



LINKING ENVIRONMENT AND FARMING



DELIVERING MORE SUSTAINABLE FOOD AND FARMING

LEAF's Global Impacts Report 2019

LEAF (Linking Environment And Farming)

the go-to organisation for the delivery of more sustainable farming

Who We Are

LEAF (Linking Environment And Farming) – a leading organisation delivering more sustainable food and farming. We work with farmers, the food industry, scientists and consumers, to inspire and enable sustainable farming that is prosperous, enriches the environment and engages local communities



Our Vision

A world that is farming, eating and living sustainably

Our Work

We work to develop and promote Integrated Farm Management (IFM) in three core pillars:

- Facilitating knowledge generation and exchange
- Developing market opportunities through LEAF Marque
- Educating and engaging the public in sustainable food and farming

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Disclaimer statement: The monitoring data in this report is based on data collected by LEAF and reported by LEAF members through LEAF Membership data, the LEAF Annual Survey, LEAF Sustainable Farming Review self-assessment process and Independent Evaluations as well as from LEAF Open Farm Sunday and LEAF Education. LEAF is not responsible for the accuracy of the data. The report has been compiled to the best of our knowledge and is provided for information purposes only. LEAF reserves the right to update the monitoring data as new information becomes available. The data is provided "as is" and no warranty of any kind is given for the accuracy and reliability of the data. LEAF will not be liable for any claims or damages related to the quality and completeness of the data, as far as it is permitted under English law.



From healthy
SOIL,
we make healthy
OIL

**Sustainably grown and responsibly produced to LEAF
Marque standards on our family farm.**

www.farrington-oils.co.uk



Industry Support



Keston Williams, Technical Director, Barfoots

"LEAF Marque has given us the framework to manage the complete sustainability agenda across a very complicated international supply base."



Verity Wilks, Responsible Sourcing Manager

"The Jordans Farm Partnership is creating a new model for UK farm sustainability and setting high standards for nature-friendly farming through partnership with LEAF and The Wildlife Trust. By requiring our oat suppliers to become LEAF Marque certified, Jordans are making a firm commitment to the delivery of more sustainable farming across the whole farm."



Rob Collins, Managing Director, Waitrose & Partners

"Through the simple requirement that all our conventional UK fresh fruit and vegetables are grown to the LEAF Marque Standard, we have driven forward sustainability in UK supermarket sourcing."



Jake Freestone, Farm Manager, Overbury Farms

"We did LEAF Marque because we were direct selling lamb and we thought that for a forward-thinking business, it demonstrated our commitment, not just to environmental sustainability but our work in the community and using the latest technologies. LEAF Marque cemented all that together."



**Clare Blackledge, Programme Manager
Market-led Approaches, Environment Agency**

"The LEAF Marque environmental assurance system provides evidence that meeting sustainable farming standards also meets regulatory requirements enabling us to give it earned recognition."



John Vautier, Rural Business Advisor, Government of Jersey

"LEAF Marque is an essential element of our rural policy which enables the Government of Jersey to quantify the value of public goods provided by the rural economy, to deliver significant environmental improvements, and to drive forward sustainable objectives."



Jonathon Porritt, Founder Director, Forum for the Future

"The world's farmers have to be paid a fair price for producing sustainably. And that means there has to be a much more robust debate about the illusions associated with the endless pursuit of 'cheap food'. LEAF has played an important part in that debate over the last 27 years."

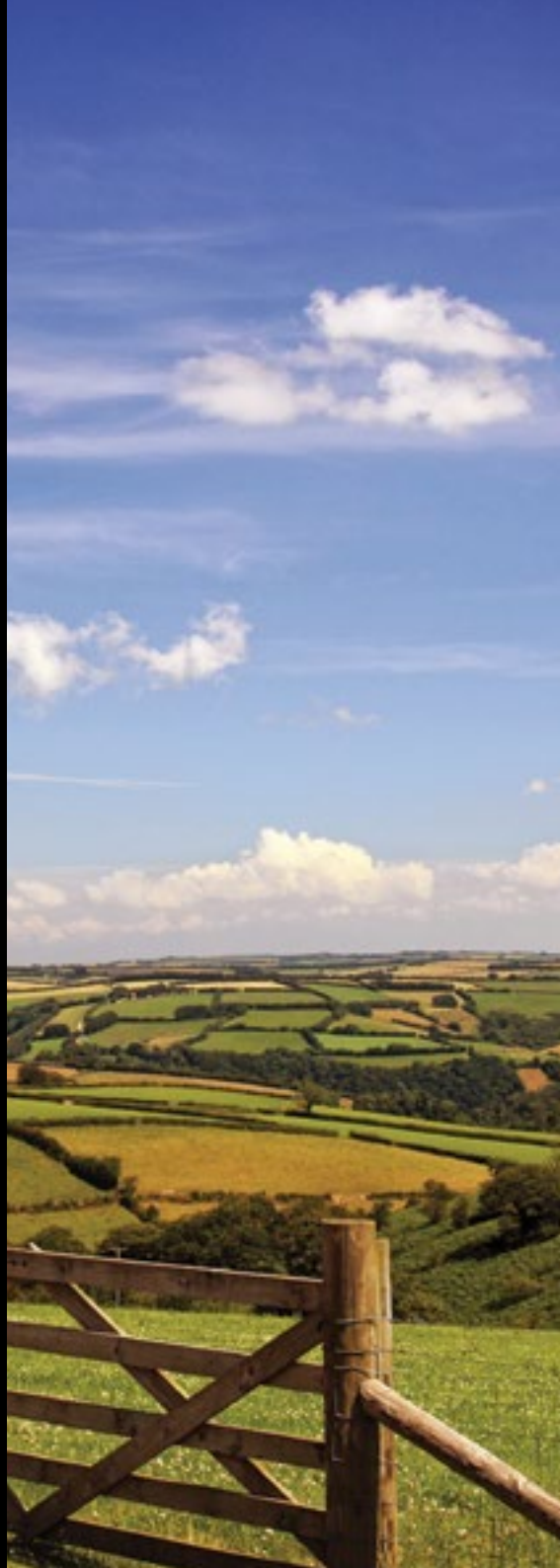
FARMING FOR THE FUTURE

M&S
EST. 1884

At M&S we are committed to securing our future supply of raw materials from the most sustainable sources.

Our Farming for the Future programme sees us working with our supply chain partners, farmers and growers to help them address the sustainability challenges they face.

We are proud to support the principles of LEAF.



Welcome



Welcome to LEAF's seventh Global Impacts Report, celebrating the achievements of our growers in 27 countries across the world. In 2018, 39% of UK fruit and vegetables were produced on LEAF Marque certified farms – this is up from 36% in 2017, representing the seventh consecutive year of growth. This important statistic reflects the interests and concerns of consumers – and consequently of leading branded food businesses and retailers, as well as government. Consumers increasingly want to know more about what they are feeding to their families; they want to eat healthily; they want to know where their food has come from and how it was produced; they want assurance of sustainability.

