



Lincolnshire Agricultural Sector Support

**Report by Scrutiny Panel B on behalf of the
Environment and Economy Scrutiny Committee**

May 2023

1. Executive Summary

Global and National challenges in the Agricultural Sector have impacted on the Lincolnshire Farming Community and a review of the support that Lincolnshire County Council (LCC) currently provides and / or needs to provide going forward to help sustain and grow the sector has been undertaken by Scrutiny Panel B.

The Scrutiny Panel sought:

- To examine ways of developing support to meet the unmet needs of the agricultural sector in Lincolnshire, including mental health and any hardships arising from the Covid-19 pandemic and the EU Transition.
- To examine and review what skills and training provision is required for agricultural businesses, as well as to seek ways to disseminate best practice amongst these.
- To consider ways of supporting/encouraging farms 'Going Green' (such as incentives for environmental improvements and reducing CO2 emissions) in line with the Lincolnshire Green Masterplan.

Through discussions with industry experts, the Panel explored opportunities of how the County Council could assist with support for the unmet needs of the sector.

The Panel looked at elements that synthesise the bigger picture of the current state of Agriculture in Lincolnshire with a view to propose interventions that will support our farming community to realise their potential and will enable the Council to achieve the maximum benefit in order to support the Corporate Plan's four ambitions for Lincolnshire which are:

1. High aspirations
2. The opportunity to enjoy life to the full
3. Thriving environments
4. Good-value council services

The recommendations within this report seek to support our key findings and some key strategic areas for improvement, which focus on:

- Mental Health
- Seasonal Work
- Automation/Innovation
- Education/Training
- Business Support
- Broadband and Digitalisation
- Young startups and Succession
- Policy; Agriculture Green Masterplan

Scrutiny Panel B has agreed the following recommendations for the Executive's consideration:

Recommendation 1 – Policy Context

Lincolnshire County Council should continue to be represented at Officer level, on the Lincolnshire Wildlife Trust's Biodiversity Net Gain Task and Finish Group and provide feedback regarding activity on which Lincolnshire County Council can lead and facilitate delivery on.

Recommendation 2 - Local Leadership

- a) That Lincolnshire County Council recognises the additional costs to Trading Standards for their response to livestock threatening pandemics and supports future activity and its role around immunisation and future outbreaks.
- b) That the Championing Farmed Environment scheme be reinstated through the development of a partnership between Lincolnshire County Council, Greater Lincolnshire Local Enterprise Partnership, Environment Agency, Anglian Water, and Lincolnshire Wildlife Trust, in support of our Agricultural and Farming community (private and tenant farms).

Recommendation 3 - Skills, Investment, Careers and Business Support

- a) In relation to Skills, Investment and Careers:
 - i. That Lincolnshire County Council actively promotes agricultural/farming careers in events, through education and via any other means for communication, such as social media and newsletters.
 - ii. That the Panel's commissioned videos of our six Agricultural Champions be used as an exemplar of the vast opportunity for successful career paths and fulfilling lives.
 - iii. That Lincolnshire County Council works with the UK Food Valley and across the Lincolnshire Food Enterprise Zones (FEZ) in linking talent to existing and future opportunities.
 - iv. That Lincolnshire County Council continues to collaborate with the University of Lincoln and Colleges in promoting education programmes and in introducing

initiatives and schemes for talent retention within the sector and within the county.

- v. That Lincolnshire County Council takes a leading role and proactively engages with managers and tenants to maintain a close relationship and improve service provision, thus, supporting our tenant farms to remain sustainable and economically viable in an everchanging world.
- vi. That Lincolnshire County Council, being the largest tenant farm owner in the East Midlands, hosts a regional debate on the future of tenant farms / succession planning.

b) In relation to Business Support:

- i. That Lincolnshire County Council continues to support and promote the work of the Business Lincolnshire Growth Hub and the role of the Agricultural Advisor.
- ii. That Trading Standards proactively engages with the Tenants Panel offering access to information on all aspects of legal requirements for farming businesses.
- iii. That Trading Standards offers support and guidance to farms that wish to diversify their produce/venture in terms of guidance and adherence to regulations, and that Lincolnshire County Council actively promotes the Trading Standards' offer through established means of communication with the public.

Recommendation 4 - Technology and Innovation

- a) That Lincolnshire County Council Members continue to support and promote the development of the UK Food Valley Priorities.
- b) That Lincolnshire County Council continues investing/seeking additional funding streams to be allocated to the development of the mobile and broadband network across the county.
- c) That Lincolnshire County Council liaises with MPs to push for bringing better broadband to rural locations through the Minister of State for Media, Data, and Digital Infrastructure.

Recommendation 5 - Labour Shortages

- a) That Lincolnshire County Council continues to work with partners and networks to lobby MPs, the Home Office and Defra to ensure that the policies governing seasonal workforce supply to agriculture provide a multi-year deal to enable employers to plan their businesses, with a clear and pragmatic timetable to transition to less migration as new automation technologies are adopted over the next 5-10 years.**
- b) That Lincolnshire County Council liaises with MPs to put pressure on Defra and the Home Office to change entry requirements for foreign workers, offering flexible arrangements and reduce administrative costs and bureaucracy for businesses that seek to employ foreign workers.**
- c) That Lincolnshire County Council takes measures to ensure the development of suitable accommodation on business sites or at close proximity.**
- d) That Lincolnshire County Council continues to work with Local Planning Authorities to support best practice in making provision for all worker accommodation and services.**

Recommendation 6 - Mental Health

- a) That Lincolnshire County Council continues investing in partnership working with the NHS, Lincolnshire Rural Support Network (LRSN) and National Farmers Union (NFU) towards addressing physical and mental health needs in the farming community. This could be done through:**
 - i. Information sharing – organisations communicating about their findings in terms of unmet need. This includes data gathering and intelligence sharing.**
 - ii. Addressing the lack of preparedness and increase flexibility of Mental Health Services in terms of the criteria and conditions/thresholds for offering services.**
 - iii. Collaboration on initiatives, events, promotion of offer across the farming community (for example, through established communication avenues such as social media, websites, and magazines/newsletters).**
 - iv. Support with recruitment and training of volunteers.**

- b) That Lincolnshire County Council continues to provide financial assistance towards Lincolnshire Rural Support Network's Mental Health Service provision subject to regular/annual review.**

Recommendation 7 - Green Masterplan

- a) That Lincolnshire County Council seeks to continue proactively engaging with Green Investment schemes for Greater Lincolnshire and exploring opportunities for the implementation of nature-based solutions that meet Biodiversity Net Gain requirements as well as Net Zero targets in line with the Lincolnshire Green Masterplan.**
- b) That Lincolnshire County Council supports the reinstatement of the Greater Lincolnshire Forum for Agriculture and Horticulture under a set remit and Terms of Reference, with annual reporting to the Council's Environment and Economy Scrutiny Committee on progress made against its objectives. We recommend that the process for this commences during Autumn/Winter of 2023-24.**

Recommendation 8 - Agricultural Organisations/Services

- a) That Lincolnshire County Council considers becoming a member of The Institute for Agriculture and Horticulture.**
- b) That Lincolnshire County Council supports a position whereby MPs from Lincolnshire seek to represent the county on All-Party Parliamentary Groups (*such as National Food Strategy; Farming; Agriculture and Food for Development; Fruit, Vegetables and Horticulture; Rural Services; and any other relevant groups*) if an opportunity arises.**

2. Terms of Reference and Approach to the Review

2.1 Approval of the Review

In February 2021, the Environment and Economy Scrutiny Committee identified support to farmers as a potential topic for a scrutiny review. The Committee recognised the unprecedented change that the sector is experiencing and will continue to experience. Drivers for change include global forces such as international conflict, Covid-19 and climate change as well as national policy decisions such as leaving the Common Agriculture Policy and the intent of the Agriculture Policy to create churn and transition. The Committee established a working group, which met in March 2021, to identify key lines of enquiry for a scrutiny review.

The Overview and Scrutiny Management Board considered the proposed Terms of Reference at its meeting on 17 June 2021 and proposed some additions to include Mental Health which had been an area of particular concern raised by the working group. On 30 September 2021, the Overview and Scrutiny Management Board considered and approved the allocation of this review topic to Scrutiny Panel B. We agreed our terms of reference at our first meeting in January 2022. Scrutiny Panel B comprised of Councillors Gary Taylor (Chairman), Mike Clarke (Vice Chairman), Nicola Clarke, Alex Hall, Colin Matthews, Mrs Marianne Overton, and Robert Parker.

2.2 Terms of Reference

The following key lines of enquiry for the scrutiny review were agreed by the Panel:

- (1) To examine ways of developing support to meet the unmet needs of the agricultural sector in Lincolnshire, including mental health and any hardships arising from the Covid-19 pandemic and the EU Transition.

We believe we have achieved this by:

- a) reviewing national policies and national reports;
- b) meeting with mental health specialist services and leading agricultural support organisations collating evidence and generating foresight;
- c) considering best practice; and
- d) analysing trends.

- (2)** To examine and review what skills and training provision is required for agricultural businesses, as well as to seek ways to disseminate best practice amongst these.

We believe we have achieved this by:

- a) reviewing relevant evidence from case studies;
- b) reviewing the training and skills development offer in Lincolnshire;
- c) meeting representatives from Riseholme College, the University of Lincoln's Lincoln Institute for Agri-Food Technology and the Barclay's Eagle Lab;
- d) considering and promoting best practice and how to best distribute this across Lincolnshire's agri-businesses; and
- e) producing six Agricultural Champions videos showcasing pathways into agricultural sector careers.

- (3)** To consider ways of supporting/encouraging farms 'Going Green' (i.e., incentives for environmental improvements, reducing CO2 emissions etc.) in line with the Lincolnshire Green Masterplan.

We believe we have achieved this by:

- a) reviewing evidence;
- b) meeting with the Lincolnshire Wildlife Trust and reviewing new Defra guidelines in line with the Environment Act 2020;
- c) considering the context of the County Council's Green Masterplan;
- d) reviewing policy; and
- e) considering funding provision.

Building on the above, the aim of this report is to consider how Lincolnshire County Council could develop its leadership and support Lincolnshire's agricultural sector to maximise opportunity and be thriving, resilient and diverse businesses, to have access to appropriate support (financial, business, physical and mental health) and to be supported in making decisions for their future (for example succession and new entrance careers), whilst being aligned to the County Council's goals for a *greener* Lincolnshire.

2.3 Approaches to the Review

The Panel met 13 times between January 2022 and March 2023. A series of site visits and thematic sessions were also conducted throughout the duration of this review. The areas explored by this review included:

- engagement with subject matter experts;
- Mental Health provision;
- agricultural businesses' challenges and opportunities;
- opportunities for 'Going Green'/Green Masterplan;
- connectivity across rural Lincolnshire; Internet/broadband coverage;
- the UK Food Valley;
- County Farms;
- technological innovations/robotics; and
- labour supply, careers, and succession.

It is important to mention at this point that we did not approach agricultural businesses and farmers directly. While we acknowledge the individuality and uniqueness of each business, our recommendations are not specific to particular business types, size, or product specification. We engaged with organisations and service areas that are a conduit to farming and agriculture businesses across the County and are satisfied that the evidence collated helped us shape recommendations that can be applied to all relevant businesses across Lincolnshire.

2.4 Contributors to the Review

We would like to record our thanks to the following contributors, who attended our meetings, submitted written reports and shared relevant literature in support to this review:

- Justin Brown, Assistant Director – Growth
- Vanessa Strange, Head of Infrastructure Investment
- Chris Miller, Head of Environment
- Nicola Radford, Senior Commissioning Officer - Growth
- Sarah Wells, Business Manager - Corporate Property
- Dan Clayton, Sustainability Manager
- Stephen Brookes, Broadband Programme Manager - Place
- Chad Saratoon, Principal Trading Standards Officer, Trading Standards
- Kiara Chatziioannou, Scrutiny Officer (SPB Project Lead)
- Karen Seal, [former] Principal Place and Investment Officer
- Martin Collison, Director of Collison & Associates Ltd

- Tammy Smalley, Head of Conservation, Lincolnshire Wildlife Trust
- Mark Tinsley, Managing Director at PC Tinsley Ltd
- Paul Ward, Agricultural & Horticultural Adviser, Business Lincolnshire Growth Hub
- Professor Simon Pearson, Director of Lincoln Institute for Agri-Food Technology

In addition, we would like to thank the six individuals who took part in the filming of the Agricultural Champions videos (commissioned by us during the proceedings of this review) to promote various elements of the sector to future generations.

Contributions were also received from the Lincolnshire Rural Support Network, Lincolnshire Partnership Foundation NHS Trust, and the National Farmers Union.

3. National Policy Context

3.1 Introduction and Benefits of this Review

The UK agricultural sector is one of the most important industries in the country and is one of the priority economic sectors for Lincolnshire; its success is essential to the economy and food security. The sector is currently experiencing a period of precipitous transformation. The agricultural landscape is changing in line with the impacts endured by the legacy of the pandemic, climate change and adverse weather phenomena, changes of demographic and migratory flows, including those owed to the additionalities of the EU transition that introduced barriers to movement of seasonal labour forces, and uneven economic growth which has been associated with a plethora of concurrent adversities (including Mental Health, financial uncertainty, cost-of-living crisis and fuel crisis). The UK government is taking steps to address issues and ensure that the industry can continue to thrive. Lincolnshire needs to be at the forefront of these developments and help lead the sector in its recovery and beyond.

We feel that the benefits of this review are:

Economic: Agriculture is a significant contributor to the local economy in many counties, providing employment and income to farmers and other rural businesses. Our review identified several research and development programmes aimed at improving agricultural productivity and sustainability. These programmes include funding for innovative technologies, such as precision farming and bioenergy production, as well as support for research into new crop varieties and livestock breeds. We feel that as a Local Authority, Lincolnshire County Council must exhibit excellent understanding of the sector, the economic benefits of agriculture and develop strategies to support and promote the industry.

Environmental Impacts: Agriculture can have significant environmental impacts, such as pollution, soil erosion, and greenhouse gas emissions. This review gave us an opportunity to better understand the environmental challenges facing the industry and appreciate the need to develop strategies to promote sustainable practices. As part of this we reviewed policy and legislation designed to reduce greenhouse gas emissions, protect soil health, and improve animal welfare standards.

Land Use Planning: Agriculture is a key land use in many counties, and the way land is used can have significant impacts on local communities and the environment. We had the opportunity to understand challenges and received evidence indicating significant opportunities arising from the changes in Local Plans alongside the work by the Geospatial Commission (a series of projects to explore key land use pressures, such as energy, housing

and decarbonisation, and how innovative data analysis can support better decisions about land use change)¹. We feel that Lincolnshire County Council should work with planning authorities and the National Farmers Union towards encouraging and promoting take up of schemes for the installation of solar panels on rooftops rather than agricultural land where appropriate.

Public Health: Agriculture can also have implications for public health, such as through the use of pesticides and antibiotics in farming as well as the effects experienced directly by the agriculture/farming community relevant to physical and mental health needs.

3.2 Summary of National Policies and Plans

Changes in legislation in the form of the introduction of the Agriculture Act 2020, the Environment Act 2021, and Brexit Trade Agreements, have brought waves of significant changes in agriculture in the UK for first time in decades. These introduced new policy and schemes, of which some were new and other replaced previous schemes that are now abolished (for example EU related) or phased out (such as Basic Payments Scheme).

3.2.1 Agriculture Act 2020:

3.2.1.1 Environmental Land Management Schemes (ELMS)

This is a three-tier scheme that is being introduced, alongside the phasing out of the Basic Payment Scheme. This includes:

- Sustainable Farming Incentive
- Local Nature Recovery
- Landscape Recovery

ELMS is offering a farming incentive in which farmers could be paid to adopt and implement what is considered *good news* for the environment and soil sustainability (namely transition to low carbon farming and working towards achieving Net Zero targets).

In Lincolnshire the Lincolnshire Wildlife Trust had secured two major pilots for the ELMS: the South Lincolnshire test in partnership with the South Lincolnshire Water Partnership and the Humberhead Levels Partnership test in the Northwest of Lincolnshire.

¹ For more information visit: [New geospatial data projects to shape the future of land use.](#)

Key findings of these pilot projects highlight the importance of soils and waters as public goods, and suggested that:

- farmers required a local facilitator to support with lack of knowledge and skills to access the data that they required to apply for these supporting Land Management grants (more specialist data at local level).
- farmers required simple guidance around gaps to be filled between public funding - private finance (Green Investment in Greater Lincolnshire- stacking public money with private green finance).
- spatial prioritisation and eligibility are important: accessible local and national data, specialist advice and support, local prioritisation of public goods to reach consensus and opportunities with cluster working (10 to 50).
- Land Management Plans and advice: resource to develop plan with support and consistent trusted facilitation, ground-truthed spatial data on public goods, digital mapping and the land app was highly useful tool that all could use.

3.2.1.2 Basic Payments Scheme

This is the largest rural payment scheme providing financial support to the farming industry but is currently being phased out. Farmers can apply once a year between March and May. The Rural Payment Agency plans to replace the Basic Payments Scheme (BPS) in England with delinked payments in 2024.²

3.2.1.3 Lump Sum Exit Scheme

This scheme is for those previously entitled to the BPS who wish to leave farming, either to retire or take up a different occupation³.

3.2.2 Environment Act 2021

We are currently being exposed gradually to policy updates introduced by the Act. Air quality, biodiversity, water, resource efficiency and waste reduction are the main targets.

² For more information visit: [Payments Replacing the BPS](#)

³ The scheme is managed nationally; thus, the Panel was not provided with data indicating what the take up in Lincolnshire has been. Applications closed on 30 September 2022; however, individuals can still apply via a suitable agricultural valuer or a solicitor and submit their applications with the Rural Payments Agency directly by midnight on 31 May 2024.

3.2.2.1 Conservation covenant agreements

These agreements will stand between a landowner and a body (such as a charity or public body) on whether to do or not do something on their land for a conservation purpose, which will now need to be executed as deeds, rather than just 'in writing signed'. This change will enable Net Gain or even carbon sequestration opportunities to be given a greater legal standing.

3.2.2.2 Sustainable Farming Incentives (SFI)

The announced changes to BPS payments will be the main driver for delivering the Biodiversity Net Gain targets in agriculture. The main objectives of SFIs are to maintain and enhance the natural environment; to reduce carbon emissions; and to improve the health and welfare of farmed animals. The scheme is being rolled out between 2023-25.

3.2.3 Immigration Policy

To tackle shortages in labour supply, especially in seasonal work over a wide range of roles within the sector (such as pickers, drivers, and packers) the government established the following in February 2020:

- a) **The Skilled Worker Visa (SWV)**- applications not capped but exclusions based on salary requirements, Language proficiency and academic skills/qualifications.
- b) **Shortage Occupation List** - a subset of occupations under the SWV allows the applicable minimum salary requirement for a SWV to be reduced by 20%.
- c) **Seasonal Workers Pilot** - the pilot was capped at 30,000 visas in 2021. The 2022 visa scheme, which has replaced the pilot and is available until 2024, had the potential to increase visas to 40,000 in 2022 if required, before being reduced to 28,000 from 2023.

3.2.4 Abolition of the Common Agricultural Policy

The 2007–2013 Common Agricultural Policy (CAP) and then the 2014–2020 CAP reform were EU policies designed for new sector entrants (inducing young farmers). The Policy aimed at introducing measures supported through the provision of start-up grants.

3.3 Our Conclusions on Policy

Farming is heavily influenced by global and transnational factors. These include the developing global food crisis, changing consumer trends and preferences, the impact of war

in Ukraine on energy prices in Europe, rising input costs such as fuel and fertiliser, and uncertainty surrounding trade agreements. Additionally, there is added bureaucracy associated with Brexit, uncertainty surrounding the Northern Ireland Protocol, and concerns regarding labour shortages. The disparity between policymakers' goals and the reality of achieving them on the ground is an ongoing challenge. The cost-of-living crisis is contributing to rapidly changing consumer spending habits, with consumers opting for cheaper substitutes within food groups, such as switching from red meat to white meat. This puts further pressure on producers as supermarkets demand lower prices. These issues are mirrored in Lincolnshire and highlight the ongoing need to strengthen supply chains nationally.

We concur with the view of the importance of government being agile on a national level in terms of adapting policy to reflect the passage of the country to a new era (post Brexit) as well as changing to create a more resilient and self-sufficient sector. We hope that intended legislation in the Environment Act and Agriculture Act will lead towards this direction.

We also feel that Lincolnshire should be represented on a national level and be an active and vocal champion of the agricultural and horticultural sector.

3.4 Government Funding Streams

Financial uncertainty at the local level is further compounded by national and global economic factors. Understanding the interplay between these levels and their impact on the day-to-day lives of farmers, including smaller tenant farmers, is a challenging task. The diverse nature of farm businesses means that these pressures are felt differently. The industry is facing significant uncertainty regarding cash flow and production loss, with many farmers scaling back or de-risking their businesses to reduce the high-risk nature of the industry. Diversifying farming businesses in fast-changing markets is a difficult task, although some businesses are better positioned and have prior experience in doing so. Covid-19 has demonstrated how farmers can adapt, but there remains a need to build capacity and support local farmers in exploring new markets and ways of working while enhancing supply chains.

3.4.1 Rural England Prosperity Fund

The Rural England Prosperity Funding (REPF) has been designed to provide investment opportunities to support new and existing rural businesses in developing new products and facilities that will benefit the local economy. This includes farm businesses that are looking to diversify their income streams.

The grants awarded through REPF can help rural businesses to access the funds they need to develop new products or services, expand their facilities, or invest in new equipment. This

can help these businesses to increase their competitiveness and profitability and contribute to the overall economic growth of the local area.

In addition to supporting rural businesses, REPF can also help to create new job opportunities and improve the quality of life for local residents. By encouraging businesses to innovate and invest in their operations, the programme can help to attract new customers and visitors to the area, which can have a positive impact on the local economy.

Grants allocated for the financial years 2023/2024 and 2024/2025 are being administered through lower tier authorities⁴.

We concur that the Rural England Prosperity Funding is an important initiative that can help to support the growth and development of rural businesses and communities and contribute to the wider economic prosperity of the region and feel that as an upper tier authority we should be promoting on every level, opportunities for local farms to diversify.

3.4.2 Farming in protected Landscapes

This is a programme of funding for one-off projects that is open to all farmers and land managers within an Area of Outstanding Nature Beauty (AONB) or National Park in England, or the Norfolk Broads. Funding is aimed at supporting projects that:

- support nature recovery;
- mitigate the impacts of climate change;
- provide opportunities for people to discover, enjoy;
- understand the landscape and its cultural heritage; and
- support nature-friendly, sustainable farm businesses.

Greater Lincolnshire is presented with a unique opportunity to lead in:

- delivering towards the food security of the nation;
- delivering towards the water resources of the nation in a much more clever and integrated way than presently; and
- delivering one of the most outstanding biodiversity recovery schemes.

3.4.3 Biodiversity Net Gain Task and Finish Group

In recognition of the need for a consistent approach to delivering Biodiversity Net Gain across Greater Lincolnshire, the Lincolnshire Wildlife Trust established a multiagency Task and Finish

⁴ For further information visit: [Rural Prosperity Fund: allocations](#)

Group in September 2020. The purpose of this group is to work in partnership to produce a framework document of shared principles for Biodiversity Net Gain and to ensure delivery in an exemplary and consistent way across Greater Lincolnshire.

This partnership is inclusive of all planning authorities and has developed a series of core policy principles for Greater Lincolnshire that addresses concerns around increasing biodiversity across the county in addition to maintaining wildlife areas. Biodiversity opportunity maps had been established in a consistent manner through collaboration with the Greater Lincolnshire Nature Partnership.

Recommendation 1 (Policy Context):

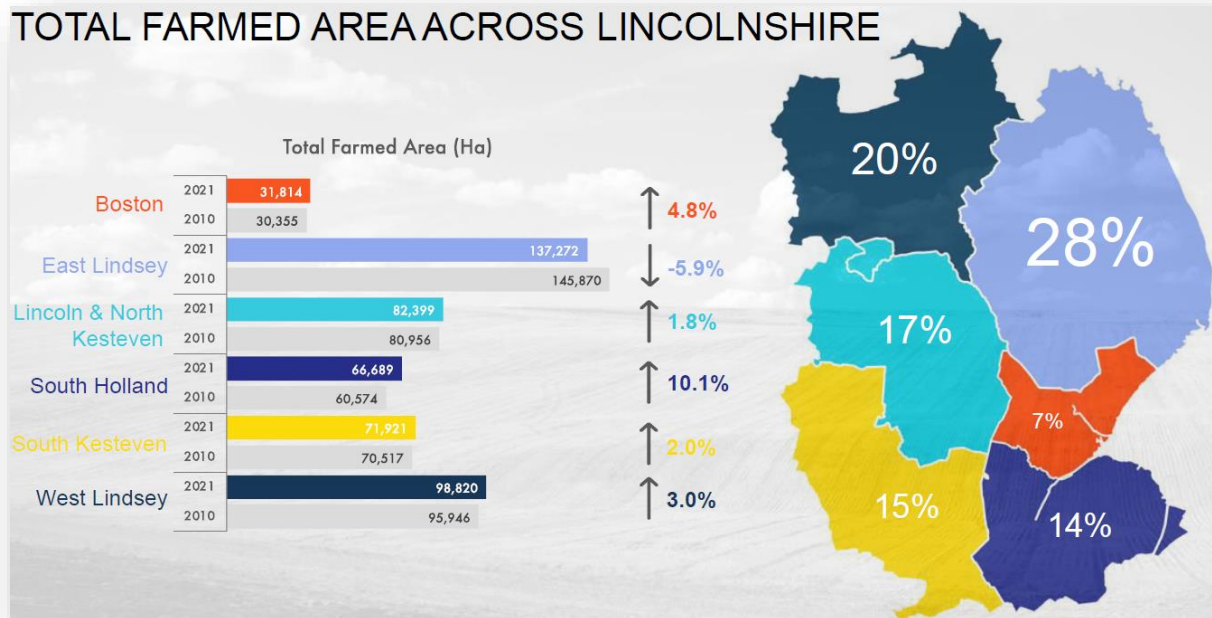
We recommend that:

Lincolnshire County Council should continue to be represented at Officer level, on the Lincolnshire Wildlife Trust's Biodiversity Net Gain Task and Finish Group and provide feedback regarding activity on which Lincolnshire County Council can lead and facilitate delivery on.

4. The Picture Across Lincolnshire⁵

4.1 Lincolnshire Agri/Farming in a Snapshot

We heard that Lincolnshire stands out as one of the UK's most diverse farming counties, with a unique blend of farm businesses that range from smaller tenant farmers to large-scale multinational corporations and agribusinesses. Its expertise spans across livestock, arable crops, and horticulture, while its diverse environments comprise of varying geography and soil types, including vast fenland and coastline, as well as the scenic Lincolnshire Wolds (an Area of Outstanding Natural Beauty). Due to the diversity of farming businesses, challenges and opportunities are not uniformly experienced.



A full breakdown of agriculture across Lincolnshire can be found in Appendix A. In terms of the size and volume of the sector across the county we have:

- ✓ A total farmed area in Lincolnshire at just under 490,000 hectares; this makes up 5.4% of the national total. Most of the farmed area (87%) in the county is farmed by holdings with more than 100 hectares. This compares with 75% nationally.
- ✓ At 382,636 hectares (ha), and 84% of the total Lincolnshire farmed area (excluding horticultural crops), arable land (defined as arable crops and uncropped arable land/bare fallow) is the dominant land type in Lincolnshire. Nationally, only 46% of farmed area is designated this land type, demonstrating the importance of larger

⁵ According to Defra's 2021 tranche of data along with data from 2010, 2013 and 2016.

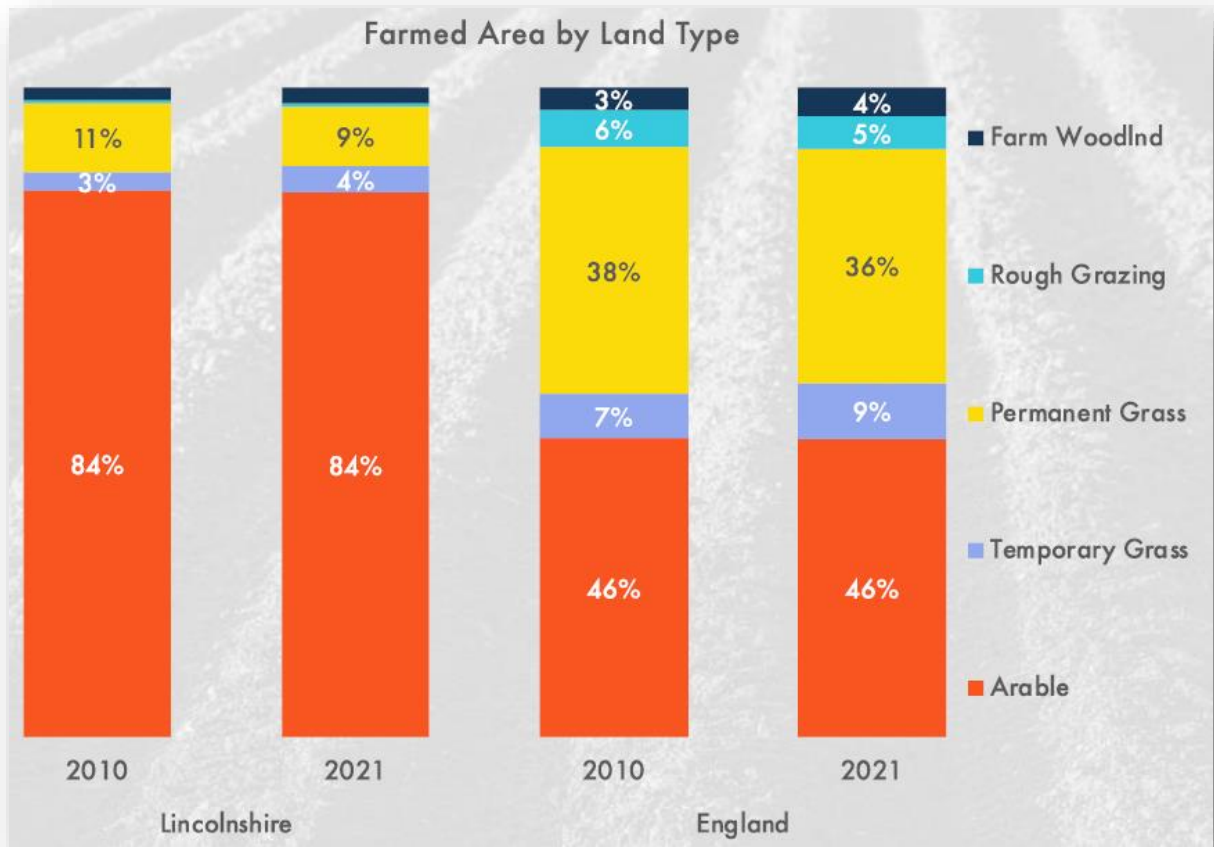
holdings locally when compared to the sector nationwide. Lincolnshire features in the top 10 of English counties for land values, at £11,000 per acre of prime arable land. Lincolnshire is marginally ahead of the national picture in terms of land ownership (farmed areas) with 70% being owned and 30% being rented.

In terms of **farmed areas** by farm type, in Lincolnshire we have:

- ✓ **272,520 ha** of Cereal Farmed Area
- ✓ **140,937 ha** of General Cropping Farmed Area
- ✓ **19,043 ha** of Horticultural Farmed Area
- ✓ **2,828 ha** of Specialist Pig Farmed Area
- ✓ **4,715 ha** of Specialist Poultry Farmed Area
- ✓ **2,006 ha** of Dairy Farmed Area
- ✓ **16,021 ha** of Grazing Livestock Farmed Area
- ✓ **30,569 ha** of Mixed Holdings Farmed Area
- ✓ **276 ha** of Unclassified Holdings Farmed Area



Farming in Lincolnshire is dominated by arable farming, and the make-up of farmed area across Lincolnshire by land type has changed very little over the last decade. This lack of change is also apparent at national level.



In terms of **livestock**, there are:



Land is also used to produce energy, using **solar photovoltaic methods**. Typically, developers require about two hectares of land (five acres) per megawatt of power⁶ and it is on this basis that land use is estimated for these sites. In total, and based on this latest site information,

⁶ For more information visit: [NFU Briefing](#)

solar photovoltaic sites currently cover 606 hectares of land across Lincolnshire. Further plans for additional sites for construction (including those awaiting construction, planning application submitted, and site being scoped) would bring the total cover to 1,347 hectares of land across Lincolnshire.

There are also 32 **anaerobic digestion** sites of which two provide biomethane into the national grid (FKB at Holdingham, and Lockwood Estates/Future Biogas at Spridlington) whilst the rest generate biogas which is burned on-site to generate heat, power, or both.

121,000 hectares (ha) of agricultural land was used for **bioenergy crops** in the UK in 2020 comprising⁷:

- ✓ **29,000** ha of wheat and 7,000 ha of sugar beet used for biofuels;
- ✓ **75,000** ha of maize used for anaerobic digestion; and
- ✓ **8,000** ha of miscanthus and **2,000** ha of short rotation coppice used in biomass.

4.2 County Farms

County Farms⁸ estates in Lincolnshire comprise 16,495 acres (6,675 ha), of which 16,422 acres are freehold and 73 acres are leasehold, divided up into 168 (166 freehold/2 leasehold) individual holdings; that does not amount to 168 tenants as some holdings have several tenants and some tenants may hold several holdings. County Farms are primarily located in the southeast quadrant, in the South Holland/Boston/East Lindsey areas, with very few of them being located to the north of the county (*see Picture 1- page 22*). The majority of these are arable farms.

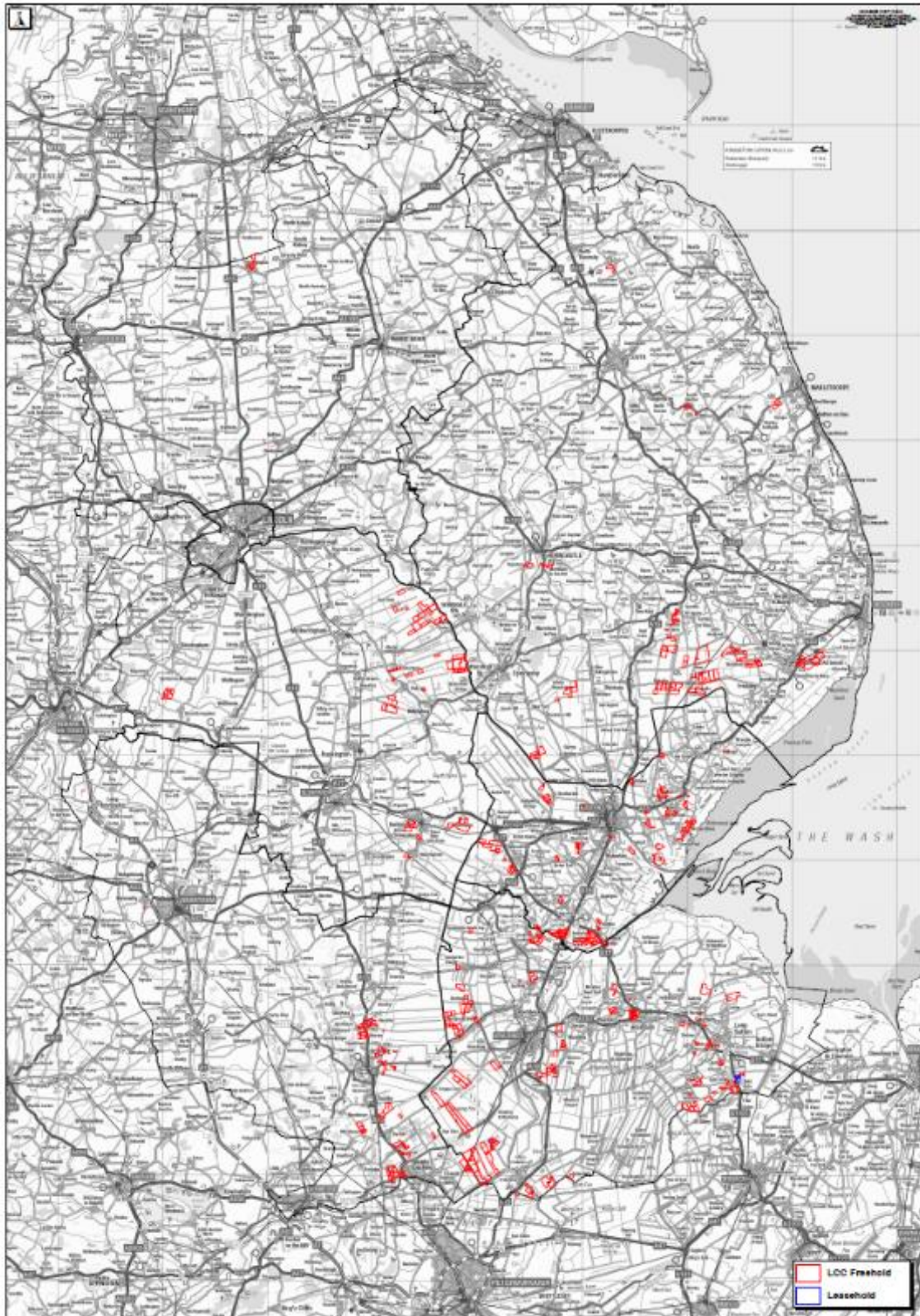
Primary objectives of County Farms are to:

- ✓ Maximise the rents and other income for the benefit of other LCC services.
- ✓ Maximise capital receipts from the sale of surplus land and property, particularly those benefitting from planning permission for development.
- ✓ Continue to amalgamate land within the holdings where appropriate.
- ✓ Further LCC policies to conserve and enhance the natural beauty and amenity of the countryside.
- ✓ Provide opportunities for suitably qualified new entrants to farm on their own account.

⁷ For more information visit: [Area of crops grown for bioenergy in England and the UK: 2008-2020](#).

⁸ The estate comprises agricultural units let under the Agricultural Holdings Act 1986 and Farm Business Tenancies let under the Agricultural Tenancies Act 1985.

We feel that Lincolnshire County Council should continue to advise its tenant farmers on changes and updates relevant to legislation and policy through known and established avenues of communication.



Picture 1: Map of County Farms Estate

In red - LCC Freehold
In blue - Leasehold

4.3 Trading Standards

In April 2022 Trading Standards presented to Public Protection and Communities Scrutiny Committee⁹ on the impact/effects of Avian Influenza.

The UK was in the midst of an unprecedented outbreak of Avian Influenza. Sadly, highly pathogenic avian flu had been confirmed in 10 commercial/backyard poultry flocks in Lincolnshire since October 2022. In December 2022 and early 2023 Lincolnshire had a further 14 cases, all in the East Lindsey District Council area.

At the time of the outbreaks a 3km protection zone and 10km surveillance zone were placed around each of the premises. All poultry on the premises were humanely culled. Some of these zones have since been lifted¹⁰.

During all the outbreaks, Trading Standards worked with the strategic communication team to provide targeted communications including social media in the areas affected.

4.3.1 Lincolnshire Trading Standards Role

The Animal and Plant Health Agency (APHA) lead the response to all confirmed cases of notifiable animal disease including Avian Flu. The Trading Standards Service role was to support APHA at a local level and to conduct any enforcement of the regulatory framework should the need arise.

Primarily this involved providing advice and guidance to both the farming community and to members of the public regarding the control measures in place. Enforcement action was usually limited to responding to complaints about birds that have not been housed or poor biosecurity. In the first instance, Trading Standards would offer advice and guidance in writing with inspections being undertaken if there was repeated noncompliance or if they are unable to establish the identity of the person responsible for the birds in question.

In addition, Trading Standards could be called upon to serve statutory notices or issue licences if requested to do so by APHA. This had not been necessary during the current response.

Enforcement action for failing to comply with the conditions of a licence issued by APHA would also be undertaken by Trading Standards Officers if this was reported by APHA Inspectors.

⁹ For more information visit: [Avian Influenza Outbreaks in Lincolnshire 2021-22](#)

¹⁰ Further to the completion of this review, national restrictions were lifted as of 18th April 2023 – for further information visit [Bird keepers must maintain scrupulous biosecurity standards as housing measures set to be lifted](#)

When a case of Avian Flu was confirmed at a premises, Trading Standards Officers were asked to undertake foot patrols within the 3km protection zone.

Officers were required to visit all premises and fields within each section to identify and record the location of all stock that was susceptible to Avian Flu and any livestock. In built up areas this may be reduced to visiting every other or every few properties. The information gathered was then passed back to APHA who used it to determine where clinical testing should be undertaken within the zone.

4.3.2 Trading Standards Officer Time

The service lost in the region of 117 officer days from front line service delivery to respond to Avian Flu since October 2022.

4.4 Supporting our Landowners and Tenants Grow: Championing Farmed Environment scheme.

This was a partnership of agricultural, environmental, and governmental bodies, promoting good environmental management through productive farming practices. The County Council, Greater Lincolnshire Local Enterprise Partnership, Environment Agency, Anglian Water, and Lincolnshire Wildlife Trust previously funded this scheme, which saw partners contributing to funds to support and facilitate farmers to visit different sites and have the opportunity to engage and familiarise themselves with different practices and innovations employed and implemented by peers.

Acknowledging the vast and diverse picture of agriculture and farming across Lincolnshire, we feel that it is of paramount importance to continue using established communication methods to:

- a) keep our farming communities well informed; and
- b) use every opportunity to promote the benefits and advantages of our farming industry.

This can be achieved by working with the communications team at Lincolnshire County Council and partner organisations. These teams already distribute information via printed publications and online through newsletters, social media and their websites, as well as liaising with other media outlets.

Recommendation 2 (Local Leadership):

We recommend that:

- a) Lincolnshire County Council recognises the additional costs to Trading Standards for their response to livestock threatening pandemics and supports future activity and its role around immunisation and future outbreaks.**

- b) The Championing Farmed Environment scheme be reinstated through the development of a partnership between Lincolnshire County Council, Greater Lincolnshire Local Enterprise Partnership, Environment Agency, Anglian Water, and Lincolnshire Wildlife Trust, in support of our Agricultural and Farming community (private and tenant farms).**

5. Agricultural Businesses in Lincolnshire - Challenges and Opportunities

5.1 Skills and Investment

5.1.1 Investment

Lincolnshire has seen substantial investment in new agri-food skills infrastructure in the last six years, including: new Bishop Burton Showground campus; Riseholme University of Lincoln campus [Lincoln Institute for Agri-Food Technology (LIAT), Barclays Eagle Lab]; the South Lincolnshire Food Enterprise Zone (FEZ) and National Centre for Food Manufacturing (NCFM); Boston College and NCFM Centre for Food and Fresh Produce Logistics. The Lincolnshire Institute of Technology has also adopted engineering and the food chain as its major focus. Total capital investment in this development is in excess of £75 million.

In parallel to the capital investment, skills provision has been expanding with: Bishop Burton now having 550 students at the Showground; LIAT has over 50 PhD students, plus 90 MSc students and 25% of UK BASIS provision; and NCFM works with over 200 employers a year in the food chain through apprenticeships and short courses. LIAT is launching new MSc programmes in Sustainability and Automation in 2023, as well as an undergraduate BSc in Robotics. The current outline plans for a cluster of horticultural producers at Hemswell Cliff FEZ also includes proposed partnership facilities for skills and innovation. However, more training provision is needed to meet industry demand.

The Council's Place and Investment Team developed a two-year Investment Strategy which was launched in October 2020, showing a clear direction through five objectives to ensure that the region saw investment and growth. One of those objectives was to *"attract and achieve business investment into the food manufacturing sector including automation and robotics in Greater Lincolnshire"*.

This was to be achieved by utilising the resources that already exist, such as:

- ✓ Three Food Enterprise Zones
- ✓ Free Port Status
- ✓ Largest Seafood Processing Cluster
- ✓ Ports of Boston, Grimsby, Immingham and Killingholme
- ✓ UK and European Leading Region for Automation and Robotics, and Digitalisation

5.1.2 Foreign Direct Investment Key Account Management

The Council's Place and Investment Team support the Greater Lincolnshire Local Enterprise Partnership (GLLEP) to ensure all foreign owned businesses located within our region stay here and thrive. This is through a Memorandum of Understanding agreement with the Department for International Trade. Funding of £49,000 was secured for 2021/22 to support circa 35 foreign owned businesses with their growth aspirations.

The 2021/22 programme managed 34 companies, identified 16 pipeline projects, and landed six project wins securing 195 jobs. This included supporting American owned Flamingo Flowers (Sun Capital Partners) with a £1,500,000 expansion at their current site creating 102 jobs and a £200,000 investment in the creation of a new site creating 30 jobs. A further £55,000 funding bid has been secured for the 2022/23 year to continue this valuable support work. UK SMEs¹¹ are supported through the GLLEP's Business Lincolnshire Growth Hub programme.

Working closely with bigger international companies not only grows and fosters positive relationships, but also helps in understanding issues and support with problem solving (for example, seeking suitable premises, making connections with planning authorities, signposting on environmental or highway issues), acting as facilitators, including brokerage with talent acquisition and training support through the Lincoln Institute of Agricultural Technology or the National Centre for Food Manufacturing, and through linking job seekers with existing vacancies to ensure seamless employment for the former and also provide solutions on housing and temporary/permanent accommodation for employees where needed.

Diversification is another area of support where any opportunity to expand, diversify or adapt to current needs is examined, such as how to use waste in other entrepreneurial activities.

Through existing funding, the Place and Investment Team is able to visit businesses that seek support; promote their role by setting up events and taking part in marketing events both within the county, regionally and across the county to meet companies, and convey key messages about the sector and the work undertaken to support growth in Lincolnshire. The team is also working closely with partners at the GLLEP and District Councils.

¹¹ Small Medium Enterprises.

5.2 Careers

5.2.1 Young Farmers

Young farmers have historically been acknowledged as a group faced with several barriers when setting up and establishing their individual farming business whether through starting from ground zero or through succession of their parents/family.

5.2.2 Barriers

We identified the following range of barriers to young farmers:

- **Financial constraints:** high start-up costs, difficulties in setting up an agricultural enterprise that is economically viable, and limitations in accessing both land and credit have been reported as the most common issues to be overcome by young farmers. Now, in light of the EU transition and the absence of the EU incentives and initiatives, there is a reluctance among younger individuals to envisage a career in farming. Moreover, we heard that some young individuals did not fully comprehend elements of the proposed changes in land use or how the policy changes following Brexit would affect them¹².
- **Skills development:** these include all knowledge developed through formal (education / apprenticeships) or informal (work experience / being born in the profession / in line for succession) avenues. In relation to skills development outside formal institutional learning (such as college or university), there is access to physical and online options for skills development on demand, provided that they are not running against broadband coverage issues. Demanding work cycles day-in-day-out leaves less time for skills development and attending courses may become unrealistic.

