.



National Pig Health Programme



Dr Carla Gomes • Programme Manager

The Pig HealthCheck Programme has the aim of improving the profitability and sustainability of the Irish pig industry through improved animal health and welfare. This is being achieved by providing a holistic picture of animal health at farm level, benchmarking farm animal health against the national average and top or bottom performers and engaging with stakeholders to drive improvements in the sector.

The programme is developing five activities:

Activity 1

Biosecurity assessments

Based on BiocheckUGent and delivered by private veterinary practitioners through the Targeted Advisory Service on Animal Health (TASAH) under the Rural Development Programme (2014-2020).

Activity 2

Assessments of risk factors for tail biting

Based on a tool developed in collaboration with Teagasc, DAFM and AHI and delivered by PVPs through TASAH.

Activity 3

Capture, analysis and reporting of abattoir data from ante and post-mortem (AMPM) meat inspection

Based on the system being developed by DAFM, which builds on previous Teagasc research (PigPathSurv project).

Activity 4

Analysis of antimicrobial usage (AMU)

Using the database created by DAFM for recording AMU by pig farmers, which was built on previous Teagasc research (Amurap project) and linking these data with health/disease data to demonstrate inter-relationships (e.g. low AMU associated with high health status).

Activity 5

A review of the National Salmonella Control Programme (NSCP)

Making recommendations to augment the existing programme by providing direction to increase the farmers and PVPs engagement with the programme and improve its outcomes.



SUMMARY OF THE ACTIVITIES

During 2021 the Pig HealthCheck Technical Working Group met seven times and the Implementation Group met five times.

Activities 1 and 2 are being delivered free-of-charge to herds by trained veterinary practitioners through TASAH and funded by the Rural Development Programme (2014-2020).

Biosecurity Assessments

The herd biosecurity assessments are being done using the Biocheck tool developed by University of Ghent. Three training events (two for PVPs and one for DAFM personnel) were carried out in 2021 and in total 26 PVPs have been trained to use this tool. As of the end of December 2021, 250 units have used this service and have been reviewed in terms of their biosecurity. These cover around 64% of the pig herds in Ireland with more than 100 pigs (based on 2020 figures). The analysis of the results (Figure 19a and 19b) highlights that internal biosecurity needs to be improved, especially the measures relating to the farrowing unit and suckling period, measures between compartments, the use of equipment and cleaning and disinfection. For external biosecurity measures relating the feed, water and equipment supply require further improvement. One hundred and twenty four of the 250 units have been assessed more than once. Figure 19c shows the average results for these farms, with a noticeable improvement between visits, noting that higher scores are better.

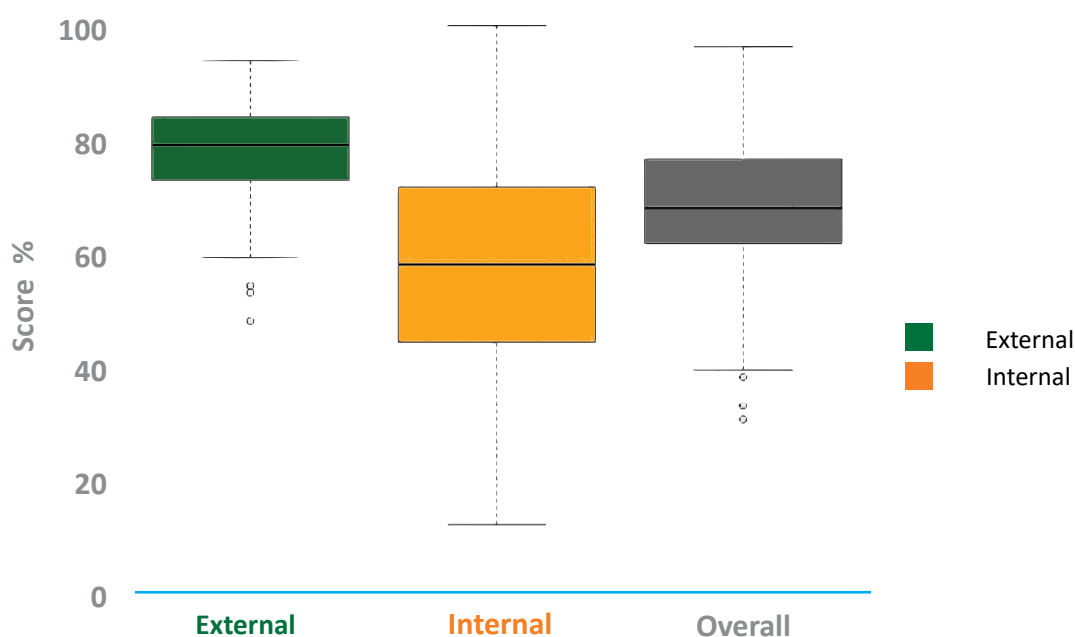


Figure 19a. Graph showing the distribution of the scores per farm for the components of external (dark green), internal (orange) and overall (grey) biosecurity for the most recent assessment for all herds assessed until the end of December 2021. The thick line is the median (half of the farms assessed have scores lower than this line when the other half have scores higher than this line). The lower and upper limits of each box represents the distribution of herds falling with 25%-75% of the distribution, while the lower and upper 'whisker' represent 5% to 95% of herds.

