An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Plant Health & Biosecurity Strategy 2020-2025

Contents

Acronyms

CABI	Centre for Agriculture and Bioscience International
DAERA	Department of Agriculture, Environment and Rural Affairs
DAFM	Department of Agriculture, Food and the Marine
EFSA	European Food Safety Authority
EPPO	European and Mediterranean Plant Protection Organisation
EU	European Union
FAO	Food and Agricultural Organisation
IAS	Invasive Alien Species
IPPC	International Plant Protection Convention
ISPM	International Standards on Phytosanitary Measures
NGOs	Non-Governmental Organisations
NPPO	National Plant Protection Organisation
NRLs	National Reference Laboratories
PRA	Pest Risk Analysis
SCoPAFF	Standing Committee on Plants, Animals, Food and Feed
SPS	Sanitary and Phytosanitary
WTO	World Trade Organisation

SCOPE

This strategy sets out the importance of plant health and biosecurity for Ireland as well as ensuring that all relevant stakeholders are aware of the risks to plant health in Ireland, and their role and responsibilities to reduce that risk. It focuses on working closely with key partners including other government departments and agencies, industry, local authorities, nongovernmental organisations (NGOs), the scientific community, educators and all citizens.

OBJECTIVES

To minimise the threat posed to plants by the potential introduction and establishment of plant pests and diseases. The creation of a strategy will provide cohesion and coordination, as well as a road map for delivery of specific, achievable, targeted actions which will be facilitated through wide collaboration and an agreed implementation plan.

Plant Health & Biosecurity Strategy 2020 - 2025

FOREWORD – BY ANDREW DOYLE TD

Minister of State for Food, Forestry and Horticulture

I am pleased to launch this **Plant Health and Biosecurity Strategy**. With the ever growing global trade in plants, plant products and associated movement of new and emerging plant pests and diseases, the development of a Plant Health and Biosecurity Strategy is one of my Department's high level priorities for 2019. It shows my Department's commitment to achieving operational and scientific excellence and to further developing capability and expertise across plant health.

A fully functional and efficient plant health and biosecurity system is a vital part of the future profitability, productivity and sustainability of agriculture, forestry and horticulture and is necessary to preserve the wider environment. This strategy is underpinned by three key strategic principles:

1. Risk Anticipation
2. Surveillance
3. Awareness

In recent years, plant health awareness has been raised at national events including Bloom, GLAS trade show, the National Ploughing Championships and airport campaigns. This will be complemented and enhanced by national, EU and international events and promotions of plant health through the UN International Year of Plant Health 2020. It is clear that the objectives of this strategy "To minimise the threat to plant health by preventing the introduction and establishment of plant pests and diseases, and reducing their impact in order to achieve environmental protection, economic growth and human well-being", are also aligned to the UN 2030 Sustainable Development goals.

I wish to thank all of the stakeholders who participated in and contributed to the stakeholder consultation on the Plant Health and Biosecurity Strategy and those who subsequently submitted written contributions. The development of this strategy was possible due to the overwhelming support from all interested stakeholders.

Section 1

Summary of the Plant Health & Biosecurity Strategy

SCOPE

This strategy sets out the importance of plant health and biosecurity for Ireland as well as ensuring that all relevant stakeholders are aware of the risks to plant health in Ireland, and their role and responsibilities to reduce that risk. It focuses on working closely with key partners including other government departments and agencies, industry, local authorities, nongovernmental organisations (NGOs), the scientific community, educators and all citizens.

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KEY STRATEGIC PRINCIPLES

RECOMMENDATIONS

PREPAREDNESS	CAPACITY	AWARENESS
Develop Pest Risk Analysis & Horizon Scanning	Identify & implement structures for a robust plant health system	Develop cross divisional alignment in DAFM within the area of plant health
Develop Risk Register Identify gaps in: Surveillance, Contingency Plans, Capacity, Expertise	Deliver on diagnostic needs	Develop & maintain networks DAFM, Industry, NGOs. Landowners, Public
Review current Surveillance & Monitoring	Coordinate training for stakeholders	Define stakeholder roles in plant health
Devise Management Strategies To enhance plant health status To minimise the impact of disease outbreak	Promote third level R & D Facilitate plant health research projects	Devise public awareness campaigns International Year of Plant Health 2020 "Don't Risk It"
	Develop contingency plans	Ensure inter-Departmental cooperation
	Improve links between academia, industry, DAFM, Teagasc, NGOs	

Section 2

Scope of the Plant Health & Biosecurity Strategy

This strategy sets out the importance of plant health and biosecurity for Ireland as well as ensuring that all relevant stakeholders are aware of the risks to plant health in Ireland, and their role and responsibilities to reduce that risk.

This strategy is therefore focused on working closely with key partners including other government agencies and departments, industry, local authorities, non-governmental organisations (NGOs), the scientific community, educators and all citizens.

This Plant Health and Biosecurity Strategy is Ireland's response to the increasing emerging threats that we face. It has been devised following consultation and engagement with scientific, regulatory and industry stakeholder communities and has been further informed by an analysis of international best practice in this field. It presents a list of recommendations which seeks to identify and rectify gaps in our preparedness, building on existing initiatives and harnessing wider society to achieve its objective. It recognises that only through a unified and inclusive approach can we protect our agriculture, horticulture and forestry sectors and secure our natural environment.

This strategy takes cognisance of other Department of Agriculture, Food and the Marine (DAFM) and governmental strategies and policies, such as DAFM's high level priorities for 2019, DAFM Statement of Strategy 2016-2019, CAP Reform, Agri- Food 2030, DAFM's Laboratories Development, Forest Products and People Policy Document and Ireland's Climate Action Plan.

THE PROCESS

A project team within DAFM was established to develop this strategy. The team consisted of representatives from relevant Divisions with scientific and regulatory experience in plant health and related disciplines.

The team looked at objectives and benefits to be derived from a plant health and biosecurity strategy and then, through open meetings and on-line consultation with stakeholders, developed this strategy. During the consultation process, some clear themes emerged which were further developed by the project team; these centered on a risk based approach to plant health and biosecurity around the principles of risk anticipation, risk assessment and management as well as risk awareness and communication.

From this, a list of recommendations is presented which seeks to identify and rectify gaps in our preparedness, build on existing initiatives and harness wider society to achieve the objectives of the strategy. An implementation project team and steering committee (including internal and external stakeholders) will be established and an implementation plan for the period of the strategy rolled out, based on the actions from the recommendations.

Section 3

Background

80%
of the food we eat

Healthy plants constitute the foundations for all life on earth, producing the oxygen we breathe and over 80% of the food we eat. Plant health is a key factor to underpinning and supporting agriculture to feed the growing global population by 2050.

Policies and actions to promote plant health are therefore fundamental for reaching the UN Sustainable Development Goals, in particular those aimed at reducing poverty, hunger and threats to the environment.

Ireland is recognised as having a favourable plant health status which means that many of the pests and diseases of plants which are present elsewhere are still absent from Ireland. Ireland's geographic location, climate and isolation as an island have conferred on us natural advantages in terms of the protection of our agriculture, horticulture and forestry sectors, as well as the wider environment.

However, increased globalisation leading to increasingly complex trade patterns throughout the world in plants and plant products (and their associated pests and diseases) means that Ireland cannot be complacent. We cannot assume that Ireland will retain its freedom from plant health pest and diseases by simply continuing with **'business as usual'**.

International Plant Protection Convention

> **“The International standards on plant health to facilitate trade in plants and plant products are based on the provisions laid down in the UN Food and Agricultural Organisation’s (FAO) International Plant Protection Convention (IPPC) and the World Trade Organisation’s (WTO) Sanitary and Phytosanitary (SPS) measures.[1]”**

INTERNATIONAL CONTEXT

Each of the 181 Member Countries have a National Plant Protection Organisation (NPPO) to implement the standards agreed. The Department of Agriculture, Food and the Marine (DAFM) is Ireland’s NPPO. A clear example of these international standards is the International Standard on Phytosanitary Measures No.15 (ISPM 15), which regulates the use of wood packaging material in international trade, laying down minimum treatment standards for any wood packaging material, including pallets, to prevent the unintended movement of harmful pests and diseases.

At the EU level, DAFM represents Ireland’s interests and provides input into the development of phytosanitary legislation at the Standing Committee on Plants, Animals, Food and Feed (SCoPAFF). Ireland is also a member of the European and Mediterranean Plant Protection Organisation (EPPO), which is a Regional Plant Protection Organization under the IPPC that promotes the exchange of information between its member countries. In addition, interactions with our trading partners can also increase our awareness of pests that may pose a risk to Ireland’s plants.