Failure to acquire new skills leaves a sense of stagnation and can induce fear of being left behind in terms of technology advances and innovations. Skills in marketing, finance, or production need to be sharpened and kept up to date for a successful business future. It could be argued that access to funding would help to secure staff for those skills that are not mastered and would alleviate some of the burden.

- **Apprenticeships:** indications are that many smaller farmers may be unlikely to have time or capacity to coach someone or a genuine regular requirement for additional labour. Furthermore, restrictions on the work of an apprentice and administration could be a deterrent.

¹² Future Land Use survey- carried out in 2021 by the National Federation of Young Farmers' Clubs (NFYFC), (Defra-funded), reflected fears of young farmers over global food supplies and price hikes following the pandemic and the UK EU Transition.

- **Personal constraints:** uncertainty around income generation, working hours, ability to reserve time for rest and recreation (holidays), and dealing with the realities of life in isolation (remote rural areas). The lack of switch off time is another major barrier for taking on farming roles. Personal lifestyles and off-farm interactions become less and less accessible. Silo working has an impact on the mental health of young farmers. Lack of communication and interpersonal connections as well as limited access to time off the farm/holiday/annual leave increases anxiety, dissatisfaction and decreases resilience.
- **Social stigma:** there is a socio-cultural norm attached to farming as a career pathway and to perceptions of who a farmer is and can be. Therefore, farming is often associated with being an undervalued career option, seen as one not requiring skills and aptitude to techniques, and furthermore, the farmer is viewed as an old, white, male that creates a chasm between that expectation and the ability of those with different identities to adapt to that.

Moreover, careers in farming, when not associated with inheriting a significant size of assets from the older generation, is viewed as a path of low income; personal income can be at par or below minimum national standards after payments are made, such as for energy, supplies, storage, maintenance, and processing. Therefore, farming is viewed as a profession that does not allow a great margin for profiteering when you are a small size farm. In relation to this, the National Farmers Union (NFU) is a key contributor that offers support for farmers to share their day-to-day concerns and work through these challenges.

- **Shared vision with the old generations:** young farmers find it hard to be passed on the baton by parents. Succession planning is minimal and sometimes absent. Young farmers may feel that their views and ideas are consumed by the rigid stance of their parents.
- **Difference in goals:** younger farmers may be focused on networking, expanding the business, diversifying, innovations, and alternative crops, whereas older generations are more focused on elimination of debt and in doing what they know how to do best or stay in their comfort zone. Also, the correlation between the educational attainment of farm holders and their children suggests that the latter can obtain higher off-farm wages and are therefore deterred or discouraged from seeking to succeed their parents.
- **Land availability:** for those who do not own land through family, young farmers face obstacles with starting an operation, such as access to equipment; ability to maintain and improve property; and keep clean healthy fields. This is linked in research with high levels of sentiment towards land that result in low mobility of agricultural land. Landowners are reluctant to let go of assets, wishing to honour the commitment and sacrifices of previous

generations; farmers also report their attachment to farmland due to their want for security, by creating a prosperous economic business and leaving a family legacy.

Hence, even where there is lack of a succession line, retiring farm owners are still reluctant to let go of the land they worked on and earned their living on, especially when it has been in the family's possession for generations. An option could be the renting of assets to other farmers, and especially younger farmers, to allow for a start-up to their career. This, however, presents the barrier of negotiating with landowners, which requires clear avenues of communication and transparency around financial performance as to set realistic expectations and allow for a return to the tenant.

As part of this review, we had the opportunity to visit the Riseholme Campus of Bishop Burton College in June 2022, which is located a few miles north to the City of Lincoln. During the visit, discussions were focused on the varying skills needed within the sector and we heard how Bishop Burton College was working with the University of Lincoln and was looking at strengthening their collaboration in the future to continue providing a career path to younger generations, recognising that not every student's vision and career choices would include manual labour, but may be more focussed on robotic operations.

Furthermore, another important aspect highlighted was talent retention within the county, indicating that for many of those students, their learning journey ends in Lincolnshire and their career path may begin in another county. This type of "brain drain" is being addressed by efforts to link businesses within the county with talent to ensure that as many as possible will be absorbed within the local market.

We feel that Lincolnshire County Council should continue working with partners and key stakeholders to promote change in relation to young farmer's careers and in fostering the viability of new entrants (including our County Farms).

Intergenerational networking should be increased and involve various stakeholders, particularly focusing on supporting and engaging younger/new entrant farmers.

Succession planning requires a more personalised approach to support farming families and young people entering the industry.

The combination of the energy, vitality, and fresh ideas of the younger generation with the knowledge and experience of established farmers could lead to new and valuable business opportunities.

Evidence suggests that the Council can play a key role in linking talent with the UK Food Valley and the Lincolnshire Food Enterprise Zone (FEZ), while recognising that not all may be interested in working within the food production field of agriculture.

5.2.3 Opportunities

Addressing challenges is a core priority to ensure that the pathway is clearer for farmers going forward; this includes removing barriers for new entrants as well as easing changes to current practices for existing farmers.

We feel that there needs to be common understanding between different stakeholders and levels; that farmers tend to receive information overload that they then must distil into practical actions and management plans all by themselves (especially when we regard smaller farming units); and that in order to influence on-farm decisions there must be consideration of achieving national and international objectives on sustainability.

The targets to be achieved are summarised below:

- ✓ To ensure that policy-makers have a common understanding of the results that should be achieved.
- ✓ To invest in transferring of know-how between farmers to develop new solutions.
- ✓ To train advisors in the multifunctionality of land and to strengthen communication and knowledge transfer between policy departments and farmers in order to jointly achieve the desired direction at that national level.

Barriers towards achieving the above are found to be a distrust of the information provided by government and consultants; over-reliance of farmers on each other as the best source of information; and lack of interaction between farms and policy advisors. Overcoming these challenges would pave the way for better future collaboration and for fostering a better future for farming businesses and their future leaders.

In summary, the factors and barriers that young farmers are faced with are social, economic, and personal. Further changes to be introduced by the Agriculture Act 2020, including the Basic Payment Scheme being phased out, the Environmental Land Management Scheme (ELMS), and the Lump Sum Exit Scheme, in conjunction with the Environment Act 2021 and the Brexit Trade Agreement will affect all aspects around farming and the agricultural sector in general.

The Department for Environment, Food and Rural Affairs (Defra) is currently working on designing a new entrant's scheme which would replace the provisions lost following Brexit, in consultation with industry leaders, local councils and landowners. A pilot is currently

underway, and Defra is working with The Institute for Agriculture and Horticulture (TIAH) to look at the broader issue of careers in land-based businesses. The pilot aspires to develop more understanding about the barriers to entry for people who come from non-farming backgrounds.

We feel that the Council can play an important part to continue promoting education and training opportunities that will actively support young aspiring farmers across the board, in accessing opportunities for education, skills and career development:

- ✓ The Panel commissioned filming for six Agricultural Champions to promote various elements of the sector to future generations. These can be found through the following [link](#).
- ✓ Working with University of Lincoln and Colleges in promoting education programmes.
- ✓ To continue supporting the provision of training and education to new entrant farmers to help them develop the skills they need to succeed.
- ✓ Foster cooperation between farms and education providers to secure training and work practice.
- ✓ Promoting young farmer's career in events (such as the Lincolnshire Show) and through education (primary and secondary).
- ✓ Link talent with the UK Food Valley and FEZ.
- ✓ Promote initiatives and schemes for talent retention within the sector and within the county.
- ✓ To provide access to funding or grant schemes specifically targeted towards new entrants.

5.3 Business Support

5.3.1 The Role of Partnerships in Shifting Policy

There is extensive work being undertaken through the GLLEP and through the UK Food Valley Programme that aims to address issues whilst pulling resources together, whether in the form of business support to farmers in terms of understanding how to adapt to challenges and differentiate their approach to existing practices, whether in terms of the innovation agenda,

or whether as a means of creating business space to attract investment and drive the sector forward.

5.3.2 Cooperative Farming

Cooperative structures only exist in 30% of UK output of farming, whereas in other countries they have been the main form of operation for many decades. One example of this, is the Danish cooperative farms that have been established since 1880s; the Danish agricultural sector has focused on cooperatives as a main driver for development and globalisation. For cooperation to become a more widespread practice, farmers need to understand how new skills and policy frameworks will change markets and that working together can give them the competitive advantage they need.

Farming Cooperatives operate in a transparent way, where they share information about their costs, growth, damages, and the problems they are faced with, in search of solutions and methods of optimising their individual and collective operations. There is an absence of internal competition within these structures; the competition is the global market beyond them. Labour, machinery, and marketing approaches are orchestrated and coordinated in such a way that increases the reliability amongst one another. Smaller units that may not be able to cope with costs and other hardships, form a cooperative that can be a strong competitor within the marketplace.

Cooperative structures are also seen as more successful in overcoming succession issues which can be a thorny issue for most individual small farms.

There is a role for the County Council to play, ensuring that businesses can thrive in the changing and challenging contemporary circumstances. That may be through lobbying the government for a more nuanced and balanced approach in government policy that maintains focus on both the environment and productivity and output.

5.3.3 Business Lincolnshire Growth Hub

The Business Lincolnshire Growth Hub is actively collaborating with LIAT, and their socioeconomic team as well as LCC, GLLEP and the Midlands Engine Energy Hub towards offering options and advice and putting packages together. The Hub has a brokering role and has opened a dialogue on how to fund the use of technology that is bound to have a positive impact on the environment and extend the life of soils to allow for more productive years under intensive growing practices.

We feel that the Council has an important role in supporting SME farming businesses. Our evidence suggests that it is imperative:

- ✓ To provide advice and guidance/appropriate signposting to farmers on how to diversify their products/venture by way of offering access to data (such as market trends, consumer demand, or regulatory requirements) to enable informed decisions.
- ✓ To provide advice and information on grant schemes or helping farmers navigate the application process for funding opportunities.
- ✓ To provide advice on planning applications, environmental regulations, and health and safety requirements aiming to support farmers in navigating the planning and regulatory requirements associated with diversifying their product/venture.

Areas to be proactive around include:

- ✓ **Improving communication and collaboration** between farmers and other members of rural communities is essential for building stronger and more resilient communities. Farmers are often at the heart of these communities and play a crucial role in maintaining their social fabric. Strengthening communication channels can help foster greater understanding and support between farmers and other members of the community. This can be achieved through a range of initiatives, including community events, information sharing platforms, and educational programmes. Moreover, we concur that networking should be promoted amongst farms (including County Farms) and local businesses to enable repurposing of waste product (for example animal waste being transformed into fertiliser components).
- ✓ **Infrastructure needs** - recognising that road infrastructure and transport infrastructure is vital to the efficient functioning of the food supply chain.
- ✓ **Reconfiguration of the National Grid** – ensuring that renewable energy generation on farmland is cost effective across different scales and sizes of land allocated.
- ✓ **Support to new entrants** and encouragement to existing farmers to give tenancies (support with tax and regulatory framework).
- ✓ **Support to farmers who seek to diversify their product/venture.** Indeed, Lincolnshire's diverse ecosystem presents unique challenges and support needs for the farming and agricultural community. It is important to develop personalised solutions that take into account the specific needs of the community across Greater

Lincolnshire. A one-size-fits-all approach may not be effective in addressing the challenges and needs of different farmers and agricultural businesses in the area. A tailored approach that takes into consideration the diversity of the community and the ecosystem would be more effective in promoting sustainable agriculture and supporting the industry in the region.

- ✓ **Water supply on farms** – intensive farming practices employed dry and dehydrate soils. There is a need to see water as a natural resource that can be directed to more effective use. This could be achieved through collaboration with the Environment Agency and Anglian Water to improve water capture and storage practices across the county.
- ✓ **Digital infrastructure** – ensuring that farmers are not isolated (broadband, 5G) and remain linked with their regional communities and beyond that will help disseminate best practice and seek support on a wide variety of issues.
- ✓ **Cooperative working** - fostering the strengthening of relationships between smaller businesses that share similar experiences and issues. Cooperative farming could help smaller businesses unite to survive adversities from imminent changes and from the energy and cost of living crisis. Collaboration at a community and local level can lead to real benefits, and there are already practical examples of this happening. For instance, farmers can share equipment and resources, and farms can work together in partnerships to create new business opportunities. By pooling resources and knowledge, farmers can increase efficiency and reduce costs, while also strengthening their relationships with each other and their communities. Collaborative initiatives can also help address wider challenges, such as climate change and sustainable farming practices, by bringing together different expertise and perspectives.
- ✓ **Rewilding**¹³ was also identified as an important agenda as there is pressure to be widely implemented despite having a negative/knock on effect to farming across the globe (due to exponential need to replace/subsidise for acres lost in the UK with farming acres across other nations).
- ✓ Support for Lincolnshire grown produce via the development of a **flagship campaign** should be explored in the future. Marketing and communication techniques could be instrumental to the promotion of produce across all levels of the farming communities.

¹³ Rewilding is a progressive approach to conservation. It's about letting nature take care of itself, enabling natural processes to shape land and sea, repair damaged ecosystems and restore degraded landscapes. Through rewilding, wildlife's natural rhythms create wilder, more biodiverse habitats.

5.3.4 Trading Standards Support to Businesses

Trading Standards provide business advice on all aspects of legal requirements for farming businesses. These relate to trading standards, enforced legislation and in relation to this sector, any aspects that are linked to the food chain, including health and welfare of farm animals and the control around animal feed (feed that is produced for animal consumption), and also follow the cycle of animals as they enter the food chain, including their transportation, ensuring Food Standards are adhered to, and around product labelling.

Product labelling advice includes traceability; composition standards, which includes ingredients and nutritional and health claims; compositional requirements of certain foods with certain descriptions and allergens information; as well as weights and measures of those packed products. The service also offers advice on animal by-products and waste handling.

In terms of traceability, this is normally provided on a cost recovery basis, except for farm animal health and welfare, which is normally provided free of charge.

They also provide best practice advice around the practicalities of implementing suitable, robust work systems, for example, effective due diligence systems, and may also appraise labelling and trade descriptions for any business that wishes to branch out into other sectors.

The team carries out programmed inspection work that allow the implementation of effective surveillance of the food chain and the disease control measures on barns. With these, farmers are given an estimate of costs based on their needs and what they are trying to achieve.

Where businesses are looking to trade across the country, Trading Standards can explore the possibility of partnering them as a primary authority which is a form of offering assurance; that is where if any other enforcing authority around the country were considering investigating the business or if they disagree with any of the advice that they have been provided with, they will have to communicate with LCC Trading Standards. This primary authority is a formal partnership arrangement that is administered through the Office of Product Safety and Standards, which is which sits within the Department for Business, Energy and Industrial Strategy (BEIS).

A *Buy With Confidence* scheme was being set up in conjunction with North and North East Lincolnshire Councils and would be aimed at Greater Lincolnshire businesses. Where a business in the agricultural sector was looking to branch out and looking to sell to consumers, then they would be eligible to apply for the scheme.

In summary LCC Trading Standards offers a wide range of advice and support to businesses which includes:

- **EU Exit - Divergence from current legislation:** Animal products, both food and feed, require export health certificates, and that cost burdens the business. Trading Standards can certify feed, which involves the cost of sampling, analysis, and certification, and is normally related to levels of mycotoxins in feed before they are exported. To support the sector, the team can potentially offer some awareness raising training and use their existing database to target advice and guidance to particular areas as necessary. Trading Standards could also work with district councils around food and animal exports within their remit and take a signposting role. Trading Standards could also offer a full suite of business advice options to any farmer looking to diversify into other trading standards related regulated businesses such as farm shops, holiday accommodations, food and food products that are different to what they produce.
- **Subsidy payment scheme:** Changes to the subsidy payment scheme have a potential financial impact on farmers. A reduction in payments could potentially lead to financial hardship, which may impact on animal welfare and the ability to meet the requirements of compliance with other areas of animal health, such as Disease Control measures. The quality of feed that the farmers can afford is another risk; there is a potential that farmers may try to source cheaper alternatives and be vulnerable to using suppliers of feed that are not properly registered or supplying safe feeds.
- **Cost of living:** The cost-of-living crisis is bound to impact the day-to-day running of a farm especially for those smaller farming units. This may further impact the ability to provide adequate food and water, heat and shelter, and humane bedding for the animals. There is a particular risk to small holdings as fuel and utility cost increase, on top of their overheads but also of those of the manufacturers and suppliers that they are doing business with.
- **Mental health:** Signposting to services available to address the impact on the safe and effective running of businesses.
- **Enforcement costs:** Trading Standards is striving to persuade businesses to come forward early before welfare problems arise and receive support to get back on track. Whilst Trading Standards can seize animals and where it is found that unnecessary suffering is being caused, this is always the last resort. This is also because such action bears a cost to the local authority, until the animals can be signed over, which normally involves a court process before animals can be sold on.

The Trading Standards service is being promoted through a mixed method of communications via social media outlets and through targeted media marketing within Lincolnshire. There is also promotion through word of mouth between businesses within the same sector.

Case studies (of prime authority partnerships) are being used to promote the offer of the team and they also sit within Business Lincolnshire providing Trading Standards advice.

The Trading Standards team has a lab in the Louth livestock market; good relationships have been established and the traffic is seen to have increased in recent years.

We feel that the LCC Trading Standards team can play a key and important role in supporting businesses and should be used as another vehicle in reaching out to businesses within the sector through their statutory interactions within the sector.

Recommendation 3 (Skills, Investment, Careers and Business Support):

a) We recommend that in relation to Skills, Investment and Careers:

- i. That Lincolnshire County Council actively promotes agricultural/farming careers in events, through education and via any other means for communication, such as social media and newsletters.*
- ii. That the Panel's commissioned videos of our six Agricultural Champions be used as an exemplar of the vast opportunity for successful career paths and fulfilling lives.*
- iii. That Lincolnshire County Council works with the UK Food Valley and across the Lincolnshire Food Enterprise Zones (FEZ) in linking talent to existing and future opportunities.*
- iv. That Lincolnshire County Council continues to collaborate with the University of Lincoln and Colleges in promoting education programmes and in introducing initiatives and schemes for talent retention within the sector and within the county.*
- v. That Lincolnshire County Council takes a leading role and proactively engages with managers and tenants to maintain a close relationship and improve service provision, thus, supporting our tenant farms to remain sustainable and economically viable in an everchanging world.*

vi. That Lincolnshire County Council, being the largest tenant farm owner in the East Midlands, hosts a regional debate on the future of tenant farms / succession planning.

b) We recommend that in relation to Business Support:

i. That Lincolnshire County Council continues to support and promote the work of the Business Lincolnshire Growth Hub and the role of the Agricultural Advisor.

ii. That Trading Standards proactively engages with the Tenants Panel offering access to information on all aspects of legal requirements for farming businesses.

iii. That Trading Standards offers support and guidance to farms that wish to diversify their produce/venture in terms of guidance and adherence to regulations, and that Lincolnshire County Council actively promotes the Trading Standards' offer through established means of communication with the public.

6. Technology and Innovation

6.1 Robotics

The UK is a firm supporter of the “fourth industrial age” and Lincolnshire is a national leader for the technology agenda¹⁴. Policy changes that adopted a UK approach have been marked by an increase in investment. The world’s first agri-robotics Centre of Excellence was built at the University of Lincoln and has been a hub for researchers developing ways to streamline and maximise agri-food processes in a “from farm to fork” approach with a focus on fruit harvesting and pest and disease control.

In terms of the logistics of the food chain in farming, food processing and transport in Lincolnshire employ around 75,000 individuals (the sector supports 18% of jobs in the area compared to 4% of the UK workforce). For the past two decades, the main source of labour came from foreign countries. Traditionally, migrant labourers were employed in food processing and undertook seasonal work. Due to restrictions on seasonal workers’ ability to work in the UK following Brexit, there is a vast unmet demand in these roles. Robotics is moving quite rapidly in the added value sector and in many cases is replacing the demand that is unmet in labour, and in many ways has reduced the need for employees in specific roles, such as within a building setting where parameters are clear and human input is less required for a process to be seamless. Through fusing robotics and artificial intelligence expertise Lincolnshire is paving the way in agri-robotics in improving productivity and environmental stability by reducing the necessary human intervention.

Conversely, how robotics work on a farm is an ongoing process. Automation will be a major journey for the industry, requiring substantial investment in innovation, skills, and capital. Each job replaced by automation typically needs between £75,000 to £100,000 investment in technology and with an estimated 500,000 worker shortfall in the UK agri-food sector (more if migration was to cease), the investment needed is tens of billion pounds.

Moreover, notwithstanding the widespread traditional use of manual processing systems in terms of pest and disease control, agri-robotics have introduced novice sustainable processes that have enabled Lincolnshire farmers to shift away from the use of chemicals for mechanical methods that allow for weed control and enable better use of pesticides through precision and efficient analysis of the needs of soils at locations.

Evidence and testimonies collated suggest that on a farm it is not just robotics that has a prominent place and impact. Lincolnshire has been at the forefront of investment in agri-food

¹⁴ Lincoln was selected to showcase net zero robotic farming at COP26 demonstrating ‘Robofruit’, one of its agri-tech projects, which used AI and novel picking technology to harvest.

robotics, in particular the Lincoln Institute for Agri-Food Technology (LIAT)¹⁵, which has been active in technology innovation and the development of policy and the eco-system for automation. The UK Innovation Strategy (2021)¹⁶, *Leading the Future by Creating it*, recognised Lincoln's expertise: *"today, the UK is home to a wide range of cutting-edge innovation institutions. Among many examples are the University of Warwick National Automotive Innovation Centre which is driving the future of the automotive industry from the heart of the United Kingdom; Lincoln Agri-Robotics as the world's first global centre of excellence in agricultural robotics"*. The Prime Minister, Rishi Sunak MP, also praised Lincoln's work on automation in a speech to the CBI in autumn 2022.

6.2 Innovation and Environmental Impact

The Panel recognised that the role of robotics and automation is crucial and central to the future of agriculture. The use of satellite positioning and technology will allow farmers to measure the composition of soils and determine its requirements, such as nitrogen usage, to keep it healthy. This will revolutionise controlling the impact to the environment and therefore there should be an incentive to farmers who do not have the means to acquire such technology by central government.

There is also the whole question of new technology including plant breeding, which is potentially a real advantage for the UK from coming out of the EU. Genetic engineering, namely the movement of genes within a species as opposed to genetic modification where genes are brought in from another species, introduces the potential of more varieties of crops that can improve resistance and the viability of crops, for example by increasing drought tolerance, whilst multiplying nutritional benefits.

Drone technology is also upcoming, which is a benefit to farmers as opposed to the inaccurate science of people walking up and down fields. This provides the ability to map relatively cheaply what is happening in fields, such as weeds, and assessing pathogen invasion into crops. Robotic sensors can also detect soil moisture levels and adjust irrigation systems, accordingly, reducing water waste.

Robotic weeders, mechanical hoeing and using elements of robotic technology to harvest crops are all positive aspects of technology to come. There are already some machines in place that can harvest strawberries and the University of Lincoln has been looking at raspberry harvesting with robotics. This is all in its infancy but within the next ten years there will be massive changes in this area.

¹⁵ For more information visit [Robotics and Automation | Research | University of Lincoln](#)

¹⁶ For more information visit [UK innovation strategy \(publishing.service.gov.uk\)](#)

Pesticides and fertilisers can also be reduced within a new direction of regenerative agriculture (biological farming) where there is a series of natural services (or ecosystem services) provided by nature. These can emerge where biodiversity is encouraged and has a tremendous impact on the quality of water and soils.

Robotics can also reduce the carbon footprint of agriculture by automating tasks such as planting, harvesting, and transportation. By replacing traditional tractors and other heavy machinery, robots can reduce fuel consumption and emissions.

However, the production, maintenance, and disposal of robots also have environmental impacts. The production of robots requires significant amounts of energy and resources, which can contribute to greenhouse gas emissions and other environmental issues. Additionally, the disposal of robots at the end of their useful life can create electronic waste, which can be harmful to the environment if not properly managed.

The use of robotics in the agriculture sector can have both positive and negative environmental impacts. Therefore, the future of agriculture and food production should encompass environmental management, as the impact of robotics used in the agriculture sector depends on various factors such as the specific application, the type of technology used, and how the technology is managed and maintained throughout its lifecycle.

It is important that farmers be supported to shift to less bureaucratic operations and be allowed to manage their production efficiently and effectively in light of all concurrent events, including climate change and financial changes, to ensure they remain future driven and sustainable. This requires a holistic approach to introducing, adopting, and maintaining innovative solutions and technological practices that improve the sector whilst preserving the environment.

6.3 Food Valley

6.3.1 An introduction to the UK Food Valley and its key priorities

Lincolnshire has a strong and prominent presence in food production for the UK and beyond. Many of the growers specialise in fresh vegetable supply, for example, salads and fruit. In the UK, 65% of salads are imported, 35% of vegetables are imported and so are 86% of fruit. Therefore, the real opportunity and challenge is for the production rates to increase as to produce more of these crops.

In 2021 the UK Food Valley initiative was launched. It adopted the 'triple helix' model, being initiated by Greater Lincolnshire Local Enterprise Partnership (GLLEP), supported by industry partners, and enabled by the knowledge base (University, Colleges, technology companies),

to tackle some of the issues mentioned above and future proof the sector. By maximising collaboration across industry, universities, colleges and local business groups, the UK Food Valley support our farming and food companies by ensuring the conditions for growth are provided.

Greater Lincolnshire is already responsible for producing one-eighth of England's food. The UK Food Valley Programme's ambition is to position our UK leading food sector as a Top 10 Global Food Cluster.

In relation to fish, Greater Lincolnshire has the largest fish processing cluster within the UK in Grimsby. Around 60% of all fish is sold within the UK whilst importing 90% of the fish that is being processed within the said cluster. There is a global growth in fish farming and there is an opportunity to invest in fish farms development to replace the imports. The sector is also viewed as environmentally friendly as it is seen as generating low carbon emissions.

Concerns on climate changes and health have also contributed to investment increase in plant-based protein with the sector seeing over a quarter of a billion pounds already invested in the last three years; this indicates the presence of a strong movement that seeks the replacement of meat-based proteins.

Logistics is another sector benefiting as consumer habits have changed over the past three years, leading to an increased demand for storage for online sales. This translates to the need for businesses in the supply chain to acquire more warehouse space, more transport fleet and more operatives (such as drivers and warehouse staff) in order to meet the increase demand in markets.

In summary, the key priorities for the UK Food Valley are:

- Accelerating food chain automation and digital technology adoption to deliver productivity growth and high value jobs;
- Delivering low carbon food chains from farm to fork by focusing on low carbon technologies for production, processing and distribution; and
- Developing the market potential of naturally good for you foods and new sources of protein, such as fish, vegetables, salads, fruit, pulses, and lean meat, in which Greater Lincolnshire specialises.

6.3.2 High potential opportunity for automation in food processing

Since 2016, in collaboration with the University of Lincoln and funded by the government and by businesses, a designated team has been conducting research in that particular area to

address the theme of skills and infrastructure required in the sector. More than £60m have been invested in skills and research around new digital technologies and automation.

A new Bishop Burton campus was developed, and along with the Lincoln Institute of Agri-Food Technology (LIAT) (Riseholme development of University of Lincoln), and the National Centre for Food Manufacturing (NCFM) in Holbeach, they have seen significant investment to progress and promote their research that is not restricted to regional developments but also nationally and beyond, with some research programmes extending to other countries. Even though it has only been operating for six years, LIAT is now recognised as the UK leader in agri-food automation and digital supply chains with the largest team in Europe.

In total, in the last six years, over £100 million of collaborative research and development (R&D) projects have been launched with industry in agri-food. This includes nationally significant projects such as Trusted Bytes, a £3 million project led by Lincolnshire businesses and the University which is working with HMRC and the Food Standards Agency (FSA) to solve the challenge of post Brexit paperwork for the food trade. This project has attracted the attention of central government departments and will lead to further opportunities.

The University has also supported the growth of Saga Robots from a start up to a successful international company and created two new spinouts in 2021 (FruitCast Ltd¹⁷ and Agaricus Robots Ltd¹⁸) with more to come in 2022. Branston Potatoes, through its own spinout B-Hive, is now generating further Agri-tech spinouts. At NCFM, OAL has developed and successfully launched a series of food technologies which are being sold internationally, and local companies including Househam Sprayers Ltd¹⁹, Garford Farm Machinery Ltd²⁰ (Zürn Garford LLP, the UK subsidiary of the German Zürn Harvesting Group) and Tong Engineering Ltd all continue to expand their export sales. Barclays Eagle Lab, located with LIAT at Riseholme, is running entrepreneurship programmes for farmers and Agri-tech companies and supporting start-ups in the sector.

Advance technology should be used alongside the existing workforce, but in a more sophisticated manner that would allow for labourers to develop skills and meet the needs of the market and sector. Nevertheless, this requires overcoming reskilling challenges within the workforce. An example emerges from the engineering workforce and from ensuring that farms employ technicians who can help to design, build, install, and then maintain the

¹⁷ FruitCast offers Soft Fruit Yield Forecasting and AI Crop Scanning.

¹⁸ Agaricus Robotics Ltd is a high-profile spin-out from the University of Lincoln, home to the world's first Global Centre for Excellence in Agricultural Robotics. The company is also funded and supported by the Ceres Agri-tech Fund and by Cambridge Enterprise, the commercial arm of the University of Cambridge.

¹⁹ Househam Sprayers offers self-propelled and trailed agricultural crop sprayers and amenity sprayers.

²⁰ Garford Farm Machinery Ltd are a development, manufacturing and distribution company supplying high quality products to the UK and world agricultural market. Specializing in row crop equipment Garford are recognized as a world leader for their range of Robocrop Precision Guided Hoes and Robocrop InRow Weeders.

equipment. This is expected to increase the value of the food chain in the long-run. Remuneration is bound to be a challenge towards this objective in terms of being able to pay the salaries required to acquire and maintain talent in the sector. Bishop Burton College has reported a positive rise of student numbers in Agri-related subjects and that a skills pipeline approach is being implemented to progress students through degree programmes that will enable them to fill those roles.

We feel that the Council has a significant role in supporting the continued development of an Agri-tech cluster focused on labour productivity enhancing automation and robotic solutions for the domestic and export market. This should also be reflected in the County's proposals for Devolution.

6.4 Infrastructure

6.4.1 Digital

Digital agriculture technologies work on the Internet of Things (IoT) principles. These technologies include sensors, telecommunication systems, unmanned aerial systems, machine intelligence, automation, and other advanced machinery.

Digital infrastructure is becoming increasingly important in agriculture in the UK as it offers a range of benefits such as improved productivity, reduced costs, better decision-making, and increased sustainability. Here are some examples of digital infrastructure in agriculture in the UK:

- **Precision farming:** Precision farming involves the use of technology such as GPS, sensors, and drones to monitor and manage crops and livestock more precisely. This can lead to more efficient use of resources, reduced waste, and improved yields. Companies such as Agrimetrics, which is a government-funded research organisation, are working on developing new technologies for precision farming.
- **Farm management software:** There are many farm management software tools available that help farmers keep track of everything from crop growth to livestock health. These tools can help farmers make better decisions and improve efficiency.
- **Connectivity:** Access to reliable and fast internet is essential for digital infrastructure in agriculture. The UK government is investing in initiatives to improve rural connectivity, such as the Rural Gigabit Connectivity Programme, which aims to provide gigabit-capable broadband to rural communities.

- **Data sharing:** Data sharing is becoming increasingly important in agriculture as it allows farmers to collaborate and share information to improve efficiency and sustainability. The Centre for Crop Health and Protection (CHAP) is a UK-based organisation that facilitates data sharing and collaboration between farmers, researchers, and businesses.

6.4.2 Broadband

6.4.2.1 Current Broadband Coverage Levels in Lincolnshire

Superfast Broadband (>24Mb/s²¹ download speeds) coverage sits at 94.7% of Lincolnshire and is expected to hit 97% during this calendar year as a result of the existing Building Digital UK (BDUK) contract²². There is an ongoing issue with some premises, equating to 3.13% of Lincolnshire, currently accessing less than 10Mb/s download speed, which is below the 10Mb/s government guidelines. Work is being carried out to rectify this and bring those areas up to an acceptable speed. Gigabit coverage currently sits at 36.6%²³.

6.4.2.2 Existing Government Funding

We heard that the Council will be extending their ongoing BDUK contract to cover a further 2,500 premises in addition to the 8,000 in deployment now in East and West Lindsey. The 10,500 premises will receive download speeds of >100Mb/s as a minimum, with many getting >1Gb/s²⁴.

6.4.2.3 Planned Future Public Expenditure

The government's Project Gigabit²⁵ will seek to take gigabit capability to at least 85% of premises by 2025 and 100% by 2030.

A bid is currently underway under BDUK's GigaHub Scheme²⁶ to connect 150 public buildings in the county.

The Council is working with suppliers to further expand community fibre broadband schemes under the existing Rural Gigabit Connectivity scheme. There are currently several large schemes in various stages of progression which are expanding the number of communities involved.

²¹ Mb/s = Megabyte per second.

²² For more information refer to [Building Digital UK](#)

²³ Further information on coverage at a specific address can be found at [BT Broadband \(btwholesale.com\)](#).

²⁴ Gb/s = Gigabit per second

²⁵ For more information visit [Project Gigabit Delivery Plan: winter update - GOV.UK \(www.gov.uk\)](#)

²⁶ For more information visit [GigaHubs: key information - GOV.UK \(www.gov.uk\)](#)

The government is providing up to £210 million worth of voucher funding²⁷ as immediate help for people experiencing slow broadband speeds in rural areas. The Council is actively encouraging people to take up on that scheme and there are currently many areas where residents have opted in.

6.4.2.4 Ongoing Private Investment in the County

Excluding BT and Virgin, there are seven organisations currently deploying Fibre To The Premises broadband within the county using private investment.

Three of them are focusing on the south in Stamford, Deepings, Boston, Bourne, Grantham, Spalding, and Sleaford. CityFibre will commence deployment to City of Lincoln in March (circa 40,000 premises).

It is estimated that collectively they will connect over 200,000 premises within two years. BT will connect 120,000 rural premises by 2026.

6.4.2.5 Other Infrastructure Developments

Other areas that emerged through our discussions and are worth highlighting include:

- ✓ Recognition that **road infrastructure and transport infrastructure** is vital to the efficient functioning of the food supply chain. As mentioned elsewhere in this report Lincolnshire is a main corridor across which agri-food products are transported through and therefore, it is imperative that as a local authority Lincolnshire County Council continues to lobby the government regarding funding for Highways and the rural funding formula.
- ✓ **Agro-tourism** is a segment of tourism that is rapidly growing across the country. Tourism and employment are two factors that historically have had a positive impact on infrastructure development and maintenance which in turn can be of great benefit to the sector as a whole.
- ✓ **Renewable energy:** The use of renewable energy sources such as solar, wind, and biomass can help farmers reduce their energy costs and environmental impact. Investment in renewable energy infrastructure, such as solar panels and wind turbines, can provide farmers with an additional source of income.

²⁷ For more information visit [Gigabit Vouchers \(culture.gov.uk\)](https://culture.gov.uk)

Recommendation 4 (Technology and Innovation):

We recommend that:

- a) That Lincolnshire County Councillors continue to support and promote the development of the UK Food Valley Priorities.**
- b) That Lincolnshire County Council continues investing/seeking additional funding streams to be allocated to the development of the mobile and broadband network across the county.**
- c) That Lincolnshire County Council liaises with MPs to push for bringing better broadband to rural locations through the Minister of State for Media, Data, and Digital Infrastructure.**

7. Labour Shortages

7.1 Labour Supply

Over 100,000 people are directly or indirectly employed in agriculture. Despite efforts through pilot schemes, there are currently not enough operatives. In Lincolnshire failure to support the industry would directly impact the County's largest industrial sector with far reaching consequences across the economy.

7.1.1 Agri-Food Supply Chain Workforce

Table 1 below sets out the workforce in agriculture and the linked supply chain in Lincolnshire²⁸:

- Agriculture directly employs 13,000 workers, with a further 140 working on forestry and woodland management and 10 in fishing and aquaculture, the core productive industries which use land to produce food and non-food products.
- Food manufacturing (raw materials from agriculture) employs around 14,000 workers, with a further 7,500 engaged in food wholesaling and over 4,700 in food transport (to farm, from farm to processing and from processing to market).
- Approximately 8,000 agency staff work in the food chain, primarily providing additional capacity to agriculture, food manufacturing and the wholesale and transport of food.
- Approximately 1,200 staff are employed in supplying machinery to the agricultural and food processing sector. This is thought to under-represent the true picture, given problems with the recording and reporting of this data in official statistics. In addition, official data is poor for input supplies such as packaging material, which is used extensively in the agri-food industry.
- This gives a total commercial food chain, to grow, process, market and distribute food, of approximately 49,000, with roughly a further 31,000 employed in food service and food retail, taking the total Lincolnshire food chain workforce to around 80,000.

Whilst it can be argued that if Lincolnshire agriculture closed down, jobs in food service and food retail would be maintained as consumers still need to eat, the same is not true for food processing. Food processing and marketing is concentrated in Lincolnshire due to its co-location with UK leading agricultural production to provide many of its raw materials. Agriculture thus supports a commercial food chain employing at least three times as many workers as the number employed on farm.

²⁸ County Council area.

Table 1 Lincolnshire County Council Area Food Chain Employment (2021)²⁹

	Boston	East Lindsey	Lincoln	North Kesteven	South Holland	South Kesteven	West Lindsey	Lincolnshire County Council
Agriculture	2,340	2,918	19	1,604	2,684	1,427	2,034	13,026
Forestry and woodland	-	10	-	65	10	15	40	140
Fishing and aquaculture	10	-	-	-	-	-	-	10
Food manufacturing	1,820	255	325	3,095	6,160	1,935	370	13,960
Food wholesale	825	610	310	905	3,330	1,205	330	7,515
Food transport	711	413	129	400	2,184	530	405	4,772
Agency staff in agri-food	2,800	225	730	198	3,400	500	313	8,165
Machinery for agriculture & food	110	325	-	400	10	145	215	1,205
Total commercial chain	8,616	4,756	1,513	6,667	17,778	5,757	3,707	48,793
Food service	945	3,380	3,650	2,025	1,380	3,350	1,550	16,280
Food retail	1,820	2,690	2,780	1,640	1,870	2,695	1,400	14,895
Consumer facing food chain	2,765	6,070	6,430	3,665	3,250	6,045	2,950	31,175
Total food chain	11,381	10,826	7,943	10,332	21,028	11,802	6,657	79,968

²⁹ Business Register and Employment Survey: open access 2021, NOMIS January 2023.

7.1.2 Labour Shortages in Lincolnshire

Labour supply challenges are not new, with agricultural production and food processing relying on recruitment from other areas for decades. In the 1960s and 70s, Irish workers filled seasonal jobs, with those displaced from coal mining and manufacturing being transported into the area in the 1980s to meet seasonal needs. In the 1990s as the domestic workforce gained more options, employers, supported by government, used migration from Europe to meet workforce demand. This process accelerated with freedom of movement before and after EU expansion into Eastern Europe.

The challenges on labour supply have been borne out in feedback³⁰ from Lincolnshire based agri-food companies and in autumn 2022 producers with a high seasonal labour requirement, such as vegetable harvesting, reported planning to reduce production in 2023. The challenges seen in Lincolnshire mirror those reported nationally in the last four to five years, with multiple reports from business groups, parliamentary committees and researchers all reporting the same pressures on labour supply for agriculture. Key reports in the last two years which detail these challenges include:

- The Environment, Food and Rural Affairs Select Committee has looked at the labour supply challenge multiple times, with its latest report³¹ in 2022 concluding that: *“the evidence we have received leaves us in no doubt that labour shortages, caused by Brexit and accentuated by the pandemic, have badly affected businesses across the food and farming sector. If not resolved swiftly, they threaten to shrink the sector permanently with a chain reaction of wage rises and price increases reducing competitiveness, leading to food production being exported abroad and increased imports”*.
- The Independent Chief Inspector of Borders and Immigration (2022)³² found that the ‘Skilled Worker route’ in the new migration system had issued 2,389 certificates of sponsorship for agriculture since the introduction of the revised points-based system; over three years (2019-22) the Seasonal Worker route (short term contracts) facilitated 66,000 staff to come to work in UK agriculture. It raised concerns about communication between government and industry and commented on the mismatch between the evidence it received from industry and government.
- The UK’s first Food Security Report (2021)³³ noted that: *“Despite the success of some of these policies in mitigating against the worst predicted labour shortages, the COVID-19*

³⁰ Greater Lincolnshire Food Board, Growth Hub team feedback from growers.

³¹ [Labour shortages in the food and farming sector - Environment, Food and Rural Affairs Committee \(parliament.uk\)](#)

³² Independent Chief Inspector of Borders and Immigration (December 2022), An inspection of the immigration system as it relates to the agricultural sector May – August 2022.

³³ DEFRA (2021), UK Food Security Report 2021.

pandemic has shown the vulnerability the agriculture sector faces regarding its reliance on seasonal workers during critical harvest periods. The data above suggests both that the global agricultural workforce is declining over time and that the reliance on migrant labour is increasing”.

- The National Skills Academy for Food and Drink (NSAFD) in September 2022³⁴ concluded that *“whilst the FDMP [Food & Drink Manufacturing and Processing] workforce is becoming better qualified, with greater penetration of more managerial & professional roles, there remain significant skills shortages at operational levels. Greater automation and implementation of technology are key measures proposed in response to this situation, but these are also dependent upon sustained investment and funding. This also needs to be supported by positioning the industry as an attractive option to appeal to new talent”.* This approach in food processing mirrors that from businesses in agriculture.

Together these reports recommend a set of actions, which can be briefly summarised as:

- **Seek to encourage more UK workers to join agriculture and related industries**, whilst recognising the challenges in this, for example, spatial effects (unemployed do not live where agriculture needs staff); historically low unemployment in the UK market; industry perception amongst the public.
- **Maintain short term migration**, through seasonal workers schemes and new migration routes, to enable the agri-food sector to secure the workforce needed until automation creates a step change in productivity to enable a smaller, mainly domestic, workforce to sustain and grow the industry (creating more productive, higher paid, higher skilled jobs attractive to UK workers).
- **Develop automation as the medium to long term solution.** Whilst some, mainly government, reports argue this can reduce the demand for short to medium term migration, most industry experts argue that the automation transition is a five-to-ten-year process given the need for further innovation, the scale of investment needed (tens of billion pounds) and need to retrain the workforce.

The challenges with labour supply are not new or unique to the UK and require both short- and long-term action. In its response to the challenge, Greater Lincolnshire LEP and the University of Lincoln have, since 2016, focused on creating a UK and internationally leading agricultural automation cluster to both meet industry needs and to grow a technology cluster with global relevance.

³⁴ National Skills Academy for Food and Drink (September 2022), Skills Insights Labour Market Focus.

7.1.3 Issues Emerging from Labour Shortages

Product Waste - NFU studies relevant to crop picking/harvesting indicate that there are 44 tonnes of fruit wasted which equals to a £200,000 to £300,000 worth of crop waste. There is also a struggle in meat production and processing due to a “*desperate lack of skilled butchers*” and pig farmers “*struggling*” for labour. In poultry the production is reduced by 5-10% affecting the range offered to customers. In terms of food processing, the reduced capacity among manufacturers affects supply to markets and hospitality. Finally, a lack of HGV drivers and staff in warehouses is creating problems in distribution and transportation.

Being driven out of business - Despite the economy bouncing back in Quarter 4 of 2021, the gradual return of the domestic workforce to their pre-pandemic roles stripped the food and Agri sector from the extra hands that were available during the pandemic when other businesses were shut.

Non returning foreign labour - Although the Covid-19 pandemic has had a major impact, sectors which relied on the freedom of movement of EU workers before Brexit appear to have suffered the most. A combination of Covid-19 lockdown and restrictions, and Brexit coming into effect, has seen many Europeans return to their home countries, and not return to the UK. This in conjunction with the lack of domestic workers willing to work in this sector, the nature and overall image of the work (such as hard, dirty, and often repetitive) and the relatively low levels of unemployment in the UK over the last five to ten years have all combined to produce this situation.

Between 2020 and 2022, there was an increase in migrant workers from outside the EU. The Home Office reported that in 2021, 67% of the seasonal worker visas went to Ukrainians, 8% to Russians, 4% Bulgarians and 3% to Belarusians.

7.1.4 Labour Shortage Effects on County Farms

Around 25% of LCC tenants use seasonal labour. These are flower, vegetable, and potato growers on better quality land in the southeast of the county. In the past year, there has been difficulty in sourcing labour due to the increasing costs of labour and a lack of movement of workers.

Apprenticeships are available but indications are that many smaller farmers may be unlikely to have time or capacity to coach someone, or a genuine regular requirement for additional labour. In addition, restrictions on the work of an apprentice and administration could be a deterrent.

Technology is anticipated to play a key part in resolving labour issues, however, it is not yet fully commercially developed and financial input is expected to be a barrier towards buy in (such as automation in potato grading lines).

Pick your Own (PYO) is not established on County Farm Estates as it tends to be mostly around niche markets (soft fruit/pumpkins). The scale of County Farm Estates, which are mostly arable in nature, would not have a market for PYO.

If the labour shortage is not resolved swiftly, shortages threaten to shrink the sector permanently with a chain reaction of wage rises and price increases reducing competitiveness, leading to food production being exported abroad and increased imports.

7.1.5 Accommodation

We heard that there was lack of suitable accommodation on business sites or at close proximity to farms/land that was easy to maintain and that meets standards and needs of workers.

Providing suitable accommodation would entice younger generations entering the sector following completion of their educational curriculum (for example, at Bishop Burton College).

We feel that LCC should work with Local Planning Authorities to support best practice in making provision for all worker accommodation (seasonal and permanent, local, and migrant) and services, so that these workers are attracted to Lincolnshire to meet agricultural needs and to help reduce the negative impact on host communities.

Failure to ensure that the conditions improve in Lincolnshire will inevitably lead to workers migrating internally to other counties that offer what Lincolnshire lacks in (for example, luxury accommodation in Herefordshire).

Recommendation 5 (Labour Shortages):

We recommend that:

- a) Lincolnshire County Council continues to work with partners and networks to lobby MPs, the Home Office and Defra to ensure that the policies governing seasonal workforce supply to agriculture provide a multi-year deal to enable employers to plan their businesses, with a clear and pragmatic timetable to transition to less migration as new automation technologies are adopted over the next 5-10 years.**

- b) Lincolnshire County Council liaises with MPs to put pressure on Defra and the Home Office to change entry requirements for foreign workers, offering flexible arrangements and reduce administrative costs and bureaucracy for businesses that seek to employ foreign workers.**
- c) Lincolnshire County Council takes measures to ensure the development of suitable accommodation on business sites or at close proximity.**
- d) Lincolnshire County Council continues to work with Local Planning Authorities to support best practice in making provision for all worker accommodation and services.**

8. Mental Health

8.1 Mental Health Service Provision in Lincolnshire

The agricultural and horticultural sector in the UK has faced significant challenges and disruptions due to the Covid-19 pandemic and EU Transition, which can have a negative impact on the mental health and wellbeing across the sector.