Food standards and safety, animal welfare and environmental protection are global issues, with consumers, food companies and governments all over the world looking for more sustainable methods of production. In this context, it is reassuring and exciting to observe the unprecedented level of activity in Agritech innovation that is taking place – and to note that LEAF Marque certified farmers are often on the front line of innovation - every element of LEAF's Integrated Farm Management will be transformed by new technology over the coming years.

The need for a new British Agriculture Policy to replace CAP is a moment of huge change for our industry. Much attention is rightly focussed on the nature of our trading relationships with other countries – both within and outside the EU. Whilst we do not have clear answers yet, the determination of UK Government policy to prioritise the environment and 'public goods' in the new policy is surely a great opportunity for LEAF and LEAF Marque.

Thank you to all who support us, enabling the impressive impact that we have achieved together.

Tom Green
LEAF Marque Chairman

Executive Summary

This is our seventh Global Impacts Report, showcasing the progress and improvements delivered by our members and LEAF Marque certified businesses across the world. For nearly 30 years, LEAF has been **driving forward sustainable farming** through Integrated Farm Management (IFM). Since 2003, LEAF Marque has provided a credible, independent third party mechanism, recognising and rewarding good sustainable farming practice in the marketplace. Today we are one of the **leading environmental assurance systems** working in 27 countries across the globe.

We are extremely proud of the progress our members and LEAF Marque certified businesses continue to make. It is through their ongoing commitment to more sustainable farming that global agriculture is contributing to important Sustainable Development Goals as well as helping to address critical targets in the UK set out in the **Government's 25 Year Environmental Strategy**.

Global growth

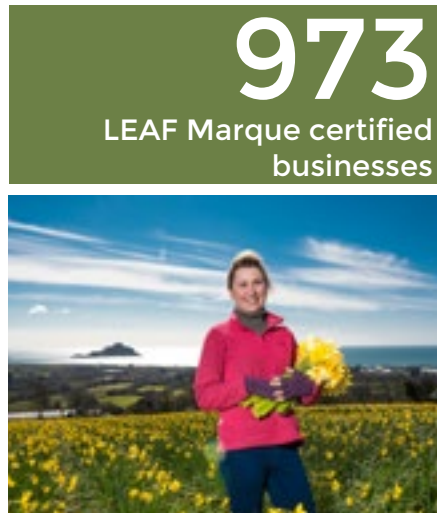
Our global reach continues to increase. In 2018, we worked with 973 businesses in 27 countries. Collectively this represents a total **global hectareage of 375,679 hectares** representing **160 different crop types** and **livestock classes**. The arable and horticulture sectors are the two largest LEAF Marque crop areas worldwide at 185,084 hectares and 167,979 hectares respectively.

The UK has the largest hectareage of LEAF Marque certified crop area at 305,465 hectares followed by Spain 27,025 hectares and France 13,855 hectares.

Farming businesses across the world are turning to **LEAF Marque certification** to demonstrate their **environmental credentials** and in doing so, building business resilience.

UK impact

In the UK, the horticulture sector remains the strongest growth area with the percentage of **UK fruit and vegetables** produced on LEAF Marque certified businesses increasing to **39%**, including 95% of leeks, 89% of lettuce and 83% of cherries.



375,679

Hectares of crop on LEAF Marque certified businesses around the globe

Moving Forwards

We work with some of the most **innovative and forward looking farmers** in the world. The progress and successes outlined in this report are the result of their ongoing commitment to farming more sustainably. They are bringing about **real and lasting change** through improved soil management, more efficient water use, improved energy efficiency, best practice Integrated Pest Management, reducing waste, enhancing on-farm biodiversity and connecting with their local communities.

Robust, science-based research that can be applied on-farm is another key driver for change. **LEAF's Network** of Innovation Centres and Demonstration Farms is leading the way in generating **sustainable farming knowledge** and uptake.

Public awareness and education around sustainable farming is another priority. Through **LEAF Education** and **LEAF Open Farm Sunday**, we are reaching out to people of all ages – on farm, in the classroom and on-line.

The successes highlighted in this report are very encouraging. LEAF Marque certification is not the end goal in itself but is a powerful tool to deliver improvements and create change for the better.



Inspiring and Enabling Sustainable Farming

A world that is farming, eating and living sustainably

Our mission is to inspire and enable sustainable farming that is prosperous, enriches the environment and engages local communities

Inputs from stakeholders

Producers

Processor and packer

Food chain

Consumers


(Linking Environment And Farming)

LEAF Theory of Change

Vision

Mission

Core Activities

Core Activities

Extensive IFM research and case study support materials

Supporting behaviour change

Stakeholder and industry engagement

Monitoring and evaluation

Robust Governance

Political Engagement

Tripling LEAF's capacity by 2021 to deliver its work and outreach

Integrated Farm Management (IFM) is a whole farm business approach that delivers sustainable farming:

- Delivering prosperous farming
- Enriching the environment
- Engaging local communities
- Demonstrating site specific and continuous improvement across the whole farm



LEAF Marque: increasing the implementation of more environmentally sustainable farming practices through IFM.

LEAF Marque intended impacts are to improve:

- Soil management to enhance soil quality and soil health
- The resilience of cropping systems
- Management of water use and water quality
- Energy efficiency and energy use
- Waste management
- Management of livestock to enhance the environment
- And enhance the management of native habitats and biodiversity



We work with the public and school communities to help children, young adults and adults understand the connection between farming and their daily lives.



Direct Outputs

LEAF Network

Technical Resources

Practical Events and Projects

Training

LEAF Marque System

LEAF Education

LEAF Open Farm Sunday

LEAF Innovation Centres

LEAF Demonstration Farms

LEAF Sustainable Farming Review

Membership Support Services

Standard

Assurance

LEAF Open Farm School Days

Facilitating knowledge generation and exchange

Developing Market Opportunities

Educating and Engaging the Public in Sustainable Food and Farming

Increasing the adoption of more sustainable farming practices through Integrated Farm Management

Improving industry recognition and demand for sustainably sourced products

Leading a collaborative approach within the industry for better public engagement and education among consumers, children and young people

Positively influencing people's attitudes towards, and knowledge of food, farming and the environment

Desired Impact

Independent Evaluation

As part of LEAF's robust Monitoring and Evaluation strategy, LEAF Marque commissions, conducts and undergoes a range of evaluations, often in collaboration with renowned research institutes. These evaluations examine the evidence behind **LEAF Marque's environmental impact**, alongside LEAF's wider impacts.