[1]The IPPC is the body recognised by the WTO as the standard setting authority.

Liriomyza huidobrensis

PLANT HEALTH IN IRELAND

DAFM fulfils the role of Ireland's NPPO, implementing the annual plant health programme under EU and national legislation with the aim of protecting the health of plants in Ireland (see **Appendix** for more detail). DAFM is leading the development of strategies and measures to mitigate the effects of plant pests and pathogens on our natural environment, while also endeavouring to balance our international commitments with the socio-economical needs of our citizens. DAFM works closely with its Northern Irish counterpart, the Department of Agriculture, Environment and Rural Affairs (DAERA) on an all-island basis in order to protect the plant health status of the island of Ireland as a single epidemiological unit. This activity is underpinned by the North South Ministerial Council into which the plant health steering group reports; examples include the All Ireland Chalara Control Strategy (2013), joint Protected Zone Status for the leaf miner pest, ***Liriomyza huidobrensis*** and ***L. trifolii***, a cross border contingency planning exercise, and DAERA's involvement as a stakeholder in the production of this strategy. Ireland has also enjoyed a long and mutually beneficial relationship with plant health scientists in Northern Ireland and has relied on both their facilities and expertise.

The EU Biodiversity Strategy to 2020 sets out six targets to halt the loss of biodiversity in the European Union. Target 5 covers the control of Invasive Alien Species (IAS). Many IAS are potential plant health risks and are listed in the new Plant Health Regulation. It is clear that close cooperation is required between DAFM and other government agencies along with other stakeholders in order to keep IAS out of Ireland's territory.

WHY DOES IRELAND NEED A PLANT HEALTH & BIOSECURITY STRATEGY

Ireland faces a significant range of challenges to maintain its natural environment. The intensification of agriculture, for example, has necessitated that Ireland strengthen its efforts to maintain and improve water quality, air quality and biodiversity. Furthermore, the potential impacts of climate change are a cause for concern. These are compelling economic, social and environmental drivers for a more robust and coordinated response to plant health challenges of critical importance to protect and enhance the nation's prosperity and wellbeing. Ireland needs a more effective and efficient approach to horizon scanning and risk assessment, detection and management options, and methods for mitigating impacts including contingency planning. It also needs to develop more biological and environmental resilience to pest and disease challenges and greater communication and engagement between stakeholders.

“In a globalised and interconnected world, the importance of biosecurity (safeguarding resources from biological threats) cannot be understated. There is also a need for better co-operation between organisations and countries with biosecurity expertise to deliver benefits to their own countries, to developing countries and to ensure more biosecure trade. A fully functional and efficient biosecurity system is a vital part of the future profitability, productivity and sustainability of forestry, horticulture and agriculture (including cereals and grassland) and is necessary to protect and preserve the environment.”

STRATEGIC OBJECTIVES

To minimise the threat posed to plants by the potential introduction and establishment of plant pests and diseases. While recognising that much good work has been done in Ireland to date in the areas of plant health policy, research and biosecurity, the creation of a strategy will provide cohesion and coordination, as well as a road map for delivery of specific, achievable, targeted actions which will be facilitated though wide collaboration and an agreed implementation plan.

Section 4

Plant Health & Biosecurity Threats, Risks & Impacts

ECONOMICS OF PLANT PRODUCTION

€437m
VALUE OF HORTICULTURE INDUSTRY in 2018
(estimated)

6,600
INDIVIDUALS EMPLOYED full time in PRIMARY PRODUCTION in 2016
(estimated)

Ireland's reputation for a 'green' agricultural sector is recognised worldwide. Its dairy, beef and sheep sectors rely heavily on a grass-based system of production. Plant health provides high quality grass, healthy crops, cereal seeds and prevents soil erosion.

Trade in plants and plant products stimulates economic growth and brings well-being and prosperity to rural communities and agricultural sectors.

Forestry also plays an increasingly important role in rural development through the diversification of farm income, and also through the provision of rurally based employment, both of which contribute to rural stabilisation and viability.

It is estimated that the horticulture industry was worth **€437m** (farmgate value) in **2018**, which is the joint third highest sector in terms of gross agricultural commodity output value. The recently published Bord Bia "**Labour Review of Horticulture in Ireland 2016**" estimated that **6,600** individuals were employed full time in primary production activity with a further **11,000** individuals employed in value added and downstream businesses (not including the wholesale trade).

Silverleaf whitefly *(Bemisia tabaci)*

CLIMATE CHANGE

Climate is often a limiting factor for pests both in terms of their survival and fecundity. Climate change is already being associated with changes in the environmental range, abundance and activity of plant pests, which in turn may increase the potential impact of these pests on plant health.

Sustained changes in environmental parameters could directly or indirectly impact on agriculture and our reputation as a sustainable food producer, this is currently being taken into account through the DAFM Climate adaptation plan. Changing patterns or frequencies of vector-borne diseases is one possible consequence. An increase in the introduction and spread of new and damaging pests and diseases may result in new threats, amplifying the impacts of those already established.

Warmer temperatures have been associated with large-scale outbreaks of bark beetles in forests of North America and continental Europe. In addition, regional tree decline due to drought, diseases and the interactions between these factors can have negative effects on biodiversity. Prediction and management of climate change effects on plant health are complicated by interactions between shifts in climate, pollution and increasing numbers of invasive plant pests and diseases.

Ash dieback *(Hymenoscyphus fraxineus)*

Japanese Larch dieback *(Phytophthora ramorum)*

Citrus Long-horned Beetle *(Anoplophora chinensis)*

GLOBALISATION

Increased international trade and travel has escalated the risks to plant health from biosecurity threats. Although afforded some protection from plant diseases and pests by geographical location, Ireland is not immune to the movement of people, animals, plants and goods. As a member of the EU, Ireland is part of an open intra-community market in which there is free trade and movement of animals and plants. Disease incursions in Europe, such as the introduction of ash dieback *(Hymenoscyphus fraxineus)*, highlight the risk of an outbreak of an exotic or emerging disease.

> **“Ireland needs to be better prepared in understanding the risks of which pests and diseases are likely to arrive; when, where and how they might invade, how severe the impact is likely to be and what options are available for eradication or adaptation.”**

2.1m
ASH TREES ERADICATED
caused by a fungal pathogen *Hymenoscyphus fraxineus*

IMPACT OF PLANT PESTS AND DISEASES

Pests and diseases can cause negative economic, environmental and social impacts.

The European Commission has estimated that across the EU, exotic alien species cause close to €10 billion of damage annually. For example, the fungus-like disease ***Phytophthora ramorum*** resulted in an outbreak of sudden larch death in Ireland and the UK from 2010 - 2016, with over 18,000 ha of Japanese larch affected by the eradication measures put in place to control the pest, which was globally unique to these countries. Ash dieback, caused by the fungal pathogen ***Hymenoscyphus fraxineus***, has caused extensive mortality of ash ***(Fraxinus spp.)*** across Europe and over 2.1 million trees were removed in Ireland as part of an eradication programme. A recent UK study has estimated that ash dieback was expected to cost the British economy nearly £15 billion. Apart from commercial forest and amenity planted trees, the disease is likely to have a very damaging future impact on the Irish landscape and particularly on Ireland's vast network of native hedgerows which have a substantial component of ash. Invertebrate pests introduced to the island of Ireland in recent years include the Eucalyptus Leaf Beetle, ***Paropsisterna selmani***, which defoliates new flush foliage and is impacting on both eucalyptus grown for forestry and cut foliage production in Ireland.

Many new pests and diseases have been found in Europe in recent years, for example, ash dieback, thousand cankers disease, pine wood nematode, wood borers (e.g. ***Anoplophora chinensis***) and ***Xylella fastidiosa***. A few trends can be noted: a large number of tree pests of recent introduction into Europe have originated from Asia (reflecting current trade patterns), are often first found on trees in urban or suburban environments and some of these emerging pests were not known to be pests or were new to science.

Fall armyworm *(Spodoptera frugiperda)*

Rice blast fungus *(Magnaporthe oryzae)*

Fall armyworm *(Spodoptera frugiperda)* damage

3 BILLION FOOD FOR PEOPLE IS WASTED every year

60m PEOPLE COULD HAVE BEEN FED with losses due to RICE BLAST FUNGUS (estimated)

GLOBAL FOOD SECURITY

The food security of the world's population in developed and developing nations is increasingly reliant on biosecure trade in plant and animal products and equally low risk movement of enormous volumes of non-food materials.