Farmers and farmworkers have experienced increased stress and anxiety due to the uncertainty of market demand; supply chain disruptions; the impact of the pandemic on their operations; uncertainty over trade agreements affecting the viability of their businesses and associated increased bureaucracy; labour shortages and disruption in production/picking operations³⁵; and a wide range of financial pressures due to Brexit - the rapidly rising inflation, the cost of fuel/energy and the changes in the payments system gradually introduced in the past couple of years.

They may also be dealing with social isolation, and a lack of access to mental health services or reluctance in accessing them. Evidence considered in this review suggest that the pandemic has highlighted existing mental health concerns in the agricultural and horticultural sector, such as the stigma around seeking help for mental health issues, the challenges of working in remote areas, and the physical demands of the job.

Organisations such as the Farming Community Network and the Royal Agricultural Benevolent Institution (RABI) have been providing support and resources to help farmers and farmworkers cope with the mental health challenges of the pandemic. Additionally, the UK government has launched a £1.5 million programme to support mental health services for farmers and farmworkers.

A Mental Health Roundtable was convened in April 2022 as part of this review's proceedings to investigate how the above manifested among the farming community from the perspective of the Lincolnshire Rural Support Network (LRSN)³⁶, the NFU and the NHS Mental Health Services provided by the Lincolnshire Partnership NHS Foundation Trust (LPFT).

³⁵ National Farmers Union representatives have previously quoted to this Panel that there is a significant impact due to labour supply issues that is affecting the entire chain from the farm to the consumer and highlighted that concerns around farmers' mental health are very prominent.

³⁶ Lincolnshire Rural Support Network and Lincolnshire Rural Agricultural Chaplaincy are "two sides of the same coin"; one side provides more people on the ground, and the cultural chaplaincy is set up as a new charity to offer chaplaincy and pastoral support to communities. They both provide a lifeline for Lincolnshire farming and rural communities. Over the last 12 years, the charity has provided emotional and practical support to over 1500 rural and farming families across the county at times of stress crisis and change and nurses have delivered over 8800 health screening checks. There is a dedicated helpline that has received over 12,012 calls from people who are seeking support.

The key issues identified for Lincolnshire farmers were:

- Environmental pressures, climate change, climate emergency for farming.
- Volatility in the farming sector, uncertainty, complexity, ambiguity in relation to policies.
- Rural crime, hare coursing³⁷ and attacks on farms. Rural crime was emphasised as a “final straw” for a lot of farmers in terms of increasing stress and anxiety levels to the point of preventing people from leaving their farms/estate/houses unattended.
- Labour availability.
- Housing: from an economic development point of view labour supply and the shortage of labour are affected by housing and accommodation availability and conditions. Field workers present with more challenges due to the conditions they live in (for example, houses of multiple occupancy).
- Tax avoidance is a major issue: direct contact with HMRC was often needed to ensure secure processes of employment that will reduce the number of individuals working without access to support and in safe and safeguarded environments.
- Loss of subsidy, and debt and cashflow disruptions: fuel for the harvest in 2022 has trebled; forward buying for some of our tenants is not going to be an option; and cash flow problems are anticipated from the end of 2022 to Spring 2023. Many small farms are expected to have ceased by next year and a significant number of farm owners and tenants are expected to leave the industry due to rising costs.

We were informed that, according to the RABI Big Farming Survey³⁸:

- Over a third of the farming community suffered depression and a further 30-36% of the community have notably low mental wellbeing which is a cause of significant concern.
- Almost half of the farming community recorded experiencing anxiety.
- Working age 16- to 64-year-olds suffered from significantly lower levels of mental wellbeing and higher levels of anxiety within the farming community. This is strongly linked with never taking a break or leaving the farm; and 49% do not take a holiday with 20% never leaving the farm itself for any leisure purpose.
- Over 52% of the farming community are recorded as experiencing pain and discomfort every day.
- Strong links existed between poor physical health and poor mental health.

The LRSN is mainly offering one-to-one work in responding to referrals either made by an individual or by others on their behalf, or through people visiting one of their drop-in points in various marketplaces. A physical health conversation is often found to be easier for people

³⁷ Illegal activity where dogs are used to chase, catch, and kill hares. This is a serious problem in rural areas. Hare coursing is primarily a seasonal issue affecting rural communities across our police force area. Reports of hare coursing are on the rise in Lincolnshire and the county's farmers are bearing the brunt of the illegal blood sport.

³⁸ For more information visit: [RABI Big Farming Survey](#).

to have than a mental health conversation. Issues vary from anxiety through to addiction, depression, self-harm, debt, financial and business worries, and personal issues. There is a year-on-year increase in the number of families accessing support through the LRSN and through their casework, they are seeing more frequently a real increase in terms of complexity of cases, particularly around mental health. This affects both men (67%) and women (33%). There has been a 190% increase in the number of cases related to mental health which is concerning. Figures are reset each financial year from 1 April, and at the time of the meeting (26 April 2022) they already had ten new mental health cases for 2022/23.

Health screening is another service provided by the LRSN, including blood pressure, blood sugar, and cholesterol testing. A team of registered nurses conduct physical health screening checks at designated marketplaces. Additional clinics are held on special sale days at markets; this is in recognition that the route through which the farming community seeks support and help is often indirect and that a lot of the people that seek help at clinics and health screenings are people who were not expected to be seeking support in a traditional GP setting. LRSN nurses are important frontline staff in terms of prevention and increasing population health amongst an audience that is traditionally quite hard to engage. Moreover, due to demanding working patterns, farmers are not in position to attend GP appointments as flexibly as other professionals, and do not prioritise their own physical health.

The LRSN seeks alternative ways to extend reach and is well established in some areas of the county. To tackle this and become well known and well accessed across the county, LRSN offers mobile and outreach services often found at farm sales, local shows, and other areas.

In reference to service provision, LPFT is aspiring to reaching a point where all people of Lincolnshire including farmers who have mental health needs can have access to a service. The rurality of Lincolnshire in all its facets is a barrier. Although services are currently available to everyone, including members of the farming community, it was recognised that the times that services are available may be incompatible with the needs and routines of farmers.

Innovative solutions are sought, through partnership working, to improve access for patients who may be identified as members of the farming community. A free mental health helpline is available to adults, with a separate one for children and young people, which is outsourced to a charity called Mental Health Matters. This is a 24/7 service for people to call and get immediate support and help.

During the course of this review, additional funding was secured by LRSN for a vital farmer mental wellbeing project, Reviving Rural. Furthermore, some funding is available for stimulating the voluntary, community and social enterprise sector to put activities and opportunities in place to support people in their communities, aimed at increasing community capacity to be able to deal with health and wellbeing. A community

transformation programme is in place which is aimed at providing access to all mental health needs, by funding specialist and secondary mental health services.

More mental health trained volunteers are currently being recruited to expand the charity and become more agile in dealing with the exponential increase of issues in mental health and wellbeing of the farming community, with the support of the Council and NHS.

With reference to County Farms, we were informed that there was increased liaison and contact with tenants during the pandemic by email and telephone. From an LCC landlord perspective, rental dates were flexed for specific cases such as to allow tenants faced with adverse health conditions to retain their tenancy as well as shared grant and business support information which came from the GLLEP and Business Lincolnshire advisors. Signposting to LRSN and RABI for additional support was also provided. Signposting has proven successful as tenants would be less inclined to reveal struggles to their landlord.

Recommendation 6 (Mental Health):

We recommend that:

a) Lincolnshire County Council continues investing in partnership working with the NHS, Lincolnshire Rural Support Network (LRSN) and National Farmers Union (NFU) towards addressing physical and mental health needs in the farming community. This could be done through:

i. Information sharing – organisations communicating about their findings in terms of unmet need. This includes data gathering and intelligence sharing.

ii. Addressing lack of preparedness and increase flexibility of Mental Health Services in terms of the criteria and conditions/thresholds for offering services.

iii. Collaboration on initiatives, events, promotion of offer across the farming community (for example, through established communication avenues such as social media, websites, and magazines/newsletters).

iv. Support with recruitment and training of volunteers.

b) Lincolnshire County Council continues to provide financial assistance towards Lincolnshire Rural Support Network's Mental Health Service provision subject to regular/annual review.

9. Green Masterplan

9.1 Carbon Data: Data on Carbon Dioxide Emissions from Agriculture in Lincolnshire

Carbon dioxide emissions, otherwise known as greenhouse gas emissions, form part of the **LCC Green Masterplan**. Reports on greenhouse gas emissions for the agriculture sector are included as a separate sector in Defra figure updates. As the figures are separate to the general commercial industrial emissions, this enables an additional level of detail in looking at the current picture in Lincolnshire.

The Council is aiming to reach Net Zero carbon by 2050. A variety of plans and schemes are in place around agriculture that also take under consideration the wider economy. The impact of these is anticipated in the short horizon.

We feel that the Green Masterplan should be promoted to our County Farm tenants. Supporting our tenants to work towards achieving our county wide aspirations should continue to be a priority for Lincolnshire County Council.

There are three sources of carbon dioxide emissions:

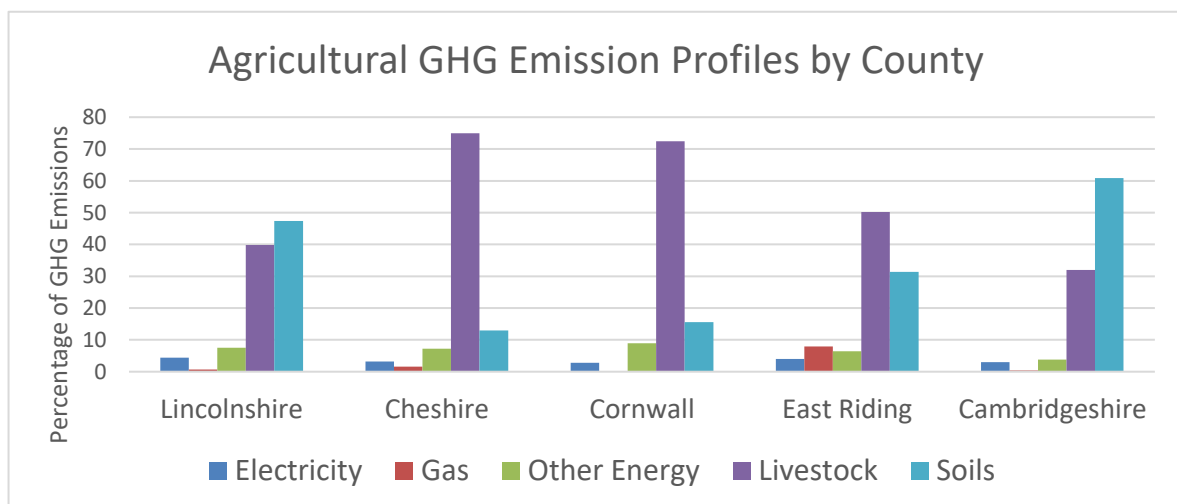
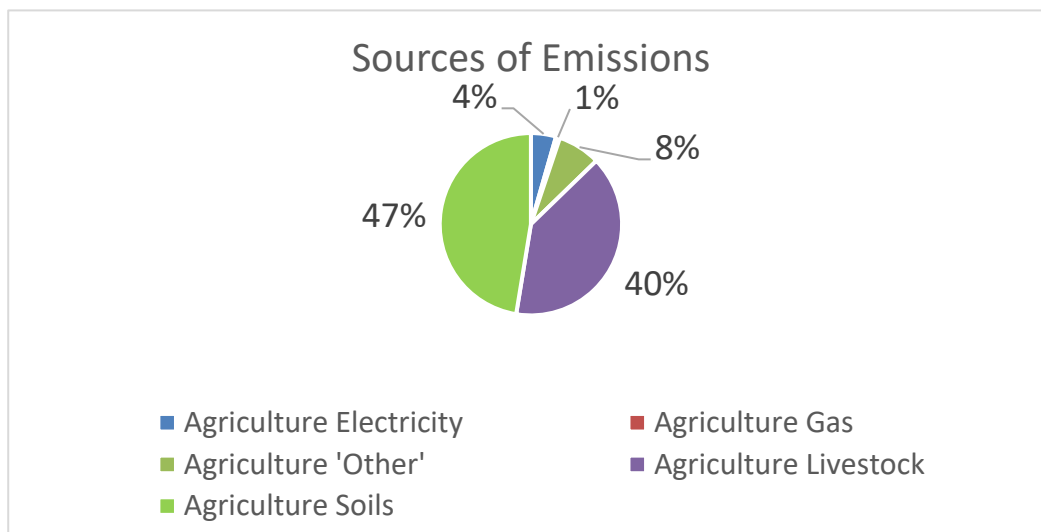
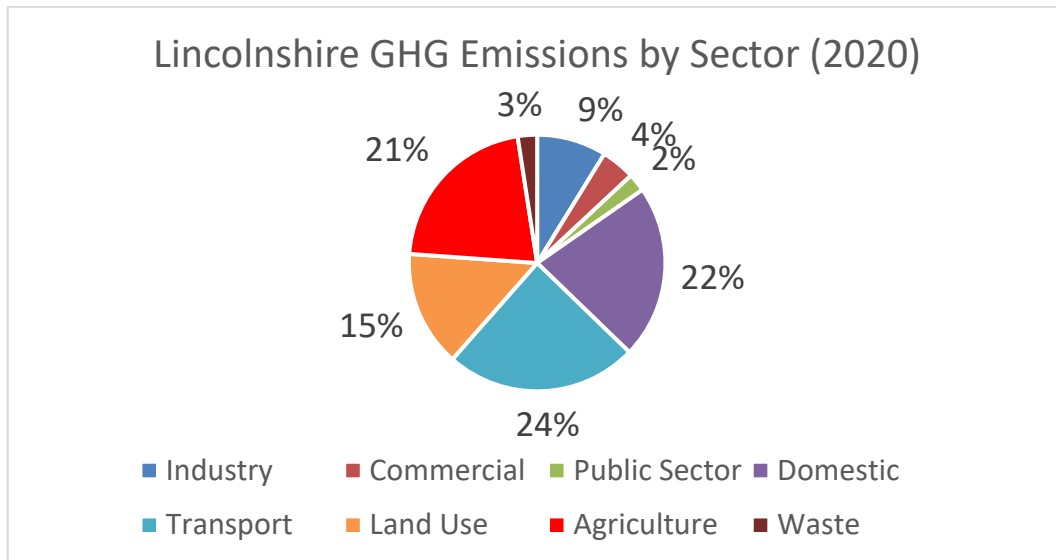
- Carbon dioxide → fuel
- Methane → livestock
- Nitrous oxide → natural soil reactions (bacterial activity)

The latter is the most powerful in terms of its impact and effect on climate change. The UK produces:

- 10% of total greenhouse gas emissions which emerge from the UK's agriculture – 21% of which is generated in Lincolnshire.
- 68% of total nitrous oxide emissions.
- 47% of total methane emissions.
- 1.7% of total carbon dioxide emissions.

Lincolnshire has the unique characteristic of agriculture being the main source of greenhouse gas emissions within our county, which is in sharp contrast to other counties where transport and in particular domestic transport is the main contributor. But because agriculture is such a significant part of Lincolnshire's economy, it is correspondingly large in terms of the sector.

Lincolnshire is mainly an arable farming county despite having great and important areas of livestock farming. 40% of the total of our greenhouse gas emissions emerge from livestock; even though the amount of farming that is going on in the arable sector is much higher, it only accounts for 47%.



9.2 Carbon Capture: Carbon Storage Codes for Different Types of Land Use Coming Forward - Towards Understanding How These Will Work

Carbon codes have been developed as an opportunity source of new income streams for farming businesses around the county. These are the Woodland Carbon Code, the Peatland Carbon Code and the Soil Carbon Code.

The Woodland Carbon Code is already underway, and this gives a payment to farmers or landowners that have put woodland on their land. Certain criteria must be met for these businesses to ensure they are entitled to payments.

The Peatland Carbon Code can potentially be used in the South of Lincolnshire where there are areas of low lowland peat that could be renovated. This code links to the Wildlife Trust involvement in a relevant project.

The Soil Carbon Code is delivered in conjunction with the Environment Agency. The Council is currently trialling a Soil Carbon Code as soil can be a potential opportunity to lock up carbon and sequester it out of the atmosphere.

For the schemes to be successful and viable, there needs to be credibility and a proven record of ability to reduce carbon emissions. These, in conjunction with the ELMS and other agriculture support schemes, may provide new options for farmers in terms of managing their land in the future (such as options for converting parts of land where crops are not growing or low-grade land to woodland and forestry). Adjoining schemes that will pay for tree planting that emerge from the Woodland Trust and the Forestry Commission will also be accessible to farmers.

9.3 Cold Storage: Understanding Costs in light of the Energy Crisis

Cold storage is currently being looked at in depth by the Council. There are a few small-scale cold storage plants across the county, whilst there are major centres within Greater Lincolnshire for the cold storage industry around fishing in Grimsby and the food processing activity that is facilitated around Spalding. In addition, there are smaller types of cold stores for potatoes and other crops.

There were two types of cold-storage facilities:

- Commercial cold stores owned by a multi-national business. These are automated and used by many companies; and,
- Smaller cold stores, which tend to be on older farms, such as potato stores. These are the facilities chiefly affected by high energy costs.

At the time of consideration of this evidence (January 2023), a bid had been submitted for a research project with the University of Lincoln and the team at Riseholme to look at how we can assist farms with cold storage and how to resolve issues emerging from the use of grain dryers, which due to fuel price increases, had seen costs increase substantially in the past year from 15 - 20 pence per kWh to 45 - 60 pence per kWh, tripling the price for some cold stores.

In addition, older equipment is now becoming inefficient and uneconomic to operate, especially in warmer seasons. According to the Cold Chain Federation, over half of the cold store facilities in England are over 20 years old and thus are in a phase out process which requires a substantial investment. This is adding to the pressures in the sector.

The Council and the University of Lincoln are going to embark on a series of energy audits of cold storage plants across the county to verify costings and current levels of energy use before making recommendations. The results on the energy audits in collaboration with the University of Lincoln were expected in a year, and currently publicity was being raised about the project.

The South Lincolnshire Food Hub is where around 30% of the UK's food goes through and therefore is an important link in the food chain, which makes it imperative to optimise the efficient operations. Solar panels were being considered to expand from Grantham, Spalding, Grimsby, and Scunthorpe to provide energy for cold-storage facilities.

We feel that there is a great opportunity to tap into the **Green Investment scheme for Greater Lincolnshire (GIGL)**³⁹; A credit trading model will be developed where nature-based solutions are designed to deliver habitats to meet Biodiversity Net Gain requirements, to capture and store carbon to enable the journey to Net Zero or to store water during flood or drought events, or cleanse water to improve the quality in our waterways and in the supply chain.

The Council is already being represented at the GIGL steering group that is considering options for attracting investment emerging from different streams of income into biodiversity improvements within the county.

9.4 Greater Lincolnshire Forum for Agriculture and Horticulture (GLFFAH)

Previously, the Lincolnshire Forum for Agriculture and Horticulture was a partnership between the public sector and the farming, horticulture, food, and drink sectors in the Greater Lincolnshire area that was introduced in the early 2000s. The Forum is no longer operational.

³⁹ <https://www.lincstrust.org.uk/news/green-investment-scheme-greater-lincolnshire-wins-government-backing>

The Forum met to agree on how to deliver plans and projects that addressed issues that affected the industry in the future. It took action with the aim of influencing policy and decision makers for the protection and benefit of the industry in Lincolnshire. It encouraged and supported projects of other organisations that helped Lincolnshire food and farming businesses in a variety of ways. The Forum worked with people across all sectors to address as many aspects of Food, Farming and Horticulture development as was feasible that would not duplicate existing effort.

We propose that the Forum is revived with a purpose of enabling farming, rural businesses, and rural communities to become more sustainable, on an economic, environmental, and social level.

In summary, the **objectives of the network** are:

- ✓ To provide a connected and collective regional voice of local farming and rural stakeholders.
- ✓ To create a two-way channel of communication, into and from rural stakeholders and delivery organisations.
- ✓ To provide a key source of advice on issues, concerns and good practice to Defra, the Greater Lincolnshire Local Enterprise Partnerships, Local Authorities, and others as necessary.
- ✓ To champion farming and rural issues and promote opportunities which may develop solutions to problems.
- ✓ To influence the local and national agenda in respect of farming and rural issues affecting (Greater) Lincolnshire.
- ✓ To provide relevant evidence and intelligence to empower the Chairman to have effective one-to-one dialogue with the Defra Minister and other ministers as appropriate.

The objectives may be achieved through maintaining effective, open, and transparent communications with partners, by accumulating industry intelligence, by networking and by championing the agriculture and horticulture and influencing decisions on local, regional and national level.

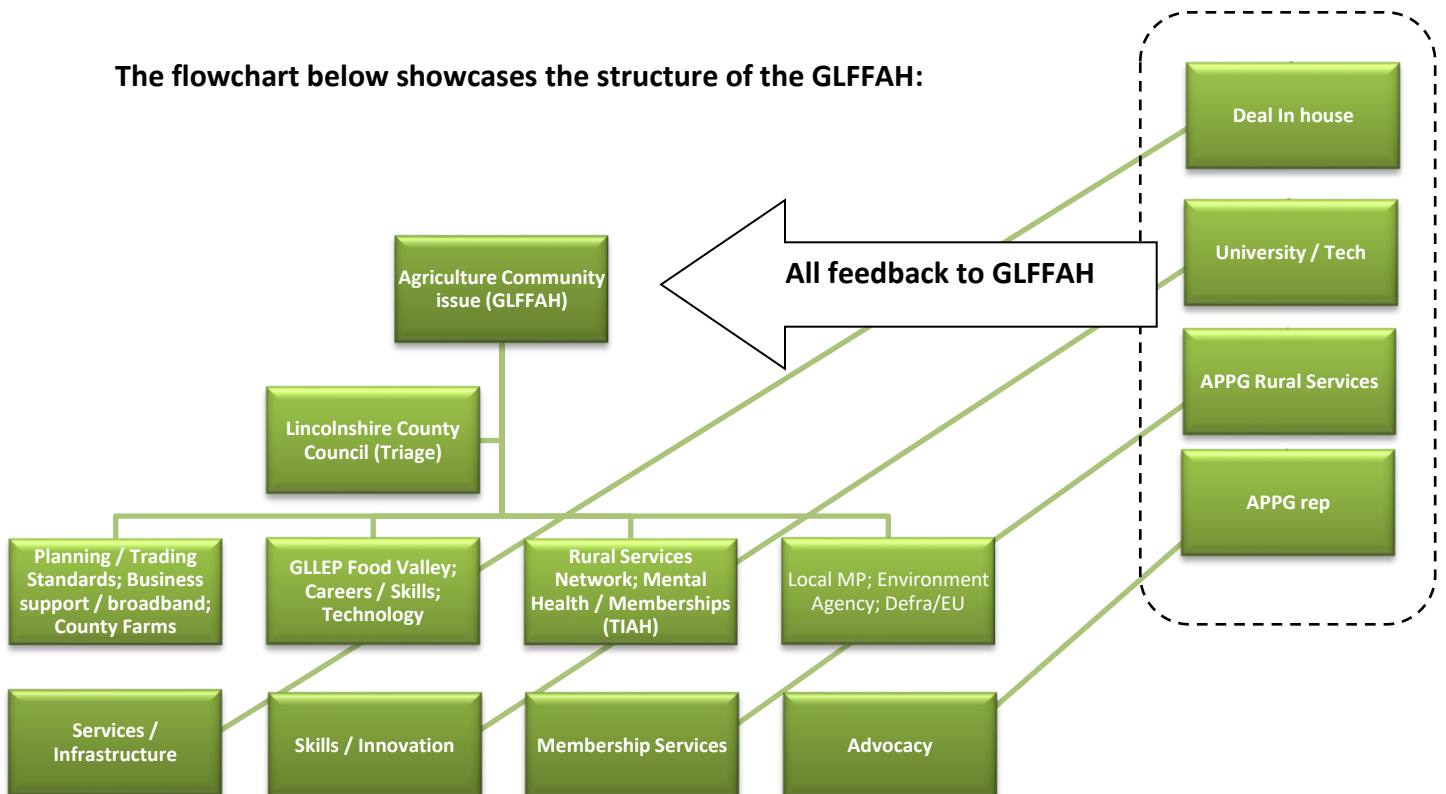
The Forum would operate in support of:

- Farming, Agri-Food businesses, and supply chains
- Rural businesses and SMEs
- Rural Communities
- Environmental bodies
- National, Regional and Local Government

The Forum would be hosted by LCC, and the Executive Membership would comprise of (indicatively):

- Lincolnshire Agricultural Society
- National Farmers Union
- Farmer
- Horticulturalist
- Greater Lincolnshire Local Enterprise Partnership
- Lincolnshire Wildlife Trust
- University Lincoln – Riseholme / Eagle Lab
- Innovate UK
- Lincolnshire Rural Support Network
- Country Land and Business Association
- Federation of Small Businesses
- Agriculture, Communities and Rural Environment (ACRE)
- Lincolnshire County Council
- Environment Agency
- Utility Companies (such as Anglian Water)

The flowchart below showcases the structure of the GLFFAH:



Focus and priorities for 2023 -2026 would include:

- ✓ Devolution and Levelling Up
- ✓ Environment
- ✓ Agricultural Transition
- ✓ Business Support
- ✓ Skills and Career Opportunities

Recommendation 7 (Green Masterplan):

We recommend that:

- a) **Lincolnshire County Council seeks to continue proactively engaging with the Green Investment scheme for Greater Lincolnshire and explore opportunities for the implementation of nature-based solutions that meet Biodiversity Net Gain requirements as well as Net Zero targets in line with the Lincolnshire Green Masterplan.**
- b) **Lincolnshire County Council supports the reinstatement of the Greater Lincolnshire Forum for Agriculture and Horticulture under a set remit and Terms of Reference, with annual reporting to the Council's Environment and Economy Scrutiny Committee on progress made against its objectives. We recommend that the process for this commences during Autumn/Winter of 2023-24.**

10. Agricultural Organisations/Services

The Panel has identified the following agricultural services and organisations that the Council has an opportunity to engage with to promote the best interests of the farming community.

Service/Org./Group	Objectives	Membership	Lincolnshire Representation (Y/N)
All-Party Parliamentary Group (APPG) on the National Food Strategy	<p>The APPG on the National Food Strategy brings together parliamentarians from across the political spectrum.</p> <p>Its aim is to promote cross-party thinking and cross departmental leadership on food policy, in the run-up to and after the publication of the National Food Strategy in 2021.</p>	<p>Chaired by Jo Gideon, MP for Stoke-on-Trent Central.</p> <p>The Food Foundation provides Secretariat services.</p>	N
APPG on Science and Technology in Agriculture	<p>This group was established in March 2008 to provide a forum for parliamentarians and other interested parties to debate and highlight the value of science and technology in agriculture.</p> <p>The global challenges of climate change, food security and resource protection are focusing future thinking about and within our farming industry. Advances in science and technology are essential to help UK agriculture respond positively to these challenges. But without a more balanced and informed debate, these goals may be missed, and opportunities for British farmers may be lost.</p> <p>The APPG on Science and Technology in Agriculture aims to promote debate among UK politicians and other stakeholders, not only to understand</p>	<p>The Group's activities are supported by a range of food, farming and research organisations including:</p> <ul style="list-style-type: none"> - Agricultural Industries Confederation (AIC) - Agricultural Biotechnology Council (ABC) - British Society of Plant Breeders (BSPB) - Crop Protection Association (CPA) - Maltsters Association of Great Britain (MAGB) 	<p>Y</p> <p>Andrew Percy, MP for Brigg and Goole</p> <p>Matt Warman, MP for Skegness and Boston</p> <p>Lord Taylor of Holbeach</p>

Service/Org./Group	Objectives	Membership	Lincolnshire Representation (Y/N)
	<p>the role of science and technology in 21st Century agriculture, but also to identify any policy, knowledge-based or regulatory barriers to its adoption.</p> <p>Topics of interest include:</p> <ul style="list-style-type: none"> - Is agricultural science valued in the UK? - Is our science policy and R&D framework fit for purpose? - Is the transmission from laboratory to field working effectively, and focused on the right priorities? - Does our regulatory framework foster or stifle innovation - is the balance right between productivity and environmental protection? - What role do the media and NGOs (Non-Governmental Organisations) play in influencing public attitudes towards new technology? <p>These and other issues will shape the Group's work in addressing a key priority for today's society in preparing for future generations.</p>	<ul style="list-style-type: none"> - UK Flour Millers - National Farmers Union (NFU), and - National Institute of Agricultural Botany (NIAB). 	
<p>APPG on Farming</p>	<p>Formed in January 2018, the APPG allows members to learn more about the world of British Farming.</p> <p>Through engagements and visits to an array of sites across the industry, the APPG will encourage parliamentarians to develop greater understanding and appreciation for the vital role that farming plays to our nation's health and economy.</p>	<p>Chaired by Gregg Smith, MP for Buckingham.</p>	<p>N</p>

Service/Org./Group	Objectives	Membership	Lincolnshire Representation (Y/N)
<p>APPG on Agriculture and Food for Development</p>	<p>The APPG on Agriculture and Food for Development seeks to bring together UK parliamentarians concerned with agriculture, nutrition and wider food security in the developing world. This cross-party group aims to engender progressive and informed debate within Westminster and beyond by bridging the gap between policymakers and practitioners in the field whilst also giving a voice to the 700 million smallholder farmers worldwide.</p> <p>The APPG was established by parliamentarians in October 2008 in response to growing concerns over the heightening food crisis and a steady decline in the funding of agricultural research for international development at both bilateral and multilateral levels. The Tropical Agriculture Association (TAA) played an important role in initiating the APPG through its membership of the UK Forum on Agricultural Research for Development. The TAA is an official ‘Supporter’ of the APPG. The group last met in November 2011.</p>	<p>Co-Chaired by Lord Cameron of Dillington and Jeremy Lefroy MP, it is a cross-party initiative drawing members from both Houses of the UK Parliament.</p>	<p>N</p>
<p>APPG on Gardening and Horticulture</p>	<p>The group, established in July 2015, aims to promote, and facilitate communication and understanding between representatives of the world of gardening and horticulture and Members of both Houses.</p>	<p>Chaired by Ian Liddell–Grainger, MP for Bridgwater, and West Somerset.</p>	<p>Y MP representation Lord Taylor of Holbeach</p>

Service/Org./Group	Objectives	Membership	Lincolnshire Representation (Y/N)
APPG on Fruit, Vegetables and Horticulture	The group, established in July 2021, aims to raise awareness and understanding of the domestic horticulture industry and be the voice of fruit, vegetable, and horticultural growers both inside and outside of parliament.	Chaired by Theo Clarke, MP for Stafford.	N
APPG on Rural Services	<p>The APPG on Rural Services is a cross party Group of MP's from rural constituencies that come together around four times a year to promote and debate on the provision of rural services and to issue periodic reports. The Rural Services Network established this Group and provide all the secretariat services.</p> <p>The APPG is helpful to organisations providing rural services by giving them the opportunity to put their issues and ideas directly to MP's who pass the information on to Ministers. This Group has recently been helpful in getting the Government to re-consider the funding formula for Local Government and has its own Rural Fair Share campaign website.</p>	MPs and Lords and Derek Thomas, MP for St Ives, is the Chair of the APPG for Rural Services.	N
The Institute for Agriculture and Horticulture (TIAH)	<p>TIAH's strategy is built around five key goals:</p> <ul style="list-style-type: none"> - Achieving recognition of the industry's professional standards and abilities. - The delivery of a professional framework which informs the development of qualifications and lifelong learning. 	To be launched in due course.	N

Service/Org./Group	Objectives	Membership	Lincolnshire Representation (Y/N)
	<ul style="list-style-type: none"> - TIAH becoming recognised as a source of information on careers and progression opportunities. - The delivery of a professional institute that helps transform the industry. - Fully establishing a business model that ensures TIAH’s sustainability. <p>Building a skilled workforce in agriculture and horticulture is one of the greatest opportunities of our time. It is key to unlocking the potential of our markets, adopting technological improvements, and protecting the environment for future generations. To meet this challenge, we need to be ambitious about developing our people. This means taking a more structured and agile approach to lifelong learning.</p> <p>At TIAH, it’s their mission to make skills and training widely available to farmers and growers so that they can thrive as an industry.</p>		
Rural Services Network (SPARSE)	<p>The Rural Services Network (RSN) is a Special Interest Group of the Local Government Association. SPARSE Rural operates as part of The Rural Services Network. It is the only organisation in England now dealing exclusively with general rural issues.</p> <p>The purpose of the Group is to provide a focus for the exchange of information on service and funding issues as they affect sparsely populated areas and to</p>	<ul style="list-style-type: none"> - Boston Borough Council - East Lindsey District Council - Lincolnshire County Council - North Lincolnshire County Council - North Kesteven District Council - South Holland District Council 	<p>Y</p> <p>Councillor M A Whittington</p> <p>Councillor A M Hall (Replacement Member)</p>

Service/Org./Group	Objectives	Membership	Lincolnshire Representation (Y/N)
	<p>provide a co-ordinated approach to making representations to the government for improvements in the level of funding for rural areas. The Group will also undertake research on specific issues of relevance to rural areas and exchange information on best practice. This group consists of the most sparsely populated local authorities. The RSN campaigns on behalf of these authorities for fairer funding for public services in rural areas.</p>	<p>- South Kesteven District Council - West Lindsey District Council</p>	

We feel that Lincolnshire should be tactically represented at a national level to pursue resolution of local issues and promote the interests of the County's agri-food industry.

Recommendation 8 (Agricultural Organisations/Services):

We recommend that:

- a) Lincolnshire County Council considers becoming a member of The Institute for Agriculture and Horticulture.
- b) Lincolnshire County Council supports a position whereby MPs from Lincolnshire seek to represent the county to All-Party Parliamentary Groups (*such as National Food Strategy; Farming; Agriculture and Food for Development; Fruit, Vegetables and Horticulture; Rural Services; and any other relevant groups*) if an opportunity arises.

11. Conclusions

A wider review of Lincolnshire's agricultural sector was needed to reveal lessons about the current state of this, its needs and to identify gaps and consider how Lincolnshire County Council could develop its leadership and support Lincolnshire's agri-food sector to maximise existing opportunities, to achieve economic sustainability, to recover from the pandemic and to help stimulate economic activity as well as to support career opportunities.

The Panel considered a plethora of evidence throughout the span of 14 months that emerged from a combination of interviews/presentations of key stakeholders and subject matter experts identified and engaging with groups emerging from local communities, commissioning of case studies and data gathering exercises and carrying out substantive research of literature, policy, and best practice, emerging from a global, national and regional level.

Our recommendations as informed in the previous section, are now at the disposal of Lincolnshire County Council Senior Leadership and Executive Members.

12. Key Contributors

Scrutiny Panel B would like to thank the following contributors and officers for their advice and support during this scrutiny review:

- Councillor Colin Davie, Executive Councillor for Economy, and Place
- Councillor Tom Dyer, Executive Support Councillor for Economy, and Place
- Councillor Richard Butroid, Executive Councillor for People Management, Legal and Corporate Property
- Justin Brown, Assistant Director – Growth
- Vanessa Strange, Head of Infrastructure Investment
- Chris Miller, Head of Environment
- Mark Keal, Head of Trading Standards
- Nicola Radford, Senior Commissioning Officer - Growth
- Sarah Wells, Business Manager - Corporate Property
- Dan Clayton, Sustainability Manager
- Stephen Brookes, Broadband Programme Manager - Place
- Chad Saratoon, Principal Trading Standards Officer, Trading Standards
- Kiara Chatziioannou, Scrutiny Officer (SPB Project Lead)
- Tracy Johnson, Senior Scrutiny Officer
- Nigel West, Head of Democratic Services and Statutory Scrutiny Officer
- Marianne Marshall, Strategic Communications Lead
- Karen Seal, [former] Principal Officer for Place – Investment
- Martin Collison, Director of Collison & Associates Ltd
- Tammy Smalley, Head of Conservation, Lincolnshire Wildlife Trust
- Mark Tinsley, Managing Director at PC Tinsley Ltd
- Paul Ward, Agricultural & Horticultural Adviser, Business Lincolnshire Growth Hub
- Prof Simon Pearson, Director of Lincolnshire Institute of Agriculture Technology

Further Information

If you would like to find out more about this Scrutiny Review or Overview and Scrutiny at Lincolnshire County Council, please contact the Scrutiny Team at scrutiny@lincolnshire.gov.uk.

AGRICULTURE ACROSS LINCOLNSHIRE

Analysis of the latest Defra
Agricultural Survey Data
plus additional data

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Version 3 - October 2022



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Consulting



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DISCLAIMER

This document contains data from the Department for Environment, Food & Rural Affairs, and the Office for National Statistics, that has been made available under an Open License and accessed via the gov.uk website and nomisweb respectively. Data has also been obtained under the Greater Lincolnshire Local Enterprise Partnership licence with Burning Glass / Emsi.

Codename Consulting is not responsible for data verification nor data-cleaning, and data has been analysed as is, with any faults. As such, all data-driven conclusions in this report are based purely on the data available for public access at the time of writing. All data used in this document is either the most up-to-date available at the time of the data review, or the most relevant.

All maps have been produced using the open-source Geographic Information Systems software 'QGIS,' produced by the QGIS Development Team (2022) and made possible by the Geospatial Foundation Project.

INTRODUCTION

Lincolnshire County Council have identified a need to update and expand their understanding of the agricultural sector in Lincolnshire.

Recent previous work conducted by Codename Consulting has provided an overview of the number of holdings, the total farmed area, and crops grown across Lincolnshire (and Greater Lincolnshire) using the latest Department for Environment, Food and Rural Affairs (Defra) data available at that time (2016).

In line with previous releases then we would have expected a 2019 tranche of data released in 2020. However, Defra reported that regional data collection for 2020 was disrupted by Covid-19 and therefore, 2020 results could not be produced for this level of data. Subsequently in July 2022, Defra have now released a 2021 tranche of data and this is used extensively within this report, along with data from 2010, 2013 and 2016.

This latest 2021 data enables us to provide a much more detailed picture of agriculture across Lincolnshire over and above last year's summary. Additional analysis now includes numbers of livestock (cattle, sheep, pigs, and poultry) and information on the agricultural labour force on commercial holdings (broken down by farmers, salaried managers, regular workers, casual workers, and by full/part time), along with where possible analysis at local authority district level.

Other areas highlighted by Lincolnshire County Council as being of interest in terms of providing a fuller picture of the agriculture sector across Lincolnshire include land values, labour shortages, and land use for energy sites (solar farms and anaerobic digestion) and energy crops. With regards to land values then we have drawn on data from Knight Frank LLP, an estate agency, residential and commercial property consultancy. As for labour shortages then under the Greater Lincolnshire LEP licence we have accessed and analysed online vacancy data for the sector through Burning Glass / Emsi online labour market tool. Land use data on energy sites has been drawn from the Renewable Energy Planning Database.

All data throughout this report is sourced from Defra unless stipulated otherwise.

NOTES ON DATA

The vast majority of data in this publication is drawn from the Defra June Survey of Agriculture, a large sample survey sent to a representative sample of holdings across England. As the results are based on a sample survey, they are subject to a degree of sampling error and do not take into account other sources of survey errors, such as non-response bias or administrative data errors. Cattle results are sourced from the Cattle Tracing System.

All the Defra data refers to commercial holdings. Commercial holdings are those with significant levels of farming activity. Commercial holdings are defined as those that exceed at least one of the thresholds detailed below:

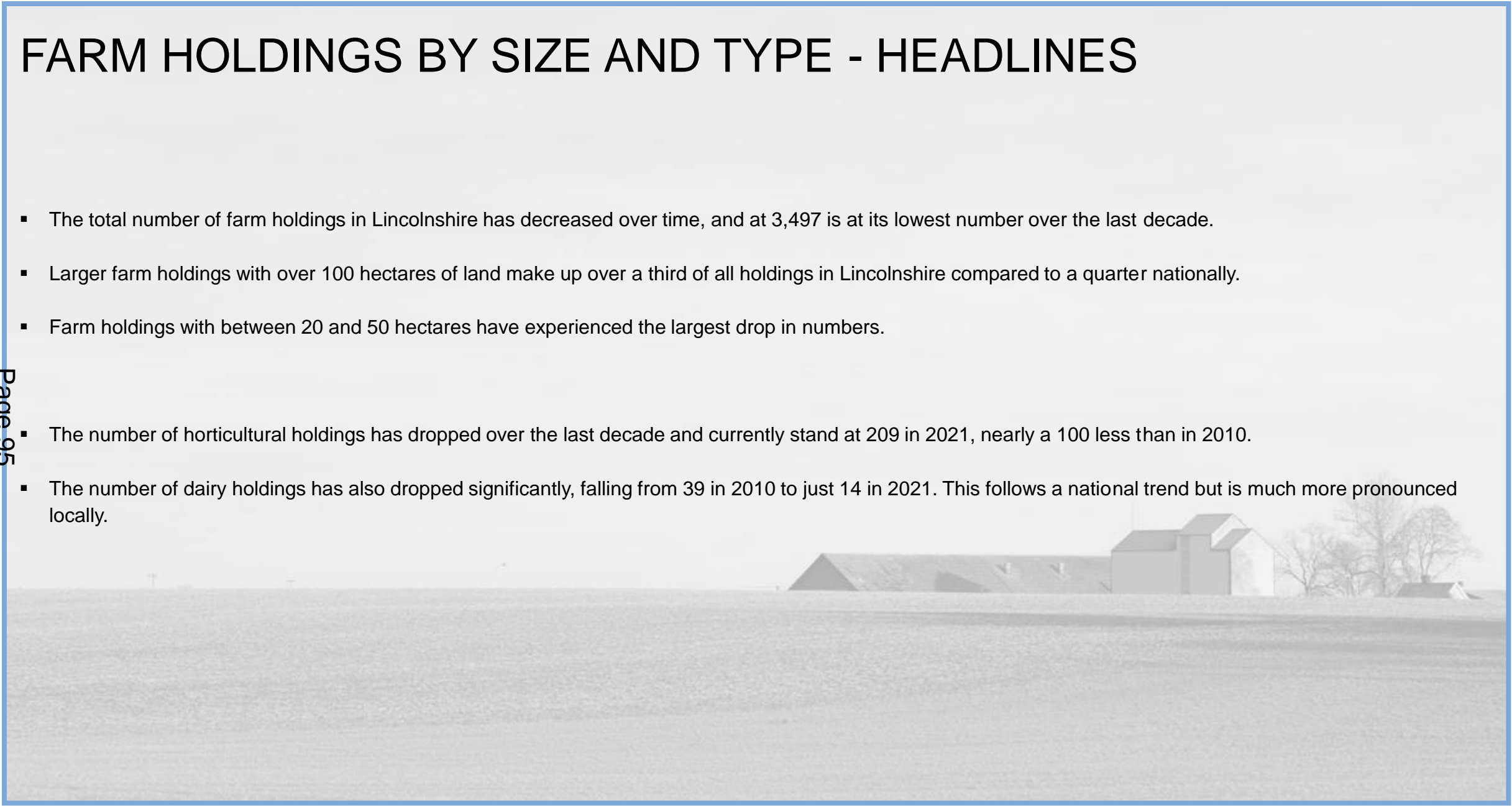
Characteristics		Threshold
Utilised agricultural area	Arable land, kitchen gardens, permanent grassland, permanent crops	>5 ha
Permanent outdoor crops	Fruit, berry, citrus and olive plantations, vineyards and nurseries	>1 ha
Outdoor intensive production	Hops	>0.5 ha
	Tobacco	>0.5 ha
	Cotton	>0.5 ha
	Fresh vegetables, melons and strawberries, which are outdoors or under low (not accessible) protective cover	>0.5 ha
Crops under glass or other (accessible) protective cover	Fresh vegetables, melons and strawberries	>0.1 ha
	Flowers and ornamental plants (excluding nurseries)	>0.1 ha
Bovine animals	All	>10 Head
Pigs	All	>50 Head
	Breeding sows	>10 Head
Sheep	All	>20 Head
Goats	All	>20 Head
Poultry	All	>1,000 Head
Hardy nursery stock		>1 ha
Mushrooms	All mushroom holdings to be included	>0

FARM LABOUR - HEADLINES

- Total farm labour in Lincolnshire increased between 2010 and 2016 but has fallen in 2021. This is broadly in line with the national trend over this period.
- The agricultural sector in Lincolnshire is much more dependent on casual workers and regular full-time workers as part of its workforce than nationally. Despite this reliance, numbers of casual and regular full-time workers have fallen over time, particularly between 2016 and 2021.
- Between them Boston and South Holland account for over 3/4 of all casual agricultural workers in Lincolnshire.
- Boston and South Holland also have the highest levels of employment provided locally by employment agencies (3,150 and 4,050 respectively).
- The agricultural sector in Lincolnshire is less dependent on farmers / directors, which most likely demonstrates the larger farm sizes prevalent in Lincolnshire than nationally. Numbers of full-time farmers / directors have been on the increase but part-time farmer / director numbers have fallen between 2016 and 2021 (which is not in line with the national trend).
- East Lindsey has the highest proportions of both full and part-time farmers / directors (29% and 31% respectively).
- Online agricultural sector job vacancies increased significantly in 2021 in Lincolnshire compared to most of the last decade suggesting some issues locally for employers trying to recruit, though these appear not to be as acute as they were at national level.
- The largest increases in unique vacancy numbers between 2019 and 2021 were in the lower skilled / pay occupations of 'Farm Workers' and 'Fishing and Other Elementary Agriculture Occupations not elsewhere classified'.

FARM HOLDINGS BY SIZE AND TYPE - HEADLINES

- The total number of farm holdings in Lincolnshire has decreased over time, and at 3,497 is at its lowest number over the last decade.
- Larger farm holdings with over 100 hectares of land make up over a third of all holdings in Lincolnshire compared to a quarter nationally.
- Farm holdings with between 20 and 50 hectares have experienced the largest drop in numbers.
- The number of horticultural holdings has dropped over the last decade and currently stand at 209 in 2021, nearly a 100 less than in 2010.
- The number of dairy holdings has also dropped significantly, falling from 39 in 2010 to just 14 in 2021. This follows a national trend but is much more pronounced locally.