The most recent study showed that Standards can create positive change and resolve environmental issues. Of the Standards examined in this report, LEAF Marque was amongst the strongest performing, evidencing more than 80% positive change against its criteria¹.

Changing Behaviours

Certification systems, including LEAF Marque, are seen to be critical in supporting farmers to adopt more sustainable practices and engage with local communities². LEAF Marque has also been proven to help businesses improve across all areas of IFM³ and **93% of LEAF members** tell us they believe they meet the environmental sustainability standards required of them⁴.

LEAF Marque is only a framework and to work effectively it needs to be adopted by committed and skilled individuals³. Only a small proportion of LEAF members report that they feel they are "completely sustainable", instead they are more likely to report "reasonably sustainable" or "very sustainable"^{4,5}. A core aspect of IFM is **continual improvement**, so it is encouraging to see that our members are not complacent and recognise they have room to grow.

93%

LEAF members tell us they believe they meet the environmental sustainability standards required of them⁴




Long-term Goal:
Increasing the implementation of more environmentally sustainable farming practices through Integrated Farm Management (IFM)

Supporting Our Businesses

Certification systems alone do not influence practice adoption, they need to be supported by beyond-certification work and financial incentives². This is why we are committed to **developing market opportunities** and why LEAF Marque is supported by the wider work of LEAF, including our knowledge exchange and generation, education and public engagement activities.

The biggest driver in businesses becoming certified is through improved market opportunities and an independent evaluation showed that LEAF Marque does just that³ – **97%** reported LEAF Marque certification had helped to access new market opportunities and 23% reported **receiving a premium** for their LEAF Marque certified product.

The LEAF Marque inspection process has also been shown to be "thorough" or "very thorough", according to 96% of businesses⁶, providing reassurance to the whole supply chain that LEAF Marque is a **robust and credible Standard** and LEAF Marque businesses are as good as they say they are. 87% of LEAF Marque businesses also report that the inspection is a useful way to demonstrate their good environmental practices⁶.

"Very helpful in helping one to realise the natural assets of the business and very thought provoking in making one aware of the benefits to the business in bringing together the areas within the sustainable farming review."
- LEAF Marque grower



The following Independent sources referenced above are as follows: 1. Context (2018) Farm, Fisheries and Forests: Does certification make a difference? 2. 3Keel (2018) The effectiveness of standards in driving adoption of sustainability practices 3. CCRI (2017) The effect and impact of LEAF Marque in the delivery of more sustainable farming 4. LEAF's Annual Survey (2017) 5. LEAF's Annual Survey (2018) 6. LEAF Marque Post Inspection Questionnaire (2017).



IFM: delivering more sustainable farming



Climate change, population growth, resource protection and increasing political uncertainties are challenges shared amongst farmers across the globe. **LEAF's Integrated Farm Management (IFM)** provides a management framework to address these challenges – to **farm productively and profitably** whilst providing a wealth of essential ecosystem services.

IFM is a site specific, **whole farm approach** which recognises the complex relationships and interdependencies of each of the nine sections. Using the best of modern technology combined with traditional farming methods, it depends on innovation, inventiveness and a commitment to continual improvement.



Fit for the Future

With uncertainties around **Brexit** and accompanying market volatility, **IFM helps farmers plan for the future** and build business resilience. 42% of our members tell us they feel their businesses are economically 'very sustainable' and 54% consider them to be environmentally 'very sustainable', citing reasons such as diversifying cropping, less reliance on plant protection products, increasing farm biodiversity and better soil and water management.

The need for farmers to demonstrate the range of ecosystem services they deliver will be vital as future support systems are likely to be built around the

provision of public goods. 46% of our members feel their businesses are **'very socially sustainable'**; they are reaching out to their communities by hosting farm visits (including LEAF Open Farm Sunday), maintaining public rights of way, giving talks, providing local employment opportunities and sponsoring local events.

IFM on the ground

LEAF works at a farmer-led, grass roots level providing management tools, resources, farm visits and practical on-farm training to support uptake of more sustainable farming. We address real challenges in real situations. Our UK Network of Demonstration Farms and Innovation Centres drive this **'science into practice'** approach – grounding IFM in rigorous, science-based evidence which is tested out in the field.

LEAF Marque and IFM training events delivered in the UK and Germany as well as many practical field days provide valuable opportunities for our members to examine IFM in detail, see it in action, explore how it relates to the LEAF Marque Standard and examine the processes involved in LEAF Marque certification.

Tools to deliver sustainable farming

Farmers need the right tools to deliver more sustainable farming. An essential requirement of LEAF Marque certification is the **LEAF Sustainable Farming Review** with 1,193 users completing it in 2018. Providing farmers with a comprehensive on-line, self-assessment health check of their entire farming business, it helps them record, monitor, plan and track progress across all nine IFM sections. This is supported by **comprehensive guidance booklets** covering soil, water, biodiversity and, new for 2018, biosecurity.

1,193
Users completed the LEAF Sustainable Farming Review



Driving Forward Innovation and Uptake

We work with farmers and provide technical tools, training and expertise to help them farm more sustainably through **Integrated Farm Management**. Our business focussed approach supports farmers to identify and implement sustainable farming strategies in order to reduce risk, drive efficiencies and build resilience.

The LEAF Network of **Demonstration Farms** and **Innovation Centres** are key to driving forward innovation and knowledge exchange around sustainable farming. Cutting edge research from our Innovation Centres is trialled and tested on our Demonstration Farms, through visits, talks and training, to other farmers and a broad range of interest groups. During 2018, 12,578 people visited LEAF Demonstration Farms to see **IFM in action**.

We also work with researchers and farmers across the EU to address shared sustainable farming challenges. **Four EU Horizon 2020 funded projects**, looking at issues such as on-farm demonstration, crop diversification, intercropping and water stress in crops, are driving forward sustainable farming innovations and uptake amongst our own members and further afield.



During 2018, we joined forces with a number of UK based organisations, including ARTIS and BASIS to deliver **farmer focused training** around key IFM topics including soil and water management and precision farming. LEAF is also a partner with a wide range of industry groups and initiatives – all working together towards common objectives.

All these collaborations help us develop our practical approach to sustainability that guides the continual improvement of the **LEAF Marque Standard** as well as helping shape our training and on-the-ground projects.

12,578
Visitors to LEAF
Demonstration Farms



Continual Improvement in Demonstration

As part of the H2020 PLAID⁷ project, we evaluated the effectiveness of our IFM Event, held in 2018 at Elveden Farms, Suffolk.

Issues around motivation, different learning and networking styles, ‘anchoring’ (how information sticks both during and after the event) and ‘scaling’ (how learnings ripple out to the wider industry) were explored through attendee feedback and more in-depth interviews with some participants after the event.

80% of attendees felt the event demonstrated a great deal of environmentally sustainable farming approaches.