In the next 40 years, the world's population will surpass ten billion people, which means two billion more people to feed. Unfortunately, enough food to feed 3 billion people is lost or wasted every year, with a significant proportion of that loss due to plant pests. On its own, the rice blast fungus, ***Magnaporthe oryzae*** is estimated to cause production losses that could otherwise have fed 60 million people.

More recently, the Fall armyworm ***(Spodoptera frugiperda)*** is causing devastation in Africa. The pest is also found in several countries of Asia including China, Thailand and Vietnam. The destruction caused by Fall armyworm has cost African maize, sorghum, rice and sugar cane farmers over €11 billion since the beginning of 2018, according to the Centre for Agriculture and Bioscience International (CABI).

Tuber with ring rot *(Clavibacter michiganensis)*

Cysts of *Globodera rostochiensis*

IRELAND'S FOOD SECURITY

Ireland implements a strict plant health regime in order to protect its crops and meet food demands. An example of this is Ireland's designation as a 'High Grade Seed Area' for potato seed.

This higher standard requires that Ireland implements a permanent system of regular surveys designed to ensure that the disease status of potato seed produced in Ireland is of superior standard to seed produced in most other EU Member States. This ensures additional protection for our potato crop. In addition, the seed certification scheme in Ireland implements a sampling and testing programme to make sure that the country remains free of certain diseases such as Brown rot, ring rot and a sampling and testing programme to ensure potato seed is free of Potato Cyst Nematode (PCN) and that ground in which potatoes are planted is free of PCN. As Ireland is a High Grade Seed Area, only certified basic or pre-basic seed potatoes may be imported into, or marketed in its territory.

> **“It has been over 40 years since there was a major overhaul of the EU plant health legislation. In that time the EU has expanded and plant health risks have changed & increased.”**

EU POLICY CHANGES

In recognition of this changing context, the European Parliament and the Council adopted Regulation (EU) 2016/2031 on protective measures against plant pests (“Plant Health Law”) which will be applicable from 14 December 2019.

In addition, Regulation (EU) 2017/625 (Official Controls) was published in April 2017. For the first time, the area of plant health has been included in the official controls regulations. EU Member States are required to designate National Reference Laboratories (NRLs) for each of five different categories of plant pests and diseases for which the European Commission has designated an EU Reference Laboratory:

1. Insects & mites
2. Bacteria
3. Fungi & Oomycetes
4. Viruses, Viroids & Phytoplasmas
5. Nematodes

The new rules aim to modernise the plant health regime, providing more effective measures for the protection of the Union’s territory and its plants. They also aim to ensure safe trade, as well as mitigate the impacts of climate change on the health of our plants. The changes now include compulsory epidemio-surveillance for priority organisms, guidelines for harmonised surveillance and increased emergency action via horizon scanning and contingency planning. For the first time, under the new rules, co-financing by the EU Commission is available, under strict conditions, for annual plant health survey programmes and for the destruction of plant material as a result of the finding of a quarantine organism.

European spruce bark beetle *(Ips typographus)*

Colorado beetle *(Leptinotarsa decemlineata)*

PLANT HEALTH "PROTECTED ZONES"

In order to maintain the health and productivity of Irish forests, horticulture, crops, grassland and wider environment, it is necessary to have regulations in place to prevent introduction of pests from Europe and the rest of the world.

Certain pests are of concern to the entire EU while others are regulated at a more localised level within the EU. The Protected Zone[2] legislation means other EU Member States recognise Ireland as free from specific pests and enable us to enforce the application of phytosanitary treatments to commodities that may carry the pest, such as removing bark from coniferous timber to prevent the introduction of bark beetles. Ireland has the highest number of protected zones within the EU with 22 pests and diseases listed and must justify its Protected Zone status within the EU by ongoing monitoring and surveillance for these harmful organisms.

The island of Ireland has succeeded in excluding many serious pests present in other parts of the EU, such as the European spruce bark beetle ***Ips typographus (Linnaeus)***, Colorado Beetle ***(Leptinotarsa decemlineata)*** of potatoes and the whitefly (***Bemisia tabaci)***, through the use of Protected Zone legislation.

22

PESTS & DISEASES listed on Ireland's PROTECTED ZONE STATUS

[2] A protected zone is a zone in the Union in which a harmful organism established in one or more other parts of the Union, is not present despite the environmental conditions in the protected zone being favourable for its establishment. The presence of the harmful organism would have an unacceptable economic, social or environmental impact.

Section 5

Key Strategic Principles & Recommendations

PREPAREDNESS
+ CAPACITY
+ AWARENESS
=
Environmental Protection, Economic Growth & Human Well-being

To achieve the objectives of this strategy, as well as taking into account the key drivers for changes outlined above, three overarching principles were identified as part of the strategy development process, and from these, recommendations proposed. These will form the basis of an implementation plan with specific actions for the period of the strategy.

RISK ANTICIPATION

PREPAREDNESS: That we have accurate and up to date science-based systems in place to accurately identify and quantify the risks posed to plants and the natural environment, allowing us to put in place appropriate measures to mitigate or manage those risks.

Risk anticipation via horizon scanning and Pest Risk Analysis (PRA) is an essential component of maintaining Ireland's plant health and biosecurity. It involves the systematic analysis of data relating to a particular organism of concern in order to establish its potential for entry, establishment and spread in Ireland. Under international trade rules, if a country wishes to introduce phytosanitary measures (requirements on plants or plant products being imported into or moved within an area to reduce the risk of a pest being associated with them), then such measures must be technically justified. As a consequence, a PRA is essential for securing the regulation of a pest at an EU level.

An essential element of PRA is the availability of surveillance data. Surveillance is the on-going systematic collection and analysis of data. Ireland in the past has depended on, or co-operated with, the UK in the preparation of a small number of PRAs, however national expertise in this area is limited in Ireland.

RISK ANTICIPATION

As part of a recent DAFM-funded research project, the first PRA scheme for Ireland has been developed. The scheme covers both pest-focused and pathway-focused PRAs, and aligns with international guidelines as laid down by the IPPC. The development of the PRA scheme represents a major step towards protecting plant health in Ireland.

In the UK, a national Plant Health Risk Register has been established to identify and prioritise the risks of those pests and diseases that pose the greatest threat to the UK. The register takes account of pathways of entry and establishment, including private and commercial imports of soil, seeds, plants and plant parts, timber and wood packaging material. It also includes endemic pests and diseases that continue to pose serious threats to plant health. It would be beneficial for Ireland to develop such a risk register and to examine trends in non-regulated but economically important pests and diseases. This data will be useful for establishing baseline data for pests and diseases to identify future trends.

Using the information generated from risk anticipation will help to identify the threats, thus helping Ireland to develop strategies to prevent the entry and spread of these pests and diseases.

RECOMMENDATIONS

- Develop Pest Risk Analysis (PRA) and horizon - scanning capability in line with best international practice.
- Develop and maintain a risk register for Ireland and use this to identify gaps in surveillance, contingency plans, capacity and expertise.
- Review and refine current approaches to surveillance and monitoring and make improvements such as implementing enhanced risk - based surveillance for early detection in line with international best practice and scientific evidence.
- Devise management strategies (including contingency plans) to maintain and enhance our plant health status and minimise the impact of disease outbreaks through coordinated rapid response.
- Develop further cooperation between DAFM and other organisations within Ireland and abroad, such as EPPO and the European Food Safety Authority (EFSA) in the area of plant health risk anticipation.

RISK SURVEILLANCE & MANAGEMENT

SCIENTIFIC CAPACITY: That Ireland has a harmonised and coordinated technical and scientific infrastructure to fully exploit its available expertise so that it can be proactive in protecting Ireland's plant health.

DAFM operates an ALL ISLAND approach to PLANT HEALTH

It is recognised internationally that scientific capability and capacity is essential for risk assessment and risk management of plant health. The Department of Agriculture, Food and the Marine possesses a range of resources, including laboratories, in order to discharge its duties as Ireland's NPPO. In 2007, DAFM established its embedded Laboratory for plant health, which in the intervening decade has expanded its services, in response to national requirements. Other State Agencies possess laboratory and technical infrastructure specific to their sector. Ireland also possesses expertise in arable crops, specifically in Teagasc. DAFM operates an all island approach to plant health and as such works closely with plant health scientists in Northern Ireland. Added to this, the third level sector is a reservoir of expertise and has provided valuable contributions to plant health through targeted research programmes and undergraduate course content in plant health-related disciplines.