FARMED AREA BY FARM SIZE/TYPE, AND LAND TYPE - HEADLINES

- The total farmed area in Lincolnshire has remained fairly static over time and at currently just less than 490,000 hectares, makes up 5.4% of the national total.
- East Lindsey is the only local authority district area in Lincolnshire to experience a decrease in its farmed area over the last decade.
- The vast majority of farmed area (87%) in Lincolnshire is farmed by holdings with more than 100 hectares. This compares with 75% nationally.
- At both Lincolnshire and national level, we can see over time that total farmed area has moved more into ownership, with less land being rented.
- At 382,636 hectares, and 84% of the total Lincolnshire farmed area (excluding horticultural crops), then arable land (defined as arable crops and uncropped arable land/bare fallow) is the dominant land type in Lincolnshire. Nationally, only 46% of farmed area is designated this land type.
- At 272,520 hectares, cereals dominate the total farmed area in Lincolnshire accounting for 56% of farmed area. The cereals farmed area has also increased by 10% since 2010, up from 247,200 hectares.
- Both the Lincolnshire pea and bean crop, and the all other veg and salad crop, are nationally significant accounting for 22% and 26% respectively of the farmed area nationally for these two crops. However, both have declined in terms of farmed area locally over the last decade. In the case of peas and beans then this is against the national trend of growth.
- At £11,000 per acre of prime arable land, then Lincolnshire features in the top 10 of English counties for land values.

CATTLE, PIGS AND POULTRY - HEADLINES

- Total cattle numbers in Lincolnshire have fallen by 20% since 2010, predominantly driven by decreases in the dairy herd.
- East Lindsey currently accounts for half of Lincolnshire's total cattle, with numbers there falling by 14% over the last decade.
- The total number of pigs in Lincolnshire has increased by 16% since 2010 (driven by increases in the number of fattening pigs), broadly in line with changes seen in pig numbers nationally.
- West Lindsey by far has the largest proportion of pigs across Lincolnshire's local authority districts at 49%. It has also seen pig numbers increase by 67% since 2010.
- Poultry numbers have increased steadily in Lincolnshire over the last decade, rising by 20% since 2010.
- At just over 16 million birds, Lincolnshire currently accounts for 11% of total poultry nationally.
- Over $\frac{3}{4}$ of Lincolnshire's poultry is located in East Lindsey (31%), North Kesteven (24%) and West Lindsey (23%). Whereas numbers have increased significantly over the last decade in both East Lindsey (38%) and West Lindsey (32%), numbers in North Kesteven have fallen by 26% since 2010.
- The farmed areas used for both specialist pig farming and specialist poultry have both increased in Lincolnshire over the last decade at a rate above that seen nationally.

ENERGY LANDUSE AND FARM WATER USAGE - HEADLINES

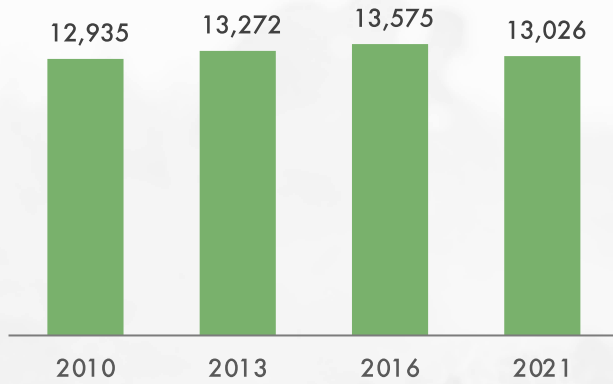
- Based on latest data available, we estimate that solar photovoltaic sites currently in operation cover approximately 606 hectares of land across Lincolnshire.
- Solar photovoltaic sites that are either under construction, awaiting construction, have had a planning application submitted, or are being scoped, will eventually cover a further 1,347 hectares of land across Lincolnshire.
- There are currently 32 anaerobic digestive sites across Lincolnshire though only two provide biomethane into the national grid (FKB at Holdingham, and Lockwood Estates/Future Biogas at Spridlington). The rest generate biogas which is burned on-site to generate heat, power or both.
- 121,000 hectares (ha) of agricultural land was used for bioenergy crops in the UK in 2020, 75,000 ha of which was maize used for anaerobic digestion, up from 34,000 ha in 2015. Whilst we do not have local figures for crop use in energy generation, we do note that the area of land use for growing maize in Lincolnshire has increased by 619% since 2010 (from 1,944 ha to 13,987 ha in 2021).
- Data from 2015/16 shows that whilst 'mains water' was overwhelmingly the main source of water for farming (85%), farms were increasingly abstracting water from rivers/streams/springs for immediate use (up from 28% in 2013/14 to 31% in 2015/16).
- Mains water usage in the East Midlands was higher than nationally at 93%, whilst abstraction from rivers/streams/springs for immediate use was much lower than nationally at 20%.

FARM LABOUR

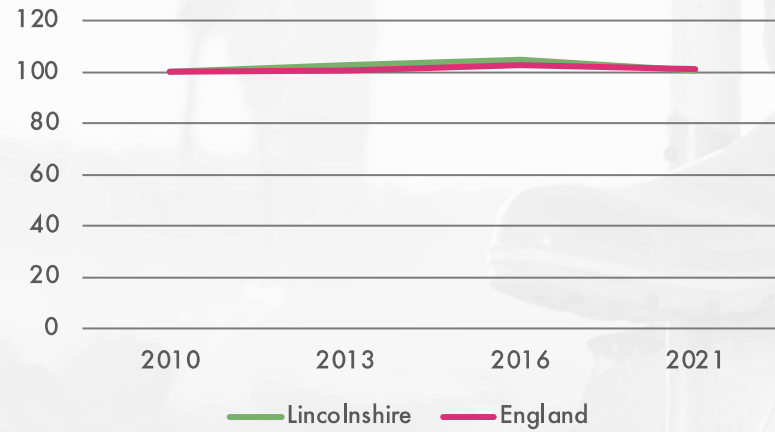


TOTAL FARM LABOUR

Total Farm Labour in Lincolnshire



Change in Total Farm Labour, 2010=100



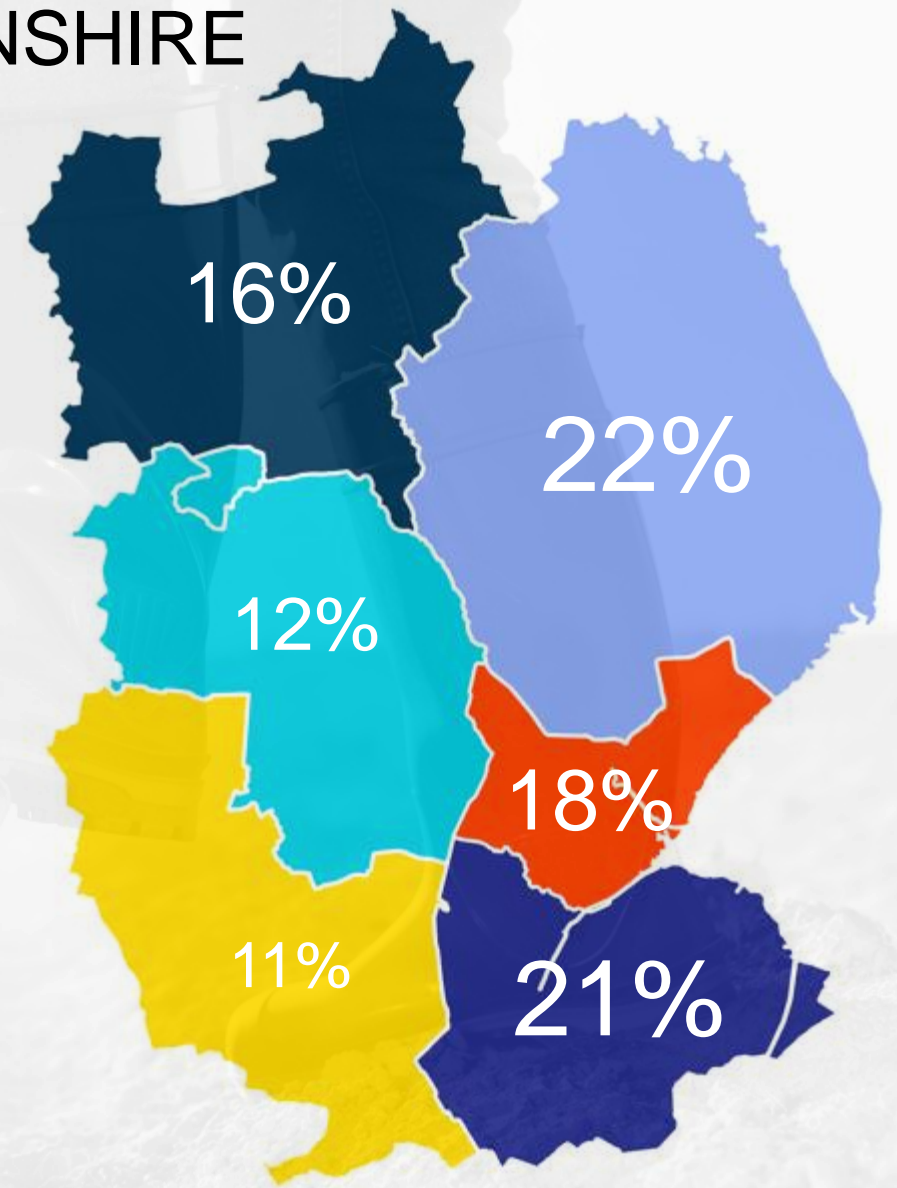
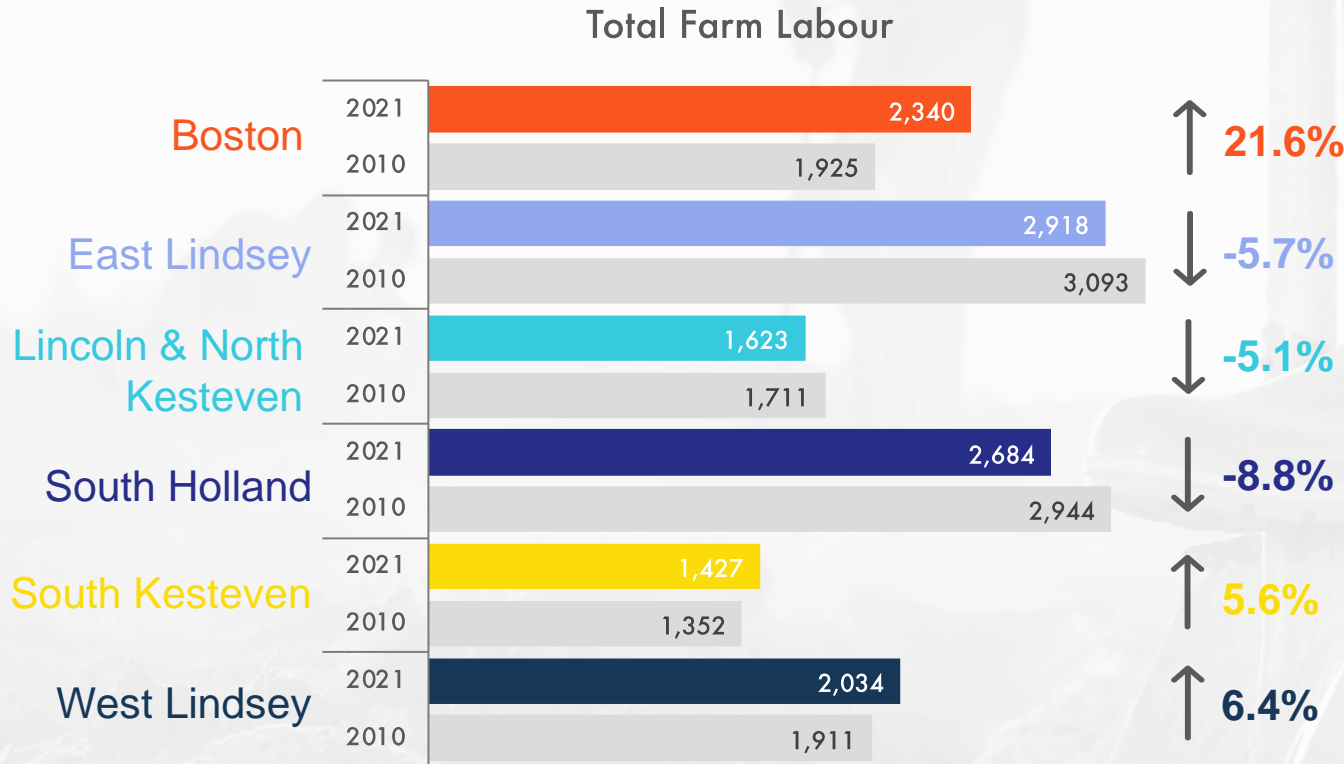
Total Farm Labour 2021

13,026

4.4% of England Total

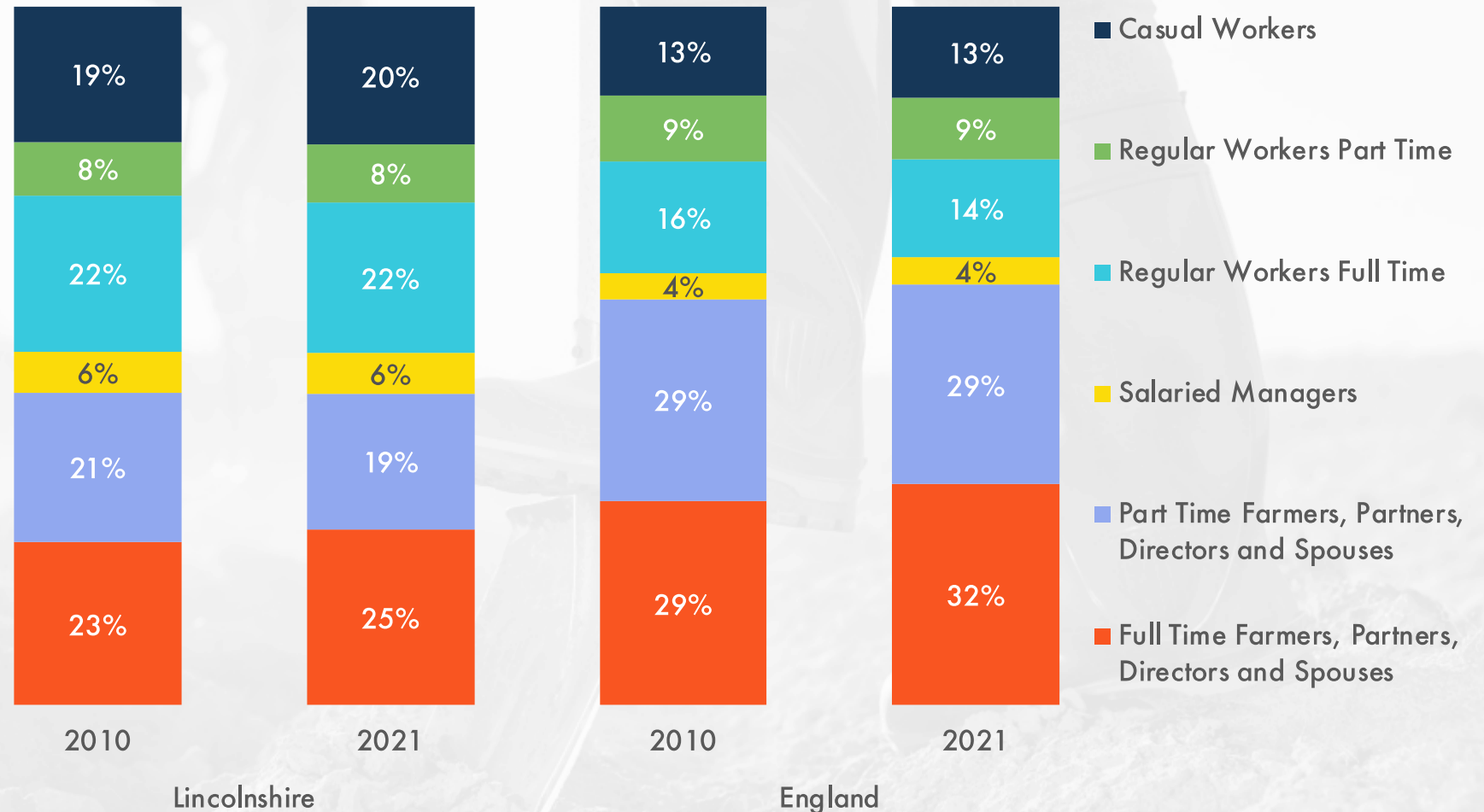


TOTAL FARM LABOUR ACROSS LINCOLNSHIRE



TOTAL FARM LABOUR BY TYPE

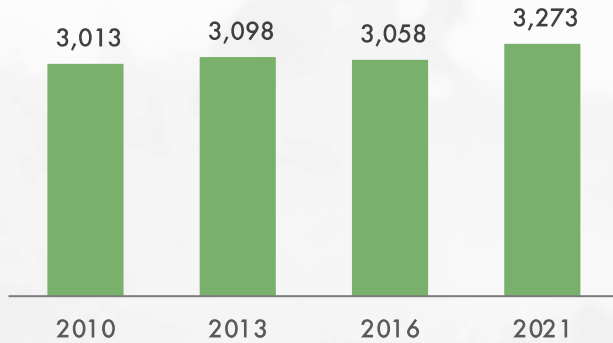
Farm Labour by Type



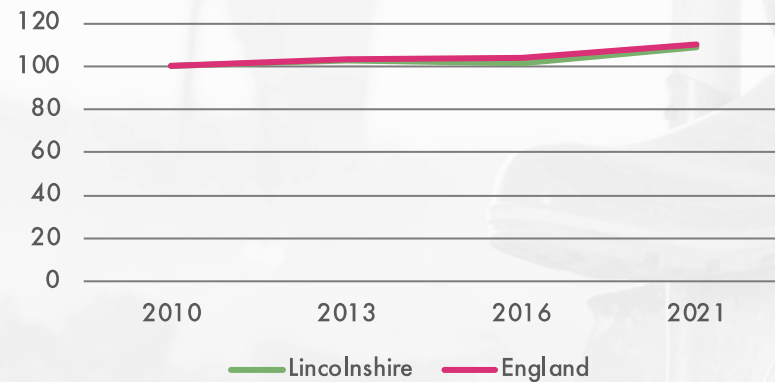
The chart on the right shows that the agricultural sector in Lincolnshire is much more dependent on casual workers and regular full-time workers as part of its workforce than nationally. Conversely it is less dependent on farmers / directors, which in all most likely demonstrates the larger farm sizes prevalent in Lincolnshire than nationally.

FULL TIME FARMERS, PARTNERS, DIRECTORS AND SPOUSES

Total Full Time Farmers, Partners, Directors and Spouses in Lincolnshire



Change in Full Time Farmers, Partners, Directors and Spouses, 2010=100



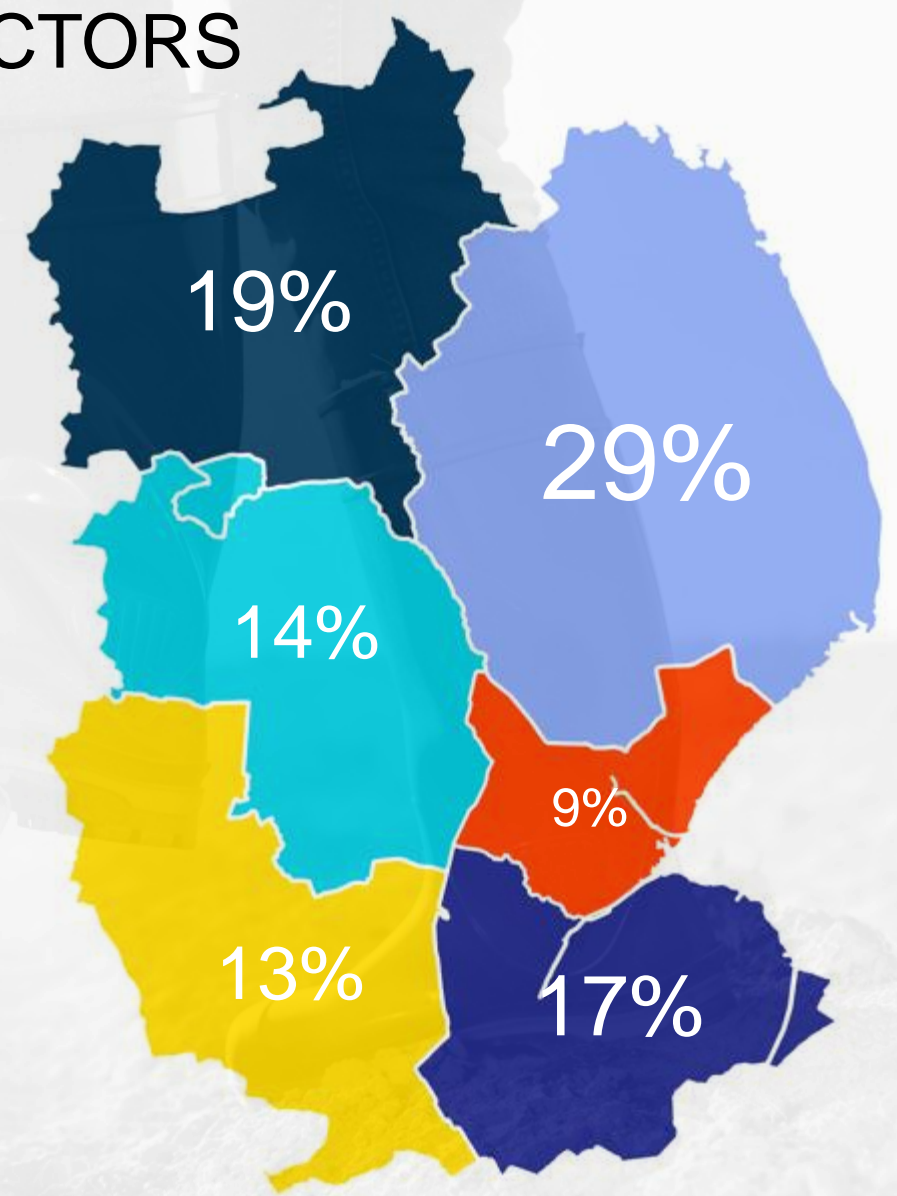
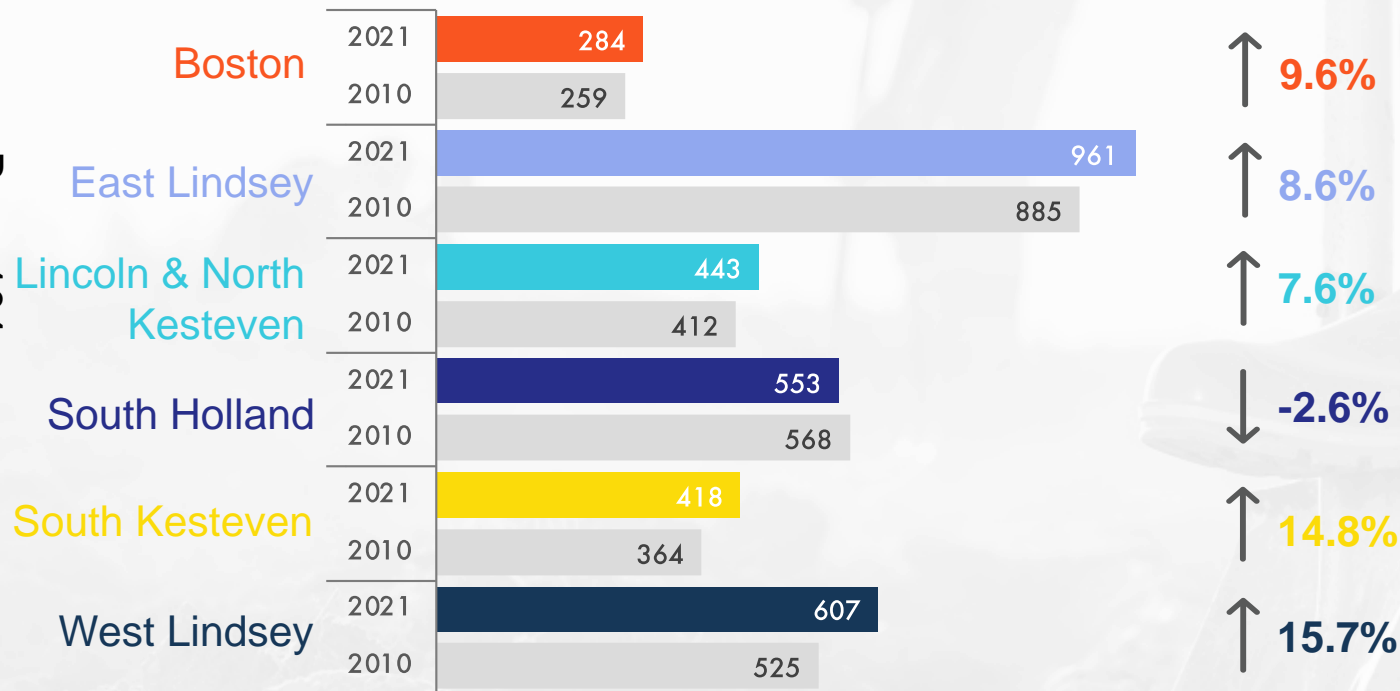
Total Full Time Farmers, Partners, Directors and Spouses
2021

3,273

3.5% of England Total

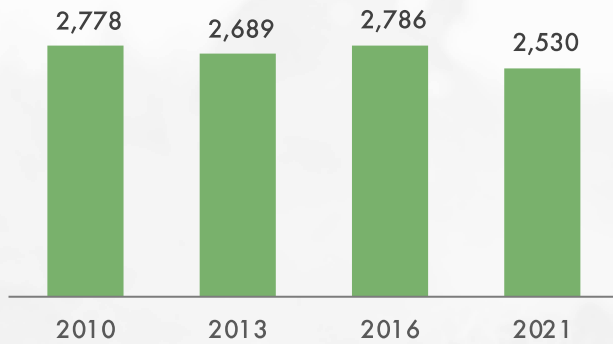
FULL TIME FARMERS, PARTNERS, DIRECTORS AND SPOUSES ACROSS LINCOLNSHIRE

Full Time Farmers, Partners, Directors and Spouses

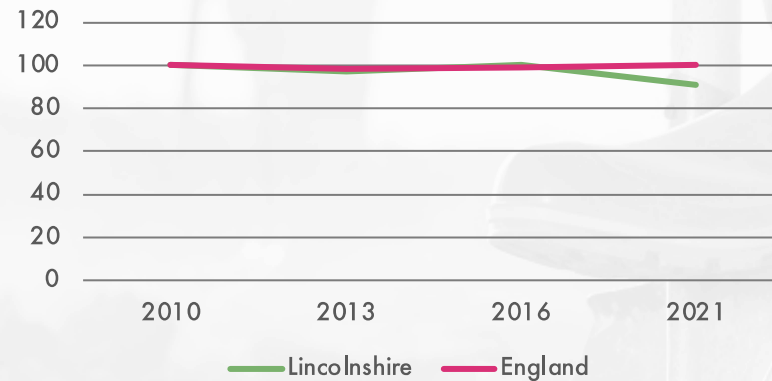


PART TIME FARMERS, PARTNERS, DIRECTORS AND SPOUSES

Total Part Time Farmers, Partners, Directors and Spouses in Lincolnshire



Change in Part Time Farmers, Partners, Directors and Spouses, 2010=100



Total Part Time Farmers, Partners, Directors and Spouses
2021

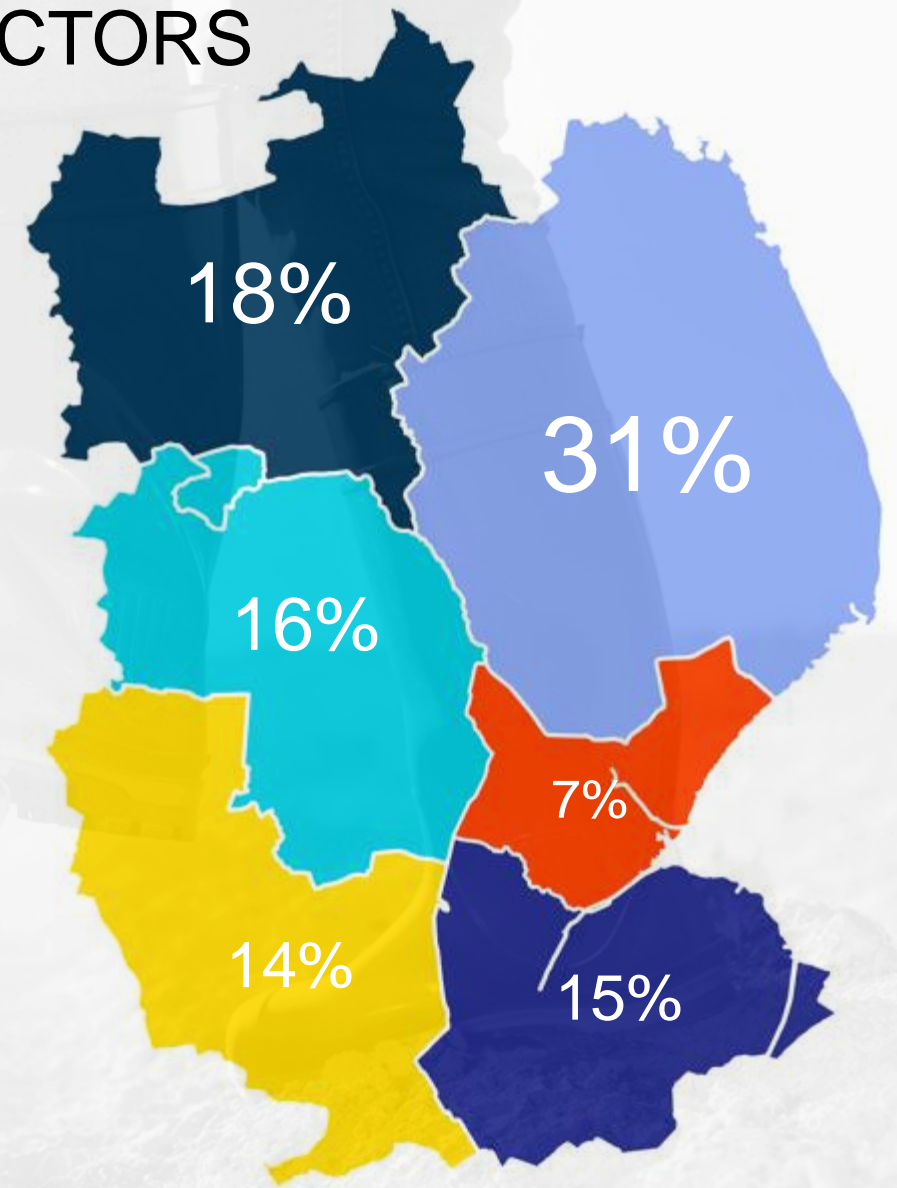
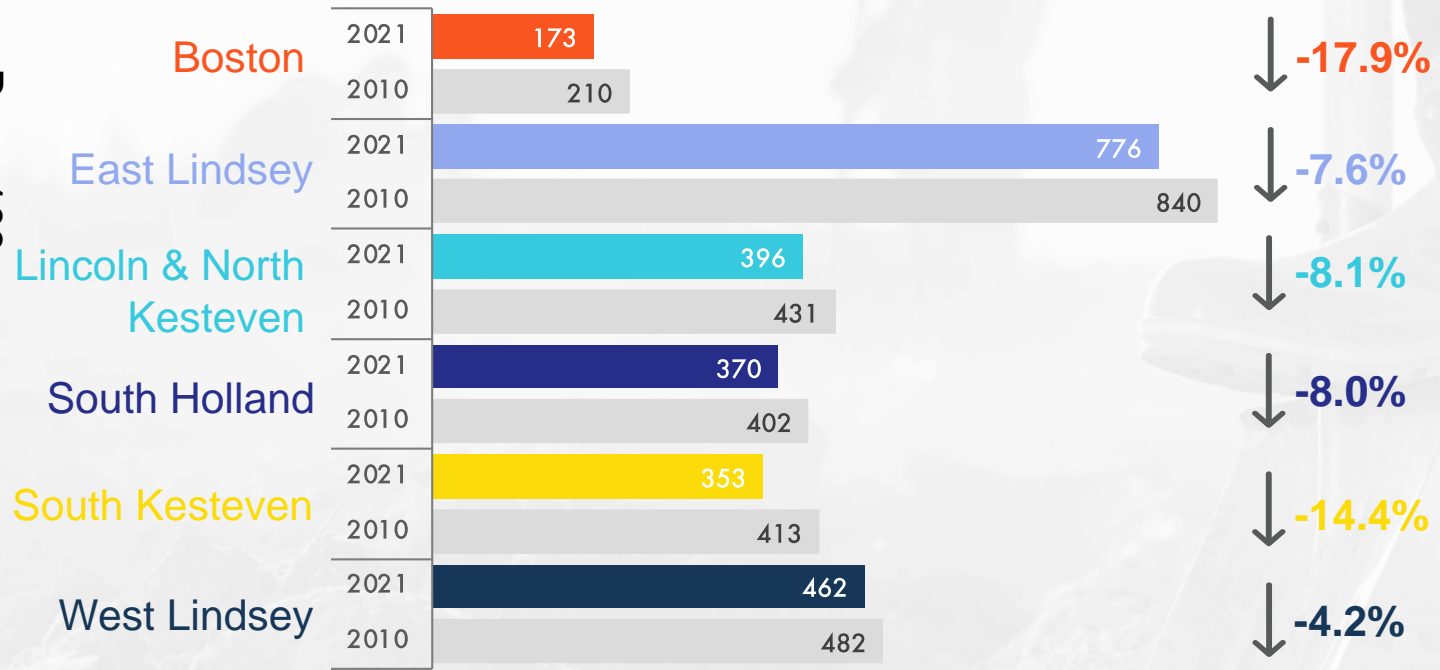
2,530

3.0% of England Total

Note: Part time workers are those employed for less than 39 hours a week. Figures exclude school children but include trainees employed under an official youth training scheme and paid at Agricultural Wages Board rates or above.

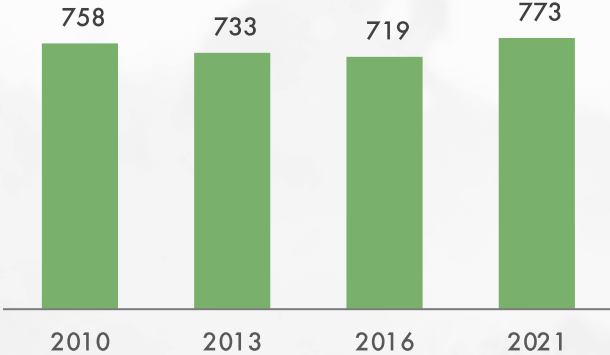
PART TIME FARMERS, PARTNERS, DIRECTORS AND SPOUSES ACROSS LINCOLNSHIRE

Part Time Farmers, Partners, Directors and Spouses

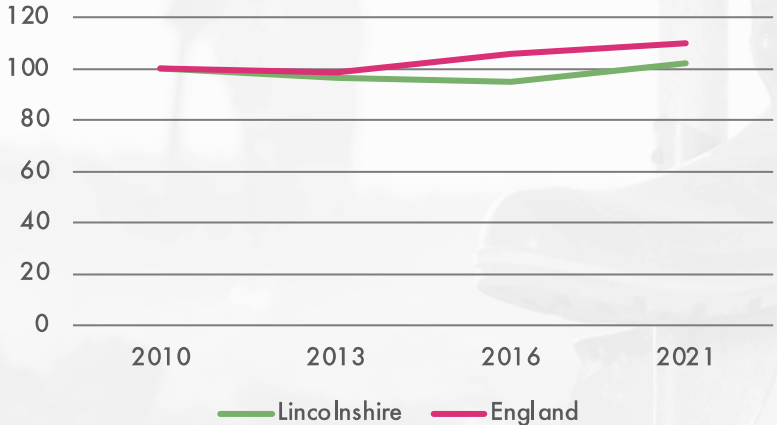


SALARIED MANAGERS

Total Salaried Managers in Lincolnshire



Change in Salaried Managers, 2010=100



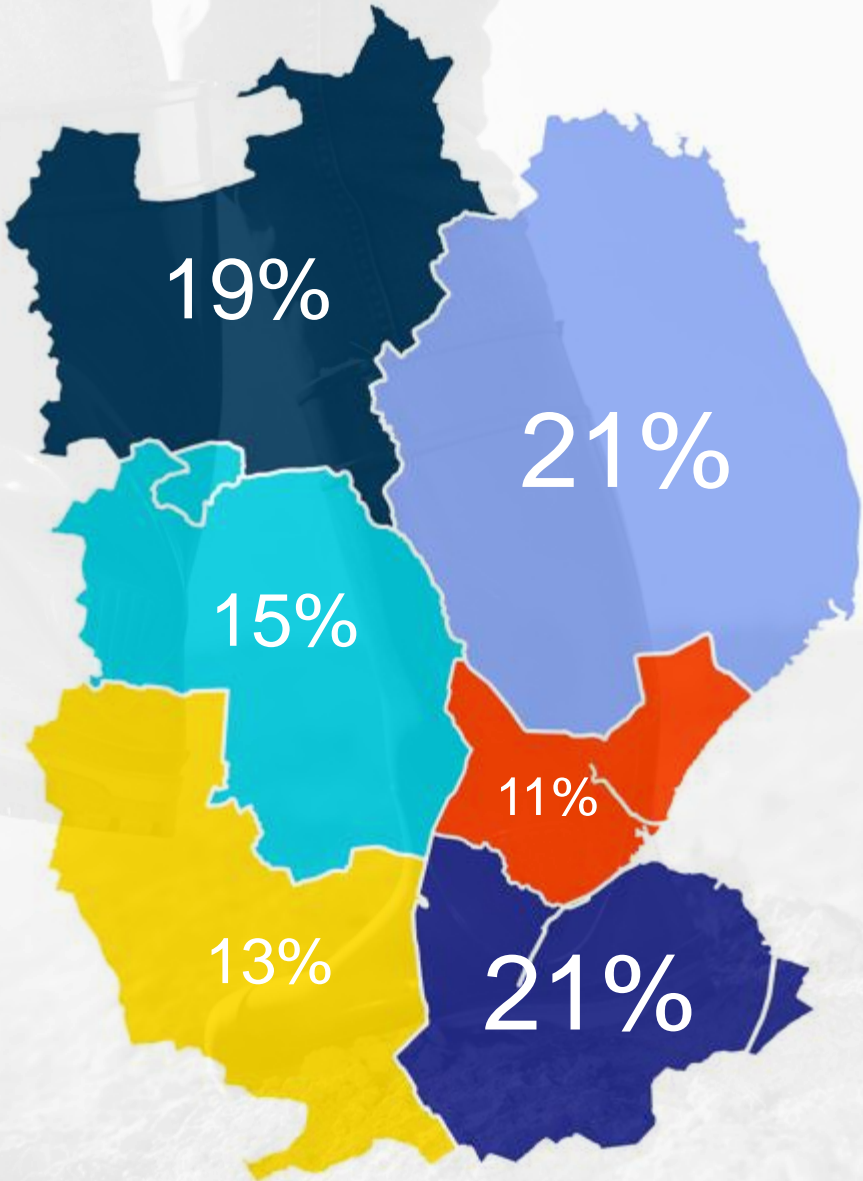
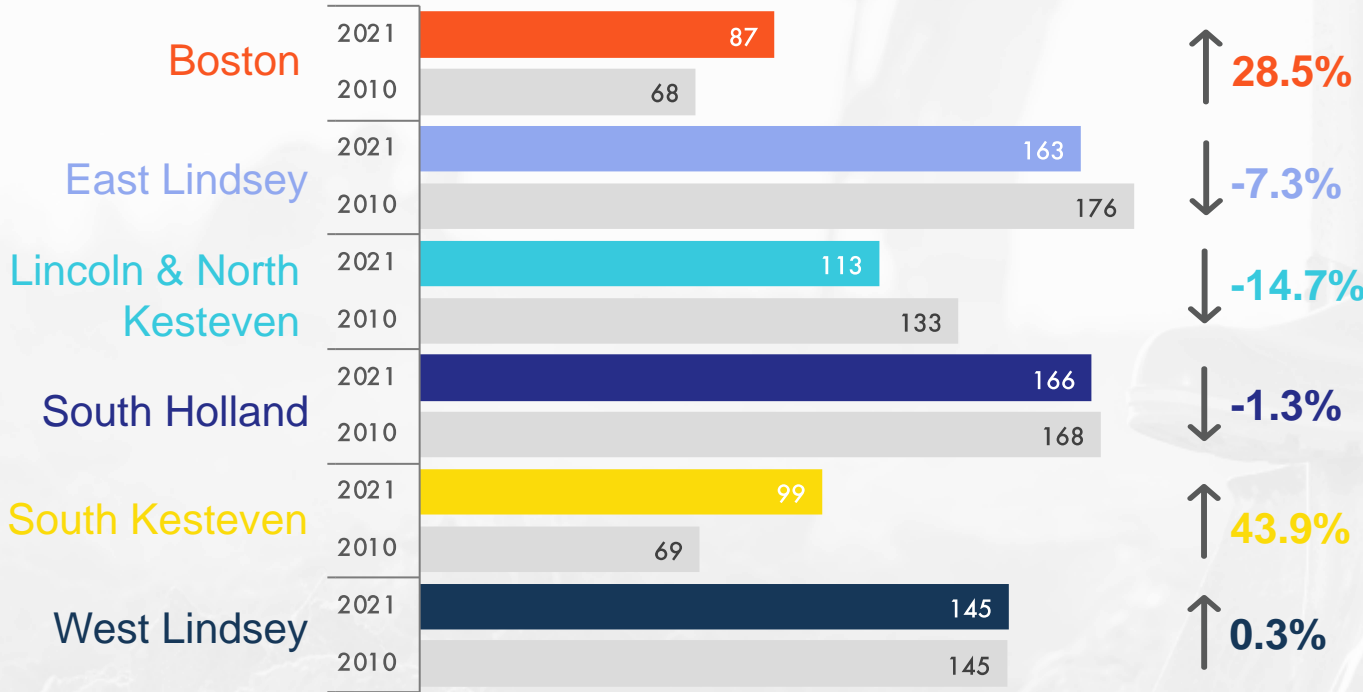
Total Salaried Managers 2021

773

6.5% of England Total

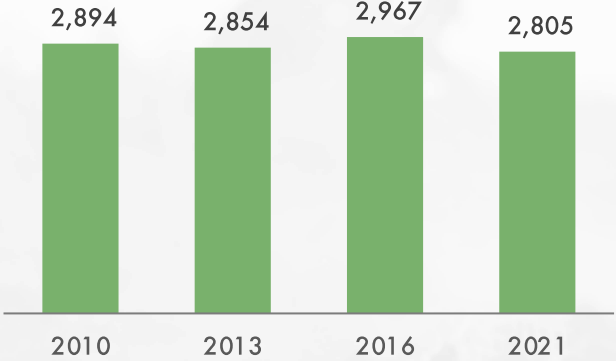
SALARIED MANAGERS ACROSS LINCOLNSHIRE

Salaried Managers

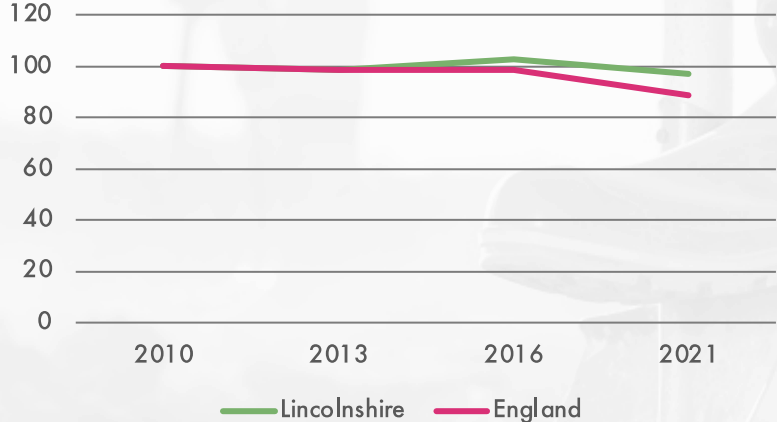


FULL TIME REGULAR WORKERS

Total Full Time Regular Workers in Lincolnshire



Change in Full Time Regular Workers, 2010=100



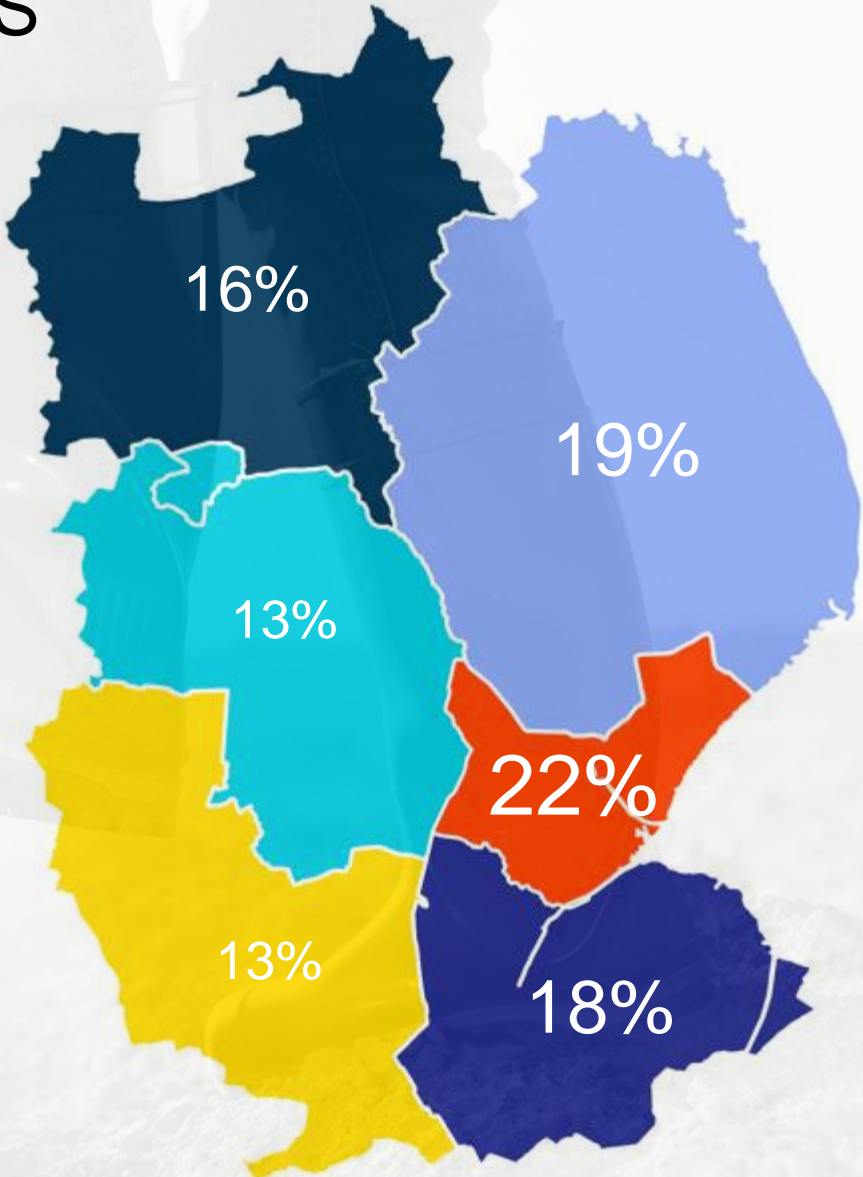
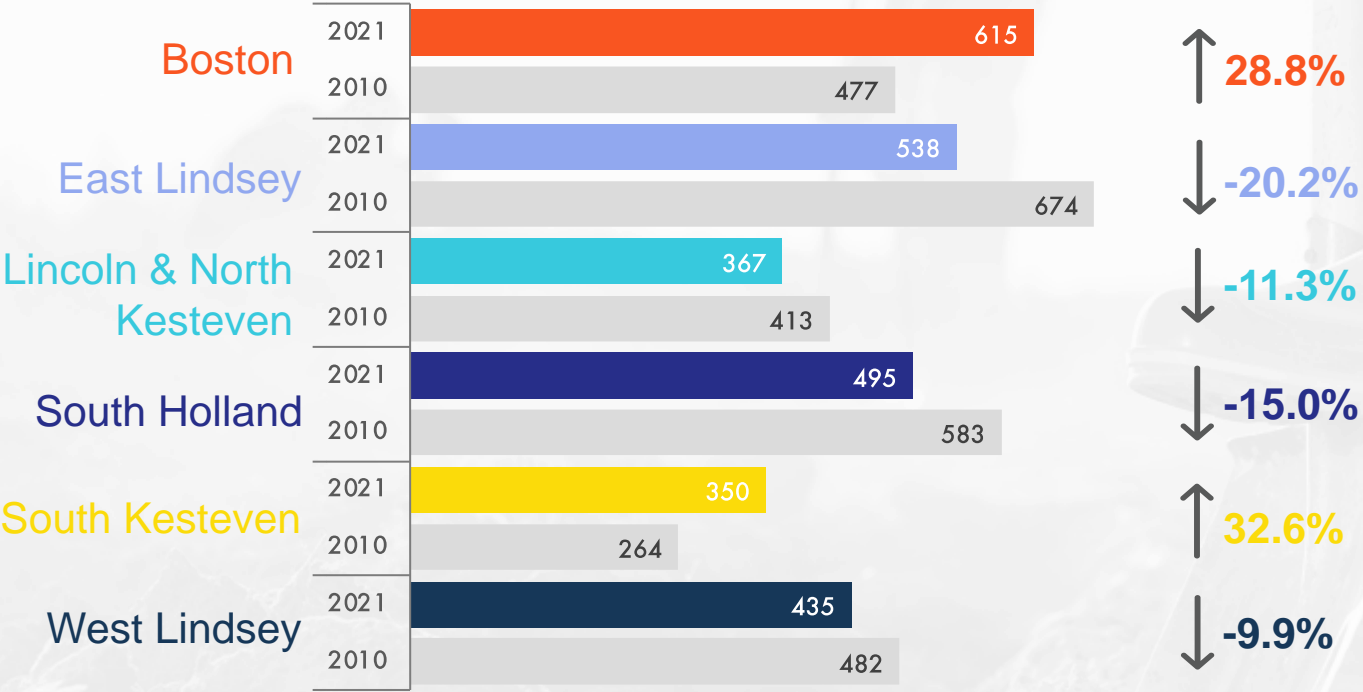
Total Full Time Regular Workers
2021