The remaining **20%** felt it adequately demonstrated environmentally sustainable farming approaches.

Our findings gave us some very clear indications of what a successful demonstration event should look like. These included:

- Provision of new ideas and key messages to action or spark interest
- Exploring a wide range of topics and discussion opportunities out in the field
- Seeing theory put into practice in ‘real’ farm situations
- Networking opportunities to share ideas and experiences and make new contacts
- Providing new information or materials after the event through videos or on social media to maximise impact

This evaluation will help shape future demonstration events and priorities. Key areas include offering follow up discussion groups and events where possible to help track progress and innovation uptake; ensuring farmers use information on their own farms; utilising a wide range of communications tools including videos and virtual demonstration to help reach out to those unable to attend and, finally working in partnership with others to share experiences and expertise across the sector.

⁷ PLAID – Peer to peer learning. Assessing Innovation through Demonstration.

A Pathway to More Sustainable Farming

LEAF Marque reached a landmark anniversary in 2018. For over 15 years, it has been leading the way in recognising and rewarding farmers in the market place for their commitment to more sustainable farming. Built on the sustainable farming principals of Integrated Farm Management and underpinned by **ISEAL's Codes of Good Practice**, it is helping shape global sustainable production as well as address critical **Sustainable Development Goals**, particularly around responsible consumption and production.

The journey is a shared one. We continue to work with UK retailers and leading food brands, who recognise the credibility and robustness of **LEAF Marque** certification in delivering their sustainability responsibilities. We greatly value our long-standing partnership with **Waitrose** and are very proud that all their UK produced fruit and vegetables are LEAF Marque certified. In addition, LEAF Marque certification is currently a **M&S Plan A** attribute and by 2020 it will be a requirement for **all UK fresh produce**.

We are active partners in the **Jordans Farm Partnership** with their oat suppliers required to be LEAF Marque certified. Together with the Wildlife Trusts and the Princes Countryside Fund, this unique collaboration is working to enhance wildlife habitats and improve on-farm sustainability.

Florette, Burts Chips and Farringtons Mellow Yellow Oil, are just some of the food brands that proudly display the **LEAF Marque logo on their products** and LEAF Marque certified Christmas trees were available in Lidl stores for the first time in 2018.

LEAF Marque certification is part of the delivery mechanism through which the **States of Jersey Government** is driving forward its sustainability objectives. Under their Rural Support Scheme, farmers are required to be LEAF Marque certified and receive payments for the environmental and social benefits they deliver.



Bringing Science to UK Farmers

Germain's R&D experts work with growers to identify challenges in the field, which helps us to develop industry-leading solutions.

Benefits of Seed Treatments

- ✓ Faster emergence in UK field conditions
- ✓ Increased yield potential
- ✓ Increased tolerance of stressful conditions
- ✓ Improved uniformity

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LINKING ENVIRONMENT AND FARMING

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We Maximise Nature's Potential™



How LEAF's IFM Contributes to the SDGs

The Sustainable Development Goals (SDGs) are relevant to the entire food system, but food production especially so. LEAF's IFM delivers against a wide range of SDGs and therefore there is significant potential for both LEAF and LEAF Marque to support partners in their delivery towards the SDGs.



Community Engagement and the SDGs

Community engagement varies between businesses and so contributes in different ways towards the SDGs. Community engagement in international businesses may involve supporting the development of the local community. For example, Blue Skies, a LEAF Marque certified business with sites in Ghana, has provided education facilities for the local community, thus delivering against SDG 1 (No poverty) and SDG 3 (Good health and wellbeing). Many UK businesses engage in LEAF Open Farm Sunday, support community causes or carry out other activities to raise public awareness. This delivers against SDG 12, as increasing the recognition, support and uptake of sustainable practices is critical to ensuring responsible production and consumption.

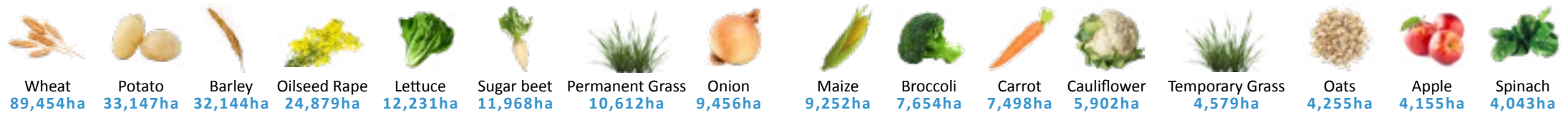
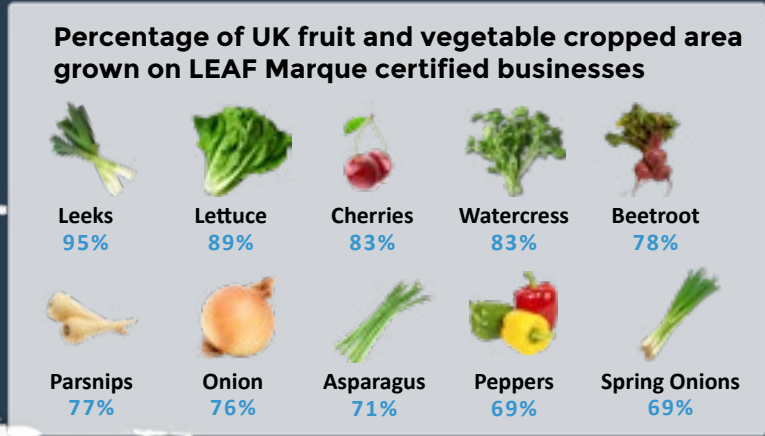
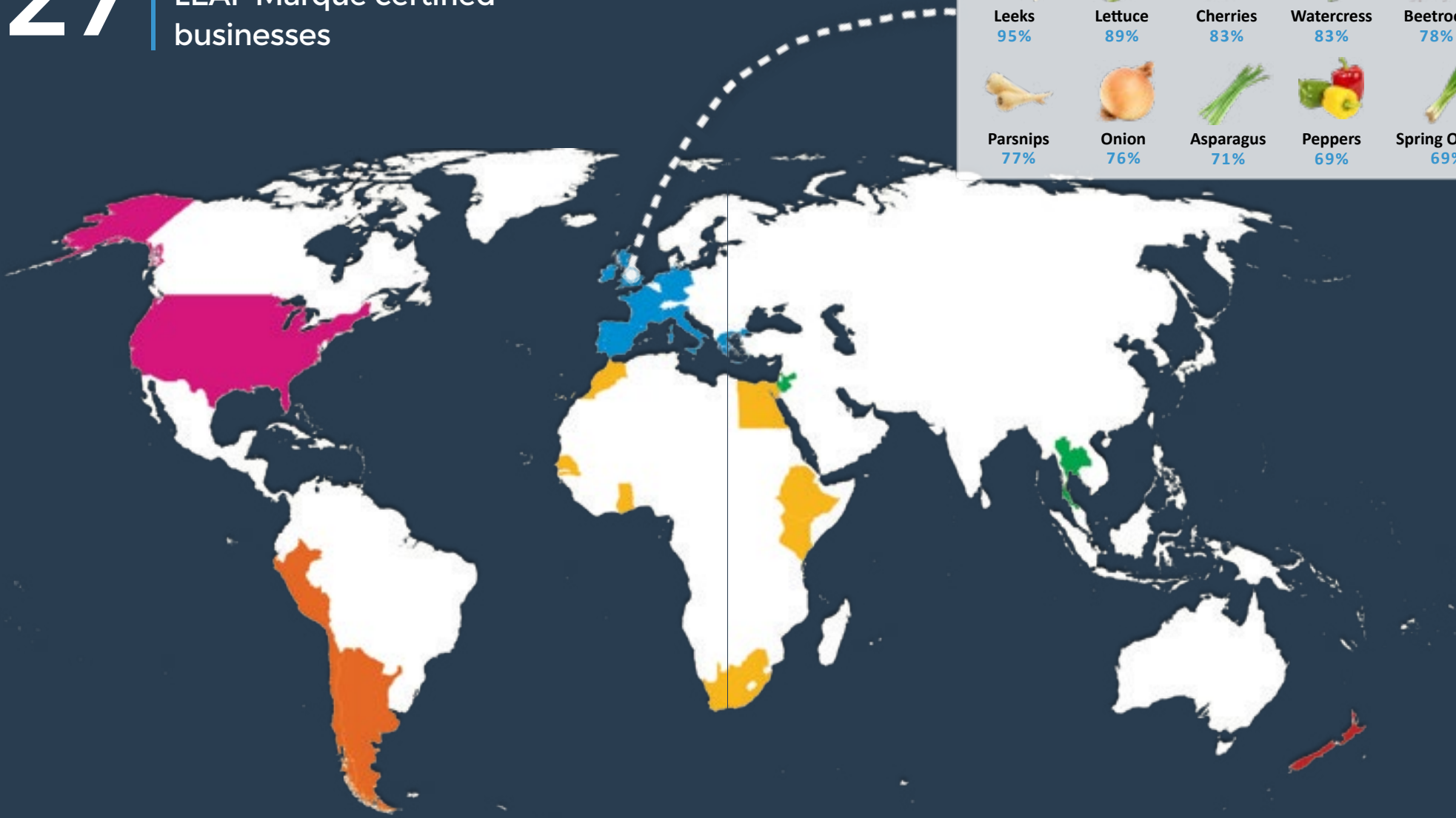