Amongst the general public, there are many experts with specific knowledge relating to the forestry and horticulture communities.

At EPPO level, practical actions such as the development of a database of expertise, were put in place to improve collaboration on diagnostics in Europe and to provide competent scientific support for the diagnostic work of NPPOs.

The new plant health and official controls regulations outline the need for EU Member States to have adequate phytosanitary and scientific capacity to ensure preparedness to respond to plant health threats.

This issue of capacity was raised during the Bulgarian Presidency of the EU in 2018 and a survey of Member States conducted found that the level of expertise in plant health across EU Member States varied widely, concluding that an overall improvement in capacities and additional resources would be needed for the new plant health challenges ahead as well as delivering a sound implementation of the new plant health law and official controls legislation. The positive role of the EU Reference Laboratories was noted along with the ongoing activities in the framework of the Better Training for Safer Food initiative.

In common with other jurisdictions however, there is a recognised diminution in expertise specific to plant health. Though this has been offset to some degree by advances in molecular technology, there is an expanding deficit in expertise, particularly in the areas of pest risk analysis, epidemiology and taxonomy which need to be addressed. There is a need to ensure that competent scientific capacity is available for the immediate regulatory and future strategic needs.

Positive Fireblight *(Erwinia amylovora)*

DIAGNOSTICS & EXPERTISE

DAFM's embedded Laboratory Service has a triple mandate of:

1. Providing routine testing for official controls
2. Developing analytical methods and associated applied research
3. Providing impartial science-based risk assessment and expertise to inform control and policy decisions

In accordance with Regulation (EU) 2017/625 (Official Controls), Ireland will have five new National Reference Laboratories (NRLs) in the area of plant health, namely:

1. Insects & mites
2. Bacteria
3. Fungi & Oomycetes
4. Viruses, Viroids & Phytoplasmas
5. Nematodes

Analytical competence and scientific expertise are essential to ensure that Ireland meets these obligations but it will also enhance the scientific expertise in the area of plant health.

TECHNOLOGY/ ACCREDITATION

The direction of biological sciences is unambiguously directed towards an increased reliance on Deoxyribonucleic Acid (DNA) based technology.

Method development in molecular diagnostics will be central to Ireland fulfilling its legal requirements for hosting NRLs and diagnostics for surveillance and controls. Ireland must remain at the forefront of such technologies, in order to maintain equivalence with other EU Member States. Utilising the latest technology and methods are fundamental to achieving our objectives.

Laboratories participating in official controls must be designated by the competent authority and official test methods must be accredited to the ISO 17025 standard.

SURVEILLANCE

Current surveillance on plant health includes the following:

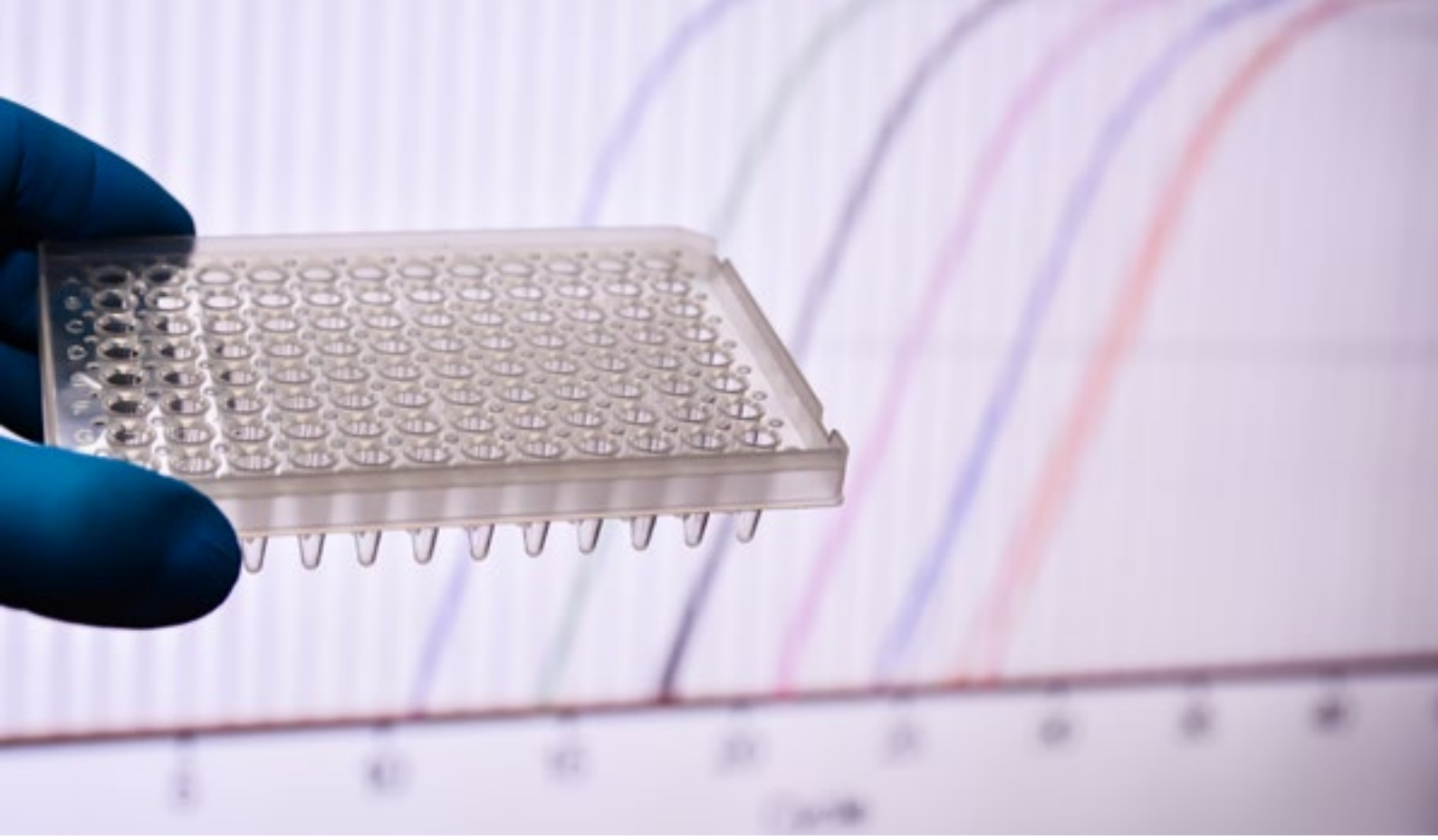
1. Surveys for specific pests and diseases for maintaining Ireland's Protected Zone Status.
2. Surveys for certain pests and diseases mandated by EU legislation.
3. A diagnostic service for the early detection of harmful organisms to forest owners.

The surveillance component for regulated pests and diseases is set out in the legislation. DAFM should aim to be at the vanguard of new and innovative surveillance methodologies, risk and science-based evidence.

PLANT PROTECTION PRODUCTS

Plant health policy and plant protection policy (chemical and other) are linked. Since 2016, EPPO has added an action to its activities to consider links between phytosanitary regulations and plant protection products policy at national and regional levels; whether and how these might be improved.

This consideration at EPPO level is at the initial stages. It will be important that DAFM is actively engaged in this process and in any further developments at EU and global level. This is particularly important due to our size and geographical location.