2,805

6.7% of England Total

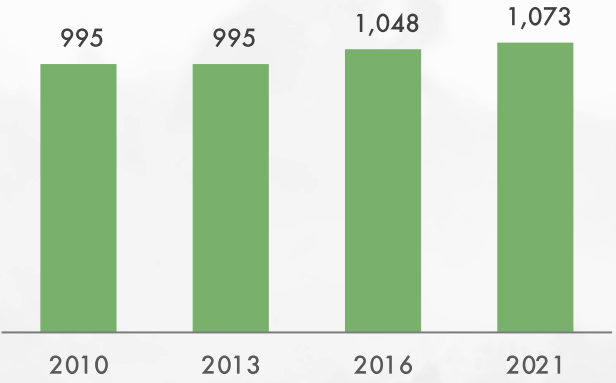
FULL TIME REGULAR WORKERS ACROSS LINCOLNSHIRE

Full Time Regular Workers

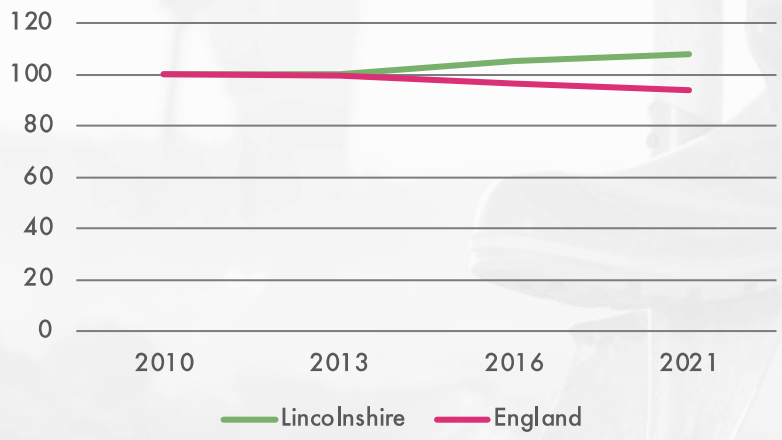


PART TIME REGULAR WORKERS

Total Part Time Regular Workers in Lincolnshire



Change in Part Time Regular Workers, 2010=100



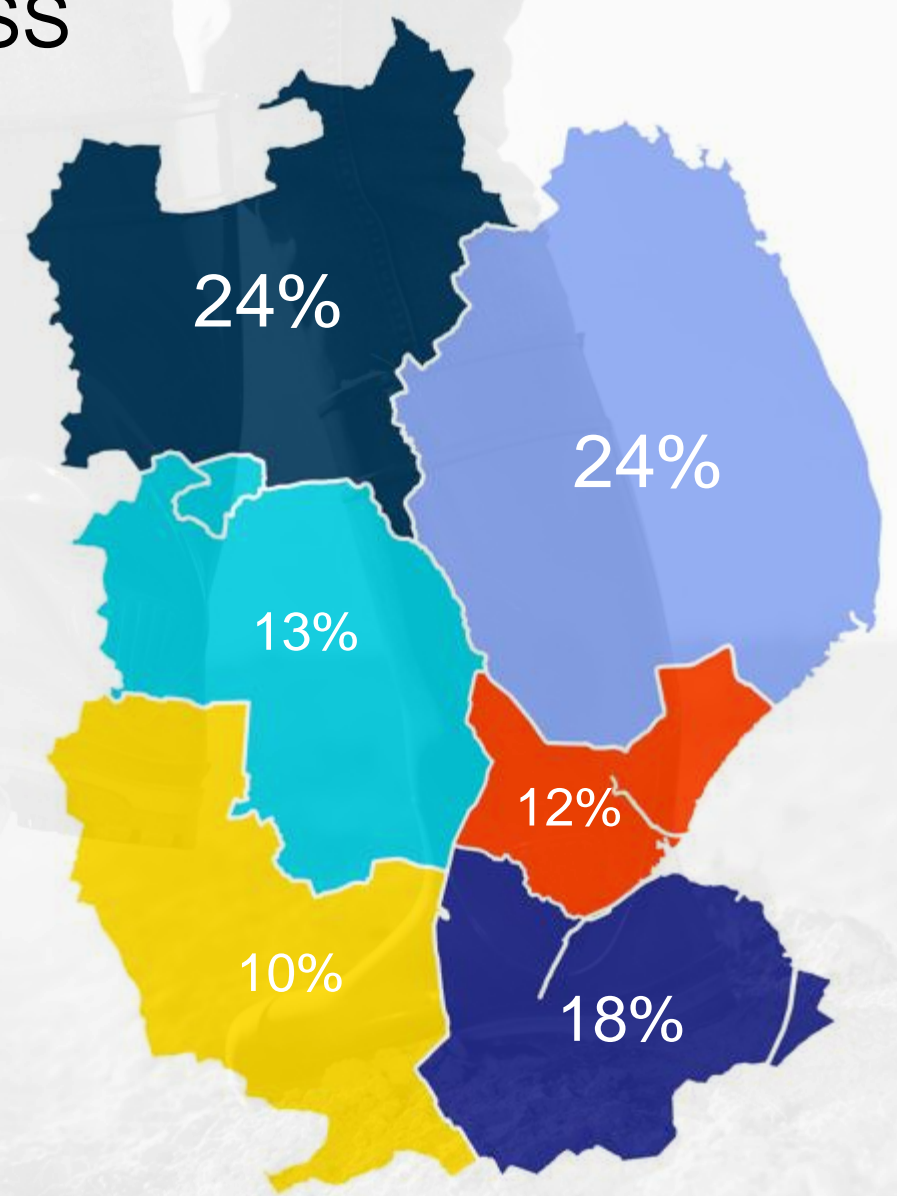
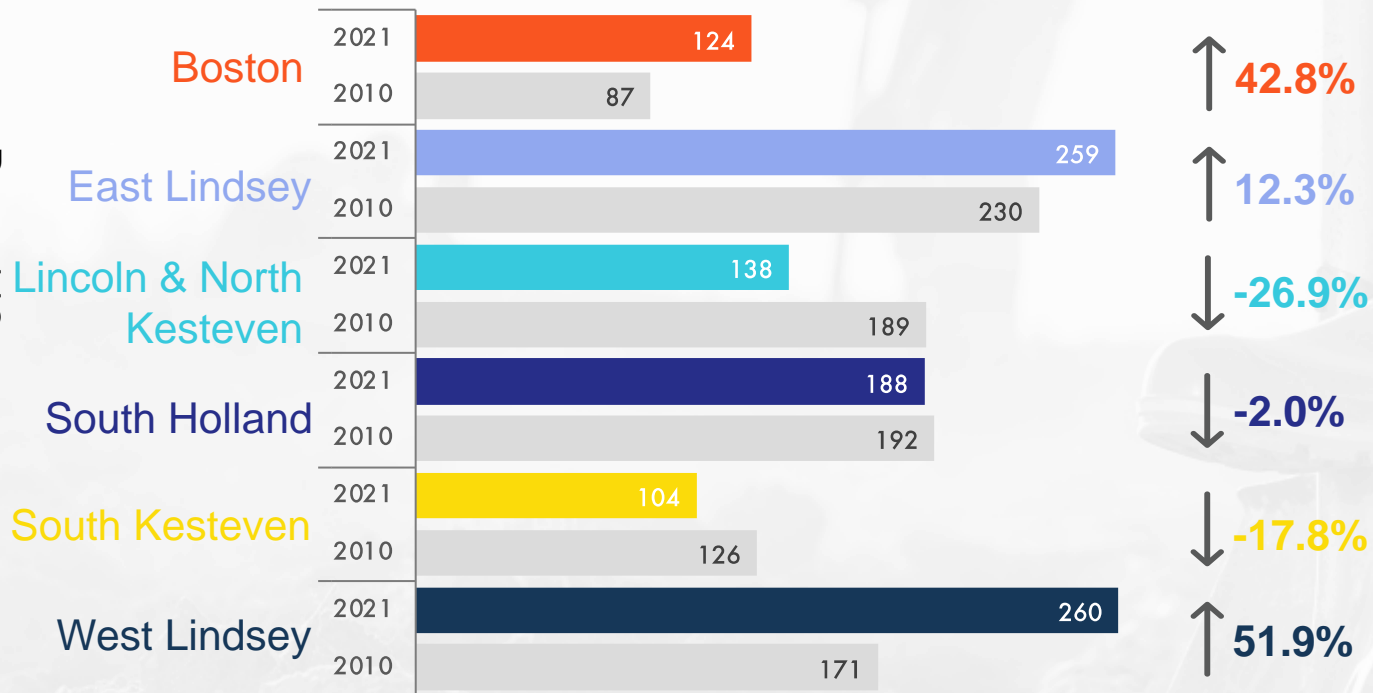
Total Part Time Regular Workers
2021

1,073

4.1% of England Total

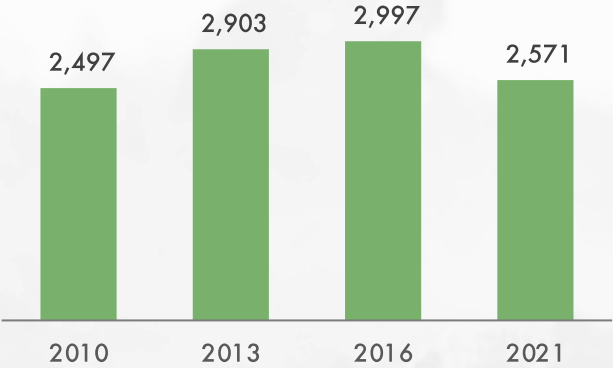
PART TIME REGULAR WORKERS ACROSS LINCOLNSHIRE

Part Time Regular Workers

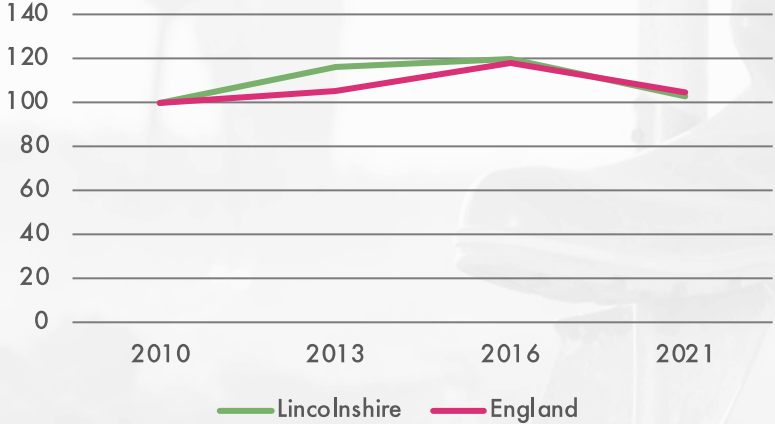


CASUAL WORKERS

Total Casual Workers in Lincolnshire



Change in Casual Workers, 2010=100



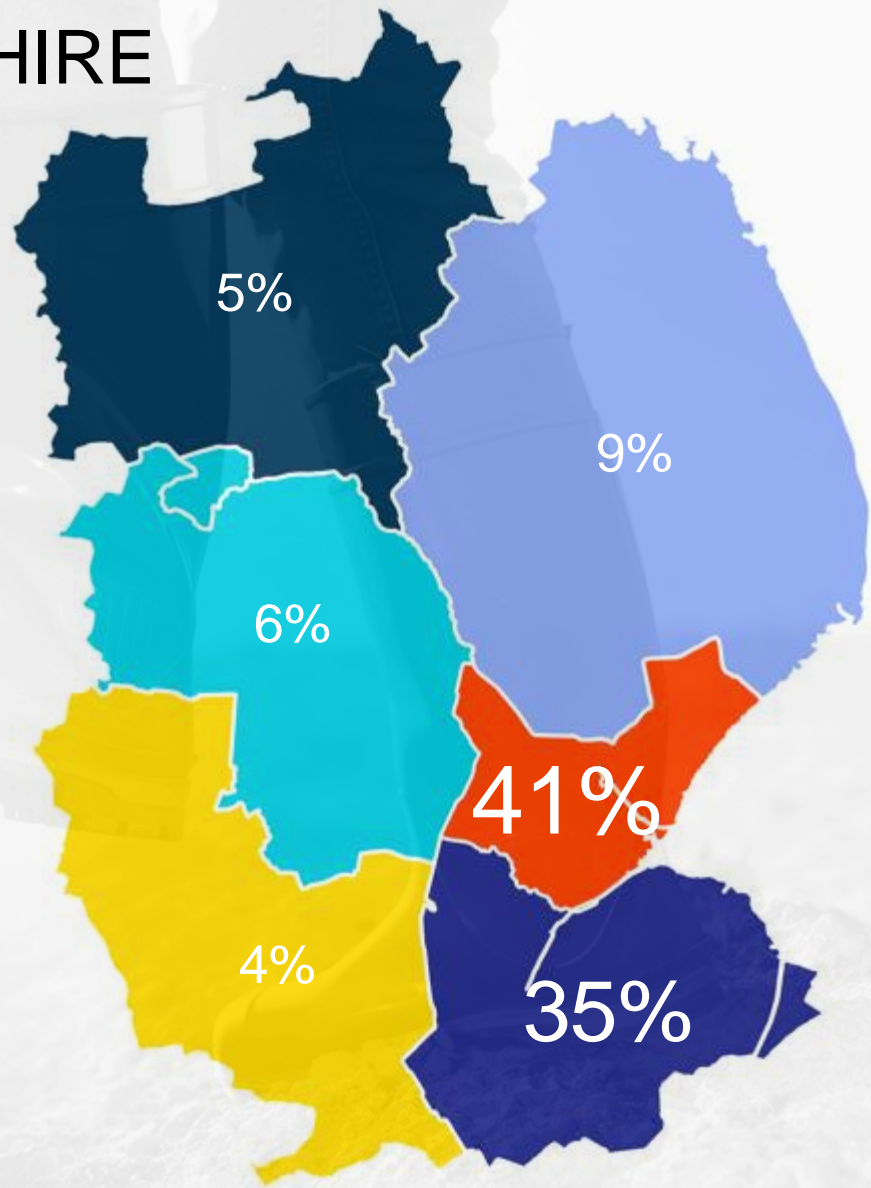
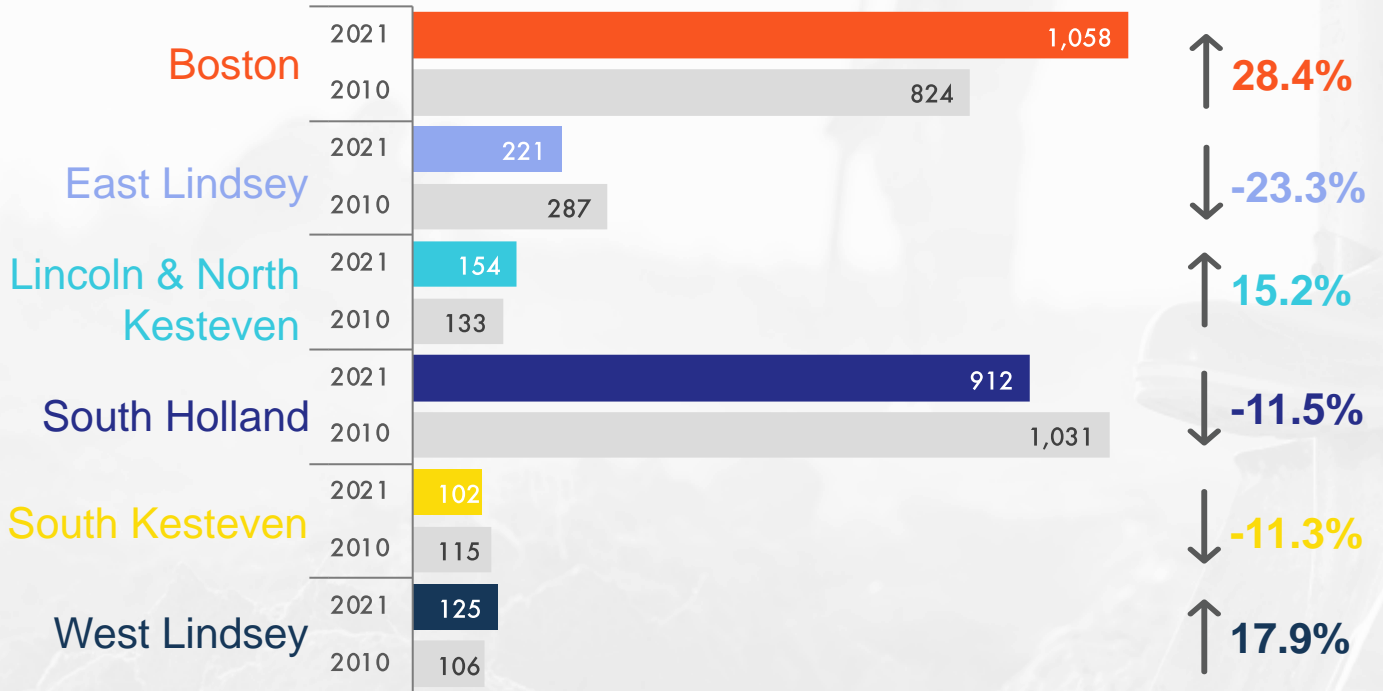
Total Casual Workers 2021

2,571

6.6% of England Total

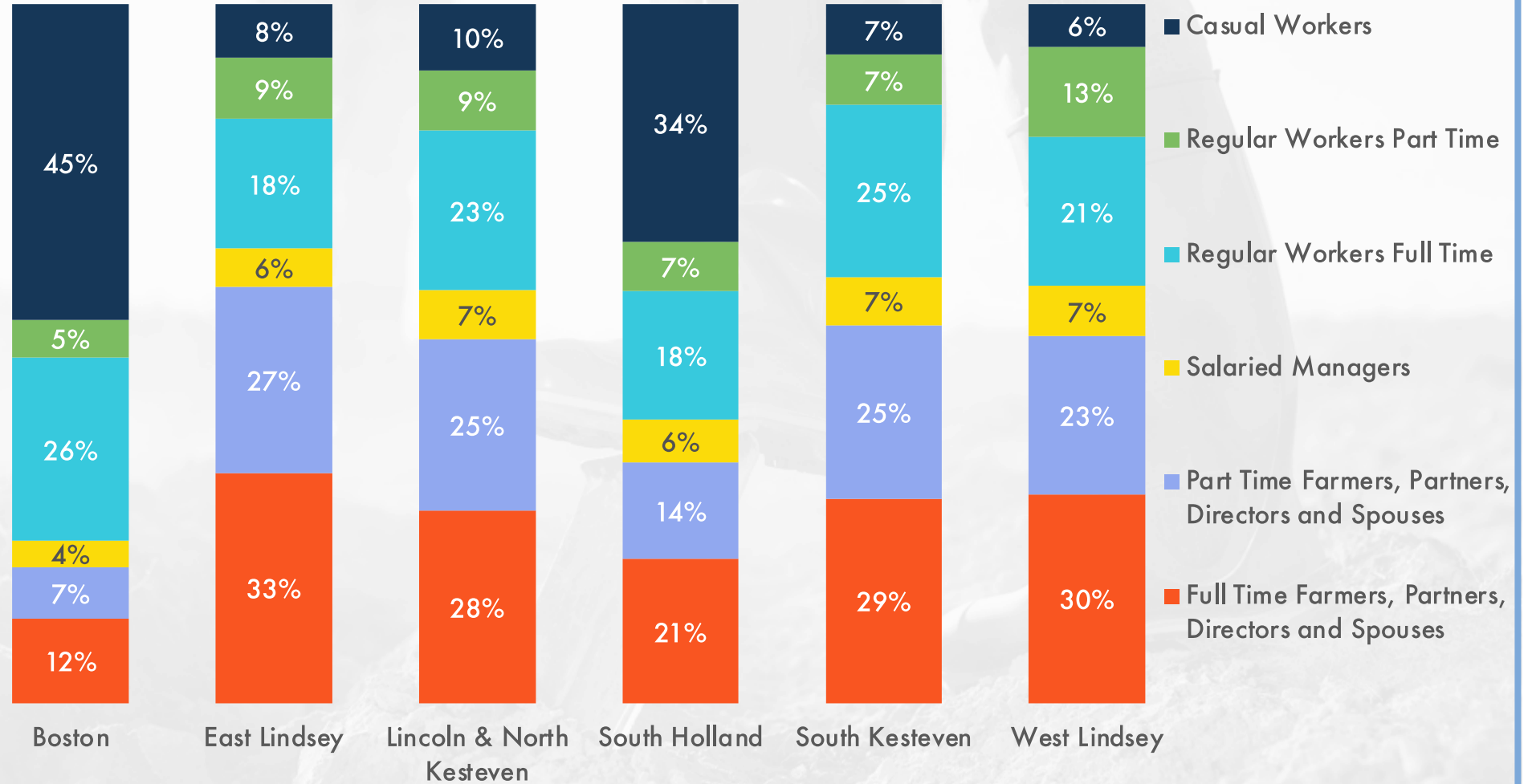
CASUAL WORKERS ACROSS LINCOLNSHIRE

Casual Workers



TOTAL FARM LABOUR BY TYPE ACROSS LINCOLNSHIRE, 2021

Farm Labour by Type Across Lincolnshire Local Authority Districts



The chart on the right shows that both Boston and South Holland have casual workers making up much larger proportions of their agricultural workforce than other local authority districts in Lincolnshire. These two districts also have the lowest proportions of full and part-time farmers.

EMPLOYMENT AGENCIES

Latest 2020 data from the Business Register and Employment Survey (Source: Office for National Statistics) shows that employment provided by both temporary employment and employment placement agencies is highest in Boston and South Holland.

Employment Agency Employees Across Lincolnshire



ONLINE JOB VACANCIES IN AGRICULTURE (Source: Burning Glass / Emsi)

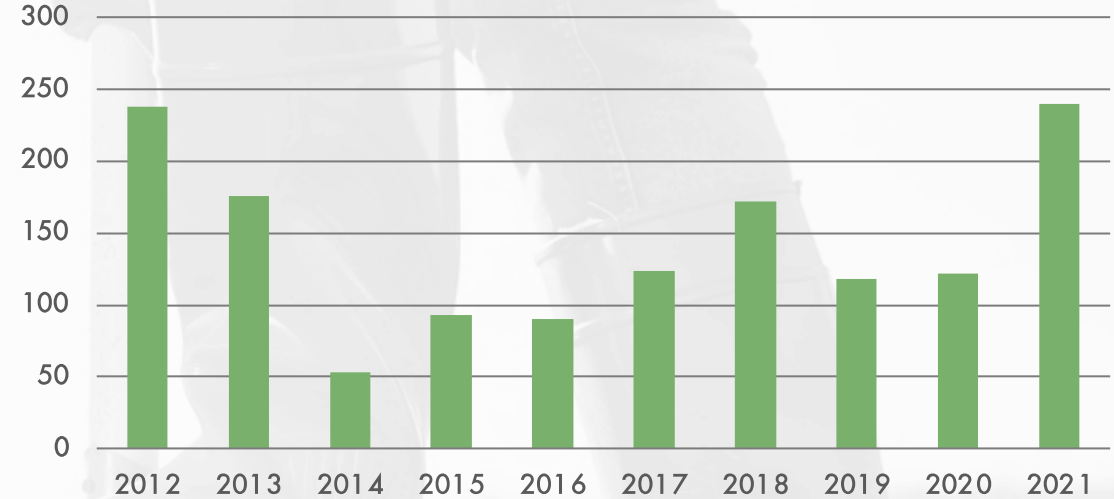
Analysis of online job vacancies in the agricultural sector (defined using the Standard Occupation Classes listed below) shows that vacancy listings per year in the sector have grown in Lincolnshire from around 2014, and are currently at levels reached back in 2012. Without data on those currently unemployed who are looking to find work in the sector then it is difficult to determine how tight the agricultural sector labour market is. However, given that we know that vacancies reached record levels across the economy last year, and that many sectors were reporting being unable to fill vacancies, then we can assume here that this sharp increase in vacancies in 2021 meant that agricultural employers were struggling to fill roles.

If we consider how Lincolnshire has fared compared to the national picture then referring to the chart, bottom right, it appears to show that labour market issues have been felt more keenly nationally than locally. However, this is based on a base year of 2012 when vacancy levels (for whatever reason) were particularly high in Lincolnshire. If this analysis were to be moved along and started from 2014 then we can see a similar trend locally to nationally albeit a bit more subdued in its upward trajectory.

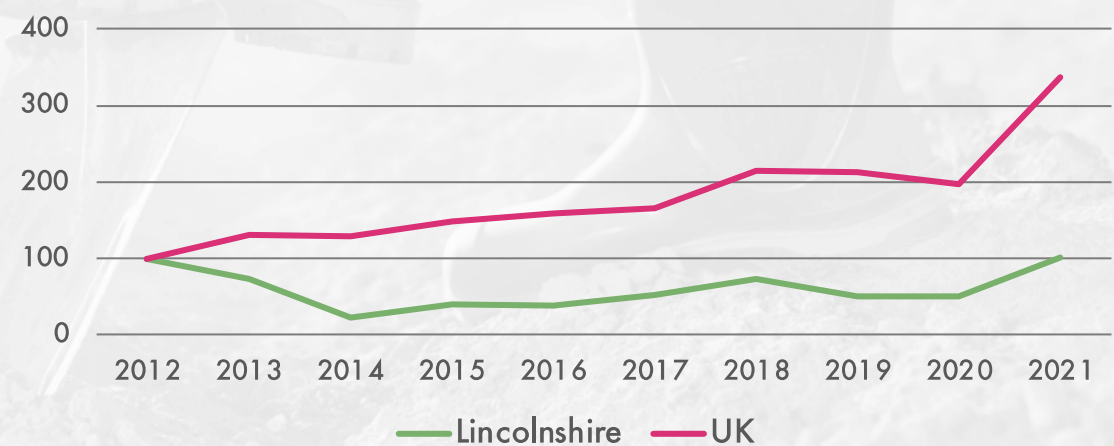
The Standard Occupational Classes (SOC) used in this analysis are as follows:

- Managers and Proprietors in Agriculture and Horticulture (1211)
- Managers and Proprietors in Forestry, Fishing and Related Services (1213)
- Farmers (5111)
- Horticultural Trades (5112)
- Agricultural and Fishing Trades n.e.c. (5119)
- Agricultural Machinery Drivers (8223)
- Farm Workers (9111)
- Fishing and Other Elementary Agriculture n.e.c (9119)

Unique Agricultural Vacancies in Lincolnshire



Index of Unique Agricultural Vacancies Over Time, 2012=100



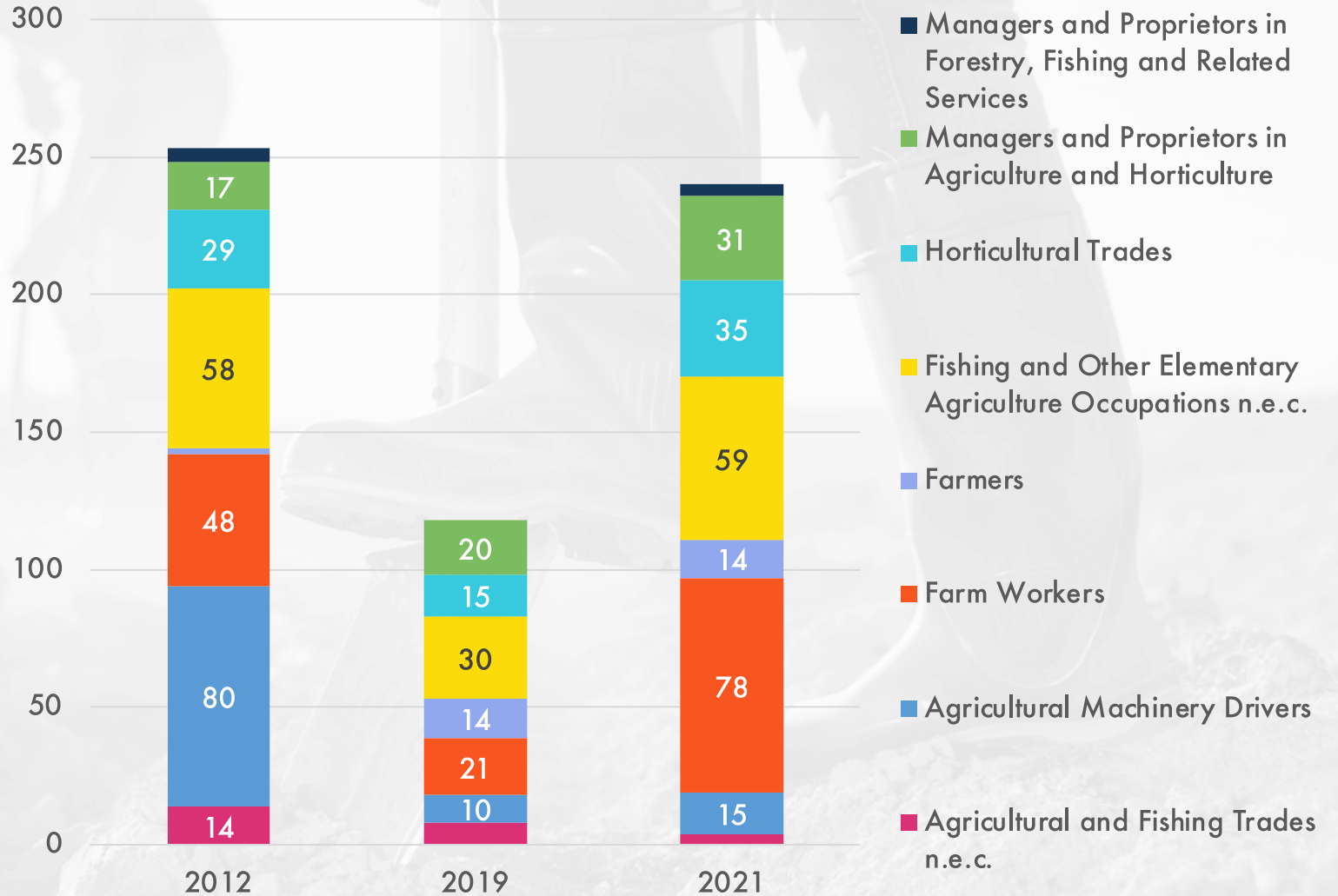
ONLINE JOB VACANCIES IN AGRICULTURE Cont. (Source: Burning Glass / Emsi)

The following analysis looks beneath the vacancy numbers and considers the different occupations that the vacancies were for. The chart on the right looks at this vacancy data by occupation for 2012, 2019 (in order to provide a latest pre-covid comparator), and 2021.

In 2012 we can see that the largest proportion of vacancies were for 'Agricultural Machinery Drivers', followed by the more physical occupations of 'Fishing and Other Elementary Agricultural Occupations n.e.c' and 'Farm Workers'. We know from earlier analysis that vacancy numbers drop after 2012 and have only get close to these total numbers in 2021. As such 2019 shows much lower numbers overall across all these occupations though vacancies in 'Fishing and Other Elementary Agriculture Occupations n.e.c' remain reasonably high. By 2021 we can see that vacancy levels in 'Agricultural Machinery Drivers' have remained low, whilst those in 'Fishing and Other Elementary Agriculture Occupations n.e.c' have returned to 2012 levels. The largest gain in vacancy numbers between 2012 and 2021 can be seen in 'Farm Worker' occupations. As a result, vacancies in 2021 appear to be dominated more by "casual worker" roles i.e., occupations at lower skill and pay levels, when compared with vacancies in 2012.

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No. of Unique Online Vacancies by Occupation

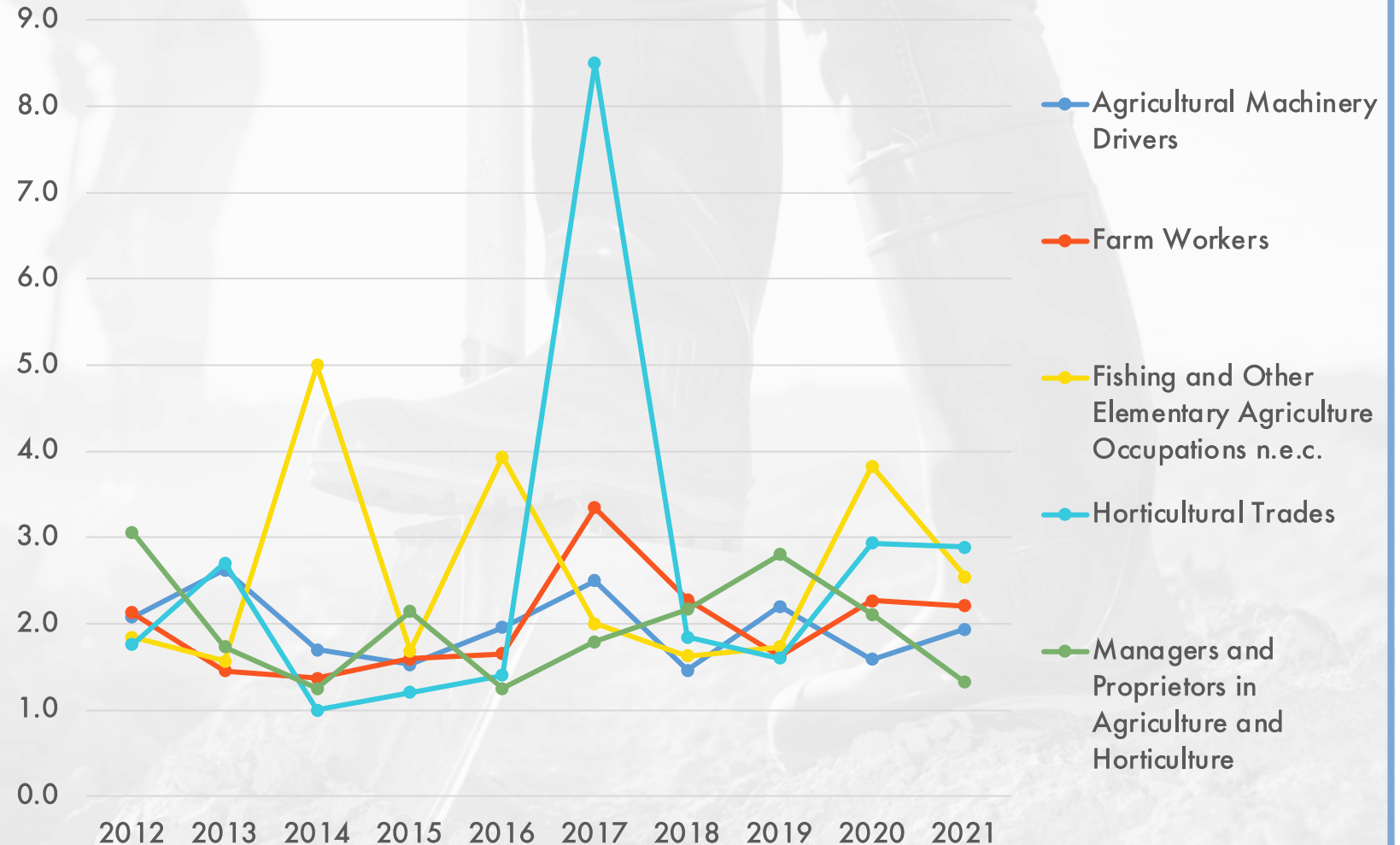


ONLINE JOB VACANCIES IN AGRICULTURE Cont. (Source: Burning Glass / Emsi)

Whereas previous analysis of vacancies in this report has focused on unique vacancies, the following analysis takes a look at total vacancy numbers. For example, an employer wants to recruit to a single role so this creates a unique vacancy. However, the employer may choose to post this vacancy across numerous job sites, and if unsuccessful in recruitment the first time or maybe due to a lack of candidates, the employer may choose to advertise again for the role. All of this recruitment activity would sum to produce a total vacancy number for a single position.

Comparing this number with the corresponding unique vacancy number creates a ratio of job posting intensity i.e., a high ratio indicates more effort has gone into the recruitment process. The chart on the right looks at the job posting intensity for the top five occupations (based on unique vacancy numbers) between 2012 and 2021. Concentrating on the two occupations highlighted previously then the job posting intensity for 'Farm Workers' in 2021 remains at a similar level to what it was back in 2012, around 2:1, though it did increase to over 3:1 in 2017. The job posting intensity for 'Fishing and Other Elementary Agriculture Occupations n.e.c' has fluctuated over time and in 2021 is above its 2012 level though it is not historically high.

Job Posting Intensity by Occupation

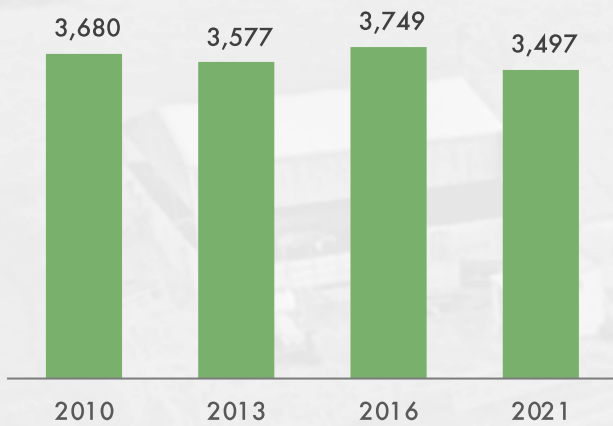


FARM HOLDINGS BY SIZE

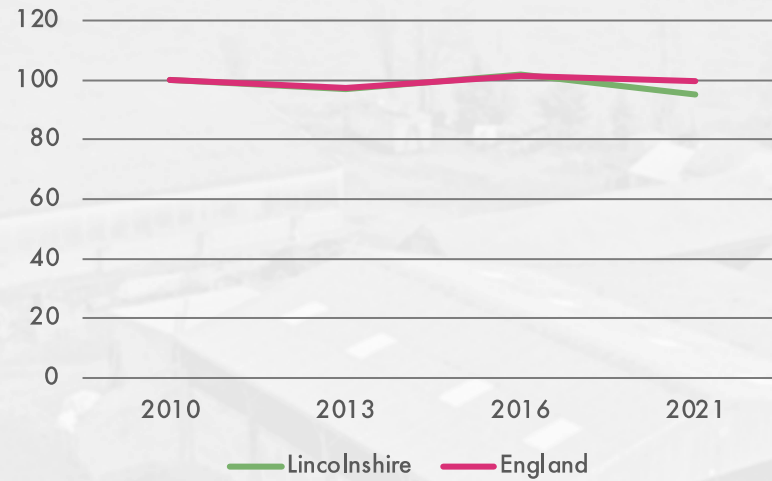


TOTAL HOLDINGS

Total Holdings in Lincolnshire



Change in Total Holdings, 2010=100

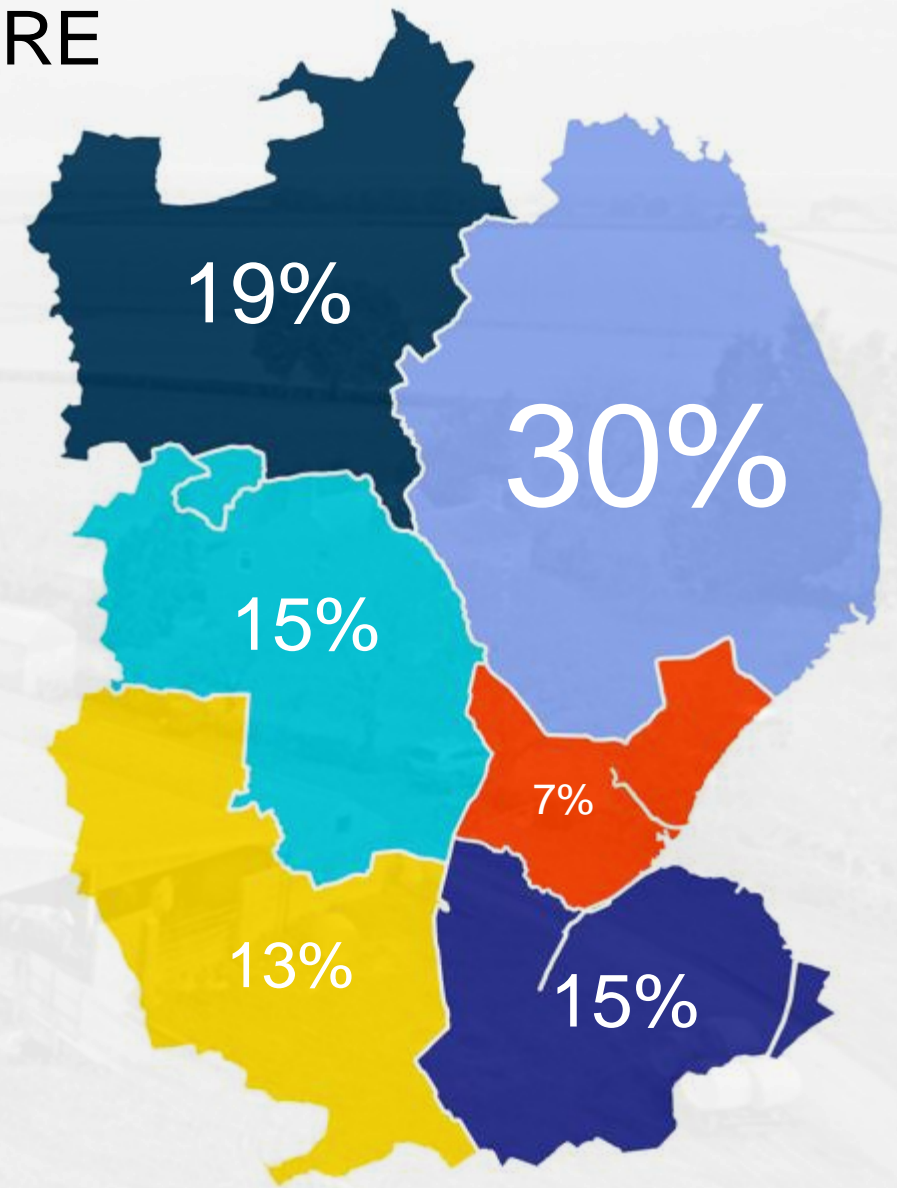
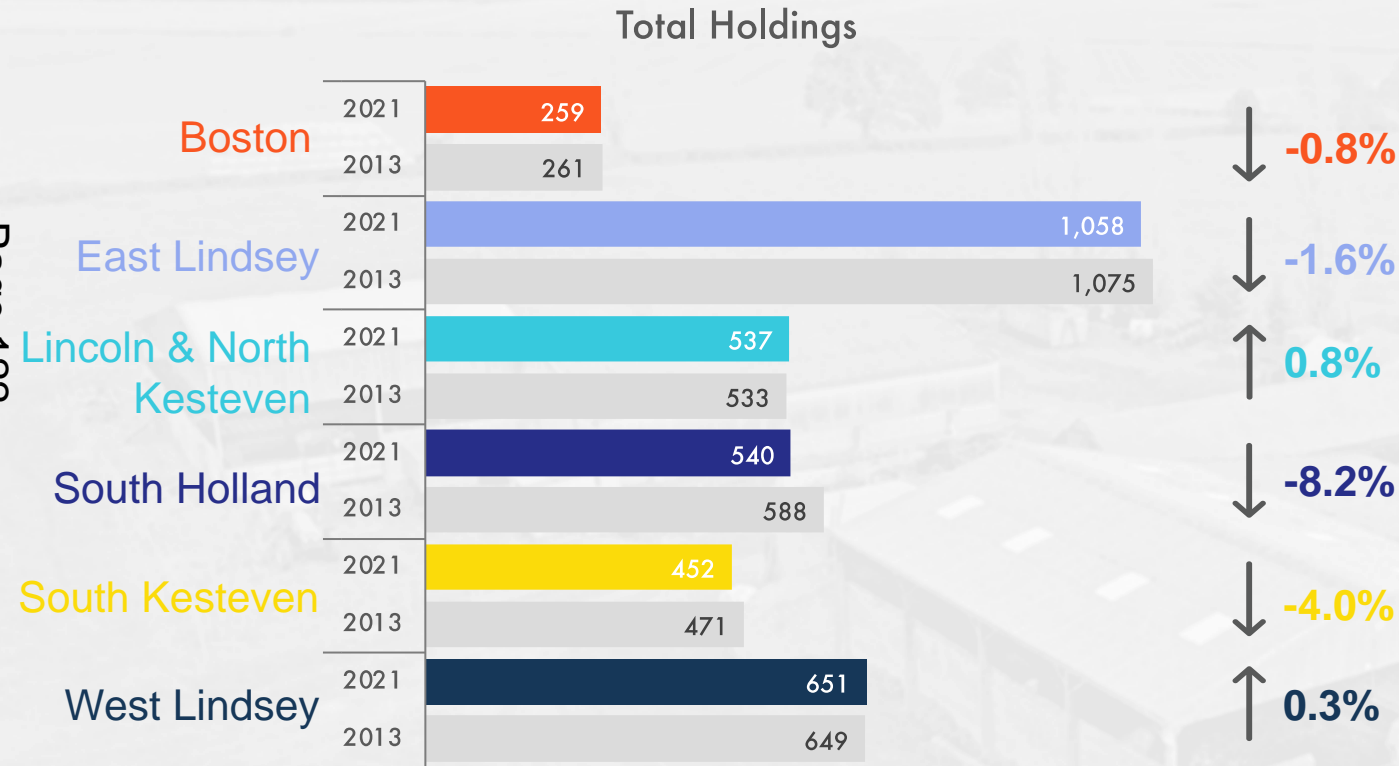


Total Holdings
2021

3,497

3.3% of England Total

TOTAL HOLDINGS ACROSS LINCOLNSHIRE

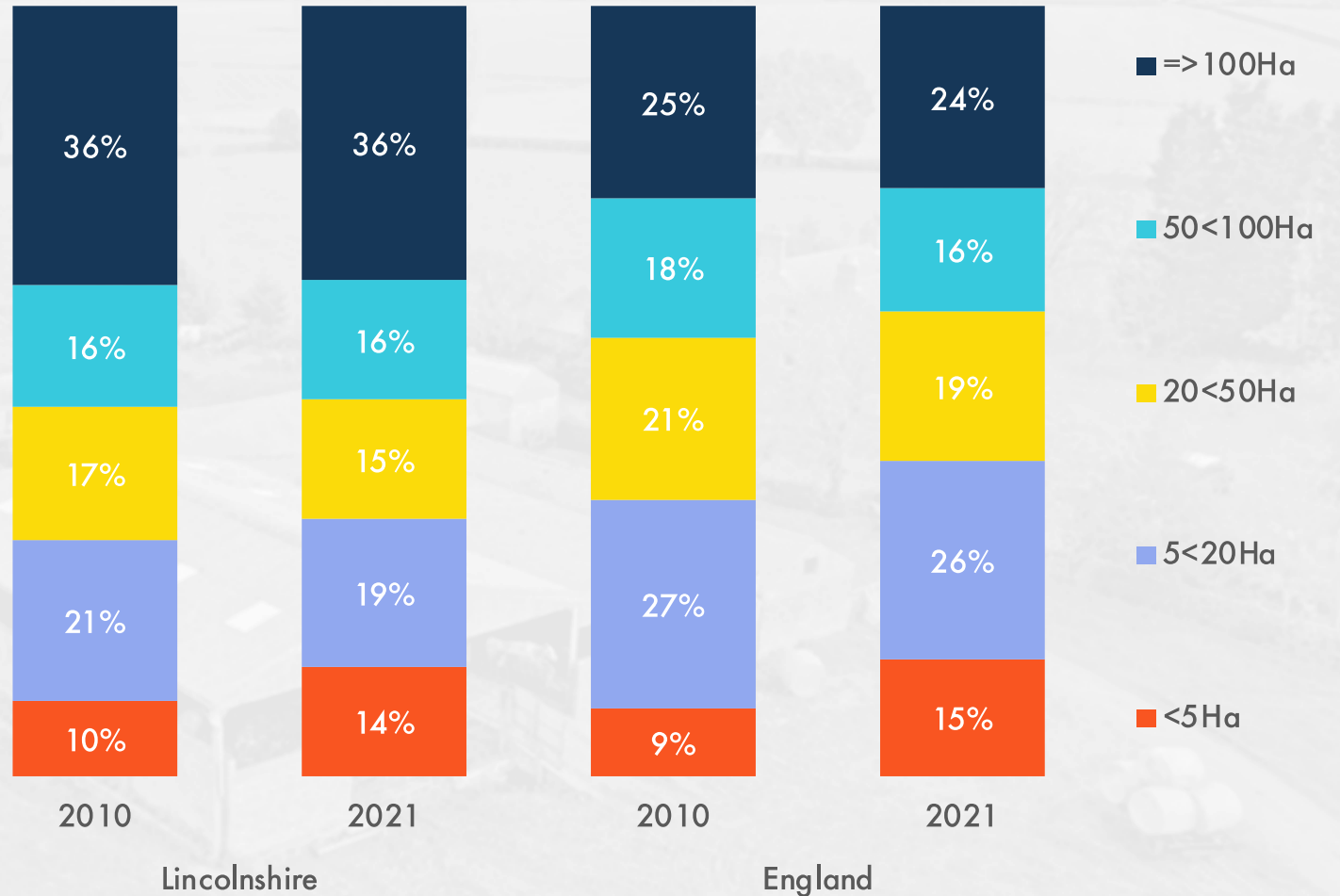


TOTAL HOLDINGS BY SIZE (Ha), 2021

Holdings by Size

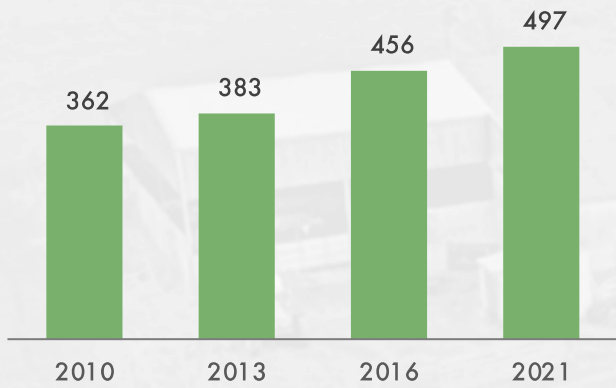
Larger farm holdings with over 100 hectares of land make up over a third of all holdings in Lincolnshire compared to a quarter nationally. There has also been very little change in farm holdings by size over time though there has been some growth in the smallest holdings (those with less than 5 hectares) both locally and nationally.