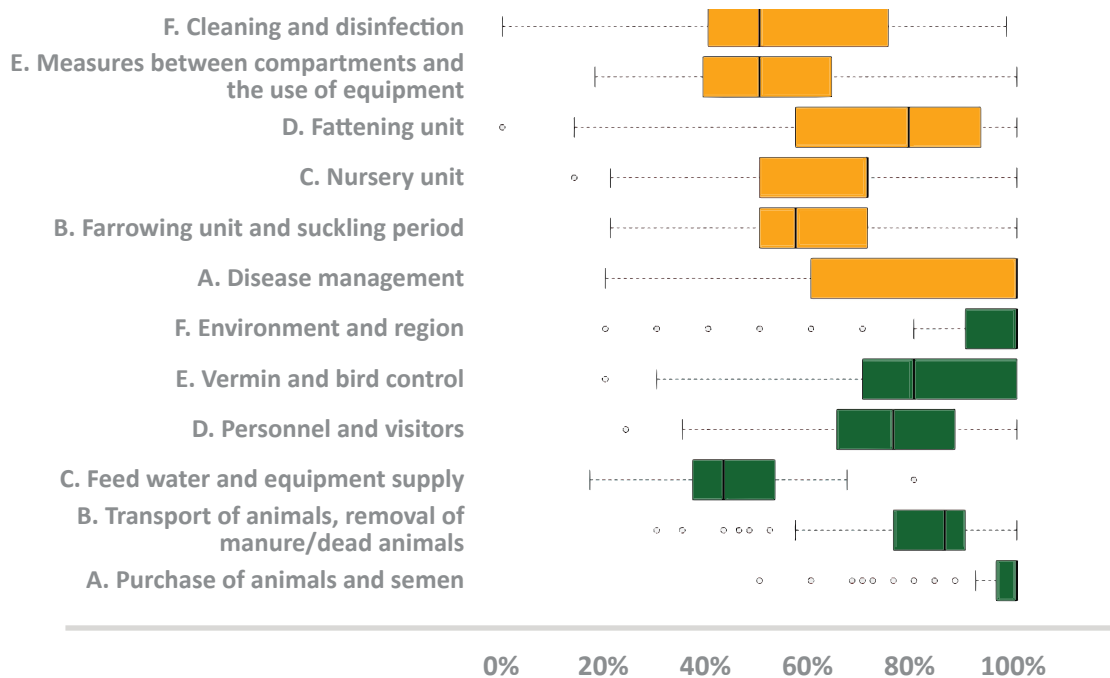


Figure 19b. Biosecurity results for each of the several sections that are part of the overall external (dark green) and internal (orange) biosecurity assessments.

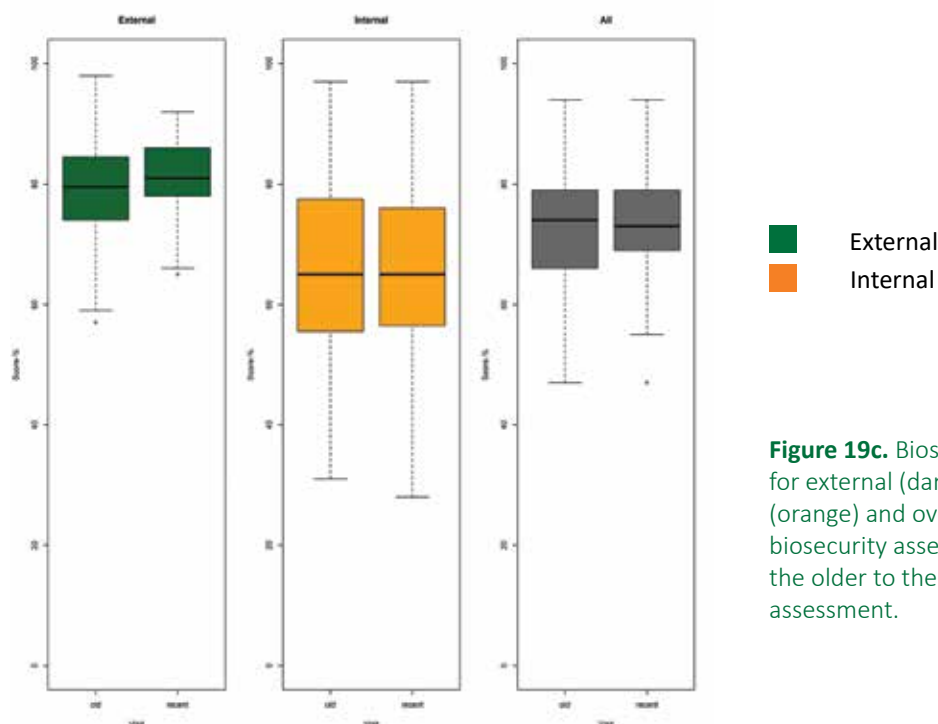


Figure 19c. Biosecurity results for external (dark green), internal (orange) and overall (grey) biosecurity assessments from the older to the most recent assessment.



Risk assessments for tail biting

Two training events (one for PVPs and another for DAFM personnel) for tail biting risk assessments were carried out in 2021 and 25 PVPs were trained on how to use this tool. Rearing of pigs with intact tails is not a simple task. Carrying out a risk assessment to identify the risk factors present on farm is the first step in this journey. By the end of December, 349 assessments had been completed for 252 units. These cover around 65% of the pig herds with more than 100 pigs in Ireland. These assessments show that provision of environmental enrichment is the main area that requires improvement (Figure 20). In around 93% of the farms assessed, one or more risks for tail biting have been identified. Ninety-six of the 252 units have been assessed twice.

Since September 2021 these assessments (biosecurity and risk assessment for tail biting) are required annually as part of the Bord Bia Pig Quality Assurance Standard.

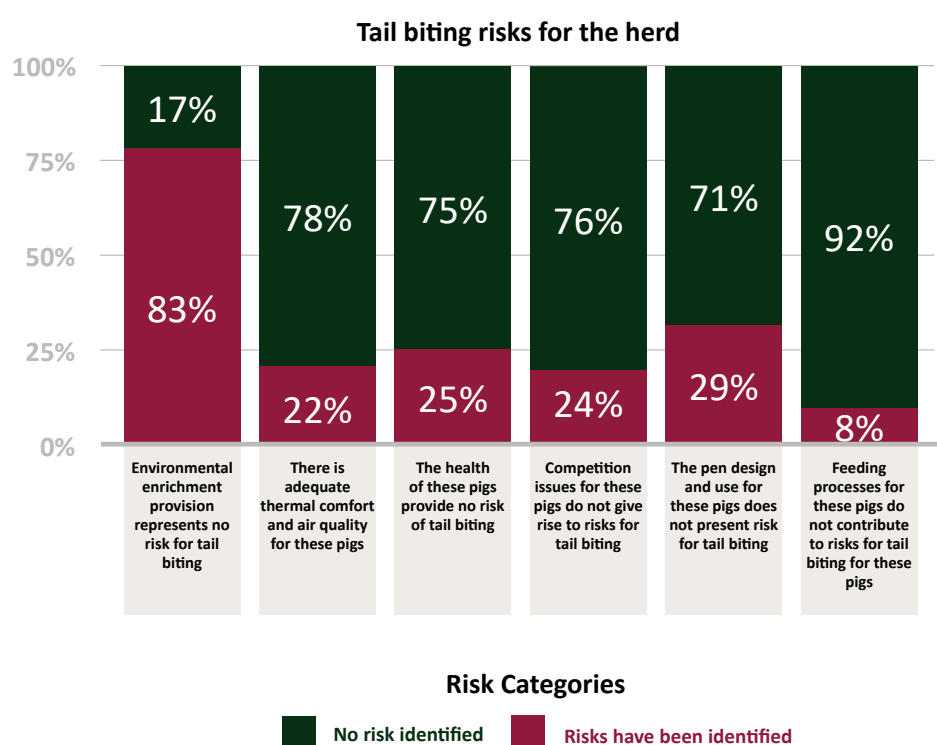


Figure 20. Results for the most recent assessment of risk factors for tail biting for 252 herds. These results are based on the pen-level scores, i.e. if risk factors have been identified in at least one pen in the herd it is considered that risk factor has been identified in that herd.