RESEARCH ACTIVITIES

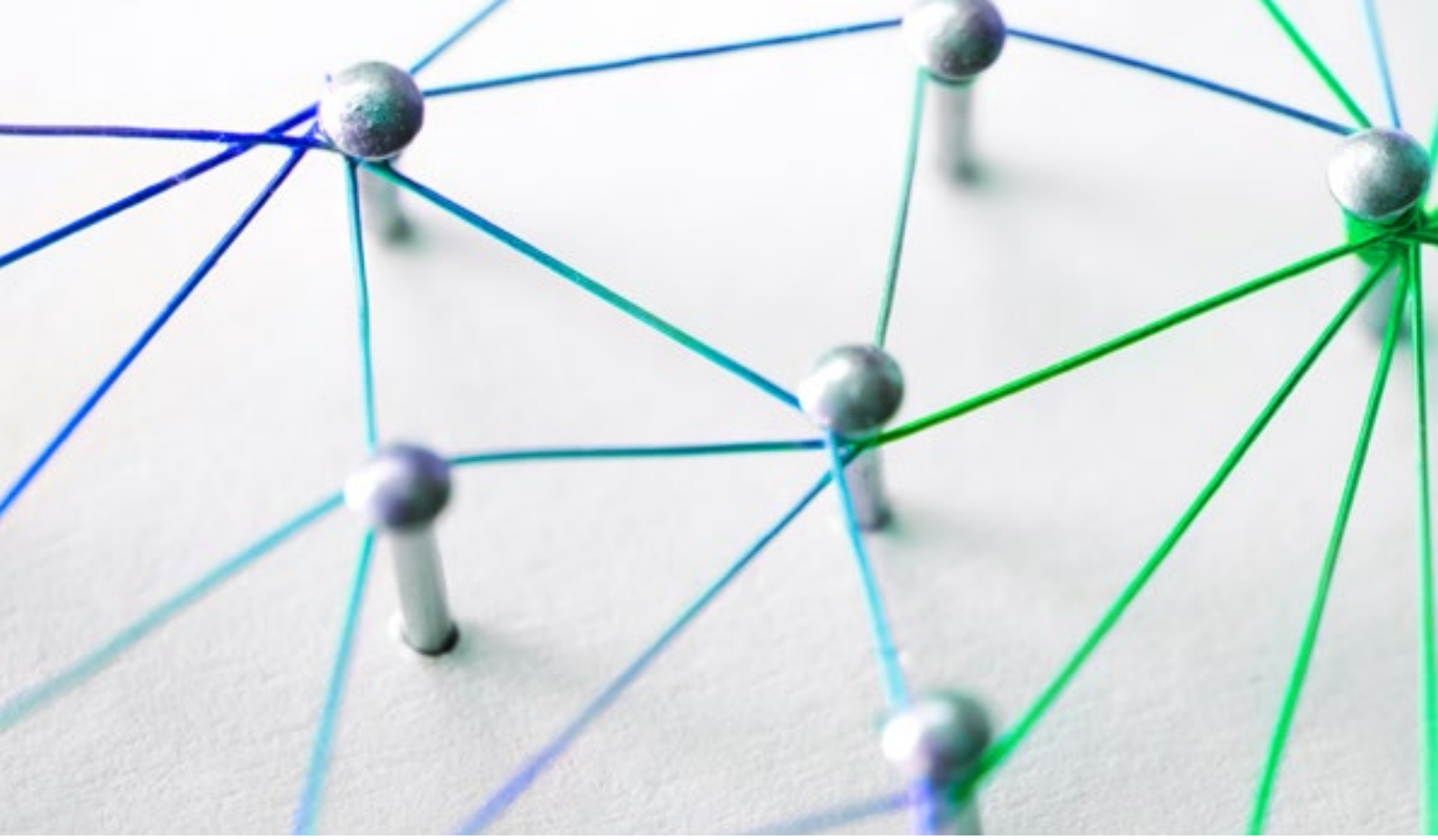
Plant health research activities in Ireland have been inconsistent to date, especially in the area of new pests and diseases. This places Ireland at a disadvantage in terms of dealing with new issues and being in a position to influence policy at EU level.

Research ensures that we have up-to-date skills and can take advantage of the latest technologies to protect plant health. This is especially relevant when we may no longer have access to expertise in the UK.

The information from PRAs and the risk register will guide and establish priorities for further research, and ensure research is more applied and proactive. Collaboration with universities and other research institutions will ensure that we develop a strategic approach to plant health research, sustaining our core capability, including succession planning, attracting new researchers and developing a new cohort of plant health scientists. Collaboration with other European countries through Euphresco and EU-funded programmes will maximise available funding. It is clear that capability and capacity across the key scientific disciplines are required to meet our future needs.

RECOMMENDATIONS

- Identify and implement the structures, capacity and capability required for a robust plant health & biosecurity system.
- Develop, validate and implement new detection and identification methods, as well as delivering on diagnostic needs.
- Coordinate the establishment of training initiatives to ensure that stakeholders employed in plant health are equipped with the appropriate skills and knowledge to discharge their duties.
- Develop cooperation and participation in collaborative third level education research and development targeted at securing Ireland's plant health status.
- Develop general and pest-specific contingency plans to ensure close collaboration and a focused approach across agencies and the wider public to pest incidents or outbreaks.
- Improve scientific links between academia, industry, DAFM, Teagasc, NGOs.
- Facilitate focus of plant health-related research projects.

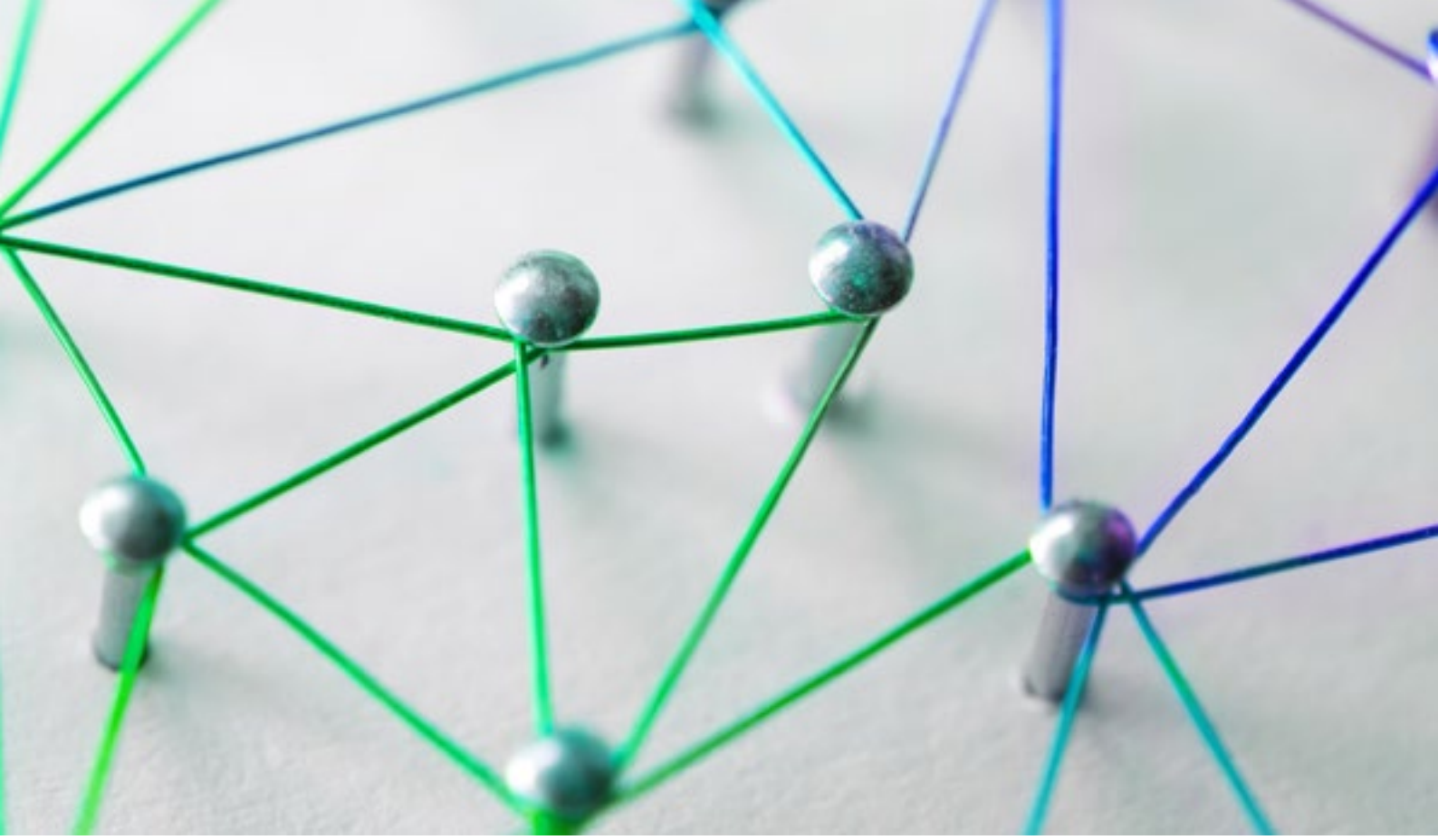


RISK AWARENESS & COMMUNICATION

That an active and dynamic partnership exist with all stakeholders, including: internally within DAFM, with other government departments, the international community, industry, NGOs, landowners and the public so that all of those with a role to play in plant health are aware of the risks and their responsibility.