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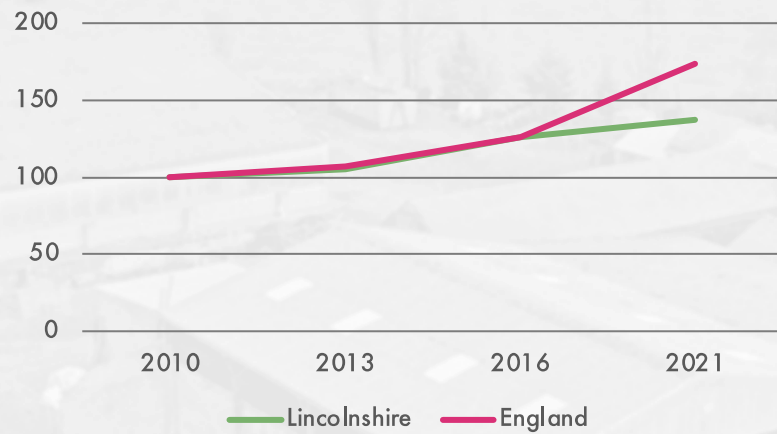


TOTAL HOLDINGS <5Ha

Holdings <5Ha in Lincolnshire

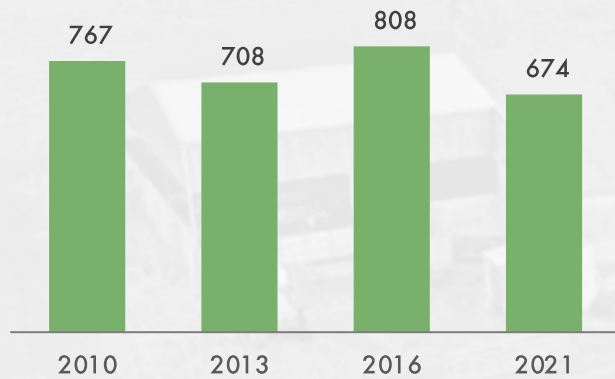


Change in Holdings <5Ha, 2010=100

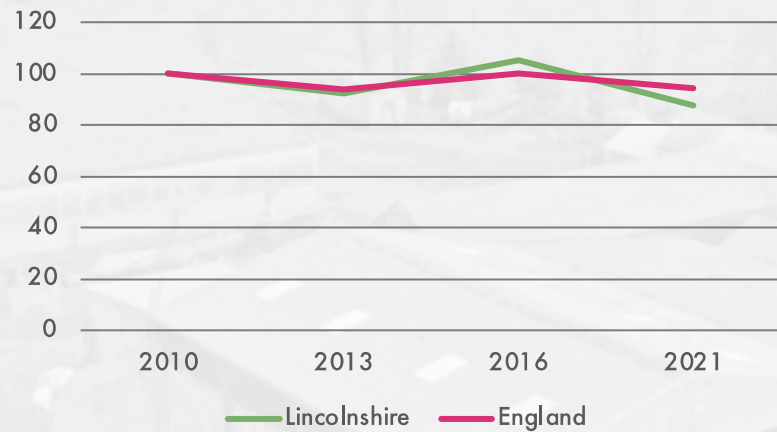


TOTAL HOLDINGS 5<20Ha

Holdings 5<20Ha in Lincolnshire



Change in Holdings 5<20Ha, 2010=100



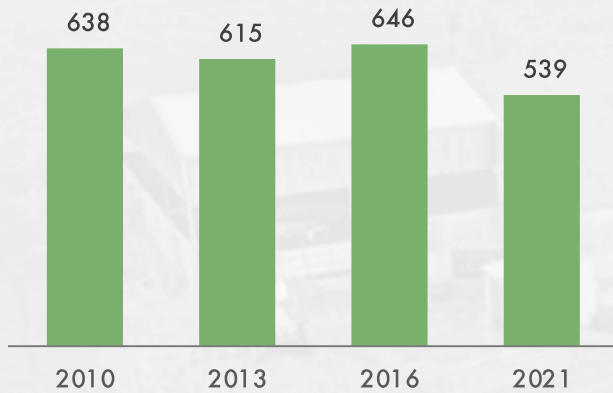
Total Holdings 5<20Ha, 2021

674

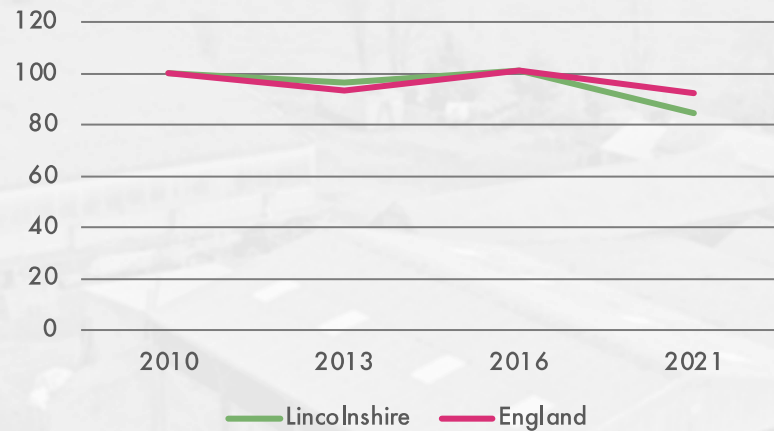
2.5% of England Total

TOTAL HOLDINGS 20<50Ha

Holdings 20<50Ha in Lincolnshire



Change in Holdings 20<50Ha, 2010=100



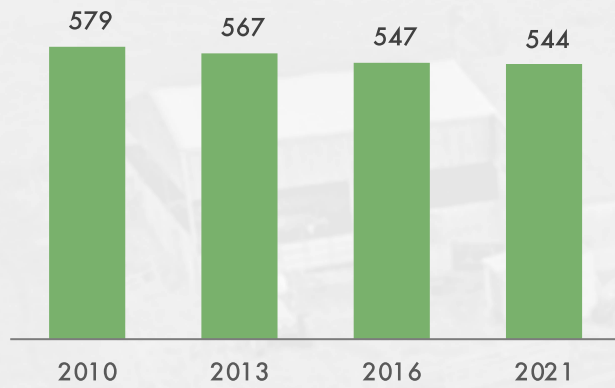
Total Holdings 20<50Ha, 2021

539

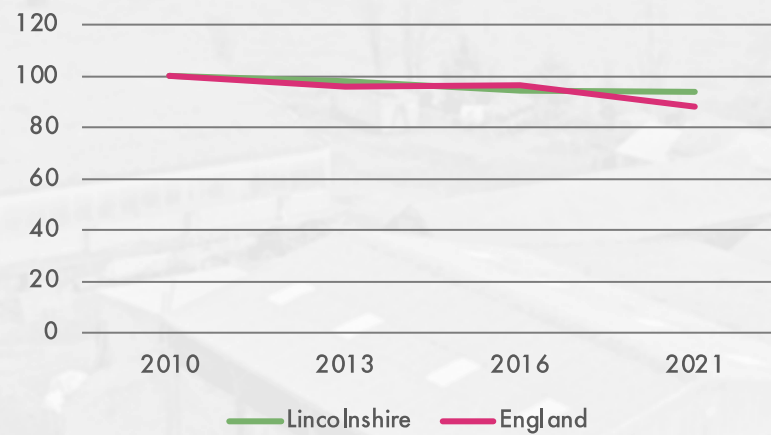
2.6% of England Total

TOTAL HOLDINGS 50<100Ha

Holdings 50<100Ha in Lincolnshire



Change in Holdings 50<100Ha, 2010=100



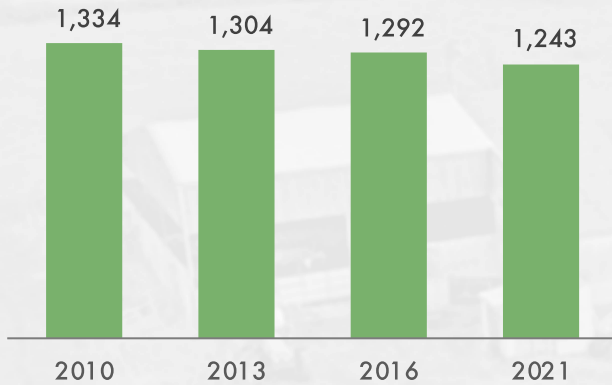
Total Holdings 50<100Ha, 2021

544

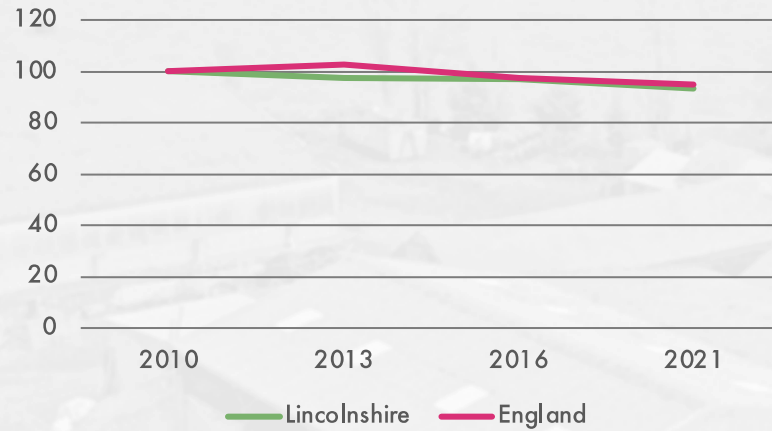
3.2% of England Total

TOTAL HOLDINGS =>100Ha

Holdings =>100Ha in Lincolnshire



Change in Holdings =>100Ha, 2010=100



Total Holdings
=>100Ha, 2021

1,243

5.0% of England Total

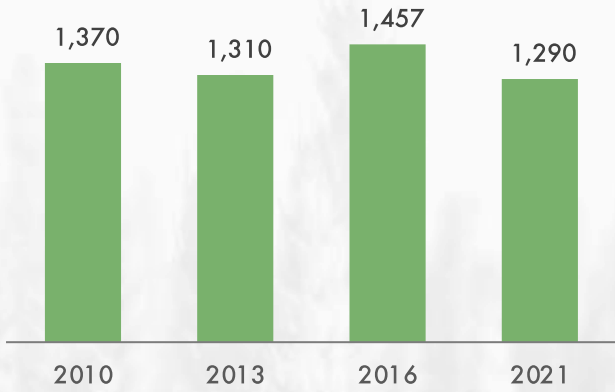
FARM HOLDINGS BY TYPE



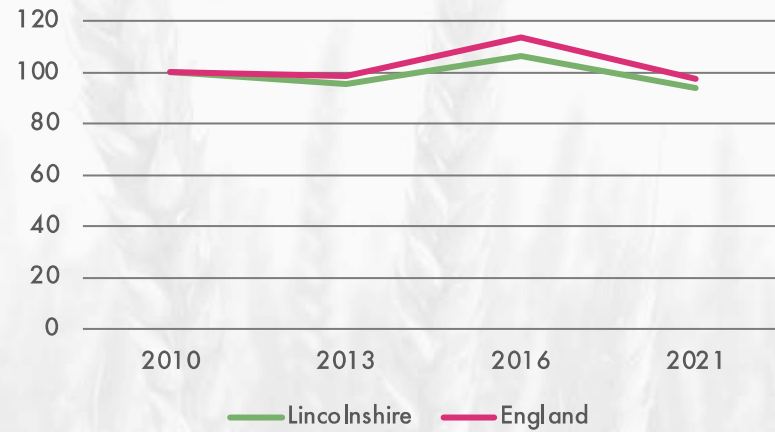
Note: Pre 2010 farm type was classified by the predominant farming activity taking place on the holdings, based on economic measure and profitability (Standard Gross Margin, SGM). The farm type is defined as the activity which contributes more than two thirds of the total SGM for the holding. For 2010 onwards the methodology for classifying farms has changed to one based on Standard Outputs. Up until 2012 standard outputs were based on a five year average centred around 2007. From 2013 onwards the five year average was changed to centre on 2010.

CEREAL HOLDINGS

Total Cereal Holdings in Lincolnshire



Change in Total Cereals Holdings, 2010=100



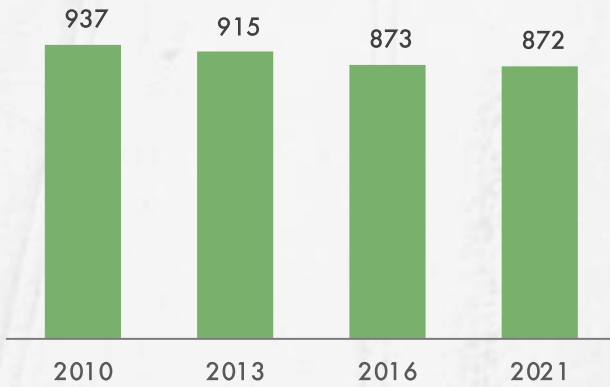
Cereal Holdings, 2021

1,290

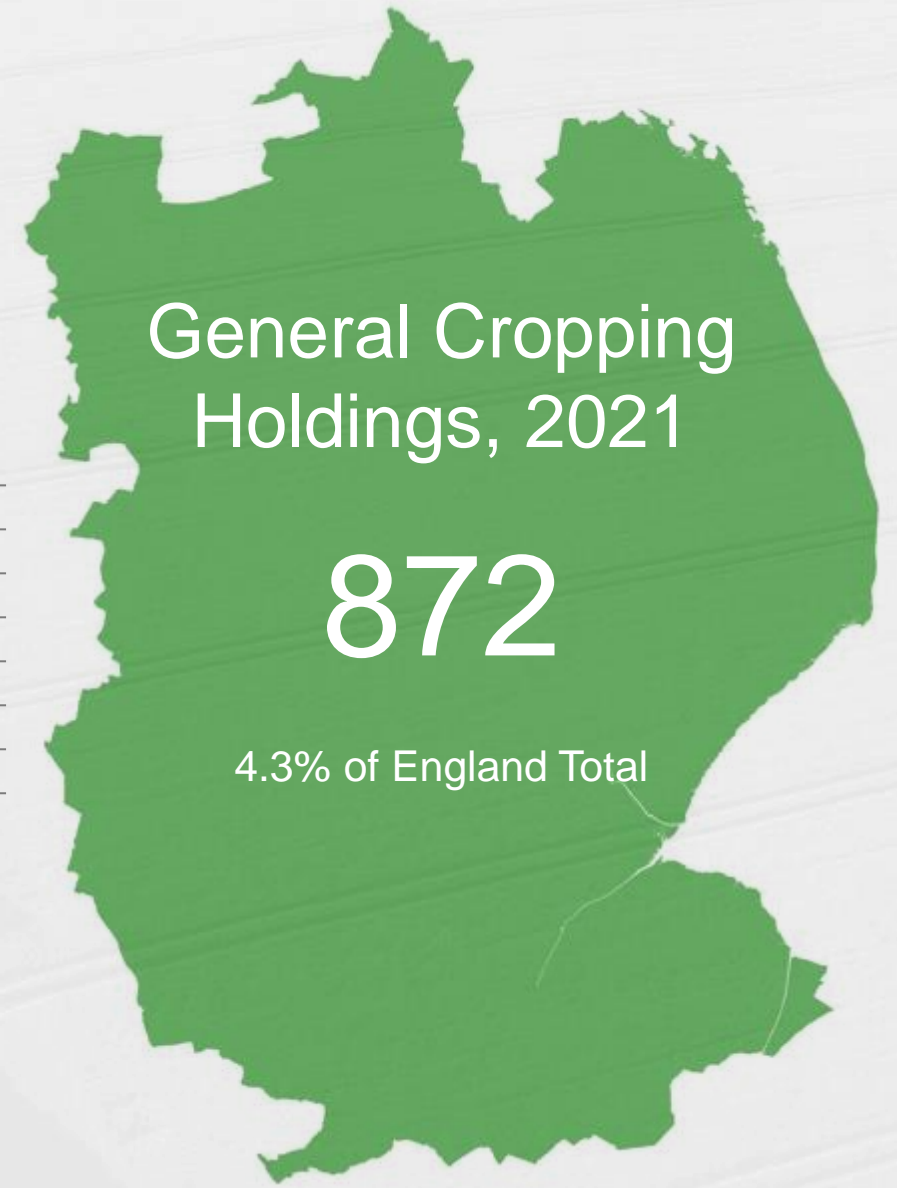
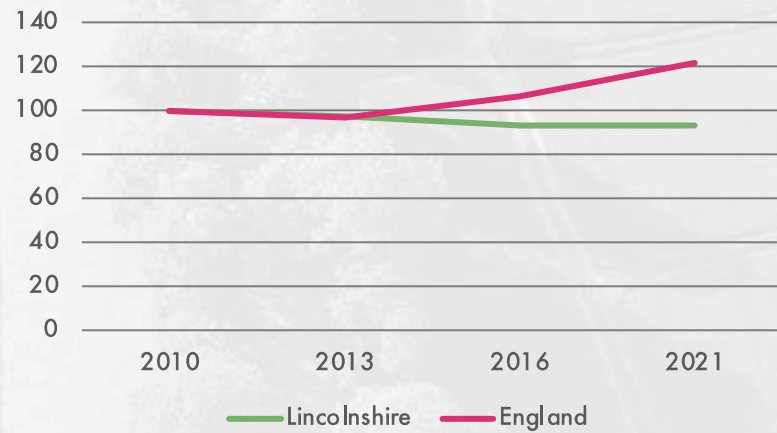
7.8% of England Total

GENERAL CROPPING HOLDINGS

Total General Cropping Holdings in Lincolnshire

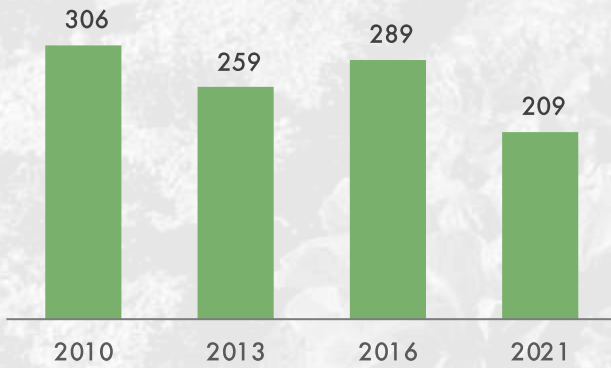


Change in General Cropping Holdings, 2010=100

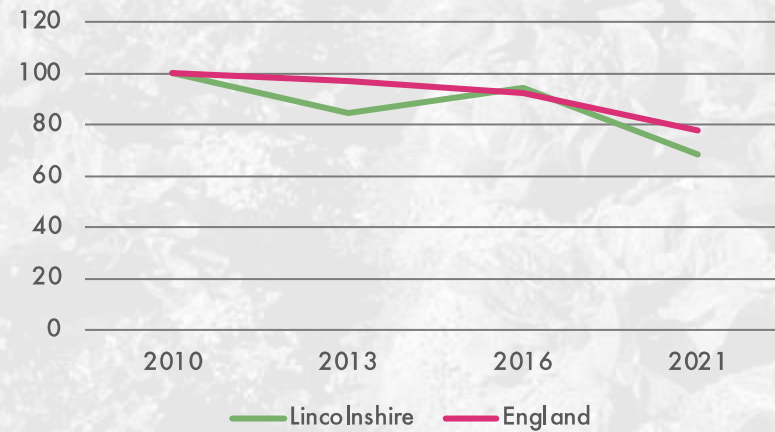


HORTICULTURAL HOLDINGS

Total Horticulture Holdings in Lincolnshire



Change in Horticulture Holdings, 2010=100



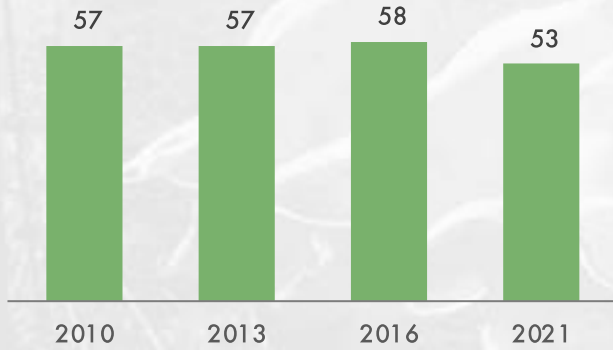
Horticultural Holdings, 2021

209

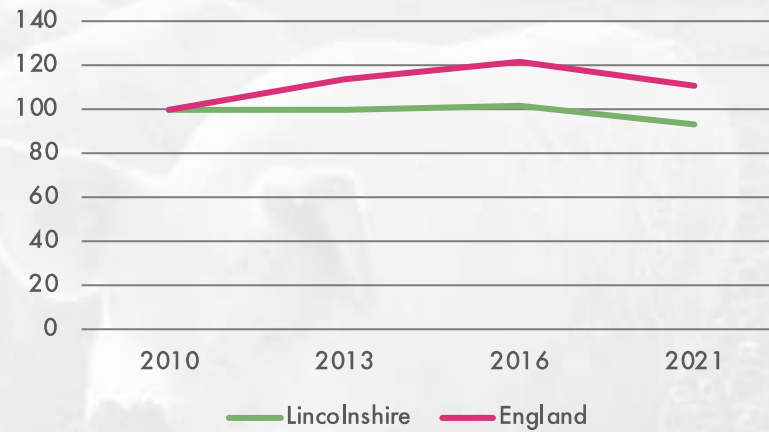
5.8% of England Total

SPECIALIST PIG HOLDINGS

Total Specialist Pig Holdings in Lincolnshire



Change in Specialist Pig Holdings, 2010=100



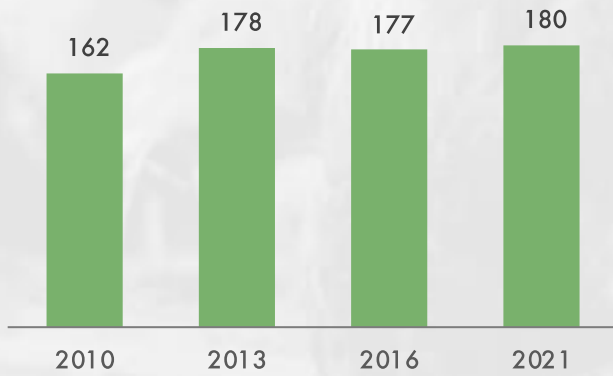
Specialist Pig Holdings, 2021

53

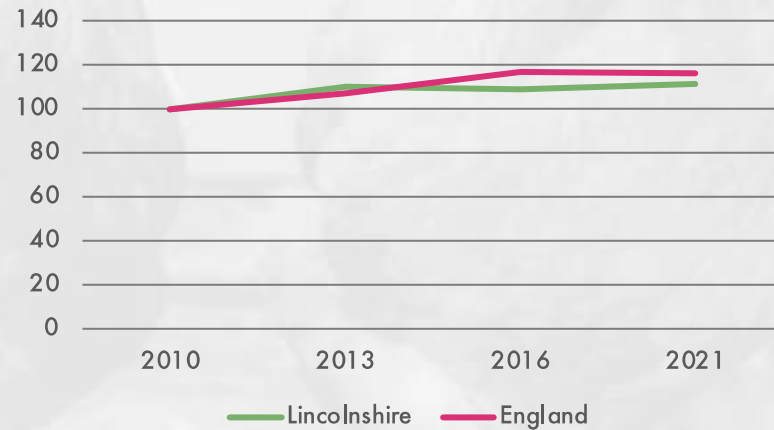
3.0% of England Total

SPECIALIST POULTRY HOLDINGS

Total Specialist Poultry Holdings in Lincolnshire



Change in Specialist Poultry Holdings, 2010=100



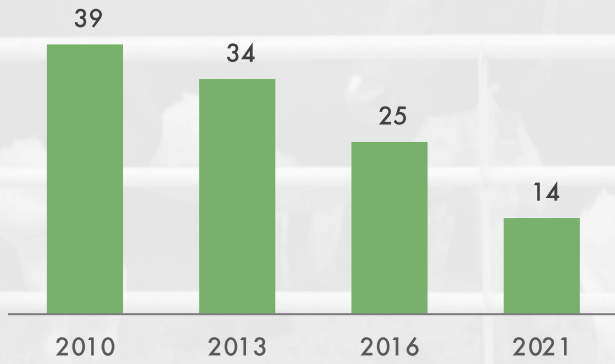
Specialist Poultry Holdings, 2021

180

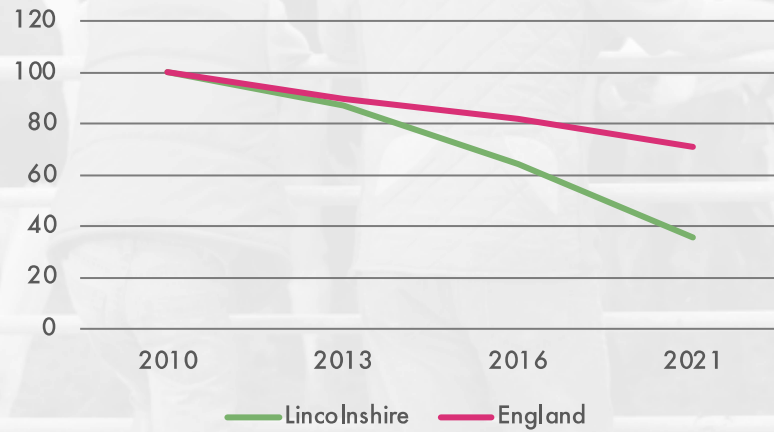
7.2% of England Total

DAIRY HOLDINGS

Total Dairy Holdings in Lincolnshire



Change in Dairy Holdings, 2010=100



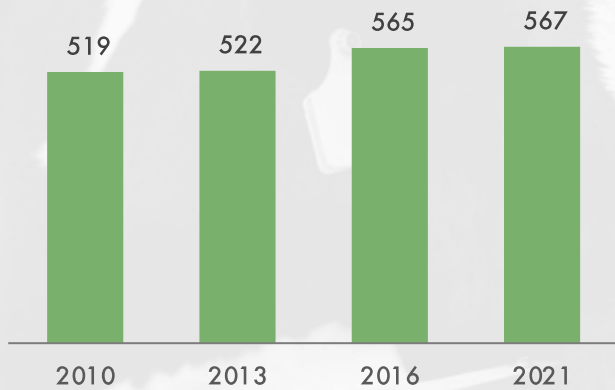
Dairy Holdings, 2021

14

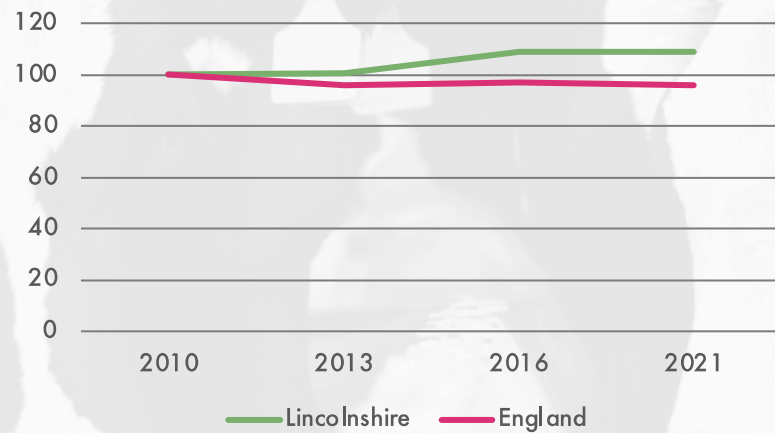
0.3% of England Total

GRAZING LIVESTOCK HOLDINGS

Total Grazing Livestock Holdings in Lincolnshire



Change in Grazing Livestock Holdings, 2010=100



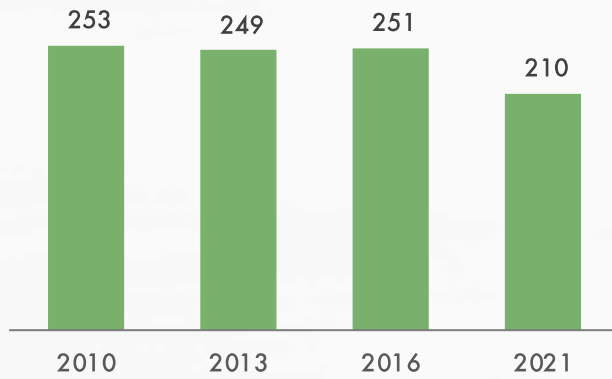
Grazing Livestock Holdings, 2021

567

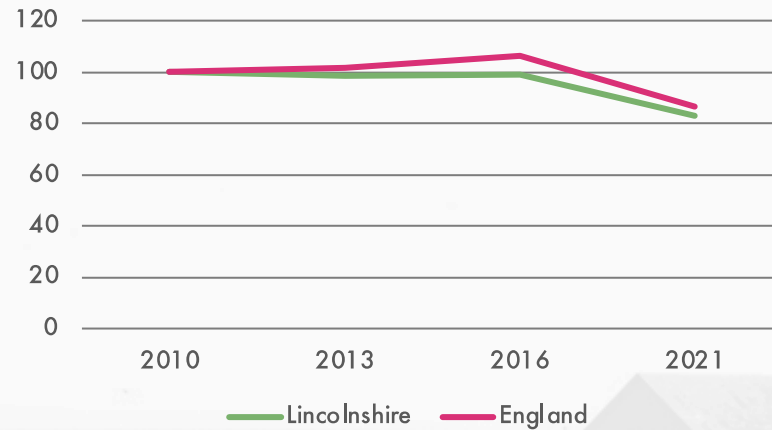
1.8% of England Total

MIXED HOLDINGS

Total Mixed Holdings in Lincolnshire



Change in Mixed Holdings, 2010=100



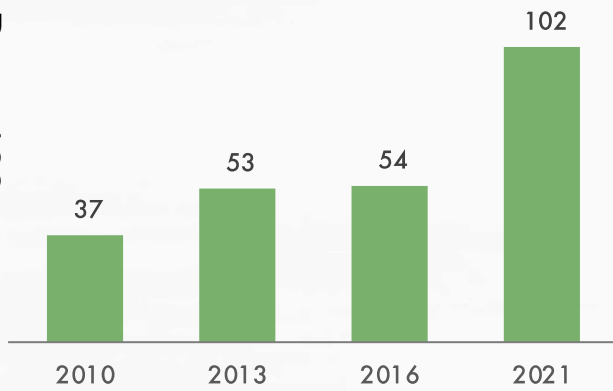
Mixed Holdings, 2021

210

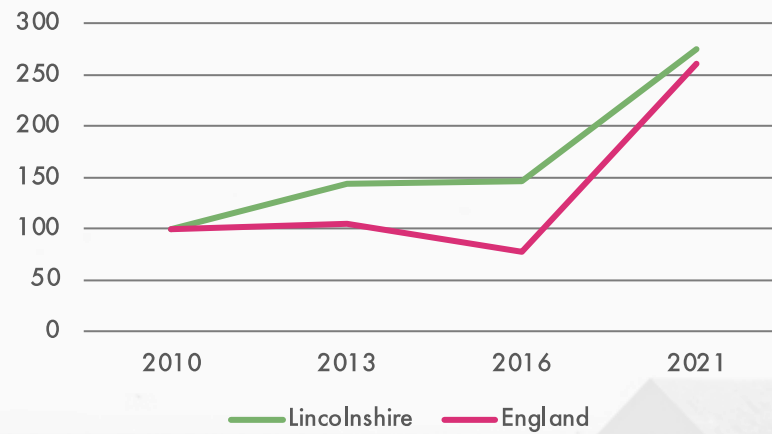
2.9% of England Total

UNCLASSIFIED HOLDINGS

Total Unclassified Holdings in Lincolnshire



Change in Unclassified Holdings, 2010=100



Unclassified Holdings, 2021

102

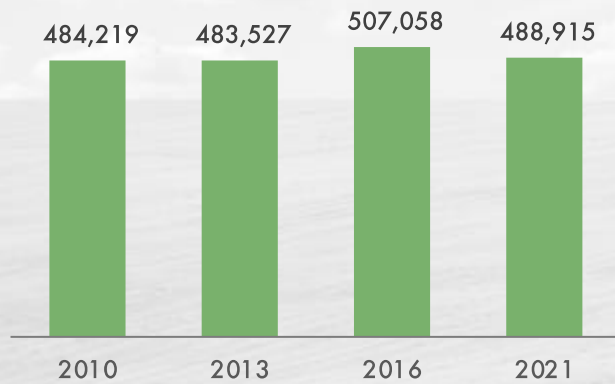
2.8% of England Total

FARMED AREA BY FARM SIZE

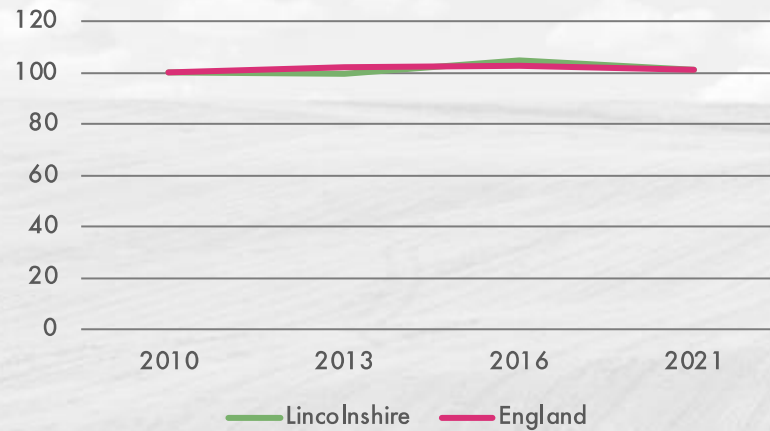


TOTAL FARMED AREA

Total Farmed Area (Ha) in Lincolnshire



Change in Total Farmed Area, 2010=100

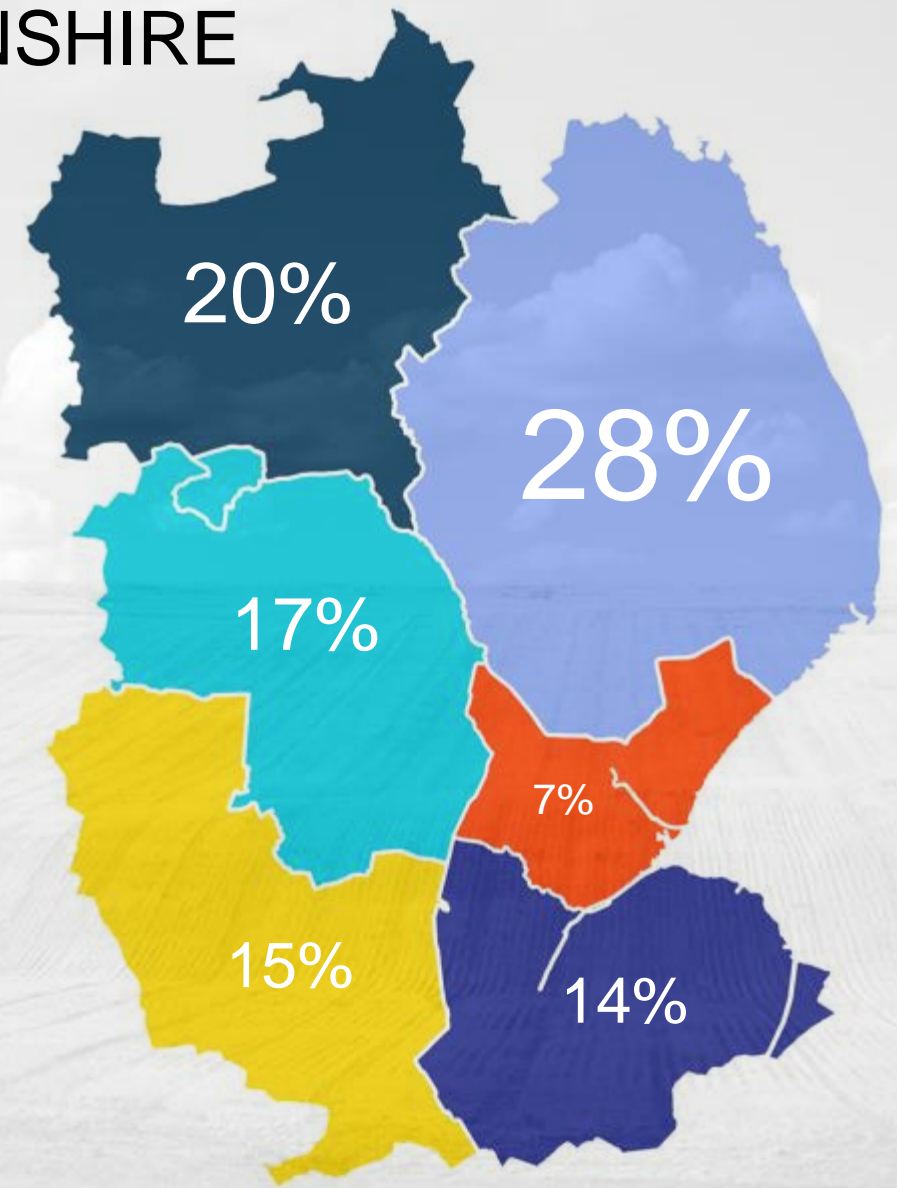
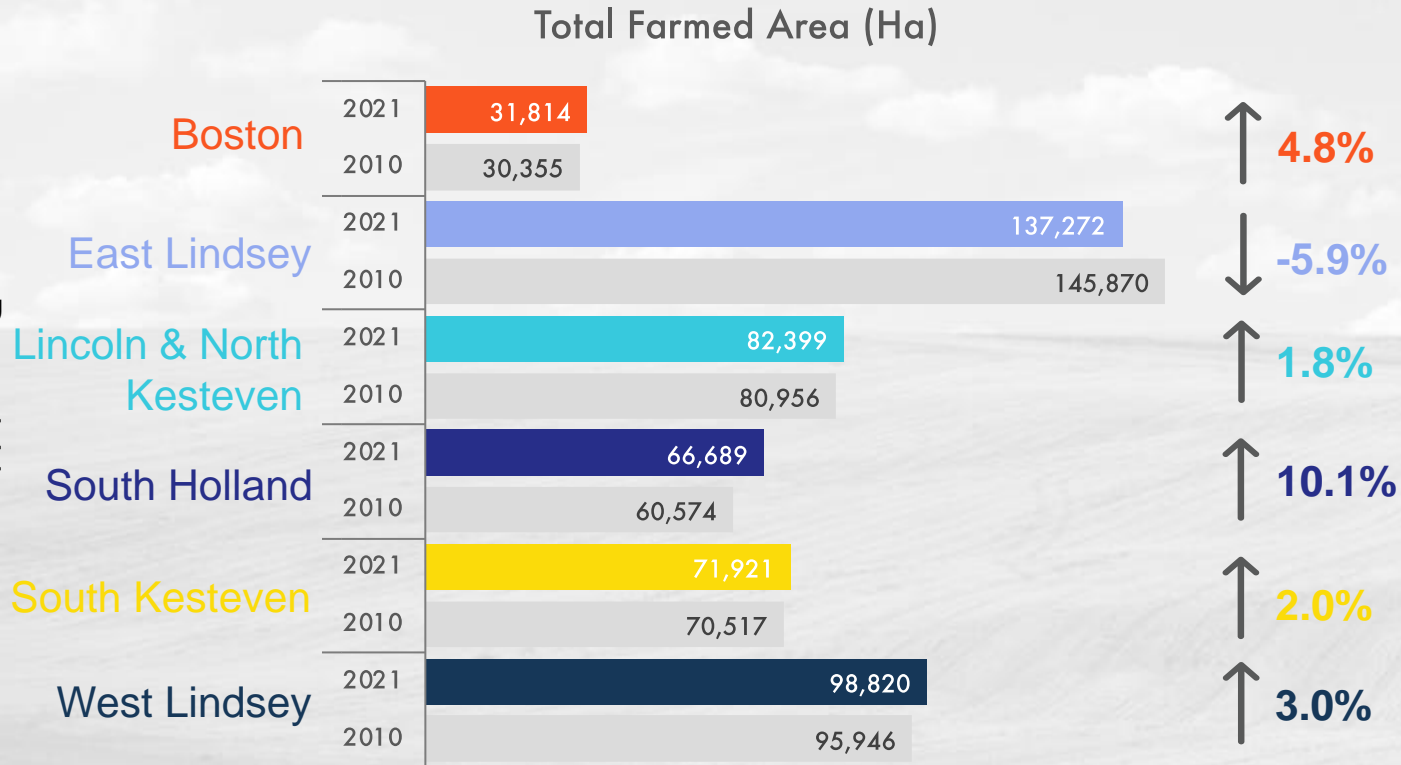


Total Farmed Area (Ha), 2021

488,915

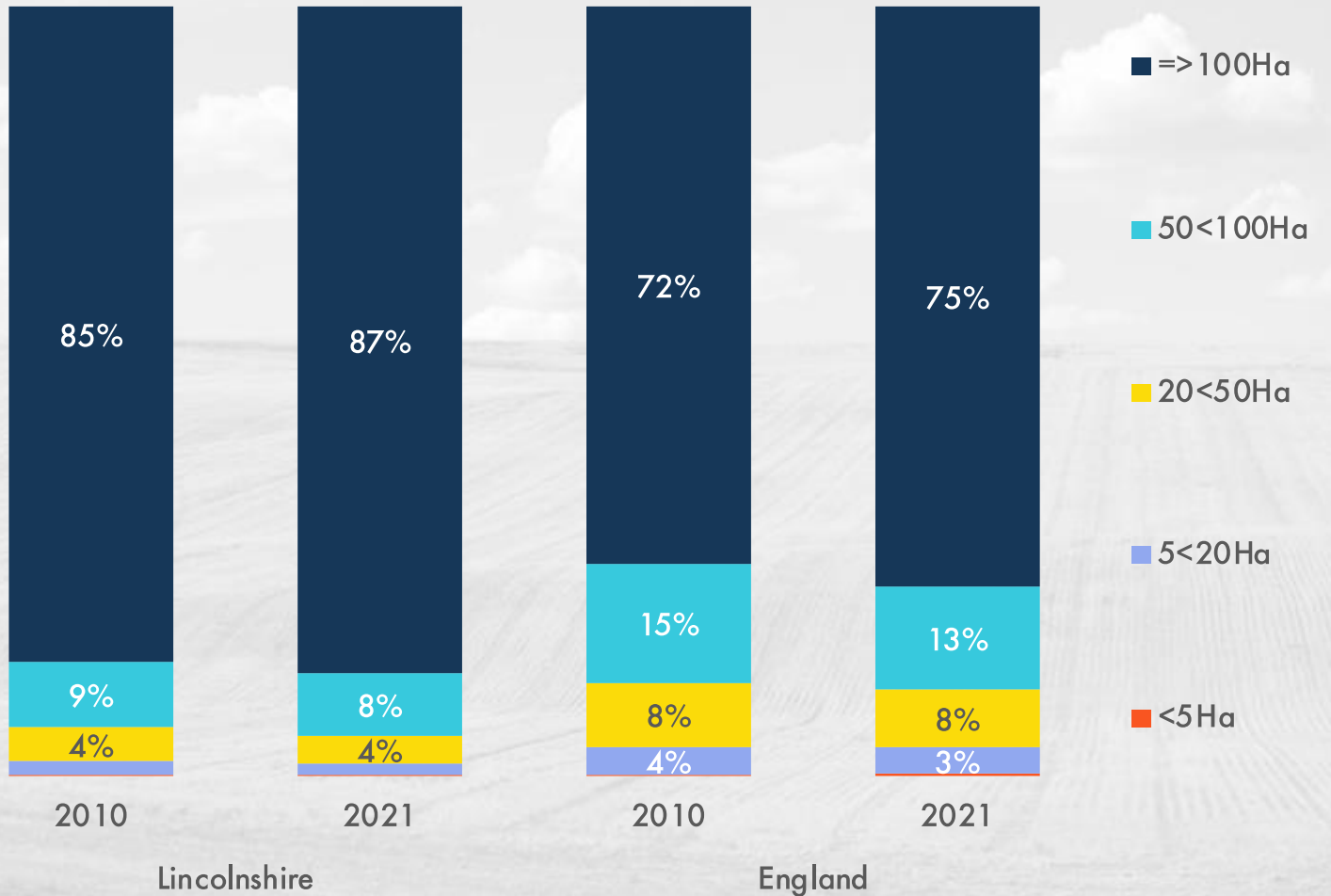
5.4% of England Total

TOTAL FARMED AREA ACROSS LINCOLNSHIRE



FARMED AREA BY FARM SIZE (Ha), 2021

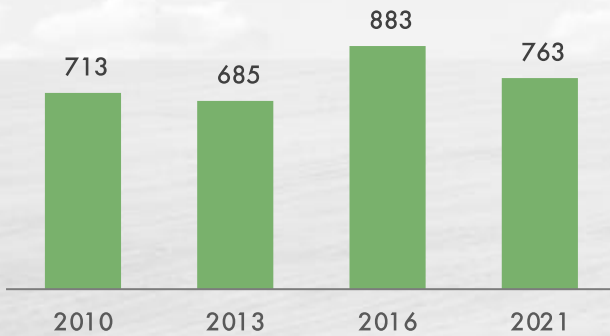
Farmed Area by Size



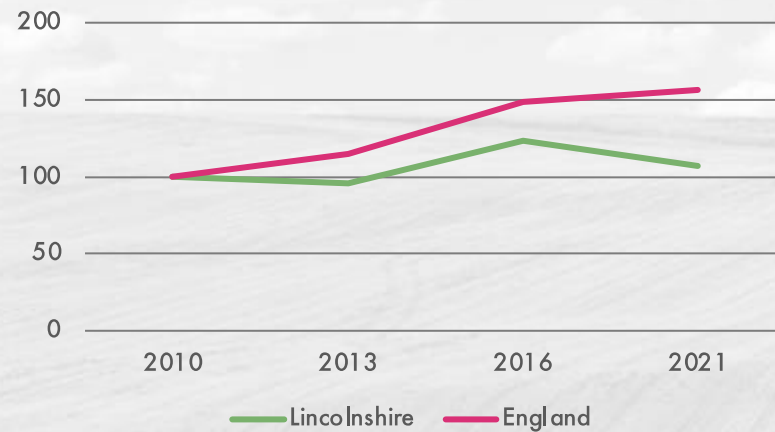
In Lincolnshire, the largest farms (those with over 100 hectares) are responsible for farming the largest proportion (87%) of the total farmed area. This already large proportion has increased slightly over the last decade. This compares with 75% nationally, further demonstrating the importance of these largest holdings locally when it comes to the sector.