Ante and Post-Mortem Data

Activity 3 includes the development of tools to assist pig farmers and their veterinary practitioners to improve animal health based on the capture, analysis and reporting of abattoir data from ante and post-mortem meat inspection. The capture of ante-mortem data by the new system has started in November 2020 and the transfer of such data to the Pig HealthCheck database has begun at the end of 2021. The display of such data is under development and will be available to farmers and PVPs during 2022.

National Salmonella Control Programme

A review of the National Salmonella Control Programme was undertaken by the Pig HealthCheck Implementation Group in 2020. As a result, it was proposed that the annual collection of environmental samples from finishing pens should be implemented on all farms that are subject to the National programme. These samples will be tested to see if Salmonella is detected, and, if so, if any of the strain(s) present are of public health significance. This will help inform the farm's control plan for Salmonella. A new Salmonella TASA activity is being developed to implement this proposal.

A case control study to determine risk factors for Salmonella was initiated in Irish pig farms by AHI and Teagasc. The aim of the study is to compare farms with high and low prevalence for Salmonella, based on the ELISA test results from factory samples, to identify practices that may be associated with the control of Salmonella and to use these to inform the design of farm-level Salmonella control plans. All units (45) have been sampled and data analysis has started. This study had the endorsement of a range of stakeholders in the pig industry, including IFA, Bord Bia, Teagasc and DAFM.

OTHER ACTIVITIES

In December 2021 our second Pig HealthCheck newsletter was issued and is available in the Newsletter section of the AHI website.

Three online meetings were held with PVPs to discuss issues related to the PHC programme and other DAFM activities.





FEEDBACK TO FARMERS AND BENCHMARKING

Central to the Pig HealthCheck Programme is the creation of a database that will allow all data captured from the programme activities to be linked, analysed, displayed and benchmarked. The Pig HealthCheck web application (Figure 21) was launched on the 15th of November and is accessible at <https://www.pighealthcheck.ie> or through the AHI website. This web application currently allows farmers to access their biosecurity and tail biting risk assessments and to benchmark their results against other farms (Figure 22). It also allows PVPs to input these assessments directly into the database. In 2022 new dashboards to display the ante-mortem and the Salmonella serology data will be developed and made available. This new database has been developed for Animal Health Ireland by the Irish Cattle Breeding Federation (ICBF).

ah

Pig HealthCheck
AnimalHealthIreland.ie

Sign In

Pig HealthCheck is an Animal Health Ireland-led programme co-funded by pig producers and DAFF, with the aim of improving the profitability and sustainability of the Irish pig industry through improved animal health.

Sign-in to see your herd data

User Name *

Password *

Sign In [Forgot Password](#)

Figure 21. Login page of the Pig HealthCheck web application

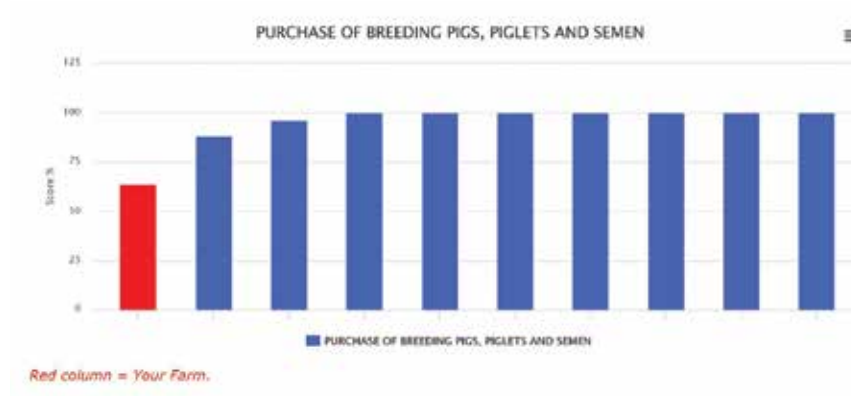


Figure 22. Biosecurity dashboard displaying the score for the category of purchase of breeding pigs, piglets and semen for one farm (red bar) in comparison with other farms (blue bars).



National Poultry Programme



Dr Carla Gomes • Programme Manager

TASAH ASSESSMENTS

Biosecurity Assessments using the Poultry BioCheck tool

The flock biosecurity assessments are being delivered by trained veterinary practitioners using the Biocheck tool developed by the University of Ghent. No training sessions took place in 2021 and 12 PVPs have so far been trained on how to use this tool. As of the end of December 2021, 223 units had been reviewed in terms of their biosecurity for broilers and 77 units for layers.

Overall, internal biosecurity scores are better than external biosecurity in broiler and layers flocks (Figure 23).

Areas that particularly required improvement in broilers farms (lowest scores) are those focusing on depopulation of broilers and removal of manure and dead animals (Figure 24).

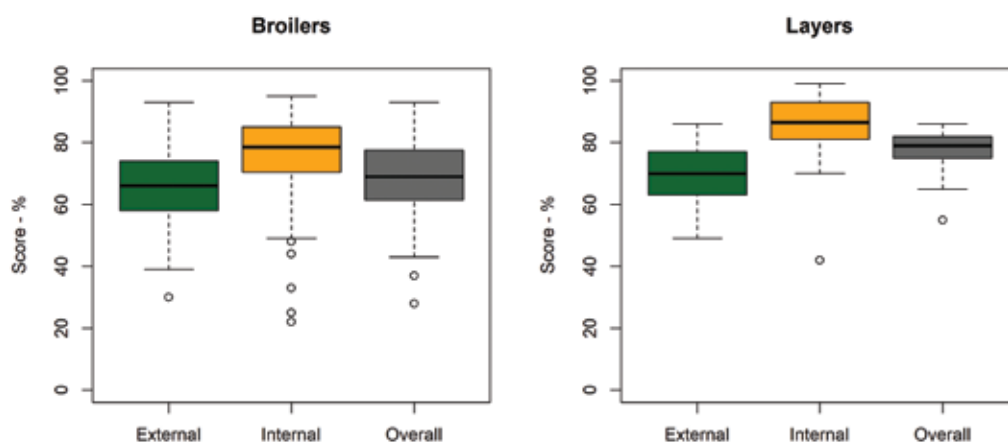


Figure 23. Graph showing the distribution of the scores per farm for the components of external (dark green), internal (orange) and overall (grey) biosecurity for all of the broiler and layers farms assessed until the end of December 2021. The thick line is the median (half of the farms assessed have scores lower than this line while the other half have scores higher than this line). The lower and upper limits of each box represents the distribution of flocks falling with 25%-75% (the middle 50%) of the distribution, while the lower and upper 'whisker' represent 5% to 95% of herds.