Food Wise 2025 underlines the importance of DAFM working with stakeholders to enhance existing systems for surveillance. This will facilitate early detection of pests and diseases and provide a more robust evidence-base for decision making, protecting Ireland's plant health status and supporting pest and disease control.

DAFM values its many stakeholders and is committed to keeping all interested individuals, groups and organizations informed about relevant information. Stakeholders' active involvement and constructive input is needed to develop fit-for-purpose policies and legislation.



It is important that everyone is aware of the potential threats from existing and emerging plant health risks, that information on these risks is available and that stakeholders know where to access this information.

Strengthening surveillance partnerships with stakeholders is essential to delivering a robust plant health and biosecurity strategy. Outputs from PRAs will be used to communicate risk to policy makers, politicians, producers and other stakeholders. DAFM will work with stakeholder advisory groups to ensure collaboration towards achieving mutual goals.

> **“Stakeholders’ active involvement and constructive input is needed to develop fit-for-purpose policies and legislation.”**

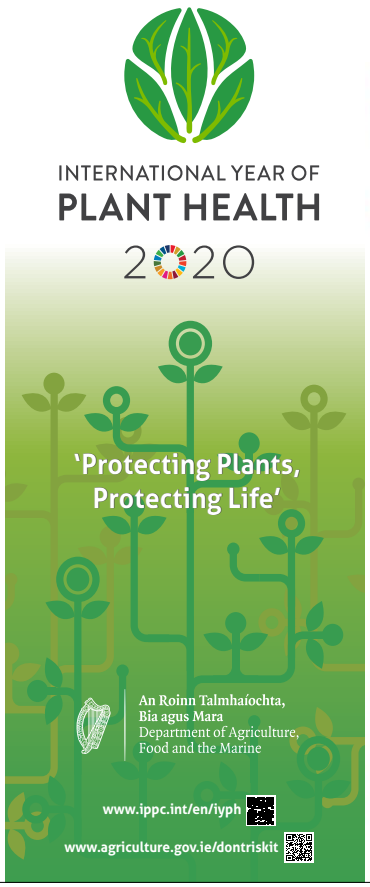
AWARENESS ACROSS SOCIETY

DAFM is promoting an EU wide awareness campaign "Don't Risk It!" targeted at passengers, tourists and commercial businesses who may bring plants and plant products into Ireland from abroad.

The objective is to highlight the social, environmental and economic impact of bringing quarantine pests and diseases into Ireland. For example, the olive industry, valued at tens of millions of Euro in Italy, has been devastated by ***Xylella fastidiosa***, a disease of South American origin, thought to have been brought into Europe on coffee plants from South America. Producers of plant material are often inundated with information from various areas and vital plant health messages could be missed due to information overload.

To overcome this, it should be ensured that there is greater coordination of communication when delivering information to operators in the plant health sector.

As well as informing the sector of the potential risks, the positive aspects of plant health must be communicated. Ireland enjoys a good plant health status and the highest number of Protected Zones in the EU. This needs to be promoted and protected, as healthy plants offer important social economic and environmental benefits.



New technologies and social media are essential for communicating to the general public and all stakeholders.

In 2015 DAFM and DAERA launched an All Ireland web application, called TreeCheck **(www.treecheck.net)**, which allows members of the public to report suspected cases of disease of any tree species. It is hoped that this web application will help with regard to the early detection of new pests and diseases, as well as encourage the engagement of interested stakeholders.

> **"New technologies and social media are essential for communicating to the general public and all stakeholders."**

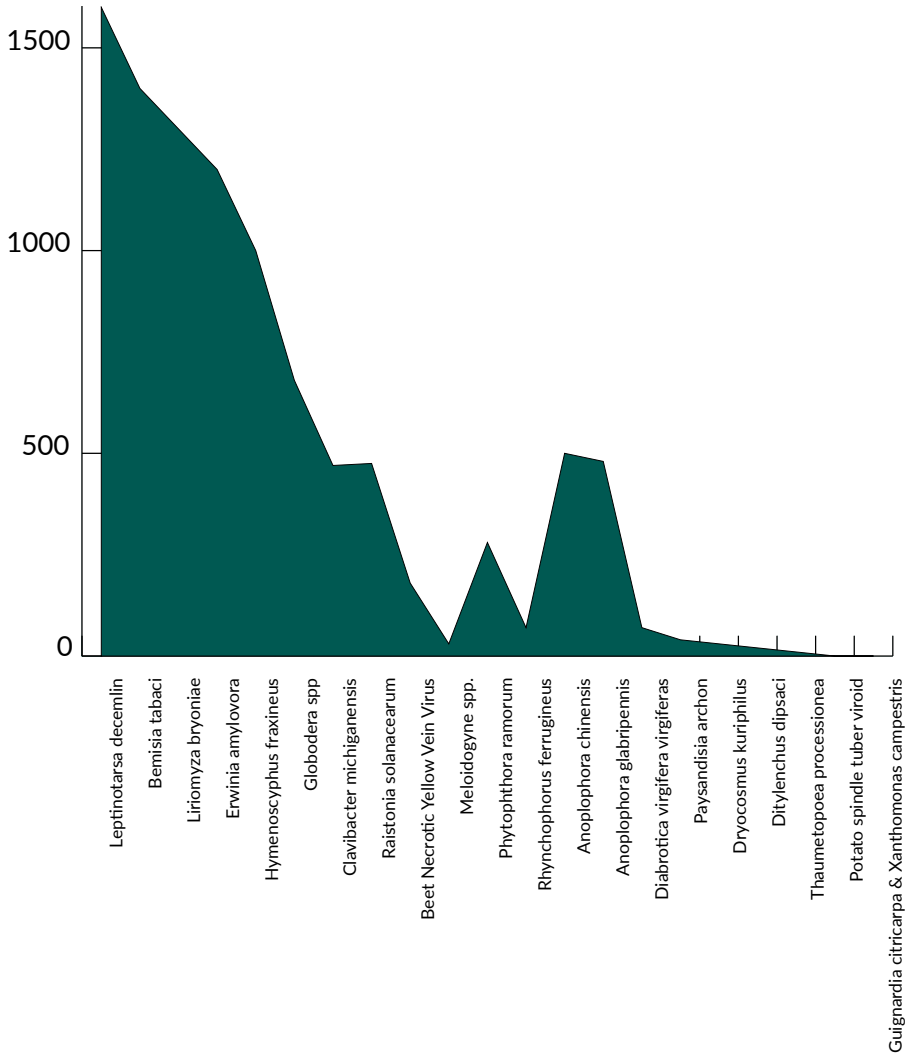
RECOMMENDATIONS

- Develop closer cross-divisional alignment within DAFM in the area of plant health.
- Develop and maintain existing networks including those from DAFM, industry, NGOs, landowners and the public (e.g., through citizen science), to provide information on the distribution of pests and their host species.
- Define roles in plant health (including regulatory, industry, NGOs, public, etc.), leading to greater awareness of plant health risks and the development of collaborative solutions.
- Devise public awareness campaigns to include national events such as the International Year of Plant Health 2020 (as per Resolution agreed at UN General Assembly).
- Support appropriate education initiatives at all levels from primary schools to higher education.
- Ensure close inter-departmental cooperation and exchange.