FARMED AREA BY HOLDINGS <5Ha

Farmed Area (Ha) by Holdings <5Ha in Lincolnshire



Change in Farmed Area (Ha) by Holdings <5Ha, 2010=100



Farmed Area (Ha) by Holdings <5Ha, 2021

763

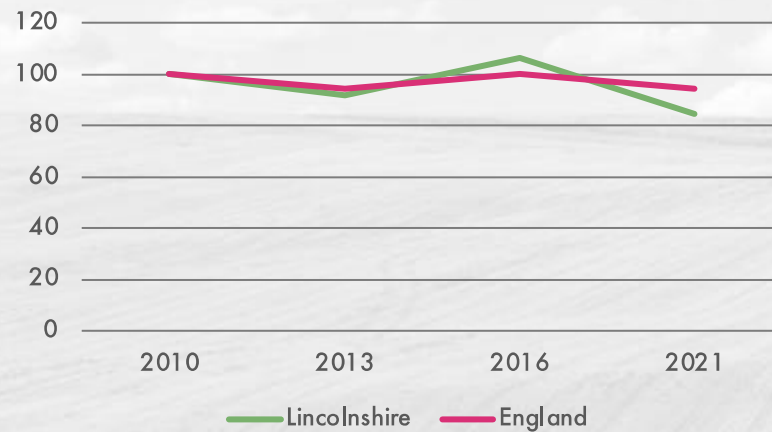
2.8% of England Total

FARMED AREA BY HOLDINGS 5<20Ha

Farmed Area (Ha) by Holdings 5<20Ha in Lincolnshire



Change in Farmed Area by Holdings 5<20Ha, 2010=100



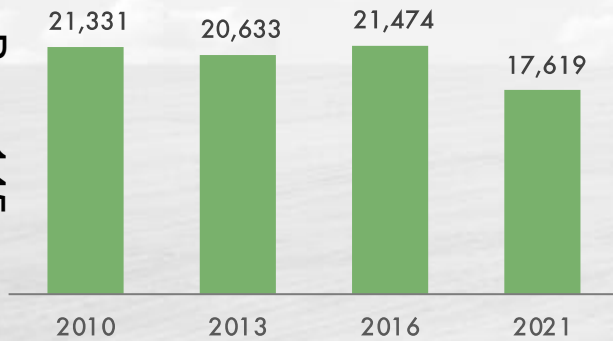
Farmed Area (Ha) by Holdings 5<20Ha, 2021

7,058

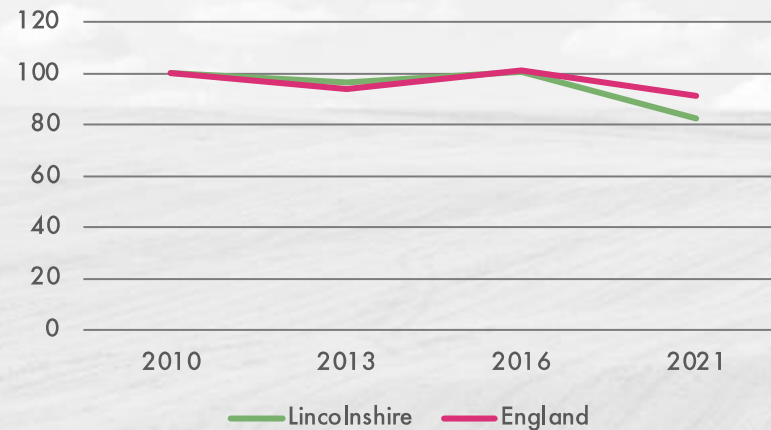
2.4% of England Total

FARMED AREA BY HOLDINGS 20<50Ha

Farmed Area (Ha) by Holdings 20<50Ha in Lincolnshire



Change in Farmed Area (Ha) by Holdings 20<50Ha, 2010=100



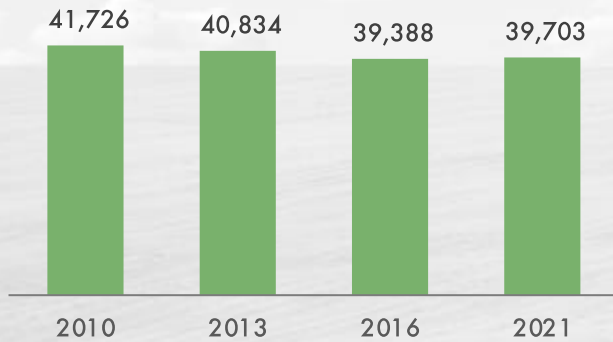
Farmed Area (Ha) by Holdings 20<50Ha, 2021

17,619

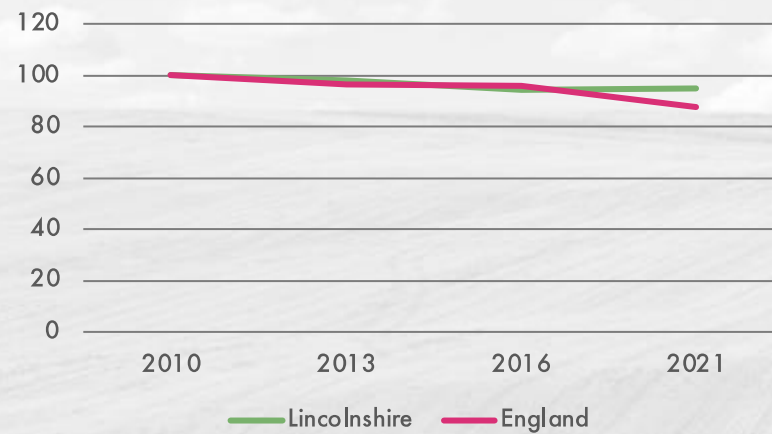
2.6% of England Total

FARMED AREA BY HOLDINGS 50<100Ha

Farmed Area (Ha) by Holdings 50<100Ha in Lincolnshire



Change in Farmed Area by Holdings 50<100Ha, 2010=100



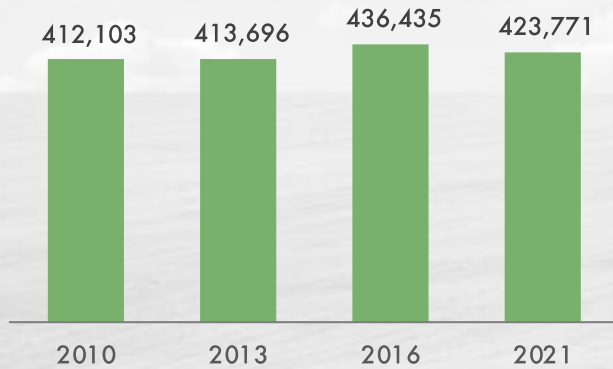
Farmed Area (Ha) by Holdings 50<100Ha, 2021

39,703

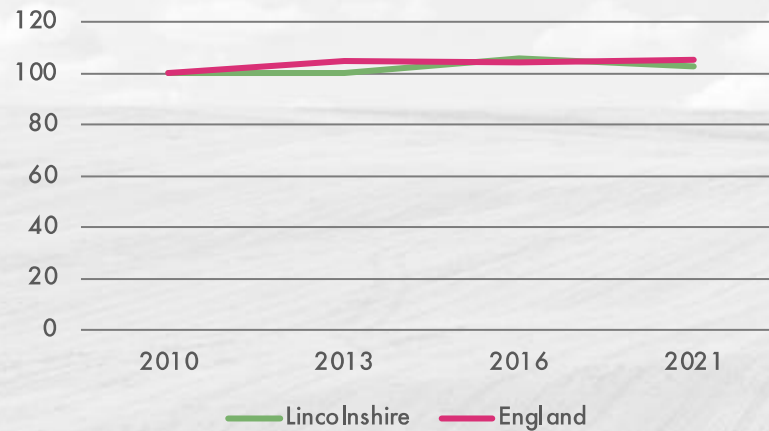
3.3% of England Total

FARMED AREA BY HOLDINGS =>100Ha

Farmed Area by Holdings
=>100Ha in Lincolnshire



Change in Farmed Area by Holdings
=>100Ha, 2010=100



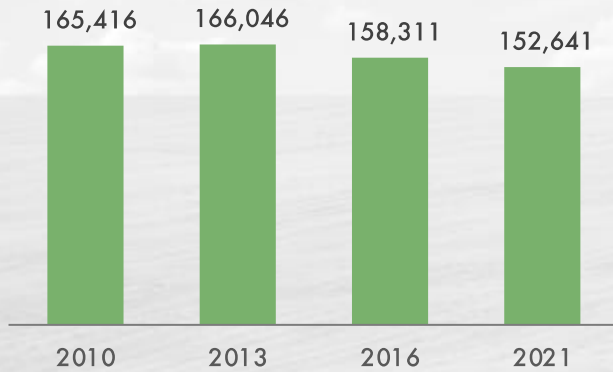
Farmed Area (Ha) by
Holdings =>100Ha,
2021

423,771

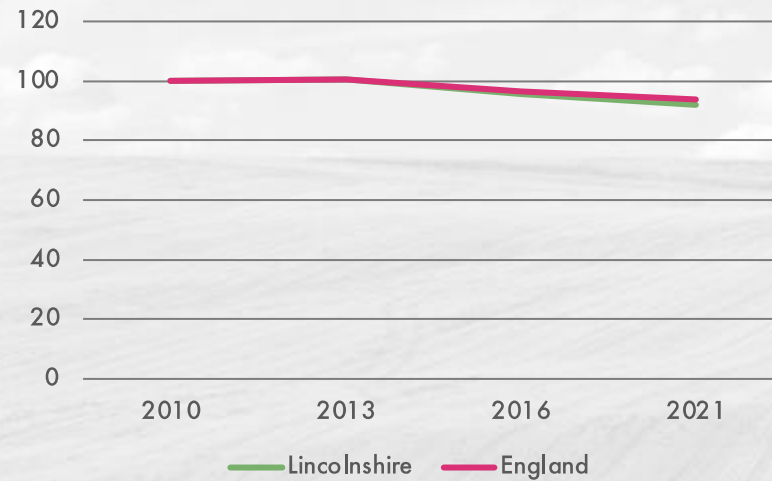
6.3% of England Total

RENTED FARMED AREA

Rented Farmed Area (Ha) in Lincolnshire



Change in Rented Area, 2010=100



Rented Area (Ha),
2021

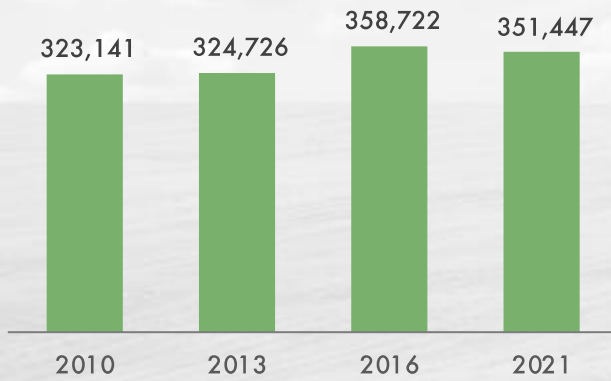
152,641

5.2% of England Total

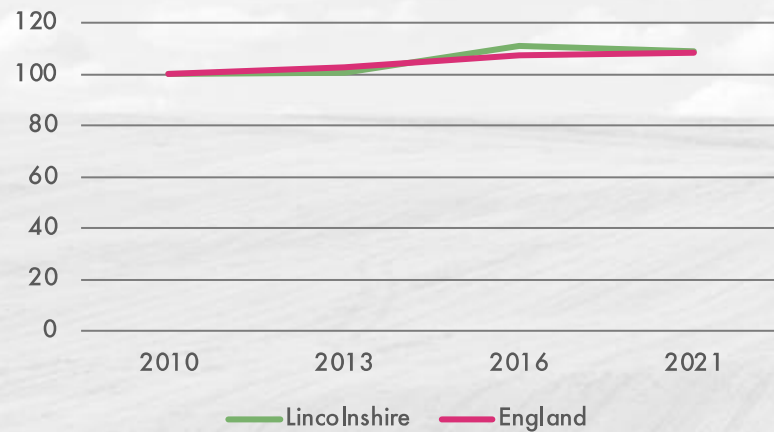
Note: Only includes land rented in for at least 1 year.

OWNED FARMED AREA

Owned Farmed Area (Ha) in Lincolnshire



Change in Owned Farmed Area, 2010=100



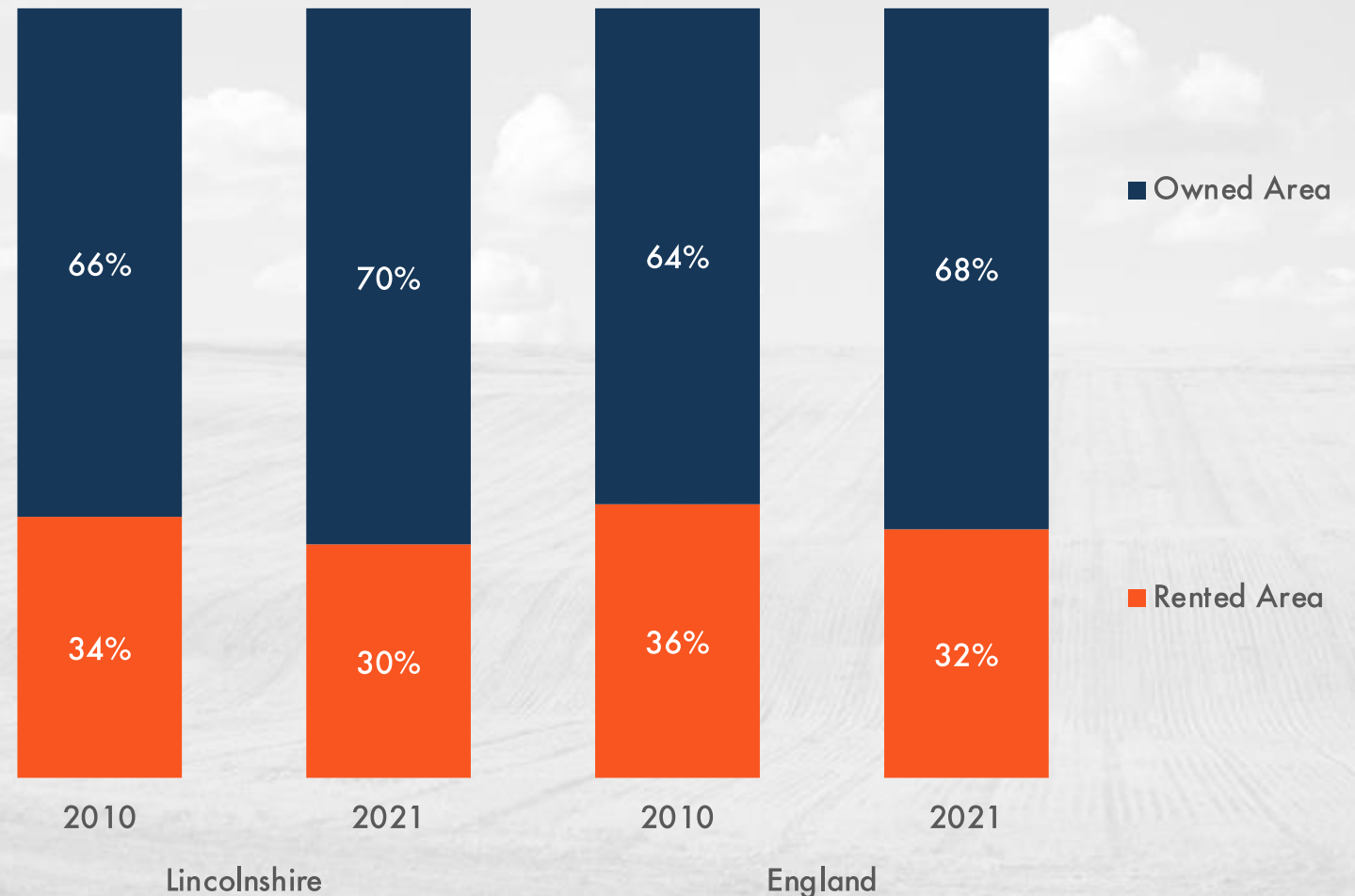
Owned Area (Ha),
2021

351,447

5.7% of England Total

FARMED AREA BY OWNERSHIP, 2021

Farmed Area by Ownership



At both Lincolnshire and national level, we can see over time that total farmed area has moved more into ownership, with less land being rented. Lincolnshire is marginally ahead of the national picture in terms of this trend.

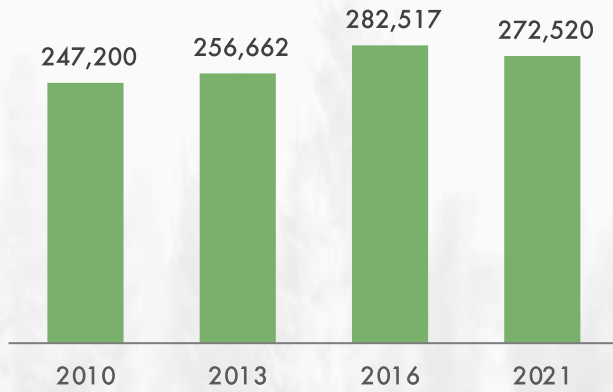
FARMED AREA BY FARM TYPE



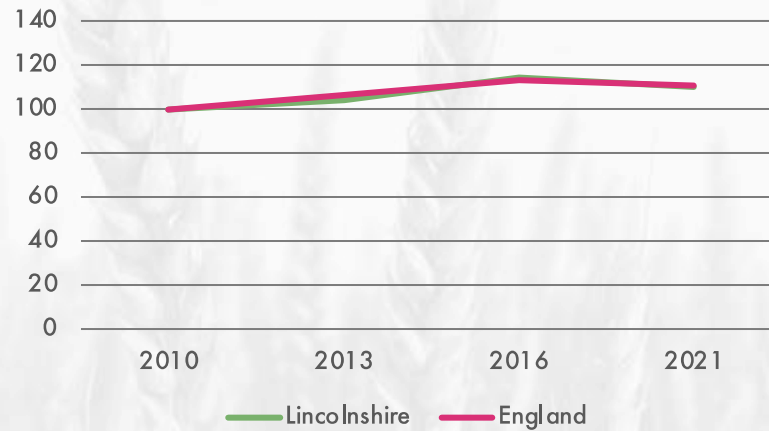
CEREALS FARMED AREA

Text

Total Cereals Farmed Area (Ha) in Lincolnshire



Change in Cereals Farmed Area, 2010=100



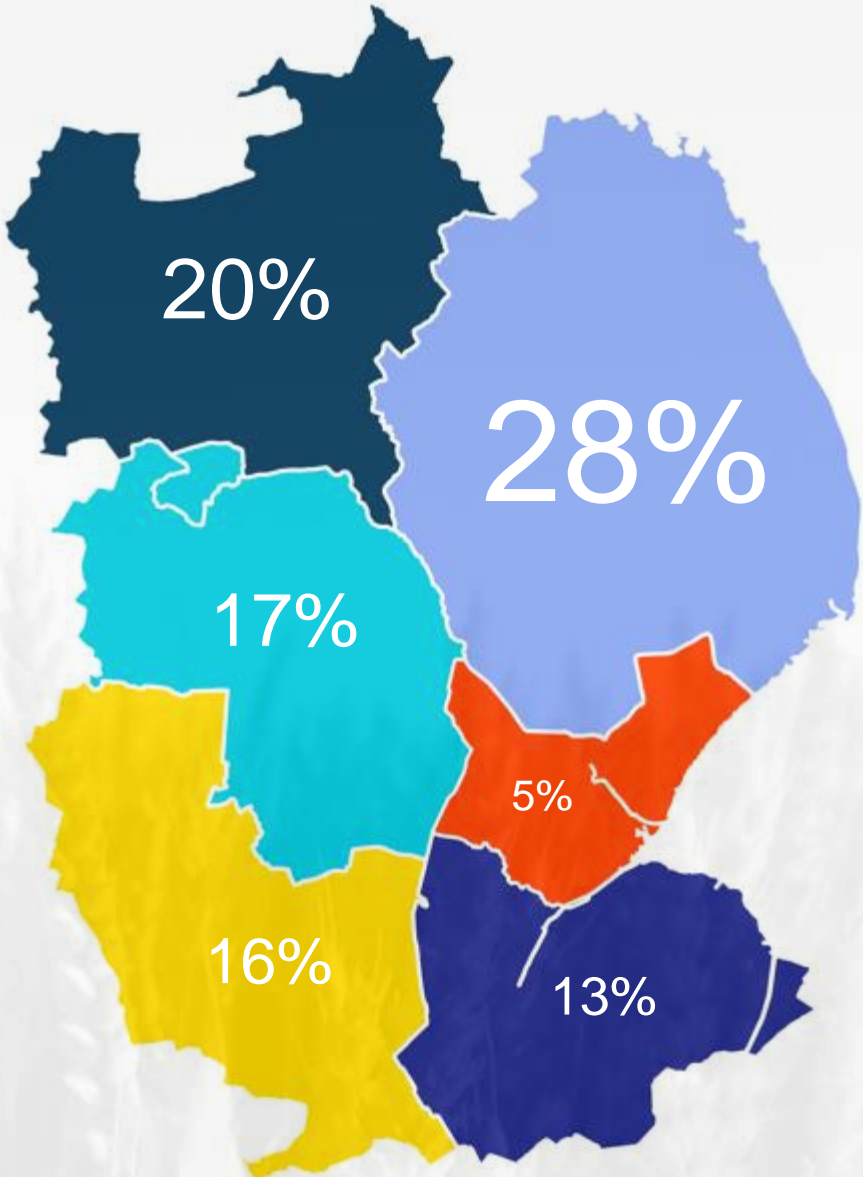
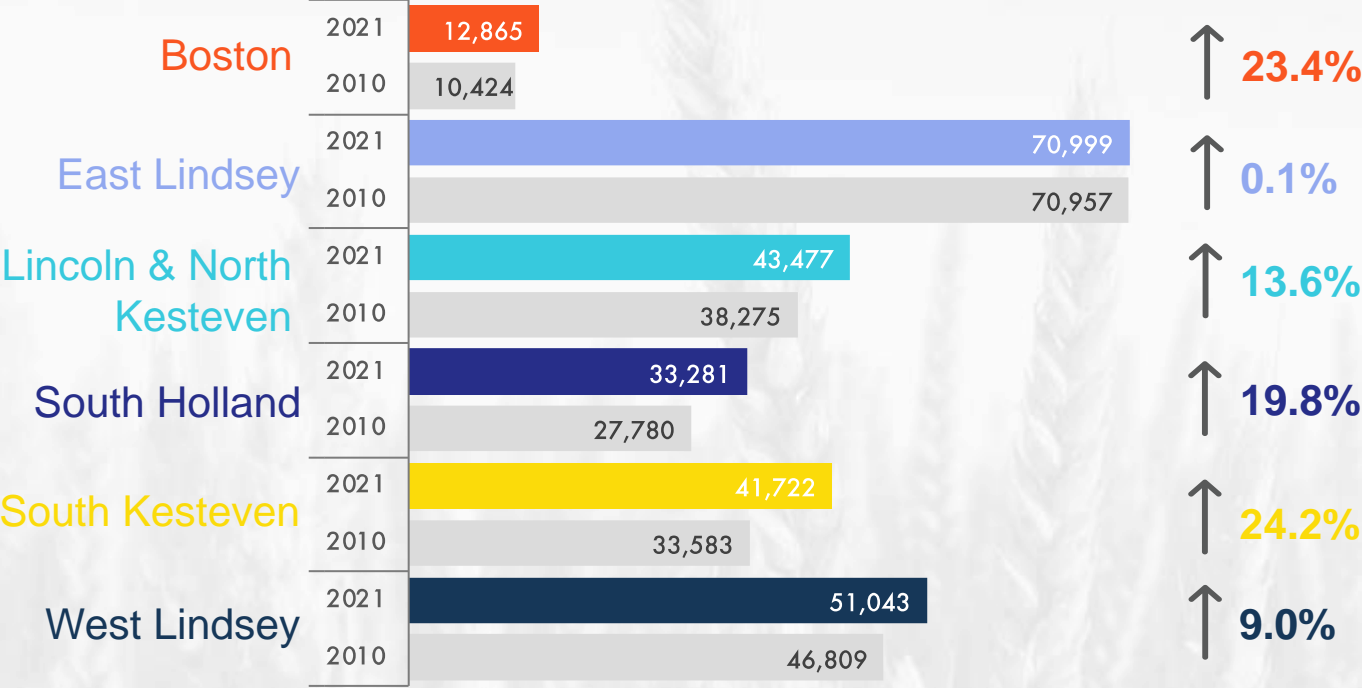
Cereal Farmed Area (Ha), 2021

272,520

9.4% of England Total

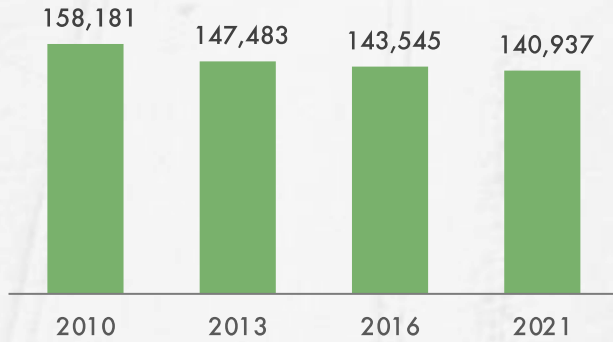
CEREALS FARMED AREA ACROSS LINCOLNSHIRE

Cereals Farmed Area (Ha)

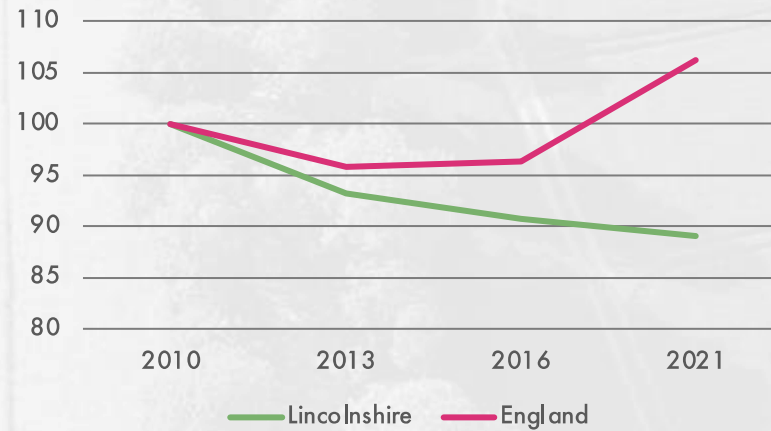


GENERAL CROPPING FARMED AREA

Total General Cropping
Farmed Area (Ha) in
Lincolnshire



Change in General Cropping Farmed
Area, 2010=100



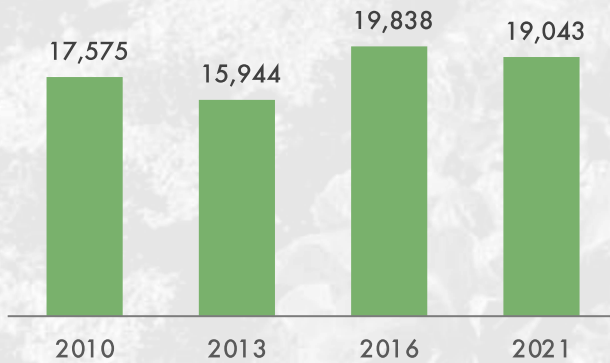
General Cropping
Farmed Area (Ha),
2021

140,937

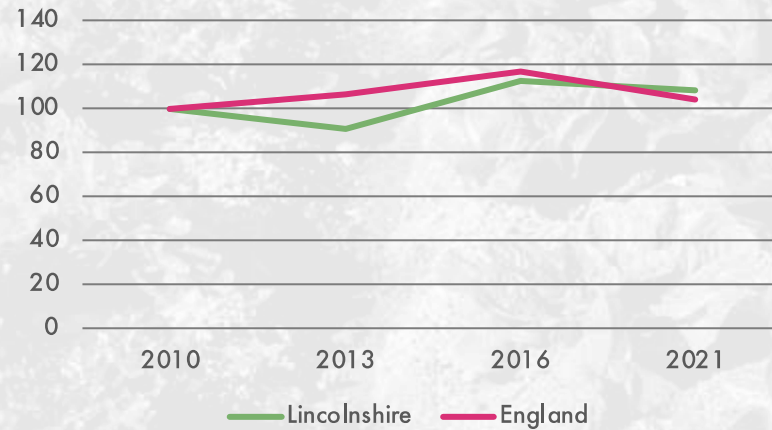
9.3% of England Total

HORTICULTURAL FARMED AREA

Total Horticulture Farmed Area (Ha) in Lincolnshire

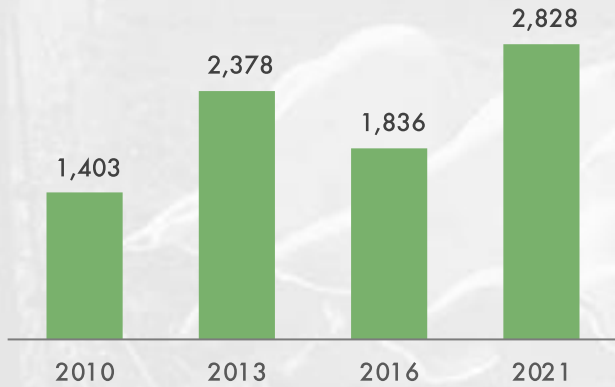


Change in Horticulture Farmed Area, 2010=100

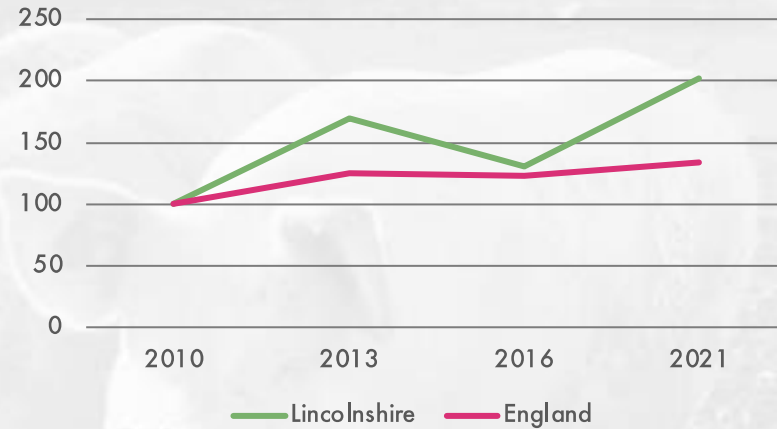


SPECIALIST PIG FARMED AREA

Total Specialist Pig Farmed Area (Ha) in Lincolnshire



Change in Specialist Pig Farmed Area, 2010=100



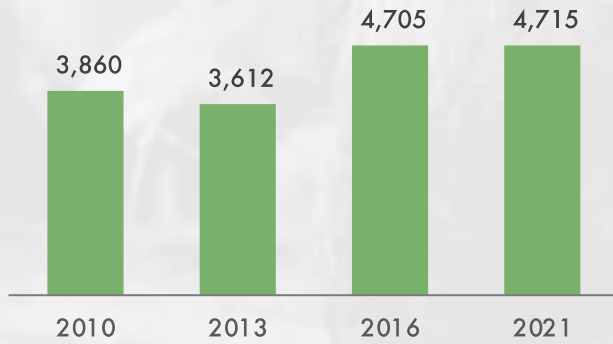
Specialist Pig Farmed Area (Ha), 2021

2,828

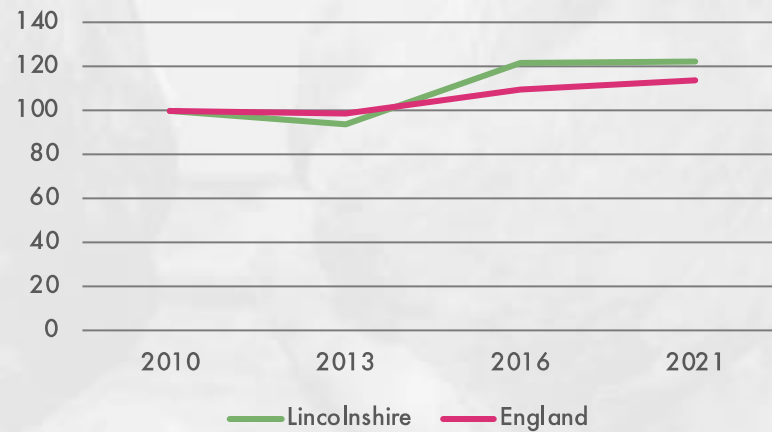
3.4% of England Total

SPECIALIST POULTRY FARMED AREA

Total Specialist Poultry Farmed Area (Ha) in Lincolnshire



Change in Specialist Poultry Farmed Area, 2010=100



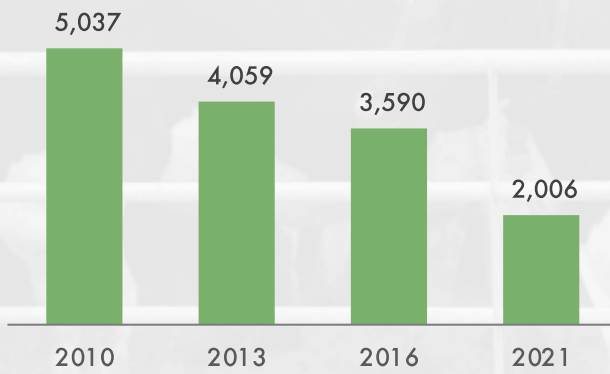
Specialist Poultry Farmed Area (Ha), 2021

4,715

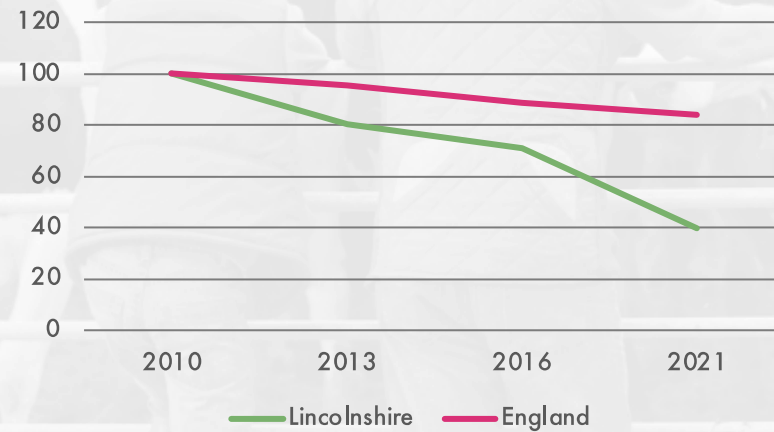
11.9% of England Total

DAIRY FARMED AREA

Total Dairy Farmed Area (Ha) in Lincolnshire



Change in Dairy Farmed Area, 2010=100



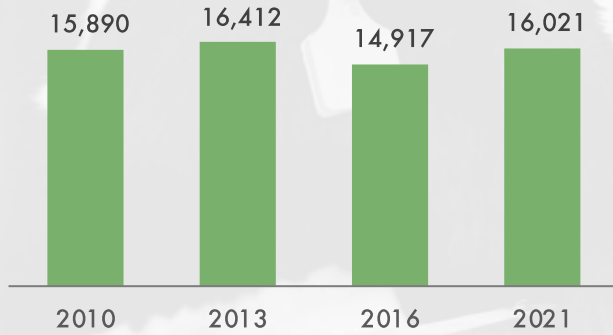
Dairy Farmed Area (Ha), 2021

2,006

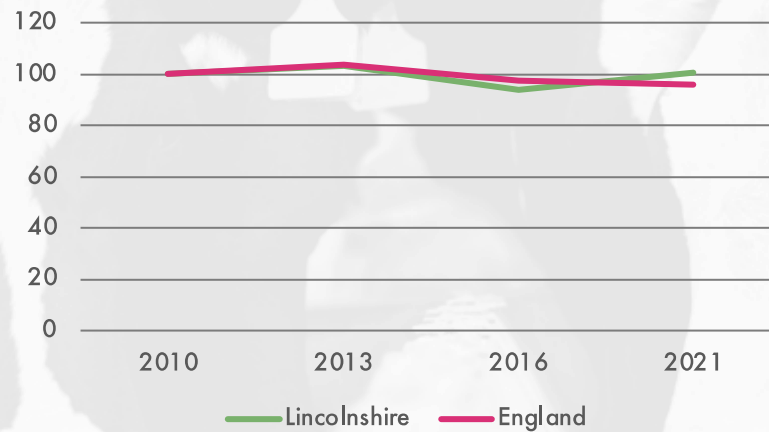
0.3% of England Total

GRAZING LIVESTOCK FARMED AREA

Total Grazing Livestock Farmed Area (Ha) in Lincolnshire



Change in Grazing Livestock Farmed Area, 2010=100



Grazing Livestock Farmed Area (Ha), 2021

16,021

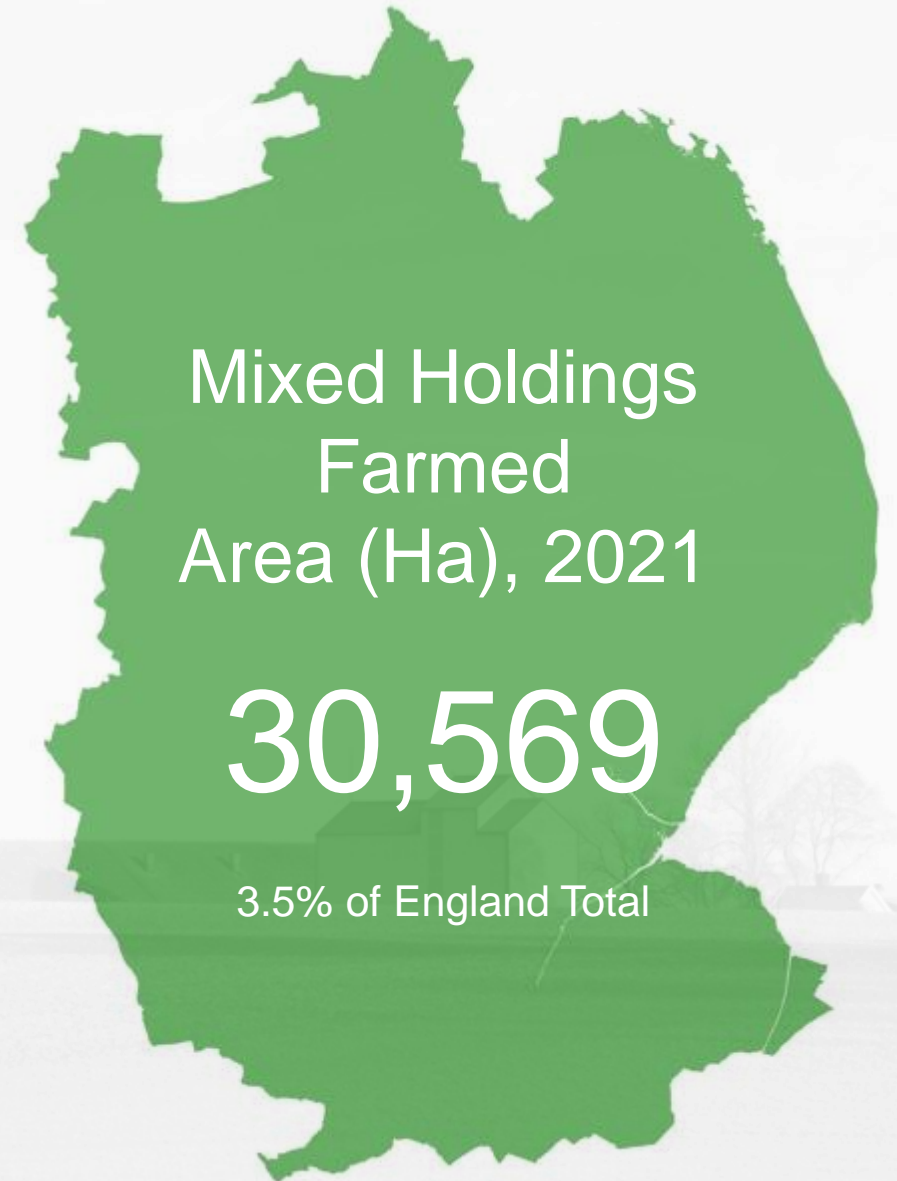
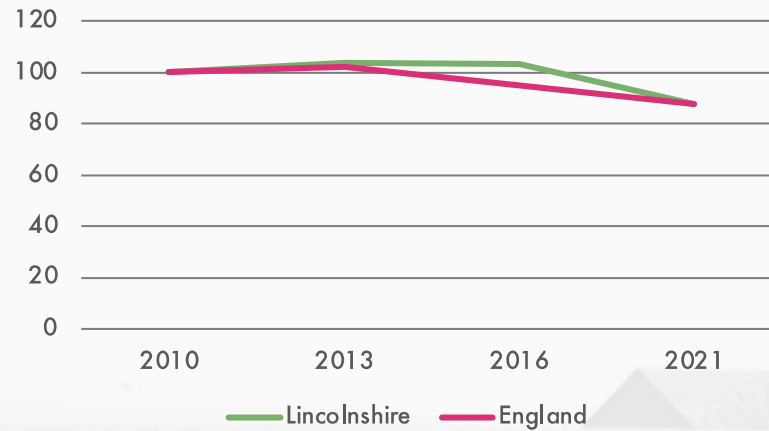
1.2% of England Total

MIXED HOLDINGS FARMED AREA

Total Mixed Holdings Farmed Area (Ha) in Lincolnshire

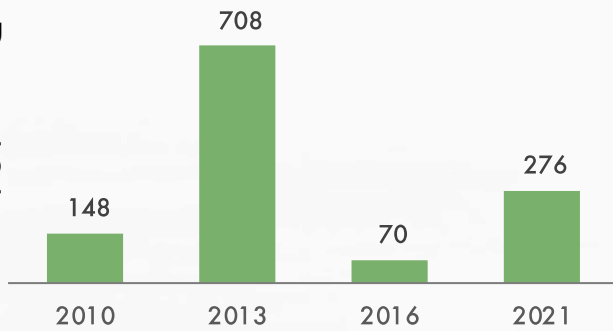


Change in Mixed Holdings Farmed Area, 2010=100



UNCLASSIFIED HOLDINGS FARMED AREA

Total Unclassified Holdings
Farmed Area (Ha) in
Lincolnshire



Change in Unclassified Holdings
Farmed Area, 2010=100



Unclassified Holdings
Farmed Area (Ha),
2021

276

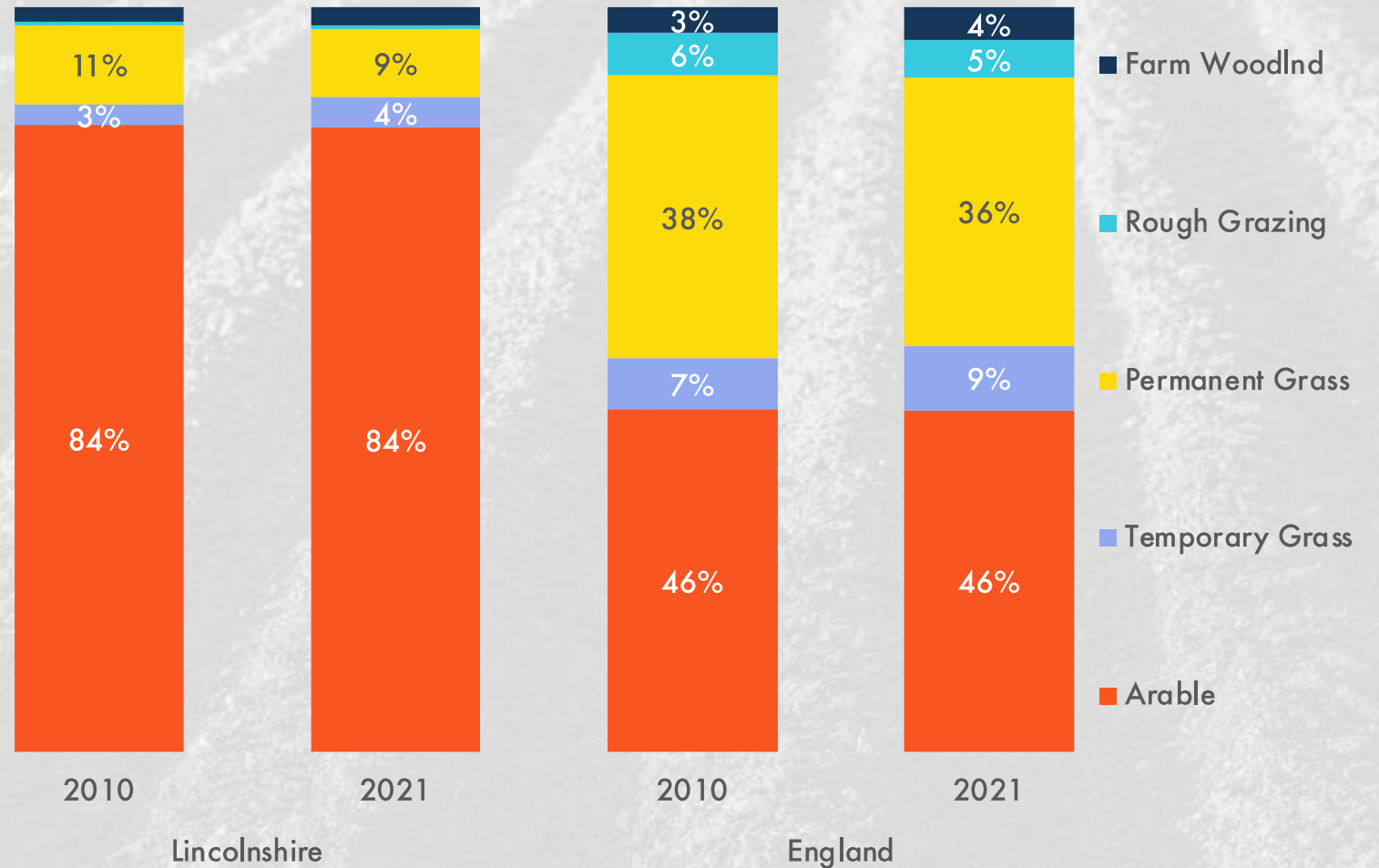
2.2% of England Total

FARMED AREA BY LAND TYPE



FARMED AREA BY LAND TYPE

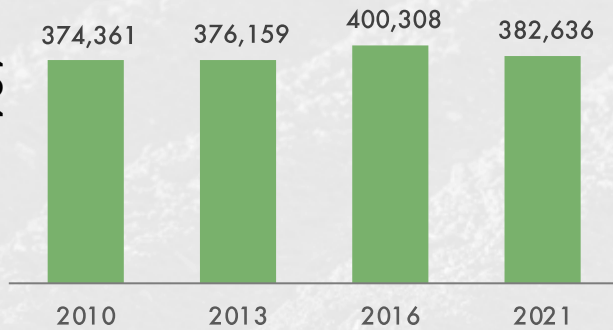
Farmed Area by Land Type



Farming in Lincolnshire is dominated by arable farming, and the make-up of farmed area across Lincolnshire by land type has changed very little over the last decade. This lack of change is also apparent at national level.