Soil Management and the SDGs

Healthy soils are the foundation of sustainable food production. IFM advocates a range of soil management practices such as routine analysis, maintenance and enhancement of physical, chemical and biological soil health, which support the SDGs relating to food production (SDG 1, SDG 2 and SDG 12). Soil is also a valuable resource and good soil husbandry is critical to maintaining the ecosystem services it provides, such as water management, carbon storage, and promoting biodiversity. Therefore, the practices promoted in this section deliver against SDG 6, SDG 12, SDG 13 and SDG 15.

27

Countries worldwide have LEAF Marque certified businesses



Sustainable Farming Education and Engagement

People are at the heart of LEAF's vision of a world that is farming, eating and living more sustainably. Building knowledge and understanding of sustainable farming helps highlight the connections between all living things – soil, plants, animals and people. This understanding engenders an attitude of responsibility and care.



Tractor and trailer ride, Uncle Henry's LEAF Open Farm Sunday 2018

Engaging the public on farm

LEAF Open Farm Sunday provides opportunities for everyone to experience farming at first hand. As the farming industry's annual open day, it enables farmers to show the public the range of goods and services they deliver, helping to build trust and strengthen community relations. Since the campaign started, **over 2.2 million people** have visited a farm.

In 2018, **362 farms opened** – many of whom were LEAF members and LEAF Marque certified farms – welcoming nearly **300,000 visitors**. 92% told us their visit had made them more appreciative of the work farmers do and 87% said that it had changed the way they think about farming.

Equipping farmers with the skills, know-how and confidence to talk to the public about farming and sustainability issues is essential. During 2018, we launched a refreshed version of our **'Speak Out toolkit'** featuring videos, tried and tested tips to help farmers communicate effectively with a wide range of people.

The goal of more sustainable farming depends on society making the right choices. Education and engagement with farming is the starting point.



Find out how you can get involved in LEAF Open Farm Sunday at farmsunday.org



Inspiring Future Generations

LEAF Education is leading the way in engaging young people with farming, food production and the countryside. We develop resources, tools and training for farmers, teachers and young people and manage a **range of industry and educational initiatives**, including FaceTime a Farmer, CEVAS (Countryside Educational Visits Accreditation Scheme), Countryside Classroom and LEAF Open Farm School Days.

A focus for 2018 has been extending our outreach to teenagers. We commissioned research to explore young people's views of farming, including career opportunities. We also ran an **on-farm engagement event** for 60 teenagers to deepen our understanding of the research. Results showed 35% of teenagers were interested in the work that farmers do/would like to find out more and 32% would consider a career in farming. This work is helping to shape future priorities for LEAF Education and the wider industry.

LEAF Education also ran the first **National Food, Farming and Environment Competition**, which saw 14-16 year olds on farm for the weekend to experience all of the opportunities that are open to them. 33% of those that attended have gone on to apply to land based colleges. We continue to work with teenagers and support secondary schools in England and Wales to use farming as the vehicle to deliver exam specifications and national curricula.



During 2018, our team of Regional Education Consultants worked with:

10,560

Young people directly engaged with*

459

Schools across the UK engaged with

22,040

learning hours delivered to young people



National Food and Farming Competition
Llysfasi Coleg Cambria



Organisation and Planning

The framework of IFM helps our members better understand the economic, environmental and social impacts of their farming practices in order to make more informed and sustainable business decisions.

A culture of **continual improvement** is embedded in all LEAF Marque certified businesses. By measuring, monitoring and assessing business impacts across the whole farm, they look to optimise performance, build resilience and identify emerging opportunities.

An **awareness of IFM** has to run across the whole business – from managers, to staff, to suppliers. Such understanding at all levels provides context and cohesion for all business objectives and goals. We continue to see a rise in the number of staff on LEAF Marque certified businesses having an awareness of IFM which helps define the overall direction of travel for the farming business.



71%
Staff on LEAF Marque certified businesses have appropriate awareness of IFM



Tangmere Airfield Nurseries, West Sussex



Soil Management and Fertility

Good soil condition and fertility are the basic building blocks to sustainable agriculture and the foundation of our food systems.