APPENDIX

Ireland's Plant Health Programme

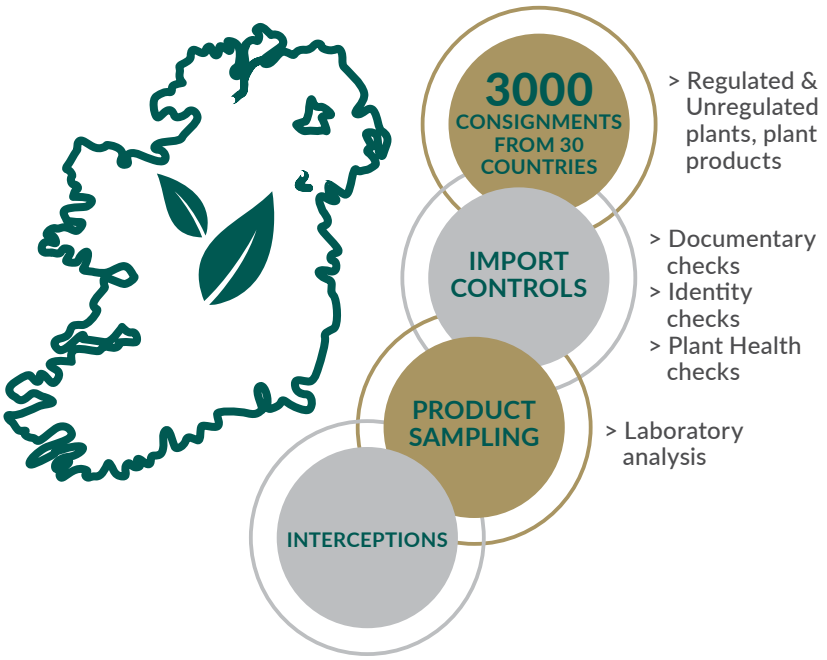
DAFM is responsible for the implementation of regulatory plant health requirements in Ireland and acts as the NPPO. DAFM implements an annual plant health surveillance and eradication programme for forestry and ornamental plants and carries out controls on consignments of regulated and unregulated plant and plant products imported directly into Ireland from third countries. DAFM is also responsible for the implementation of the national Seed Certification Scheme. The national implementation of the FAO, IPPC International Standard for Phytosanitary Measures (ISPM) No. 15, Regulation of Wood Packaging Material in International Trade also falls under DAFM's remit. DAFM's laboratories provides disease diagnosis, scientific expertise to underpin DAFM's role in preventing the introduction and spread of quarantine diseases and other regulated pests as well as maintaining Ireland's plant health status. The laboratory provides expert analysis and advice for official controls and to inform policy for regulated pests and diseases including tests for a very wide range of plant pests and pathogens and will host five new NRLs in the area of plant health, namely: insects and mites, bacteria, fungi and oomycetes, viruses, viroids and phytoplasmas and nematodes.



Plant Surveys

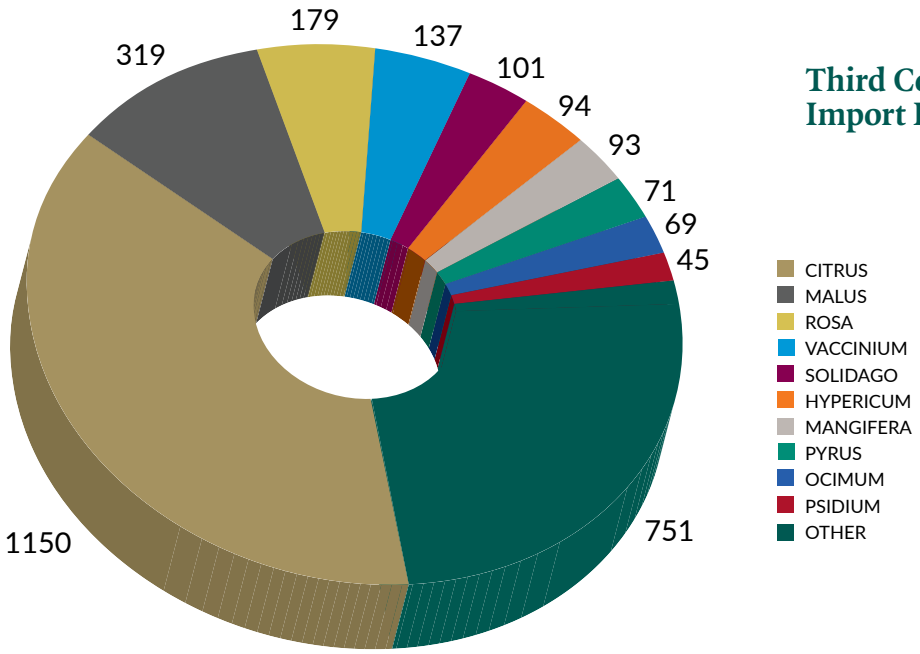
DAFM carries out national plant health surveys for a range of quarantine harmful organisms including 22 Protected Zone pests and diseases, which are regulated on an EU wide basis. These surveys are carried out at nurseries, forests, garden centres, public parks, private properties and the wider environment. Over 10,000 plant health inspections take place annually for various harmful organisms.

APPENDIX



Plant Health Import Controls

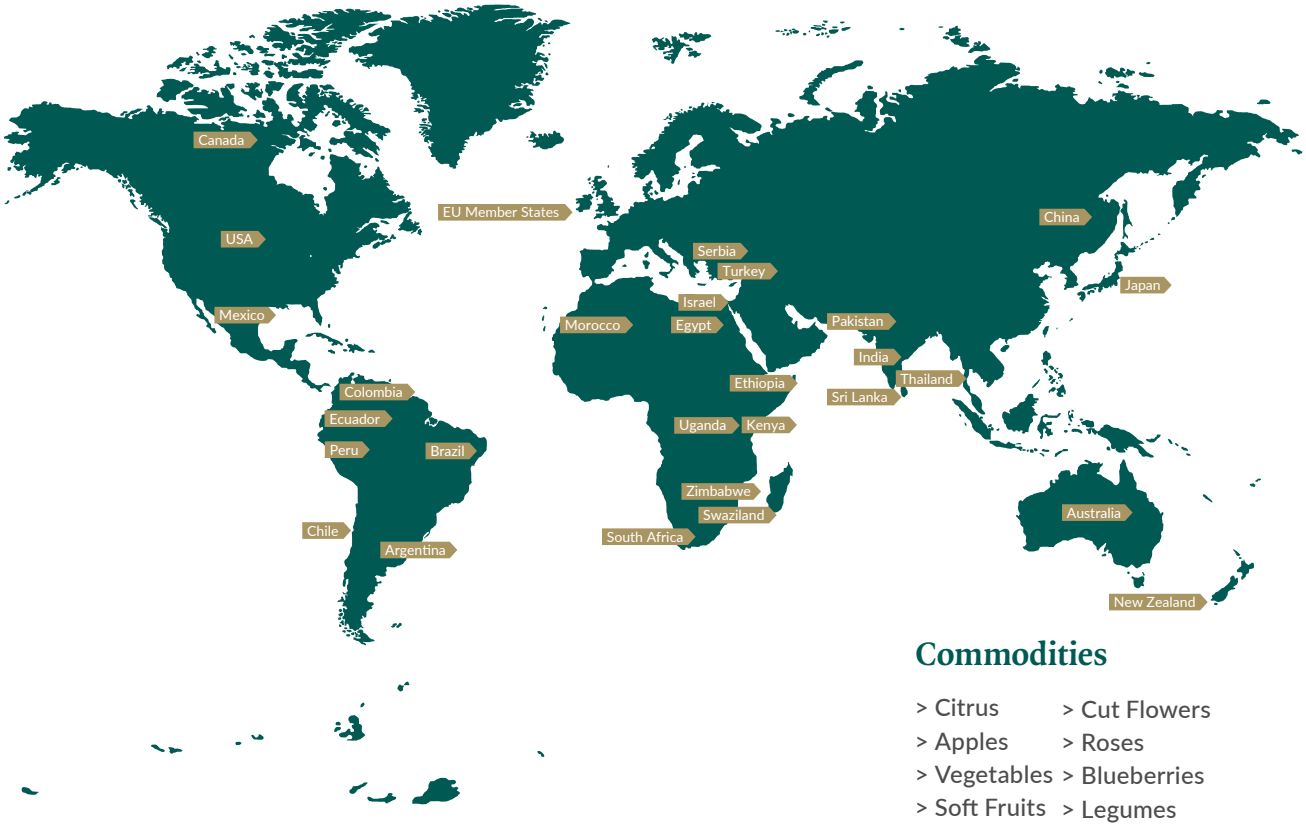
DAFM conducts plant health import controls at airports and ports across Ireland on consignments of regulated and non-regulated plants and plant products, which pose a high plant health risk, imported directly from third countries. These import controls are focused on the inspection of plants, fruits, vegetables wood, wood products and wood packaging material for organisms harmful to Ireland's plant health status. Wood Packaging Material is checked for compliance with the IPPC International Standard for Phytosanitary Measures No.15.