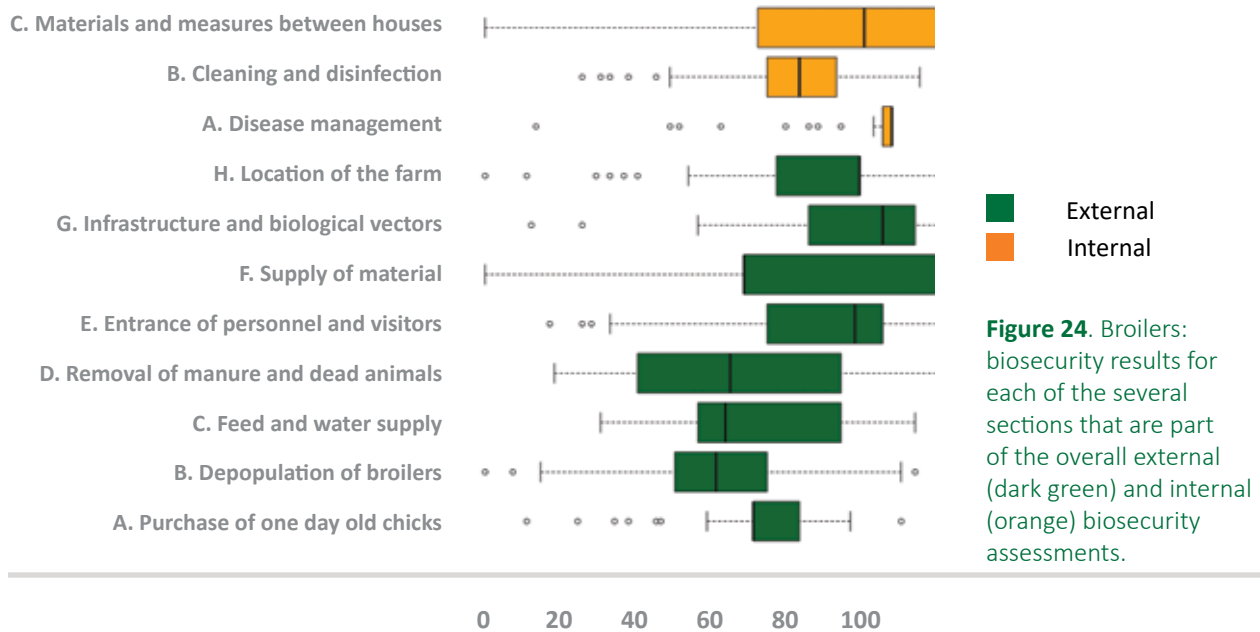


Figure 24. Broilers: biosecurity results for each of the several sections that are part of the overall external (dark green) and internal (orange) biosecurity assessments.

Areas requiring improvements in layer farms (three lowest scores) are those focusing on transport of eggs, depopulation of hens and supply of material (Figure 25). Around 49% of the layer units assessed so far are free-range units, 39% are barn systems and only 12% are from enriched cage systems.

One hundred and thirty-six of the 223 broiler units have been assessed twice. Figure 26 shows the results for these farms. While a small improvement was observed for the median of the internal biosecurity (thick line), no improvement was observed for external biosecurity.

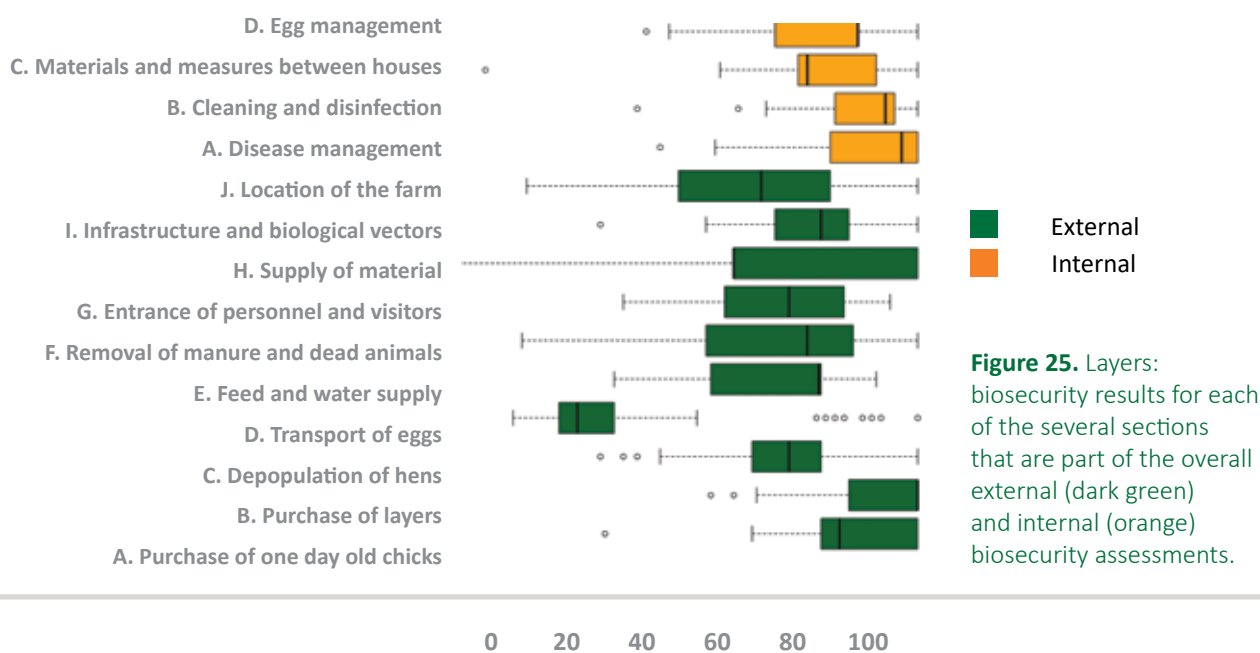


Figure 25. Layers: biosecurity results for each of the several sections that are part of the overall external (dark green) and internal (orange) biosecurity assessments.