A **healthy soil** is more productive and more resilient. Integrated Farm Management advocates a range of soil management practices to help farmers get the **most out of their soil**, prevent damage and build fertility. These include crop rotations, maintaining cover, appropriate cultivations, managing nutrients efficiently and using Integrated Pest Management techniques.



LEAF Marque certified businesses where nitrogen efficiency per tonne product is measured



A useful first step in improving soil health and performance is measuring soil organic matter. The levels of **soil organic matter** affect soil structure and porosity, water infiltration rates, nutrient availability and moisture holding capacity as well as the diversity of biological activity. We see a steady rise, year on year, in the number of LEAF Marque certified businesses that regularly monitor their soil's organic matter status. A clear illustration of their ongoing commitment to improving the performance, health and resilience of their soils.



41%

LEAF Marque certified businesses recording Soil Organic Matter



Crop Health and Protection

Crop health and protection is key to maintaining and increasing efficiency which is imperative to meet long term food demands.

Integrated Farm Management advocates using a variety of strategies to maintain crop health, with all decisions framed around the wider environmental implications to water, soil and biodiversity. Our members and LEAF Marque certified businesses continue to take steps to **reduce their reliance on crop protection products** through more accurate targeting of applications and selection of resistant varieties – all part of a wider Integrated Pest Management (IPM) strategy.

As an **ecosystem-based approach**, IPM includes a combination of techniques such as biological control, habitat manipulation and modification of cultural practices. Our growers are working to increase the number of beneficial insects and species on their farms by planting pollen and wildflower strips, careful field margin and headland management, beetle banks and diversified cropping. They are also regularly monitoring beneficial species, most commonly through surveys, bird and insect counts and visual assessments. All positive indications of our members increasing recognition of the effectiveness of IPM strategies to **deliver healthy crops and increased yields** whilst minimising environmental impact.



2016	2017	2018
300,012	339,499	330,587

Hectares of crop on LEAF Marque certified businesses where steps are taken to minimise the damage to beneficial species and non-target organisms

54%

LEAF Marque certified businesses carried out all 8 aspects of best practice IPM



Insect hotel at S.A.R.L Anjou Myrtilles

Case Study: Mark Knight, Tangmere Airfield Nurseries

Crop Health and Protection: IPM in a hydroponic, glasshouse system

Tangmere Airfield Nurseries, a specialist producer of sweet peppers, has implemented Integrated Pest Management (IPM) since the business was established in 1988. Underlying their IPM strategy is a framework of monitoring, strategy development, critical analysis, and obtaining external expertise when needed. Biological control is a key feature of their IPM approach which works alongside other strategies to prevent the development and impact of diseases, weeds, and pests.

Tangmere's climate-controlled glasshouse system provides the optimum conditions for healthy and consistent crop growth. Crops that grow too fast can be more prone to disease, as faster cell development results in weaker cell walls.

Tangmere's hydroponic system allows for control of air and water conditions to create an environment that is unfavourable to negative pathogens yet complementary to crops. The peppers are suspended in metal troughs above the ground; the air movement enabled by this space aids management of disease. The hydroponic substrate provides conditions for effective drainage, resulting in good root development and a stronger, more resilient plant. The drained water is partially sterilised by a UV filter and incorporated into the irrigation system by mixing with raw water. This partial sterilisation has an inoculation effect whereby the plants can protect themselves against small pathogenic stressors, making them more resistant to future infection.



www.tangmere.co.uk



Pollution Control and By-Product Management

IFM supports farmers in adopting a 'reduce, reuse, recycle' approach to managing and minimising waste and on-farm pollution. It advocates a holistic view, taking into account the economic and environmental value of on-farm waste.



We continue to see our members adopting a range of simple, **cost effective waste management strategies** including recycling materials, better targeting of applications, composting and utilising green waste such as stubble, manures and crop mulches.

Plastics are a key focus. Over half of our members tell us they are actively trying to reduce their overall use through recycling of plastics, reducing the packaging of their own products, turning to cardboard or other biodegradable materials and **encouraging suppliers to use less packing.**

We are encouraged to see continued and growing commitment towards best practice waste management. Collectively these steps are helping deliver substantial environmental and economic benefits.



38%
LEAF Marque certified
businesses using a carbon
footprint tool



52%
LEAF Marque certified
businesses carrying out
waste management best
practice

Case Study: Hamish Stewart Ragley Home Farms

Pollution Control and By-Product Management: Plastics and Prevention

Waste can occur at every stage in production, but a series of small changes has made a significant contribution to reducing the overall waste at Ragley Home Farms. A general policy to minimise waste has helped identify where improvements can be made and can enable cost savings and additional benefits.

Plastic use is a wide-scale problem but Ragley Home Farms has reduced usage through simple changes, such as using hay rather than silage, having square bales with string rather than round bales with net wrap, and moving towards liquid fertiliser. Seed bags are saved and reused instead of the single use plastic alternative, which also provides a cost saving. Unavoidable plastic waste is sent to a national recycling scheme.

Strategies to prevent pollution or waste are more effective than mitigation measures and can reduce or avoid costs associated with lost product or pollution clean-up. The farm's fuel tanks are all bunded to reduce the risk of leaks, and machinery is well maintained to ensure correct calibration and efficient, safe operation. Finally, a risk-based approach to monitoring helps ensure a rapid response to any issues. For example, their regular assessment of drainage ditches identified where soil run-off was an issue, which is important for both pollution and crop yields.



www.ragley.co.uk



Animal Husbandry

Sustainable livestock management within the context of IFM means taking a holistic view of the wider environmental impact of livestock production.

Careful and regular monitoring of **welfare and performance indicators** to better inform management decisions is key to IFM. Healthy animals use less resources and have a greater positive environmental impact, which contributes to broader issues around greenhouse gas emissions as well as human health.

In 2018, 74% of LEAF Marque certified businesses regularly monitored animal welfare indicators to assess performance and 70% were optimising the health and welfare of their livestock to **maximise performance**. This attention to detail approach is vital in responding quickly to issues as they arise and driving forward greater efficiencies.

During 2018, we increased our offer to the livestock sector, through for example, the production of a technical guide '**Simply Sustainable Biosecurity**' and enhancing the animal husbandry section of the LEAF Sustainable Farming Review. Furthermore, following public consultation of the LEAF Marque Standard in 2018, we are further strengthening the livestock section around issues to do with feed, welfare and monitoring performance.