Third Country Import Inspections

APPENDIX

IRISH HORTICULTURE IMPORTS - WORLDWIDE

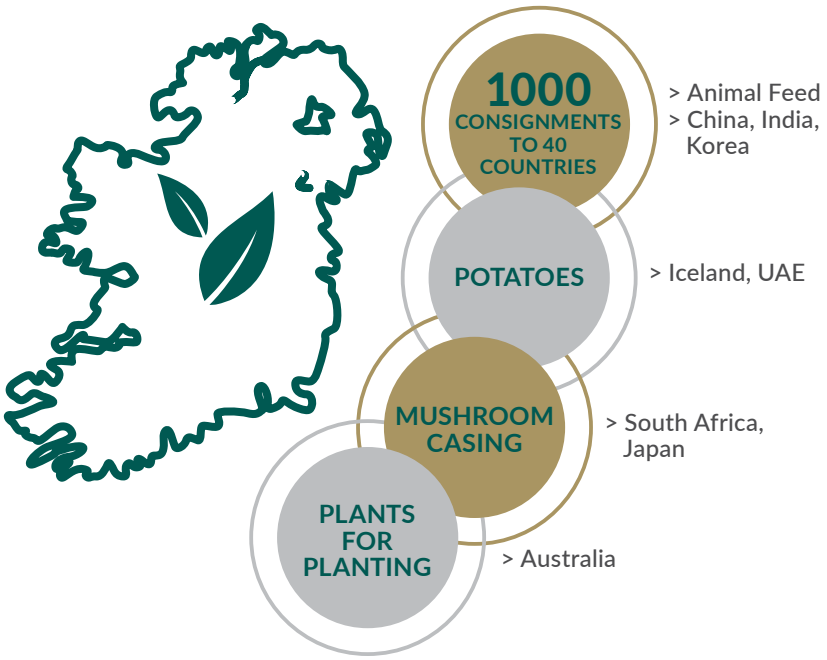


Import Countries

Commodities

- > Citrus
- > Apples
- > Vegetables
- > Soft Fruits
- > Live Plants
- > Cut Flowers
- > Roses
- > Blueberries
- > Legumes

APPENDIX

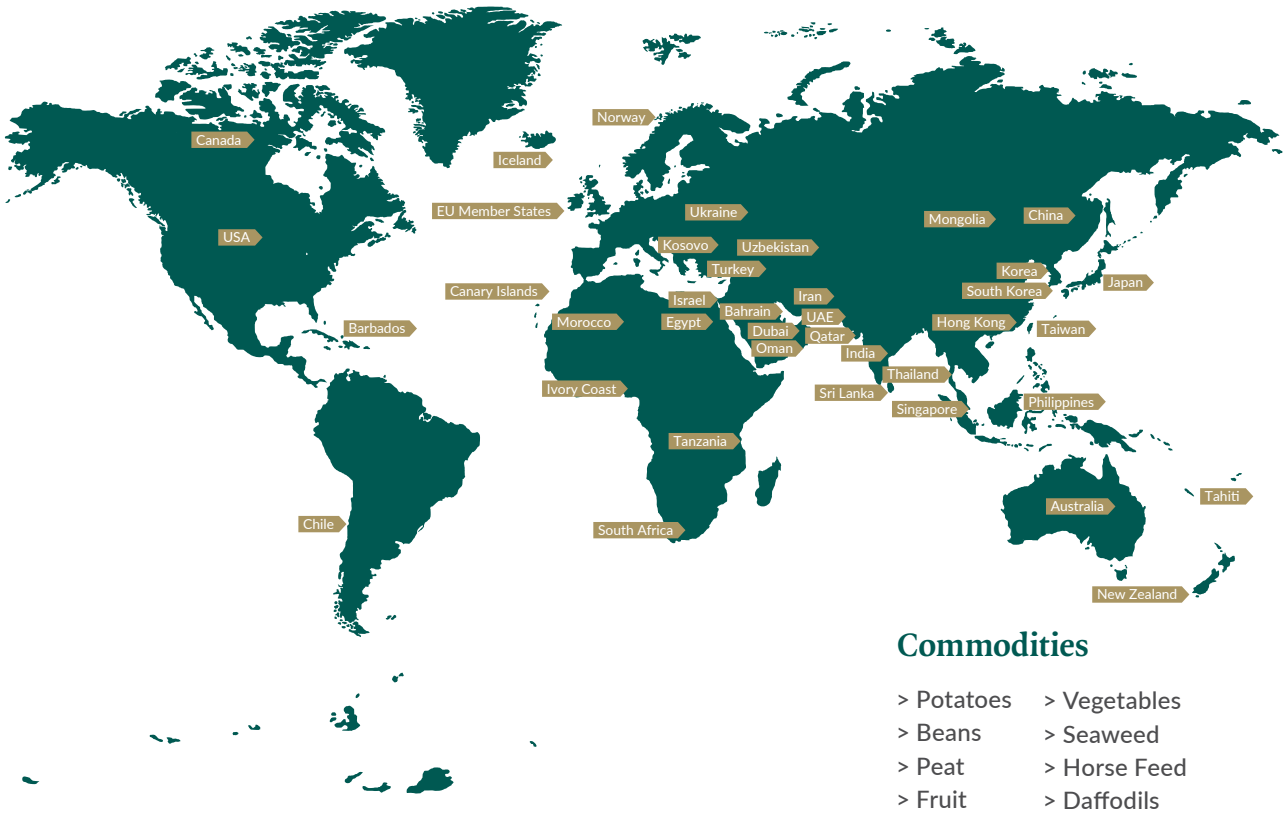


Plant Health Export Controls

DAFM's Plant Health Export Controls team carries out controls annually on of plants and plant products for export to approximately 40 third countries. This involves conducting phytosanitary inspections and issuing phytosanitary certificates for plant and plant products such as animal feed, potatoes, mushroom casing, wood, wood products and plants for planting. Annually over 1,000 consignments are issued with phytosanitary certificates. DAFM also has a national scheme in place to faciliate the provision of compliant ISPM 15 wood packaging material, thereby facilitating exports of goods of all kinds.

IRISH HORTICULTURE EXPORTS - WORLDWIDE

Export Destinations

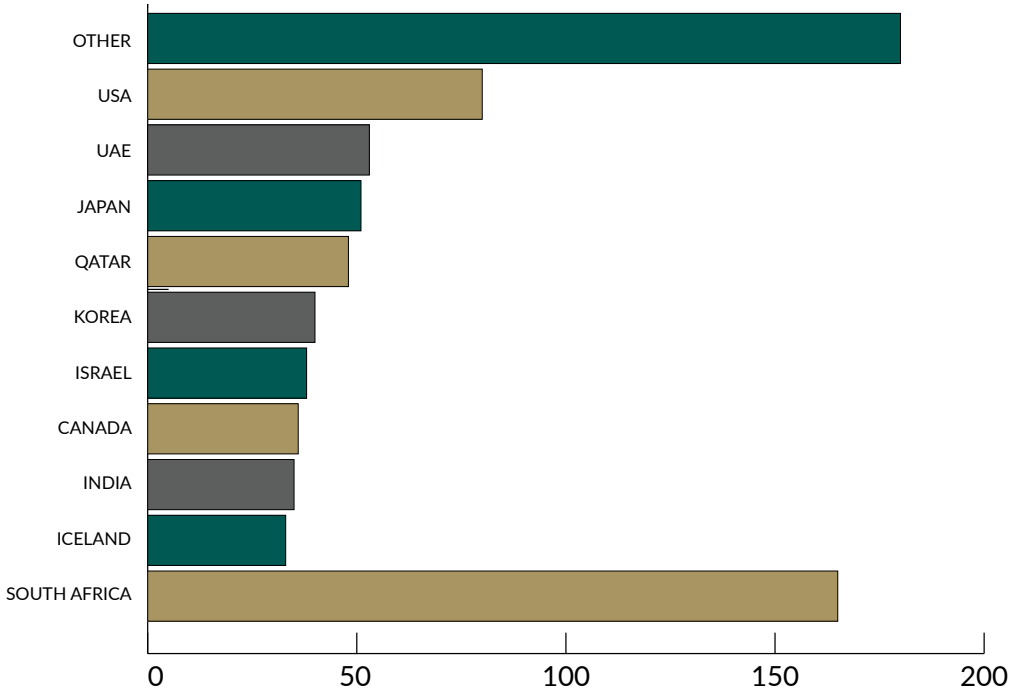


Commodities

- > Potatoes
- > Beans
- > Peat
- > Fruit
- > Seeds
- > Grain
- > Vegetables
- > Seaweed
- > Horse Feed
- > Daffodils
- > Live Plants

APPENDIX

Main Countries We Export To



National Seed Potato Certification Scheme

The national Seed Potato Certification Scheme incorporates additional higher plant health standards in Ireland for certain potato diseases, which form the basis of Ireland's designation as a 'High Grade Seed Area' for potato seed. This higher standard requires that Ireland implements a permanent system of regular surveys designed to ensure that the disease status of potato seed produced in Ireland is of superior standard to seed produced in most other EU Member States. As Ireland is a High Grade Seed Area, only certified basic or pre-basic seed potatoes may be imported into, or marketed, in the State.

NOTES

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