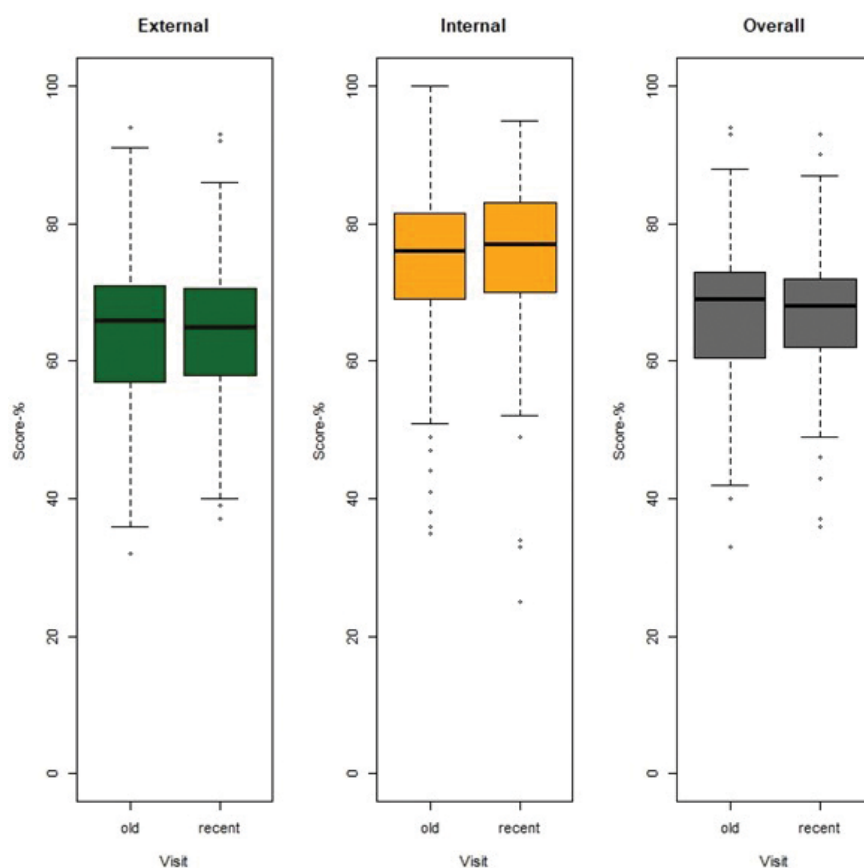


Figure 26. Biosecurity results for external (dark green) and internal (orange) biosecurity assessments for the 136 broiler units that have been assessed twice.





Calf Health Programme



Michelle McGrath • CalfCare Technical Working Group Rapporteur

CalfCare got off to a busy start in 2021, with the annual CalfCare events, held in conjunction with Teagasc, being held virtually over the period of a week in mid-January. The hard work involved in organising this ensured the delivery of key messages to a large number of farmers over the week, with the videos that were produced for it subsequently being made available online. These are an invaluable resource to farmers, veterinary practitioners and advisors.

In February, we were involved in delivering training on Colostrum management to Teagasc Dry stock advisors as part of their 'Beef Health birth to weaning' training for advisors that have been more than 5 years with Teagasc.

During the first half of 2021, a review of all the CalfCare leaflets was completed. The final CalfCare leaflet to be updated was on 'Prevention and Management of Pneumonia in Dairy Calves'. The title of this was changed slightly and is now called 'Control of Pneumonia in Dairy Calves'. It combines the most recent literature available and best practice advice on this topic to give a detailed summary of the key messages in controlling dairy calf pneumonia. Some of the leaflets needed a substantial overhaul to bring them up to date and are now available on the AHI website along with the new housing leaflets that were also produced in 2021 on 'Design of New Calf Accommodation' and 'Existing Calf Shed Assessment'. A request to develop an information leaflet on 'Summer Scouring Syndrome' in calves was made as this was seen to be an issue for which there was a lack of scientific evidence and advice available, despite the apparent increase in its incidence in recent years. This leaflet was completed in early 2022 and is now also published on the AHI website.

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The CalfCare TWG met virtually in September, when the priority work areas for the TWG were identified and discussed. New resources were identified as being required in advance of the 2022 calving season. A work plan was agreed with some topics identified as being potential topics for the CalfCare events planned for January 2022. The plan for the CalfCare events programme was that it would be supported by some of the work to be undertaken by the TWG between September and January 2022 which included the following:

- Increased focus on colostrum quality including clean harvesting and storage while continuing to re-emphasise 1,2,3 of Colostrum management.
- The importance of correct stocking density in calf sheds - especially where automatic calf feeders are used, review of calf sheds, feeding rates for calves and adapting with changing weather conditions.
- Increase awareness on the importance of water accessibility for calves - quality of water, hygiene, number and type of drinkers, height from the ground used in calf accommodation.
- Abomasal bloat.
- The importance of pain management in calf rearing focusing on disbudding.

With the easing of Covid restrictions during the Autumn time a decision was made to proceed with planning the on-farm calf events in January 2022. However, this plan changed again following the increase in Covid cases, forcing new restrictions to be put in place, so an alternative virtual plan was agreed upon. Various members of the TWG kindly volunteered their time to prepare the CalfCare booklet and presentation boards for the original on farm events.

Following on from what was proposed at the TWG, work began on producing three new information leaflets/factsheets. The titles of these leaflets are 'Understanding and reducing the risk of bloat in calves' and 'How much water should dairy calves drink?', while the third factsheet will be a list of standard operating procedures for key actions on calf rearing. Once these have been completed, they will further enhance the suite of CalfCare resources that are currently available.

The CalfCare key messages continue to be promoted through various media channels, with the most recent including two articles printed in the Irish Farmers Journal. The first article that was published in November outlined key points to consider when converting an existing shed into suitable calf accommodation and the second published in December, focused on preparing for the 2022 calving season.



Financial Statement



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COMPANY INFORMATION

| | |
|---------------------------|--|
| Board of Directors | James Lynch (Appointed 28th October 2021) |
| | Mike Magan (Retired 31st December 2021) |
| | Seán Brady |
| | Michael Doherty (Retired 21st July 2021) |
| | Roisin Hennerty |
| | John Malone |
| | Ivor Deverell |
| | Darran McKenna |
| Company Secretary | Nuala Morgan |
| Registered Number | 470675 |
| Registered Office | 4-5 The Archways Carrick-on-Shannon Co Leitrim N41 WN27 |
| Business Address | 4-5 The Archways Carrick-on-Shannon Co Leitrim N41 WN27 |
| Auditor | Gilroy Gannon |
| Bankers | Bank of Ireland |
| Solicitors | Osbornes Solicitors |



DIRECTORS' REPORT

Financial Year Ended 31st December 2021

The directors of Animal Health Ireland Initiative ('the company') present the annual report together with the audited financial statements for the financial year ended 31st December 2021.

DIRECTORS

The names of the persons who were directors at any time during the year ended 31st December 2021 are set out below. Unless indicated otherwise, they served as directors for the entire year.