70%
LEAF Marque certified businesses with livestock who optimise health and welfare to maximise performance



74%
LEAF Marque certified businesses with livestock regularly monitor animal welfare indicators to assess performance

Case Study: Jeremy Durrant E W Davies Farms Ltd

Animal Husbandry: Integrating livestock into an arable rotation

Introducing livestock into an arable rotation can have wide ranging benefits, as demonstrated by E W Davies Farms Ltd. A previously wholly arable business, by adapting their system and gaining animal husbandry knowledge, they successfully incorporated grass leys and a flock of Poll Dorset Sheep into their rotation. Breed selection is important and is complementary to the other labour demands in the business. Poll Dorset's lamb in November when arable activities are at their quietest, and so labour demands are distributed through the year and staff time utilised more efficiently.

Incorporating livestock has enabled the land to be utilised to its greatest potential. Unproductive land goes down to grass which has helped improve productivity, increase Soil Organic Matter and decrease weed pressure in the crops following grass leys. The management and benefits from cover crops are also compatible with and enhanced by livestock grazing.

There is market demand for high quality meat with leading animal welfare and sustainability credentials, and livestock included in an arable rotation are in a strong position to deliver this. For this business, their product and the LEAF Marque has provided access to a competitive market, providing a secure and profitable price for the season.



www.ewdaviesfarms.co.uk



Energy Efficiency

Energy efficiency is critical to delivering valuable carbon and cost savings for farm businesses. Lighting, heating, ventilation, air circulation and refrigeration equipment are the biggest energy consumers. Monitoring consumption in all these areas and others is a critical first step to optimising and reducing energy use.

LEAF Marque certified businesses continue to show a very real commitment to reducing their overall energy use. They are **increasing farm efficiencies** through better equipment, moving towards low energy lighting sources and reducing tillage. A significant proportion of our members tell us that measuring energy use is beneficial to reducing energy consumption.

Many of our members are turning to **renewable sources of energy** including wind power, natural sunlight and hydro-electricity. All encouraging indications that their forward-looking and innovative approach is helping **reduce the carbon footprint** of the global food supply chain.

48%

LEAF Marque certified businesses that have one or more types of renewable energy generation on farm



361
LEAF Marque certified businesses monitoring energy consumption



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Knowledge grows



Water Management

Water is one of the most critical resources for sustainable agricultural development worldwide. Agriculture accounts for around 70% of fresh water used across the globe.

Monitoring, protecting and **enhancing water quality** are core elements of Integrated Farm Management and we continue to see strong evidence of our members using water more efficiently. Increasingly, they are **working together with neighbouring farmers** at a catchment level, sharing ideas, pooling resources and exchanging knowledge around better and more sustainable water management practices.

We are continuing to see growth in the range of strategies employed by farmers to **conserve water and improve efficiencies** through self-build reservoirs, rainwater harvesting and more controlled use of irrigation systems.

52%

LEAF Marque certified businesses working with others in the catchment to improve water quality and water management



67%

LEAF Marque certified businesses that manage reservoirs for water quality, safety and/or wildlife



Case Study: Mark Bowser-Gibbs, Blackbird Farming Water Management: Strategies in a mixed farm business

LEAF Marque certified business, Blackbird Farming, is a 1780-hectare farm in Kent that produces fruit, livestock and arable crops. Ensuring crops and livestock are provided with enough water is a continual challenge. Within each farm enterprise, much consideration is given to how, when and where water is required. However, it is also important to consider the entire business' water use to work towards overall improvements in water management.

Water application methods at Blackbird Farming vary, as does the water source. Boreholes supply trickle irrigation in the orchards and lambing sheds and irrigation pipes are installed before new orchards are planted to supply trickle irrigation which is important in the early development of trees. Livestock must have a constant supply of water, and for arable crops, water must be available for spray tanks during chemical application.

As a growing business, the crop processing activities at Blackbird Farming have some new water requirements that can produce a conflicting demand for water. For example, a new grading facility is the biggest demand for water with crop production, yet new equipment and buildings provide an opportunity to improve water efficiency. A hydro-cooler is used in hotter weather to reduce the temperature of crops, but climatic changes may increase its use due to the greater likelihood of warmer summers.



www.blackbirdfarming.co.uk



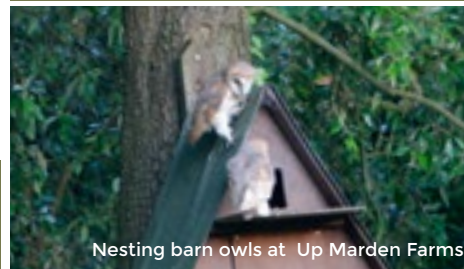
Landscape and Nature Conservation

Our landscape and wildlife provides a range of valuable ecosystem services - pollination, clean water and air and productive soil as well as helping support rural communities. All these services depend on farmers to protect and enhance on-farm biodiversity, which in turn, contributes to global Natural Capital.



Our growers take active steps to **improve habitats** and the **farmed environment**. These measures can include tree and hedge planting, creation of ponds and reservoirs and careful field margin management. Combined with the wider IFM approaches of reduced cultivations, more accurate applications and better soil and water management, our growers continue to report increases in key indicator species including yellowhammers, grey partridges, hares and bees.

In 2018, the **average habitat area** on LEAF Marque certified business increased for the third year. Our farmers ongoing commitment to **increasing the biodiversity** value of the farmed environment is delivering benefits to their business, to nature, and to wider society.



LEAF Marque certified businesses enhancing on-farm biodiversity

- 7.4 million metres of hedges
- 1,247 ponds
- 229,688 metres of habitat banks
- 599 reservoirs that benefitted biodiversity
- 337,869 in-field trees
- 1.9 million metres of non-hedge boundaries

Case Study: Leah Mathias-Collins Vitacress

Landscape and Nature Conservation: Enhancing biodiversity

Biodiversity is unique to each farm but LEAF encourages all farmers to identify the species present and their habitats in order to manage them appropriately.

This strategy was successfully employed by Vitacress Herbs, Runcton Nursery in Sussex. Vitacress are actively managing their populations of water voles, harvest mice and array of farmland birds in the limited space surrounding 151,000m² of glasshouses. Identification of these species was followed by a phase one habitat survey which identified six habitats. These habitats were linked to a single/multiple species and recorded on the farm map. A management plan for each of these habitats was then designed which included the activities needed at different times of year. The management plans for each habitat were simple and easy to follow, which aided successful implementation. Habitats and species are monitored regularly to assess the success of these plans.

For example, the 'Butterfly Walk' habitat at Runcton Nursery is a 2 to 3 metre margin of vegetation that is managed to provide a range of sward sizes and different flowering plants space to grow which provides a habitat for butterflies and moths. Observation of these species over the coming year will help inform future management of this habitat.



www.vitacress.com



Community Engagement

The delivery of more sustainable food production relies on well informed people, aware of where their food comes from and how it is produced. Understanding these issues also helps to build trust and understanding of what farming delivers, why it matters and its relevance to every aspect of modern life.



LEAF Marque certified businesses reach out to their local communities in a range of ways, from hosting on-farm visits, giving talks, raising funds for local causes to providing venues for meetings and clearing roads. All these efforts help to **build relationships** and **open up opportunities** for people of all ages and backgrounds to discover more about what is happening in the fields around them. **By nurturing interest in sustainable farming and the natural environment**, the more likely people are to value it and have a sense of their own personal responsibility in helping to protect it.

71,816

Visitors to LEAF Marque certified businesses



LEAF Marque certified businesses communicated through on-farm visits to:

- 18,490 school children
- 11,395 farmers
- 4,996 industry representatives
- 4,461 agricultural college and university students



Blue Skies Foundation opens new school in Ghana

Case Study: Stephan Morris Blue Skies

Community Engagement: Building sustainable communities

LEAF Marque certified businesses are encouraged to reach out, engage and support others beyond the farm gate in order to build truly sustainable communities. Blue Skies is a multi-award-winning producer of fresh fruit, juices and ice creams, operating in Ghana, Benin, Egypt, Brazil, Senegal, UK and South Africa, with LEAF Marque certified businesses in Ghana and Egypt. Their focus is on sustainable, environmentally sound food production, underpinned by the Joint Effort Enterprise (JEE) model built around the values of inclusivity, equality and profitability.

Central to the Blue Skies ethos is their commitment to community engagement, implemented through the Blue Skies Foundation - a partnership with Waitrose and Albert Heijn, a Dutch supermarket brand. Since 2009, over £1 million has been invested into over 70 projects which have impacted around 130,000 people. Projects are identified, often by the communities themselves and then checked for their validity, suitability and sustainability. Projects have included the construction of classrooms, boreholes and toilet facilities, fire stations, clinics as well as the provision of computer equipment and educational materials.

By respecting and returning value to the communities that produce its fruit, Blue Skies are contributing to local economic development, supporting communities to develop entrepreneurial skills and creating more sustainable livelihoods.

www.blueskies.com





There is no magic bullet to optimising sustainable food production. It requires collective efforts of farmers, governments, retailers, NGO's, scientists and individuals. We must all work together to achieve shared outcomes - more productive soils, cleaner water and air, greater biodiversity, efficient energy use and improved connections with people, farming and the natural world.

LEAF Marque reached its landmark 15th anniversary in 2018. As we look forward, there is no doubt that through the continued commitment of our members as well as the engagement and support of our partners, we are making meaningful contributions to the delivery of the United Nations Sustainable Development Goals (SDGs).

As the UK navigates post-Brexit agriculture, farmers will be looking for ways to strengthen their markets, demonstrate their environmental credentials and build public trust. LEAF Marque certification opens up these opportunities and addresses many of the targets set out in the UK Government's 25 Year Environment Plan. Likewise, it is a key driver in helping overseas growers access UK markets.

We have come a long way in 15 years, but there is much still to achieve. We will continue to strengthen our offer in the livestock sector, broaden our global reach and invest in enhancing our management tools, training and services to support farmers in their uptake of more sustainable farming. Underpinning all these priorities is the ever-evolving scientific understanding of IFM and its practical demonstration at farm level delivered through the LEAF Network.

Finally, we are committed to strengthening our M&E program. We will adapt and respond to input from our members, farmers and stakeholders to ensure the continued improvement of the LEAF Marque environmental assurance system as the leading global champion of a more sustainable future for all.

The key data used in LEAF's Global Impacts Report 2019 includes information from the LEAF Sustainable Farming Review¹, LEAF's Annual Survey², LEAF Marque Post Inspection Questionnaire³, LEAF Open Farm Sunday⁴, LEAF Education⁵, Independent Evaluations⁶ and ⁷PLAID – Peer to peer learning. The data is provided to the best of our knowledge.

¹**LEAF Sustainable Farming Review** The LEAF Sustainable Farming Review is an online self-assessment resource for LEAF members to support their implementation of Integrated Farm Management. It replaced the LEAF Audit in December 2014 and completing it is a requirement of the LEAF Marque Standard (v12.0 onwards); its completion is independently verified. However, the specific responses within the Review are self-assessed and not verified through third party inspection.

The LEAF Sustainable Farming Review is composed of around 90 principles based on the nine sections of Integrated Farm Management along with further guidance information and links to support the user. Each question must be answered in one of the following five ways: Fully Achieved; Considerable Progress; Some Progress; Not Started; or Not Applicable. Additionally, the user indicates which of the supporting practices, which are associated with the principle, they carry out.

For the purposes of this report, analysis of this data only includes LEAF members who held a current, full LEAF Marque certificate at 31st December 2016 for 2016 data, at 31st December 2017 for 2017 data and at 31st December 2018 for 2018 data.

Unless otherwise stated, the data shows the total crop area (not farm business area) for LEAF members that answered "Fully Achieved". It should be noted that LEAF members who responded "Considerable Progress" or "Some Progress" may still meet the criteria required within the LEAF Marque Standard; however, this is not represented within this report. The LEAF Sustainable Farming Review can be completed at any point during the year.

²**LEAF's Annual Survey** Over the last 6 years, LEAF has circulated a repeat questionnaire to its members to ascertain their perception of their farms' sustainability. From 2017, this was titled the

LEAF Annual Survey whereas in previous years it was circulated under the name LEAF Sustainability Survey.

³**LEAF Marque Post Inspection Questionnaire** The LEAF Marque Post Inspection Questionnaire is an optional, online survey circulated to LEAF Marque certified businesses following their annual LEAF Marque inspection to provide an opportunity to feedback on their most recent inspection.

⁴**LEAF Open Farm Sunday** Every year, LEAF carries out an extensive analysis of farms participating in LEAF Open Farm Sunday events and some surveys of visitors. Farms participating are both LEAF members and non-LEAF members.

⁵**LEAF Education** LEAF Education has carried out detailed monitoring and analysis of its education activities as recorded by the Regional Education Consultants. Data includes total number of people and schools educated, and total learning hours.

⁶**Independent Evaluations** Data from the following independent evaluations were included:

Context (2018) Farms, Fisheries and Forests: Does certification make a difference? Analysis of 15 sustainable production standards. The Context Group: London UK

The effectiveness of standards in driving adoption of sustainability practices: A State of Knowledge Review. Petrokofsky G., and Jennings S., 3Keel, Oxford, UK

The effect and impact of LEAF Marque in the delivery of more sustainable farming: a study to understand the added value to farmers. Reed M., Lewis, N., and Dwyer, J., The CCRI (The Countryside and Community Research Institute), Gloucester, UK

⁷**PLAID – Peer to peer learning** Evaluation of the IFM Event held at Elveden Estate, Suffolk in May 2018.

For more information, please contact LEAF (see back cover for contact details).

We would like to thank all members that provided photography for this LEAF Global Impacts Report 2018.

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