James Lynch (Appointed 28th October 2021)

Mike Magan (Retired 31st December 2021)

Seán Brady

Michael Doherty (Resigned 21st July 2021)

Roisin Hennerty

John Malone

Ivor Deverell

Darran McKenna

Mr James Lynch was appointed Chair on 10th January 2022.

PRINCIPAL ACTIVITIES

The principal activities of the company are to promote awareness and education in animal health and to co-ordinate effective control programmes for non-regulated diseases of livestock.

RESULTS

The results for the financial year are set out on page 75. The surplus on ordinary activities for the year ended 31st December 2021 is €210,797 (€173,433 for the year ended 31st December 2020).

FINANCIAL POSITION

The financial position is set out on page 76, showing net assets of €751,401 as at 31st December 2021 compared to net assets of €540,604 as at 31st December 2020.

RISKS AND UNCERTAINTIES

The continuous financial support of stakeholders is a prerequisite to the drawdown of matching funds from the Department of Agriculture, Food and the Marine which enables the company to deliver its various programmes to the highest standards and within budget.

The impact of COVID, together with other economical and geo-political issues, present a challenge to the company and the agricultural sector in general. Whereas programmes are ongoing, nevertheless, the situation regarding the pandemic is under constant review with the health and safety of staff, stakeholders and clients foremost in all decisions taken.



TRANSACTIONS INVOLVING DIRECTORS

There were no contracts of any significance in relation to the affairs of the company in which any director had any interest at any time during the financial year ending on 31st December 2021.

AUDIT COMMITTEE

The company has established an Audit, Finance and Risk Committee whose function includes meeting annually with the external auditor.

GOING CONCERN

The directors have prepared budgets for 2022 which demonstrate that there is no material uncertainty regarding the company's ability to meet its liabilities as they fall due. Therefore, the directors consider it appropriate to prepare the financial statements on a going concern basis. Accordingly, these financial statements do not include any adjustments to the carrying amounts and classification of assets and liabilities that may arise if the company was unable to continue as a going concern.

ACCOUNTING RECORDS

The measures taken by the directors to ensure compliance with the requirements of Section 281 to 285, of the Companies Act 2014 with regard to the keeping of accounting records are the implementation of necessary policies and procedures for recording transactions, the employment of competent accounting personnel with appropriate expertise and the provision of adequate resources to the financial function. The accounting records of the company are located at 4-5 The Archways, Carrick-on-Shannon, Co Leitrim N41 WN27.

STATEMENT ON RELEVANT AUDIT INFORMATION IN ACCORDANCE WITH SECTION 330 OF COMPANIES ACT 2014:

- So far as each person who is a director at the date of approving this report is aware, there is no relevant audit information, being information needed by the auditor in connection with preparing its report, of which the auditor is unaware.
- Each director has taken all the steps that he or she ought to have taken as a director in order to make himself or herself aware of any relevant audit information and to establish that the company's statutory auditor is aware of that information.

LEGAL STATUS

Animal Health Ireland Initiative is a company limited by guarantee, not having a share capital. Animal Health Ireland Initiative is a not for profit organisation set up to enhance value for livestock farmers and the agrifood industry through superior animal health. All income to the company is applied towards the running of the organisation.

AUDITOR

The auditor, Gilroy Gannon, have indicated their willingness to continue in office in accordance with the provisions of Section 383(2) of the Companies Act 2014.

On behalf of the Board

James Lynch
Chair

Seán Brady
Director

Date: 11th April 2022



DIRECTORS' RESPONSIBILITIES STATEMENT

Financial Year Ended 31st December 2021

The directors are responsible for preparing the directors' report and the financial statements in accordance with applicable Irish law and regulations.

Irish company law requires the directors to prepare financial statements for each financial year. Under the law, the directors have elected to prepare the financial statements in accordance with Companies Act 2014 and FRS 102, the Financial Reporting Standard applicable in the UK and Republic of Ireland.

Under company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the assets, liabilities and financial position of the company as at the financial year end date and of the surplus of the company for the financial year and otherwise comply with the Companies Act 2014.

In preparing these financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently.
- Make judgments and accounting estimates that are reasonable and prudent.
- State whether the financial statements have been prepared in accordance with applicable accounting standards, identify those standards, and note the effect and the reasons for any material departure from those standards.
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

The directors are responsible for ensuring that the company keeps or causes to be kept adequate accounting records which correctly explain and record the transactions of the company, enable at any time the assets, liabilities, financial position and surplus of the company to be determined with reasonable accuracy, enable them to ensure that the financial statements and directors' report comply with the Companies Act 2014 and enable the financial statements to be audited. They are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in Ireland governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

On behalf of the Board

James Lynch

Chair

Date: 11th April 2022

Seán Brady

Director



INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ANIMAL HEALTH IRELAND INITIATIVE

Financial Year Ended 31st December 2021

REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

OPINION

We have audited the financial statements of Animal Health Ireland Initiative for the year ended 31st December 2021 which comprise the Income & Expenditure Account, Balance Sheet, Cashflow Statement and related notes including a summary of significant accounting policies set out in Note 3. The financial reporting framework that has been applied in their preparation is Irish Law and FRS 102, the Financial Reporting Standard applicable in the UK and Republic of Ireland issued by the Financial Reporting Council.

In our opinion the financial statements:

- Give a true and fair view of the assets, liabilities and financial position of the company as at 31st December 2021 and of its surplus for the year then ended.
- Have been properly prepared in accordance with FRS 102, the Financial Reporting Standard applicable in the UK and Republic of Ireland.
- Have been properly prepared in accordance with the requirements of the Companies Act 2014.

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (Ireland) (ISAs Ireland) and applicable law. Our responsibilities under those standards are described below in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the company in accordance with ethical requirements that are relevant to our audit of financial statements in Ireland, including the Ethical Standard for Auditors (Ireland) issued by the Irish Auditing and Accounting Supervisory Authority (IAASA), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

CONCLUSIONS RELATING TO GOING CONCERN

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the company's ability to continue as a going concern for a period of at least twelve months from the date when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.



INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ANIMAL HEALTH IRELAND INITIATIVE

Financial Year Ended 31st December 2021

OTHER INFORMATION

The directors are responsible for the other information. The other information comprises the information included in the annual report other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement in the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

OPINIONS ON OTHER MATTERS PRESCRIBED BY THE COMPANIES ACT 2014

In our opinion, based on the work undertaken in the course of the audit, we report that:

- The information given in the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements.
- The directors' report has been prepared in accordance with applicable legal requirements.

We have obtained all the information and explanations which we consider necessary for the purposes of our audit.

In our opinion the accounting records of the company were sufficient to permit the financial statements to be readily and properly audited, and financial statements are in agreement with the accounting records.

MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION

Based on the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the directors' report.

The Companies Act 2014 requires us to report to you if, in our opinion, the requirements of any of sections 305 to 312 of the Act, which relate to disclosures of directors' remuneration and transactions are not complied with by the Company. We have nothing to report in this regard.

RESPECTIVE RESPONSIBILITIES

Responsibilities of directors for the financial statements

As explained more fully in the directors' responsibilities statement on page 71, the directors are responsible for the preparation of the financial statements in accordance with the applicable financial reporting framework that give a true and fair view, and for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.



In preparing the financial statements, the directors are responsible for assessing the company's ability to continue as a going concern, disclosing, if applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the company's financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (Ireland) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the IAASA's website at: <http://www.iaasa.ie> under "Description of auditors responsibilities for audit".

This description forms part of our auditor's report.

THE PURPOSE OF OUR AUDIT WORK AND TO WHOM WE OWE OUR RESPONSIBILITIES

This report is made solely to the company's members, as a body. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Joe Gannon

For and on behalf of Gilroy Gannon

Chartered Accountants and Statutory Audit Firm Sligo

Date: 11th April 2022



INCOME AND EXPENDITURE ACCOUNT

Financial Year Ended 31st December 2021

| | Notes | 2021 € | 2020 € |
|--|-------|--------------------|-------------|
| Income from Stakeholders | | 1,555,300 | 1,555,300 |
| Other income | | 2,110,432 | 1,323,600 |
| | | 3,665,732 | 2,878,900 |
| Operating expenses | | (3,454,935) | (2,705,467) |
| Surplus on ordinary activities | | 210,797 | 173,433 |
| Taxation | 7 | - | - |
| Surplus | | 210,797 | 173,433 |
| Accumulated surplus at beginning of financial year | | 540,604 | 367,171 |
| Accumulated surplus at end of financial year | | 751,401 | 540,604 |



BALANCE SHEET

As at 31st December 2021

| | Notes | 2021 € | 2020 € |
|---------------------------|-----------|------------------|-----------|
| Fixed Assets | 8 | 19,410 | 19,588 |
| Current Assets | | | |
| Stocks | 9 | 7,144 | 8,755 |
| Debtors | 10 | 16,935 | 10,265 |
| Bank | 11 | 1,372,879 | 1,058,237 |
| | | 1,396,958 | 1,077,257 |
| Creditors | 12 | (664,967) | (556,241) |
| Net Current Assets | | 731,991 | 521,016 |
| Net Assets | | 751,401 | 540,604 |
| Represented by: | | | |
| Reserve Account | | 751,401 | 540,604 |

The notes on pages 78-84 form part of the financial statements.

These financial statements were approved by the Board on 11th April 2022 and signed on its behalf by:

James Lynch
Chair

Date: 11th April 2022

Seán Brady
Director



CASHFLOW STATEMENT

Financial Year Ended 31st December 2021

| | Notes | 2021 € | 2020 € |
|---|-----------|------------------|-----------|
| Cash Flows From Operating Activities | | | |
| Surplus for the financial year | | 210,797 | 173,433 |
| <i>Adjustments for:</i> | | | |
| Depreciation | | 10,697 | 9,283 |
| Loss on disposal of tangible assets | | - | 1,173 |
| <i>Changes in:</i> | | | |
| Stocks | | 1,611 | (755) |
| Trade and other debtors | | (6,670) | 27,737 |
| Trade and other creditors | | 108,726 | 22,676 |
| Net cash from operating activities | | 325,161 | 233,547 |
| Cash Flows From Investing Activities | | | |
| Purchase of fixed assets | | (10,519) | (8,657) |
| Proceeds from sale of tangible assets | | - | 57 |
| Net Increase In Cash | | 314,642 | 224,947 |
| Cash at beginning of financial year | 11 | 1,058,237 | 833,290 |
| Cash at end of financial year | 11 | 1,372,879 | 1,058,237 |



NOTES TO THE FINANCIAL STATEMENTS

Financial Year Ended 31st December 2021

1. GENERAL INFORMATION

The financial statements comprising the Income and Expenditure Account, the Balance Sheet, the Cashflow Statement and the related notes constitute the financial statements of Animal Health Ireland Initiative for the year ended 31st December 2021.

The company is a private company limited by guarantee (registered under Part 18 of the Companies Act 2014), incorporated and registered in the Republic of Ireland (CRO number 470675). The address of the registered office is 4-5 The Archways Carrick-on-Shannon Co Leitrim N41 WN27 which is also the principal place of business of the company. The nature of the company's operations and its principal activities are set out in the directors' report.

2. STATEMENT OF COMPLIANCE

These financial statements have been prepared in accordance with FRS 102, the Financial Reporting Standard applicable in the UK and Republic of Ireland.

3. ACCOUNTING POLICIES

Basis of preparation

The financial statements have been prepared on the going concern basis and in accordance with the historical cost convention. The financial reporting framework that has been applied in their preparation is the Companies Act 2014 ('the Act') and FRS 102.

The financial statements are prepared in euros.

Going concern

The directors have prepared budgets for 2022 which demonstrate that there is no material uncertainty regarding the company's ability to meet its liabilities as they fall due. Therefore the directors consider it appropriate to prepare the financial statements on a going concern basis. Accordingly, these financial statements do not include any adjustments to the carrying amounts and classification of assets and liabilities that may arise if the company was unable to continue as a going concern.

Income

The company's source of income includes stakeholders' subscriptions and funding from the Department of Agriculture, Food and the Marine ('DAFM'). In addition, the company generates income from the provision of educational training courses.



Depreciation

Depreciation is calculated so as to write off the cost or valuation of an asset, less its residual value, over the useful economic life of that asset as follows:

| | | |
|------------------------|----------|---------------|
| Office equipment | - 33.33% | straight line |
| Furniture and fittings | - 33.33% | straight line |

If there is an indication that there has been a significant change in depreciation rate, useful life or residual value of tangible assets, the depreciation is revised prospectively to reflect the new estimates.

Stocks

Stocks are measured at the lower of cost and net realisable value.

Critical accounting judgements and estimates

The preparation of these financial statements requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, income and expenses.

Judgements and estimates are continually evaluated and are based on historical experiences and other factors, including expectations of future events, that are believed to be reasonable under the circumstances.

At 31st December 2021 there are no estimates or judgements that have a significant risk of causing material adjustments to the carrying amounts of assets and liabilities that should be disclosed.

Other support

The company is in receipt of certain services from the Department of Agriculture, Food and the Marine; University College, Dublin and Teagasc which are of a non monetary nature and accordingly are not included in the Income and Expenditure Account.

4. SURPLUS

Surplus for the financial year is stated after charging:

| | 2021 € | 2020 € |
|------------------------------|-----------|-----------|
| Depreciation of fixed assets | 10,697 | 9,283 |
| Directors' remuneration | 48,930 | 33,061 |
| Audit | 5,842 | 4,443 |



5. DIRECTORS' REMUNERATION

In the financial year ended 31st December 2021 Directors' emoluments comprise:

| | 2021 | 2020 |
|-----------------|---------------|----------|
| | € | € |
| Remuneration | 48,930 | 33,061 |
| Travel expenses | 1,886 | 2,524 |
| Social security | 1,294 | 603 |
| | 52,110 | 36,188 |
| | 2021 | 2020 |
| | € | € |
| James Lynch | 1,250 | - |
| Mike Magan | 27,680 | 18,061 |
| Seán Brady | 5,000 | 5,000 |
| Michael Doherty | - | - |
| Roisin Hennerty | - | - |
| John Malone | 5,000 | 5,000 |
| Ivor Deverell | 5,000 | 3,750 |
| Darran McKenna | 5,000 | 1,250 |
| | 48,930 | 33,061 |

The former Chairman was entitled to an honorarium of €20,000 (€10,000 for 2021 and €10,000 for an earlier period) and per diem payments amounting to €7,680 (2020: €8,061). The per diem is paid in respect of activities undertaken in pursuit of the objectives of the company over and above the normal duties associated with the office.

There were no related party transactions with the directors during the financial year ended 31st December 2021.



6. STAFF COSTS

The staff costs, excluding directors, for all employees comprise:

| | 2021 € | 2020 € |
|-------------------|------------------|------------------|
| Salaries | 973,549 | 910,348 |
| Social security | 104,733 | 97,394 |
| Other staff costs | 5,309 | 5,040 |
| Pension | 30,000 | 30,000 |
| Travel expenses | 29,082 | 35,565 |
| | 1,142,673 | 1,078,347 |

Remuneration and travel expenses of the Chief Executive, which are included in staff costs above, comprise:

| | 2021 € | 2020 € |
|-----------------|----------------|----------------|
| Salary | 135,932 | 135,932 |
| Social security | 15,021 | 15,021 |
| Pension | 30,000 | 30,000 |
| Travel expenses | 4,595 | 7,327 |
| | 185,548 | 188,280 |

The average number of persons employed by the company during the financial year was as follows:

| | 2021 Number | 2020 Number |
|----------------------|----------------|----------------|
| Management | 2 | 2 |
| Administration | 6 | 6 |
| Programme management | 7 | 6 |
| Communications | 1 | 1 |
| Others | 2 | 2 |
| | 18 | 17 |

The total compensation for key management personnel in 2021 amounted to €294,908 (2020: €277,560). Key management personnel consists of the members of the Board; the Chief Executive and the Company Secretary.



Employees' short-term benefits in excess of €80,000 are categorised into the following bands:

| | 2021 | 2020 |
|---------------------|----------|----------|
| €80,000 - €89,999 | 2 | 2 |
| €90,000 - €99,999 | 2 | 1 |
| €100,000 - €149,999 | 1 | 1 |
| | <u>5</u> | <u>4</u> |

For the purpose of this disclosure, short-term employees' benefits in relation to the services rendered during the reporting period comprises salary but excludes employer's PRSI.

7. TAXATION

The surplus on ordinary activities is not subject to Corporation Tax in accordance with the principal of mutual trading. No Corporation Tax liability has been provided for in the year ending 31st December 2021.

8. FIXED ASSETS

| | Office equipment | Furniture & fittings | Total |
|------------------------------|---------------------|-------------------------|-----------------|
| | € | € | € |
| Cost | | | |
| At 1st January 2021 | 70,801 | 7,100 | 77,901 |
| Additions | 9,722 | 797 | 10,519 |
| Disposals | - | - | - |
| At 31st December 2021 | <u>80,523</u> | <u>7,897</u> | <u>88,420</u> |
| Depreciation | | | |
| At 1st January 2021 | (53,390) | (4,923) | (58,313) |
| Charge for the year | (9,267) | (1,430) | (10,697) |
| Disposals | - | - | - |
| At 31st December 2021 | <u>(62,657)</u> | <u>(6,353)</u> | <u>(69,010)</u> |
| Carrying amount | | | |
| At 31st December 2021 | <u>17,866</u> | <u>1,544</u> | <u>19,410</u> |
| Carrying amount | | | |
| At 31st December 2020 | <u>17,411</u> | <u>2,177</u> | <u>19,588</u> |

The basis by which depreciation is calculated is stated in Note 3.



9. STOCKS

| | 2021 € | 2020 € |
|-------------|--------------|--------------|
| Consumables | 4,638 | 5,138 |
| Booklets | 2,506 | 3,617 |
| | 7,144 | 8,755 |

The basis by which stocks are valued is stated in Note 3. The replacement cost of stocks did not differ significantly from the figures shown above.

10. DEBTORS

| | 2021 € | 2020 € |
|-------------|---------------|---------------|
| Debtors | 13,636 | 5,591 |
| Prepayments | 3,299 | 4,674 |
| | 16,935 | 10,265 |

11. CASH

| | 2021 € | 2020 € |
|--------------|------------------|-----------|
| Cash at bank | 1,372,879 | 1,058,237 |

The cash at bank includes funds ringfenced for certain specific programmes and activities of which €285,892 (2020:€207,651) relates to the Irish Johne's Control Programme.

12. Creditors

| | 2021 € | 2020 € |
|---------------------------------|----------------|----------------|
| Trade creditors | 111,443 | 142,407 |
| Payroll Taxes | 42,702 | 36,343 |
| Accruals | 78,615 | 82,523 |
| Irish Johne's Control Programme | 285,114 | 207,468 |
| Deferred income | 147,093 | 87,500 |
| | 664,967 | 556,241 |

All creditors are payable on demand and are interest free.



13. PENSION COSTS

Animal Health Ireland Initiative does not operate a company pension scheme. The company complies with legislative requirements to allow employees have deductions made from their salary towards Personal Retirement Savings Accounts ('PRSAs').

The company contributes to a Personal Retirement Savings Account of the Chief Executive.

14. FILING OBLIGATIONS

Animal Health Ireland Initiative, as a matter of good corporate governance, have chosen not to avail of the exemption to file abridged financial statements with the Companies Registration Office under Section 352 although the company is entitled to do so.

15. LIMITED BY GUARANTEE

Animal Health Ireland Initiative is a company limited by guarantee not having a share capital. The liability of each member, in the event of the company being wound up, will not exceed one thousand euro per member.

16. APPROVAL OF FINANCIAL STATEMENTS

The financial statements were approved by the Board of Directors on 11th April 2022.