ARABLE CROPS & UNCROPPED ARABLE LAND/BARE FALLOW

Arable crops & uncropped arable land/bare fallow (Ha) in Lincolnshire



Change in Arable crops & uncropped arable land/bare fallow area, 2010=100



Arable Crops & Uncropped Arable Land/Bare Fallow (Ha), 2021

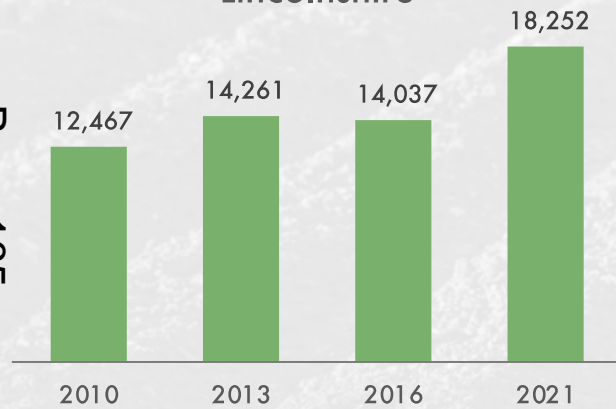
382,636

9.6% of England Total

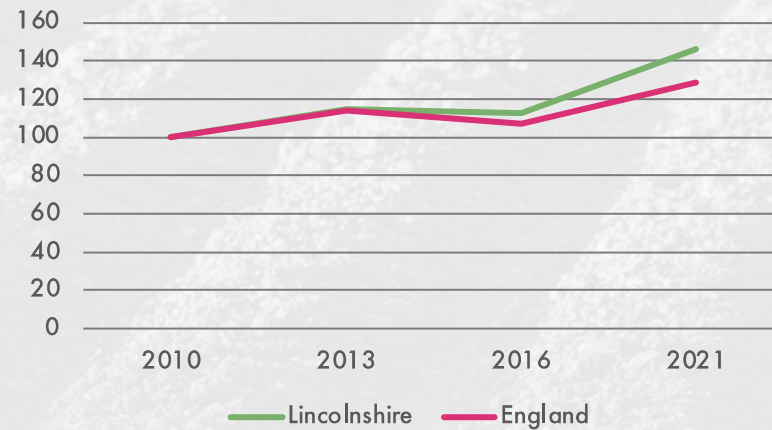
Note: All horticultural crops are excluded.

TEMPORARY GRASS

Temporary Grass (Ha) in Lincolnshire



Change in Temporary Grass Area, 2010=100



Temporary Grass (Ha), 2021

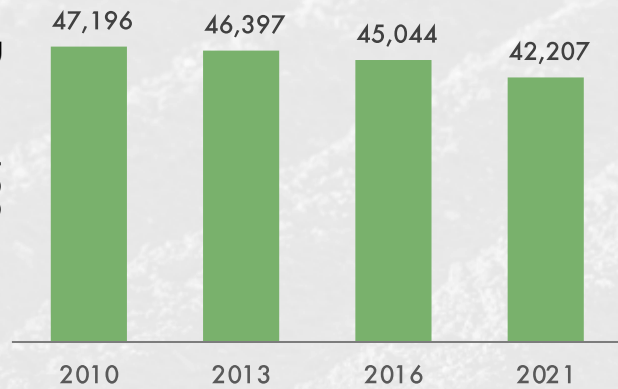
18,252

2.4% of England Total

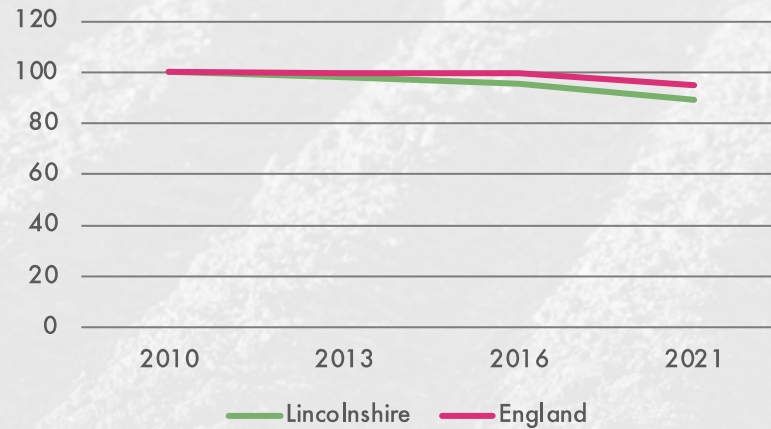
Note: All temporary grass or grass sown within the past 5 years.

PERMANENT GRASS

Permanent Grass (Ha) in Lincolnshire



Change in Permanent Grass Area, 2010=100



Permanent Grass (Ha), 2021

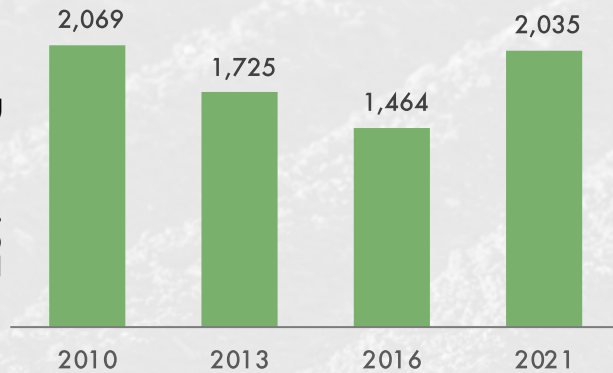
42,207

1.4% of England Total

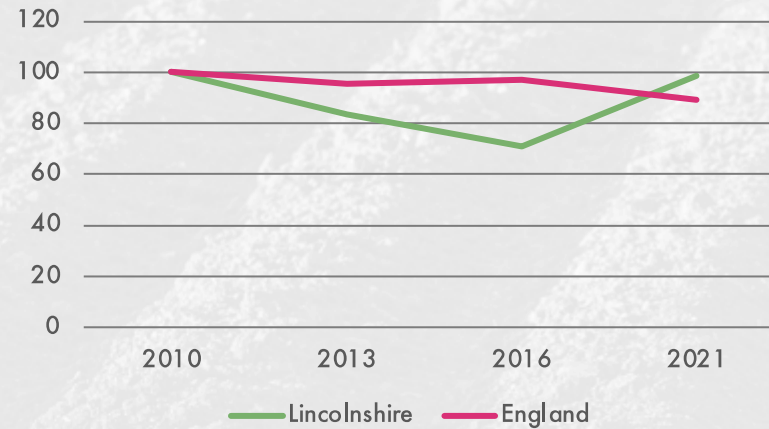
Note: All grasses over 5 years old and including permanent pasture, meadows and improved grassland.

ROUGH GRAZING

Rough Grazing (Ha) in Lincolnshire



Change in Rough Grazing Area, 2010=100



Rough Grazing (Ha),
2021

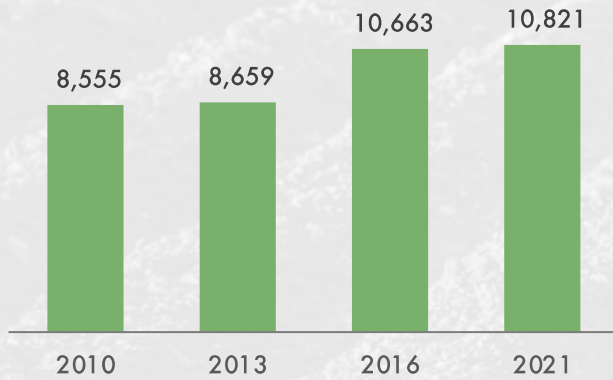
2,035

0.5% of England Total

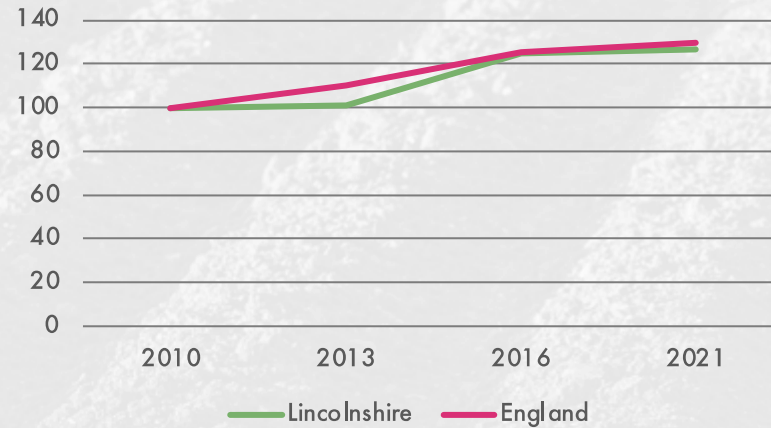
Note: Only includes sole-rights rough grazing. Rough grazing is lower quality grazing land including heathland, moors, hills and scrub.

FARM WOODLAND

Farm Woodland (Ha) in Lincolnshire



Change in Farm Woodland Area, 2010=100



Farm Woodland (Ha), 2021

10,821

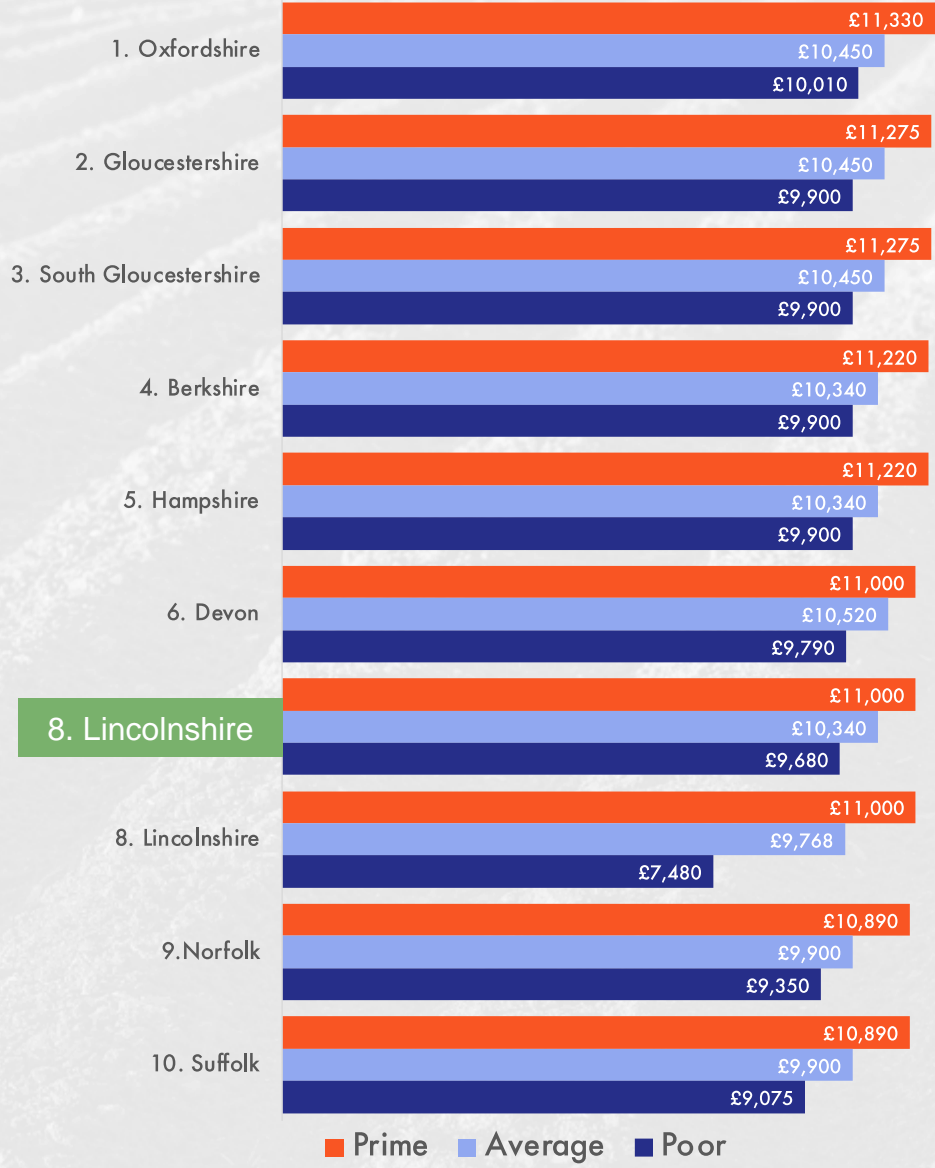
2.8% of England Total

LAND VALUES

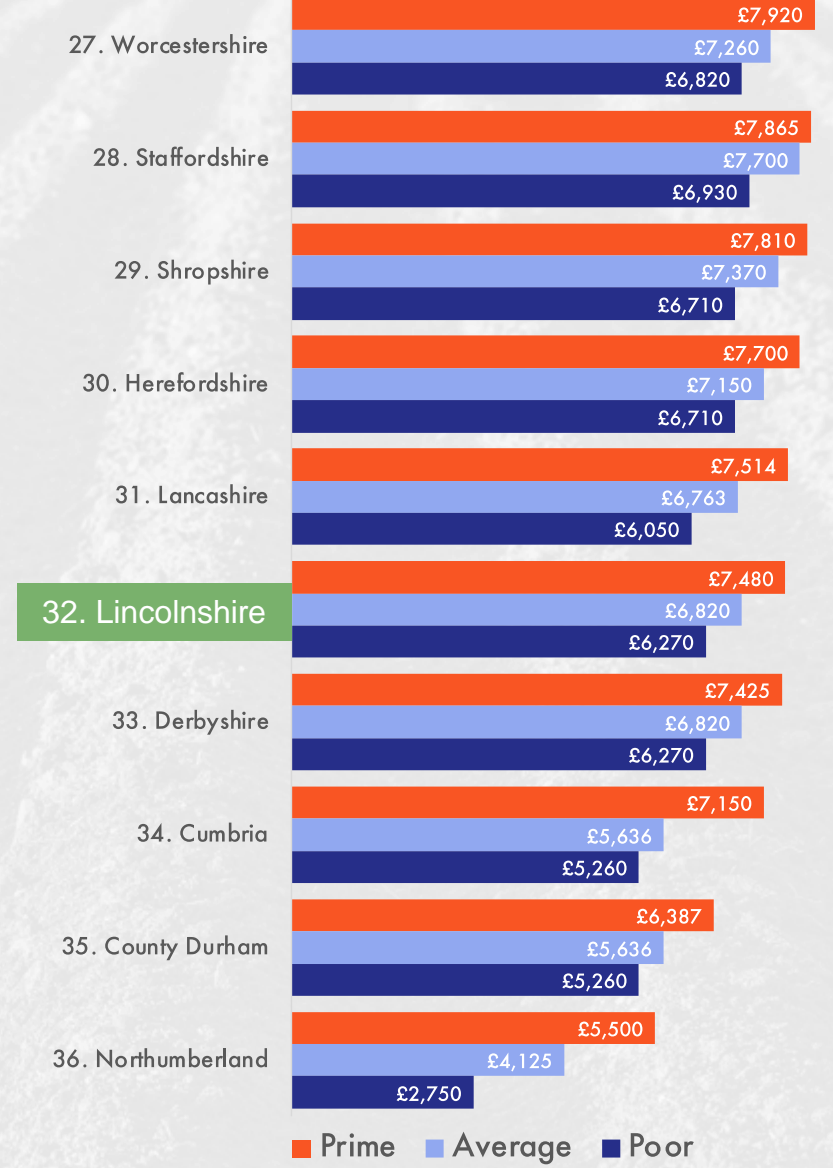
The figures shown in the charts on the right are taken from the Knight Frank's opinion-based survey of its agents across the country and covers the last six months of 2021 (Source: <https://www.fwi.co.uk/business/markets-and-trends/land-markets/find-out-average-farmland-prices-where-you-live>). Across all 36 English counties, Lincolnshire appears in the top 10 for arable land values but in the bottom 10 for pasture land values.

In their latest quarter 2 2022 English Farmland Index, Knight Frank report that the average value of bare farmland in England and Wales increased by a further 4% to £8,190/acre in the second quarter of 2022. Prices have risen by 8% so far this year and 16% over the past 12 months. This is the strongest rate of annual growth since 2014. A lack of supply and strong demand continue to support values (Source: <https://www.knightfrank.com/research/report-library/english-farmland-index-q2-2022-9158.aspx>)

Top 10 English Counties for Arable Land Values Per Acre, 2021



Bottom 10 English Counties for Pasture Land Values Per Acre, 2021



■ Prime ■ Average ■ Poor

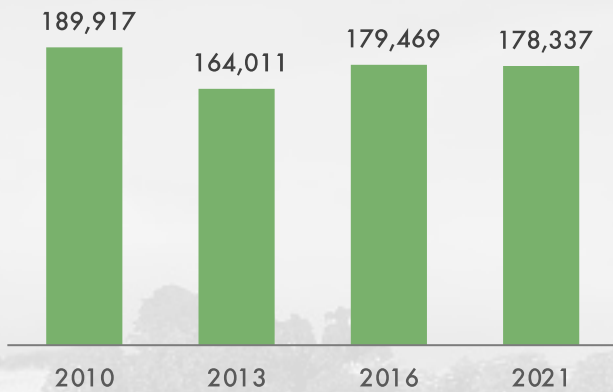
■ Prime ■ Average ■ Poor

ARABLE CROPS

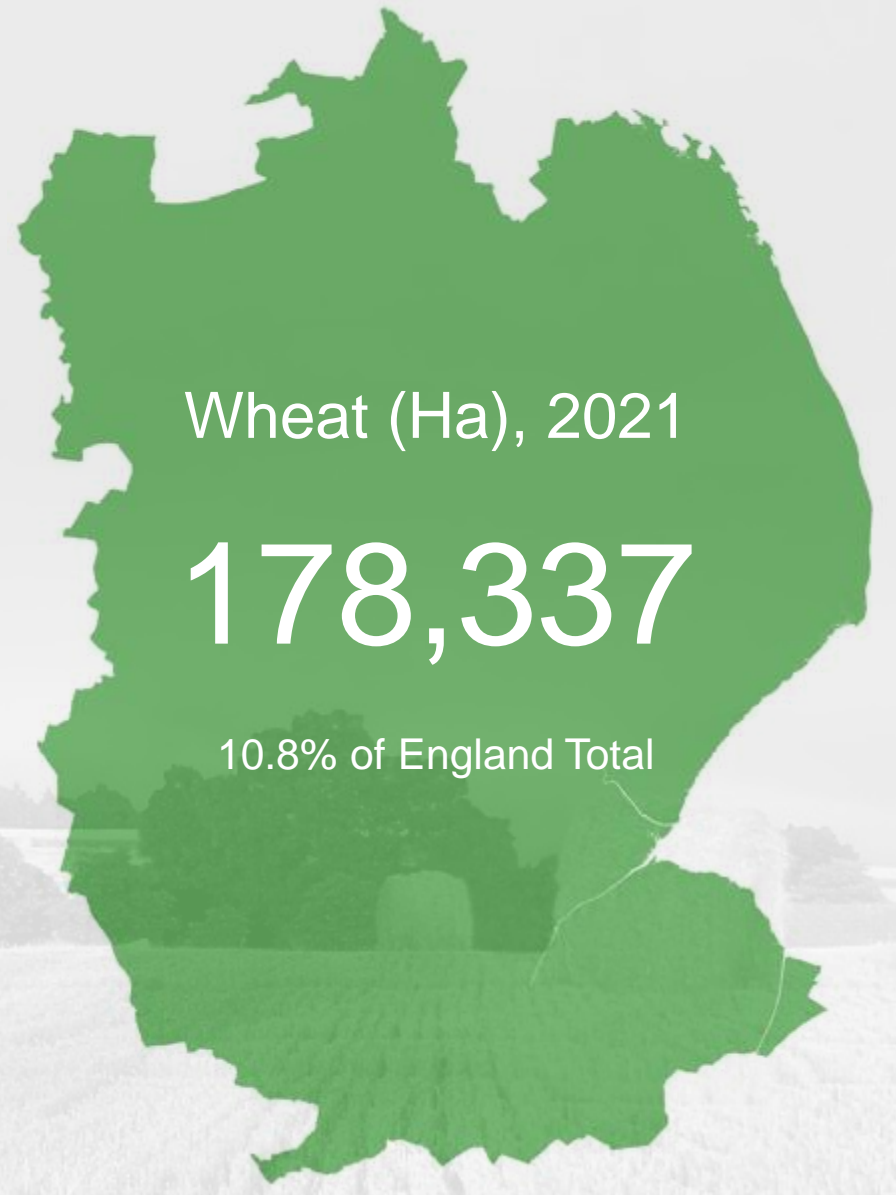
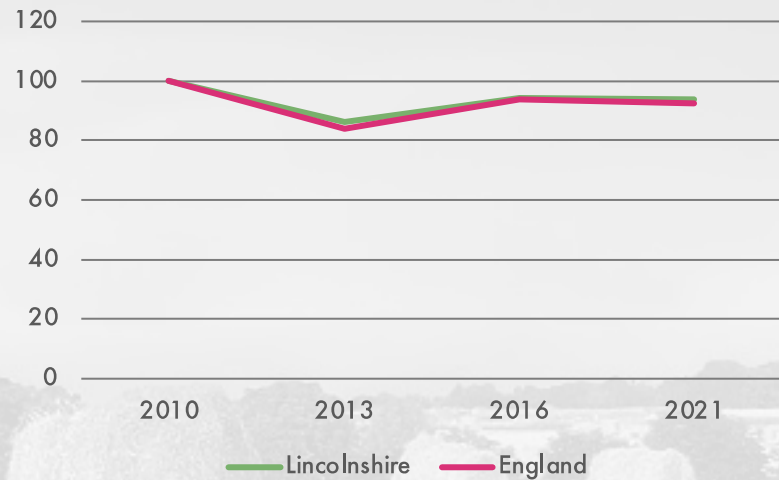


WHEAT

Total Wheat Area (Ha) in Lincolnshire

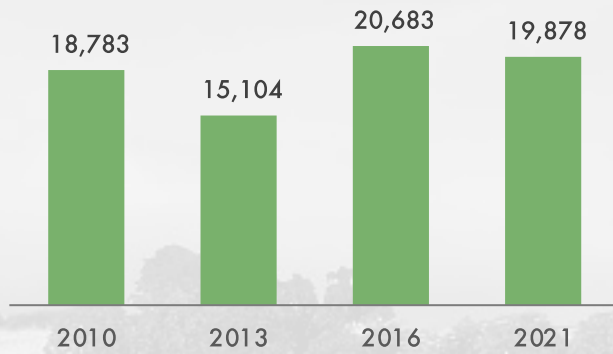


Change in Wheat Area, 2010=100

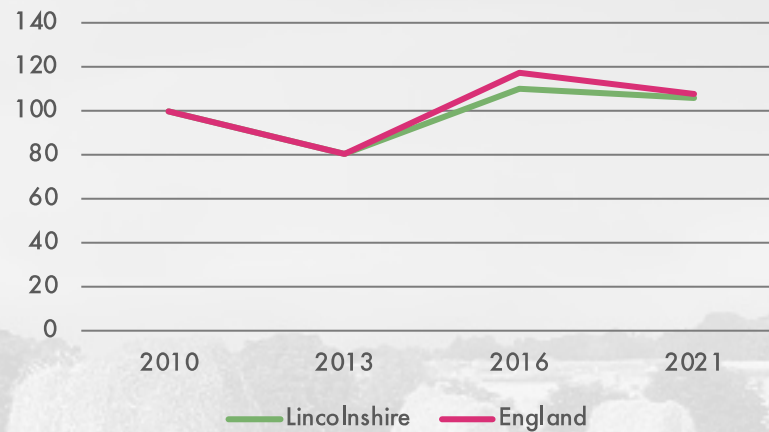


WINTER BARLEY

Total Winter Barley Area (Ha) in Lincolnshire



Change in Winter Barley Area, 2010=100



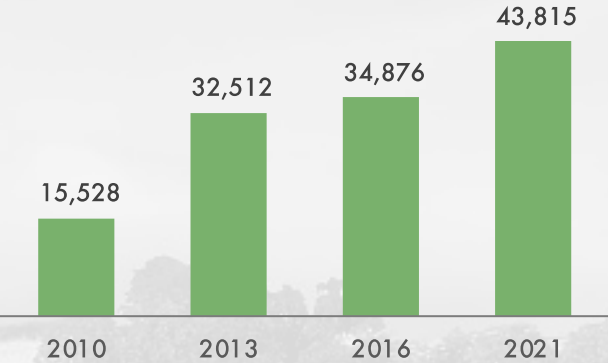
Winter Barley (Ha),
2021

19,878

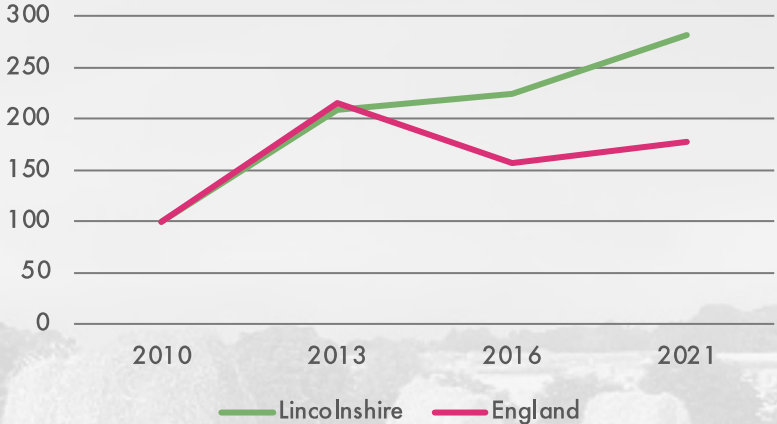
5.8% of England Total

SPRING BARLEY

Total Spring Barley Area (Ha) in Lincolnshire



Change in Spring Barley Area, 2010=100



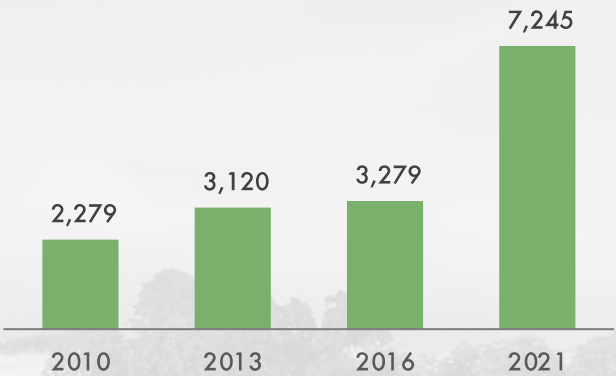
Spring Barley (Ha), 2021

43,815

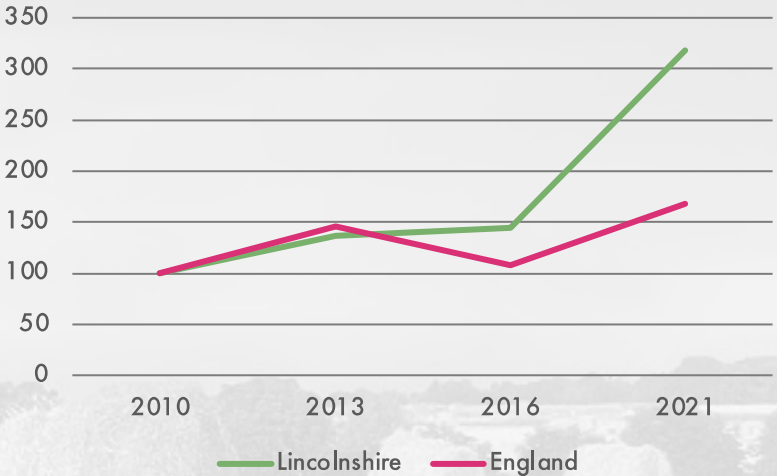
9.3% of England Total

OATS

Total Oats Area (Ha) in Lincolnshire



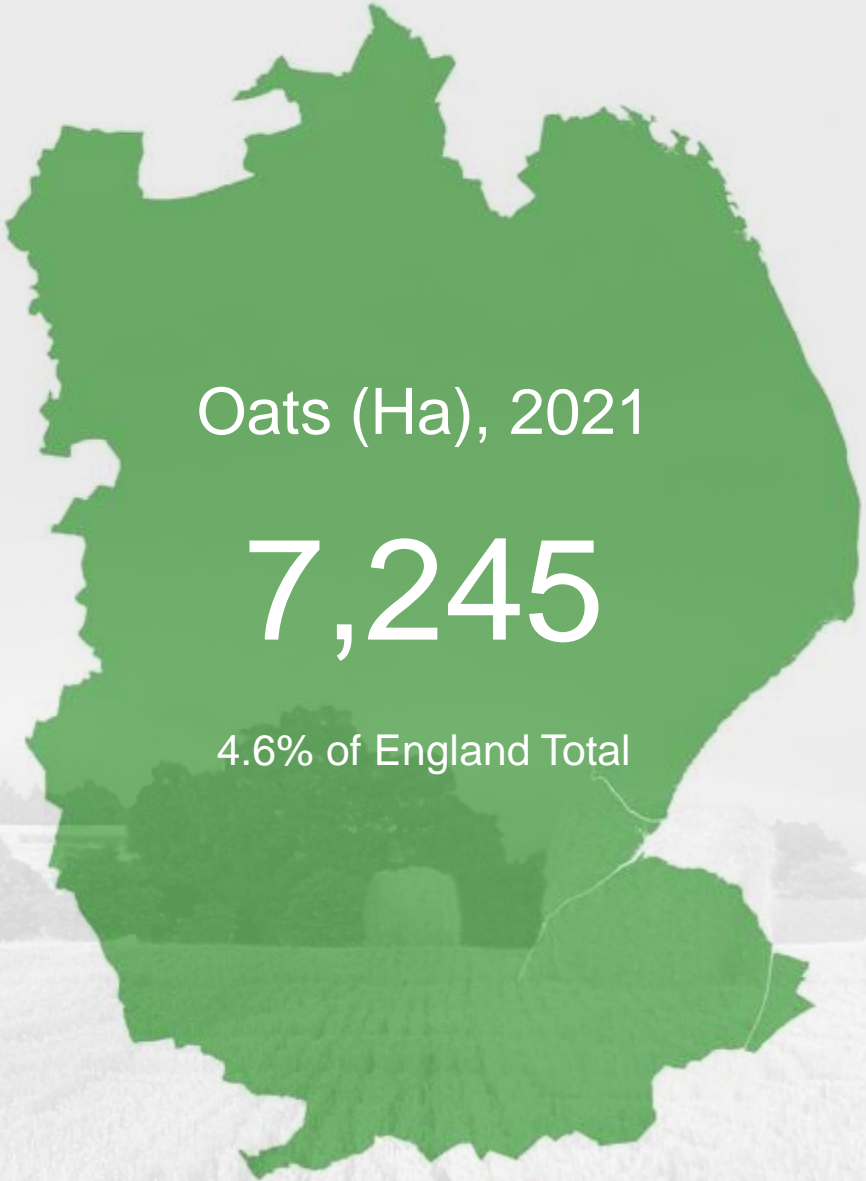
Change in Oats Area, 2010=100



Oats (Ha), 2021

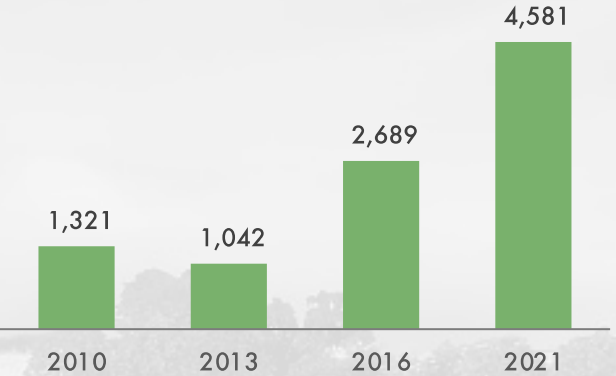
7,245

4.6% of England Total

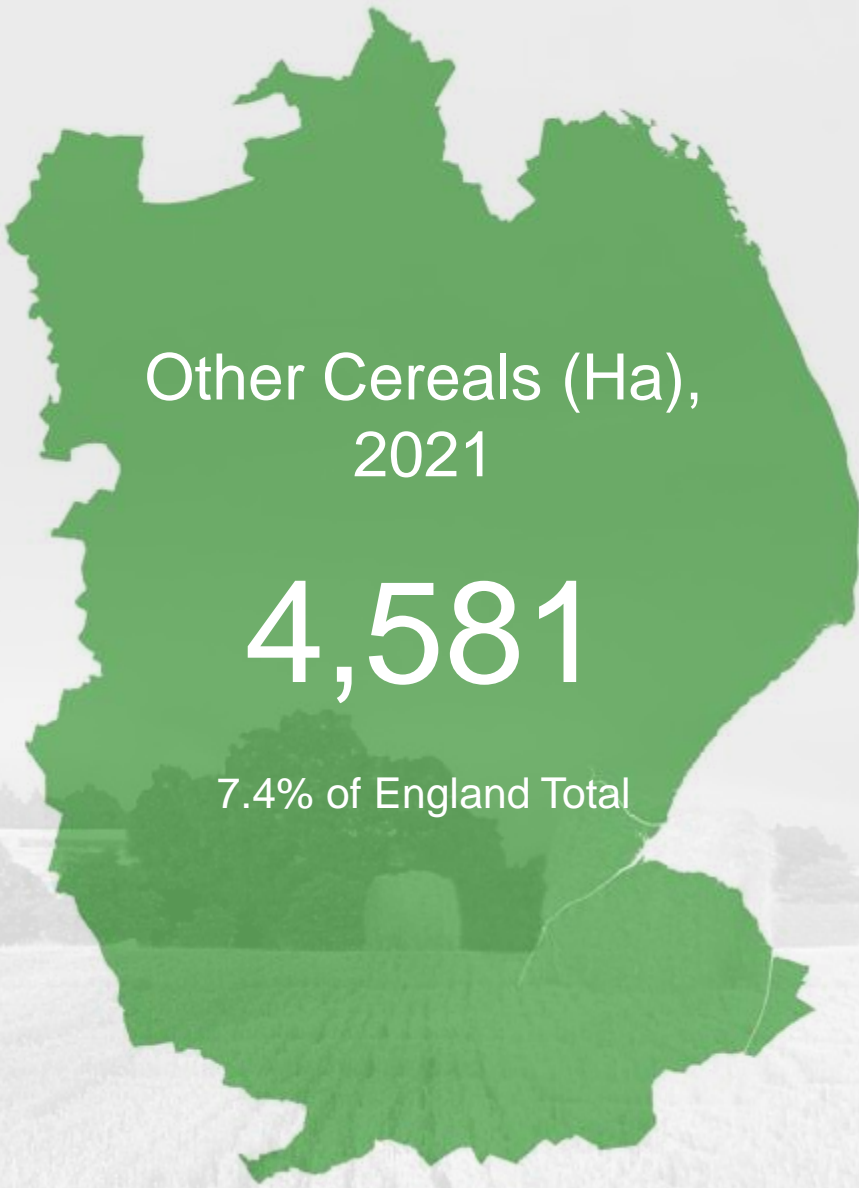
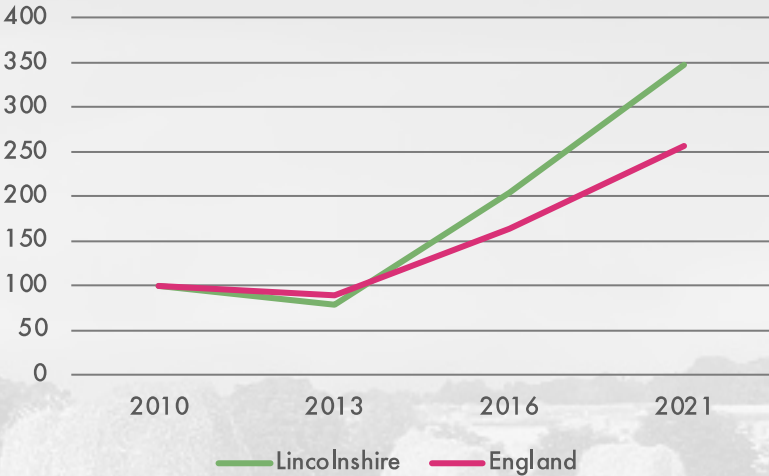


OTHER CEREALS

Total Other Cereals Area (Ha) in Lincolnshire

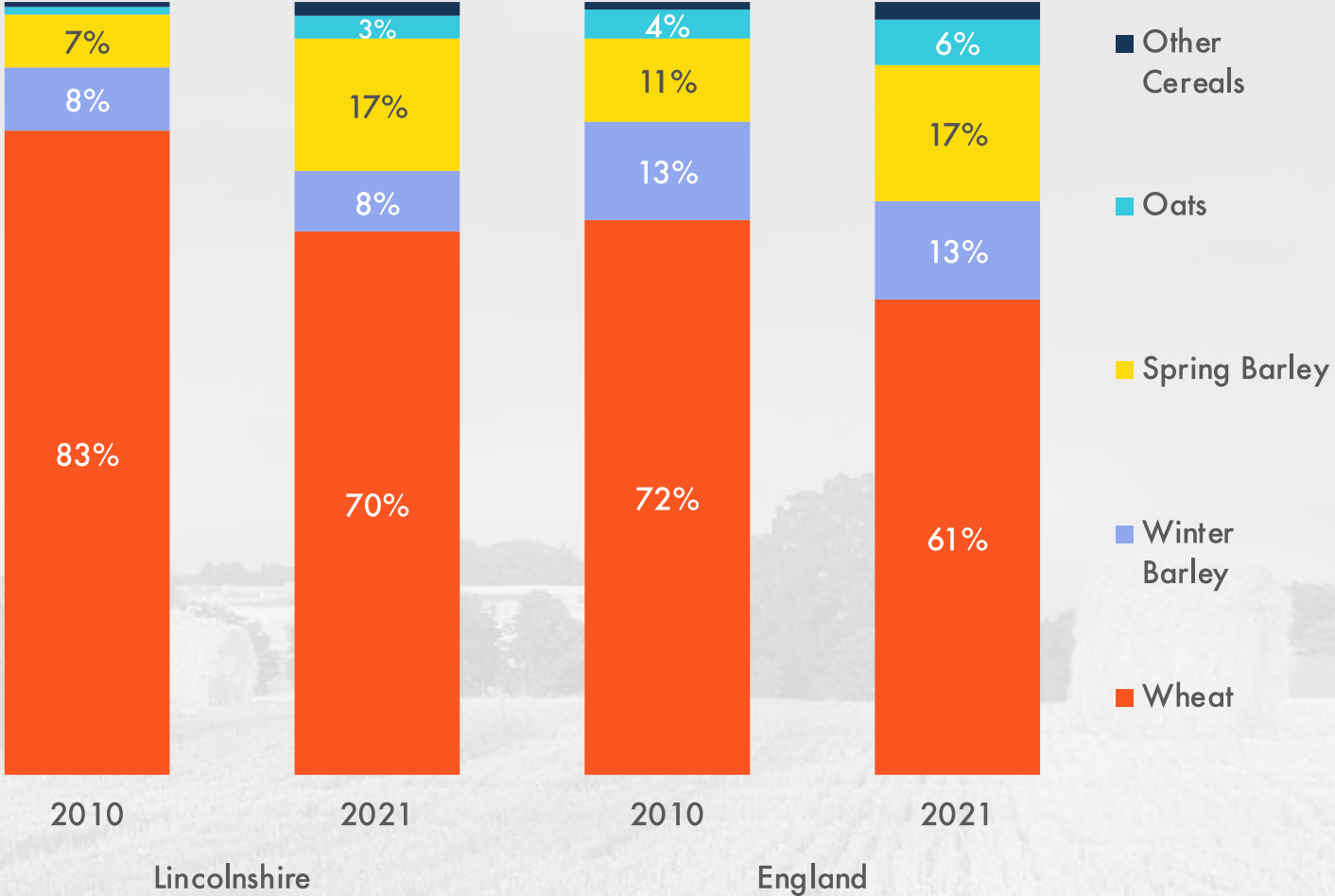


Change in Other Cereals, 2010=100



CEREALS AREA BY TYPE

Cereals Area by Type

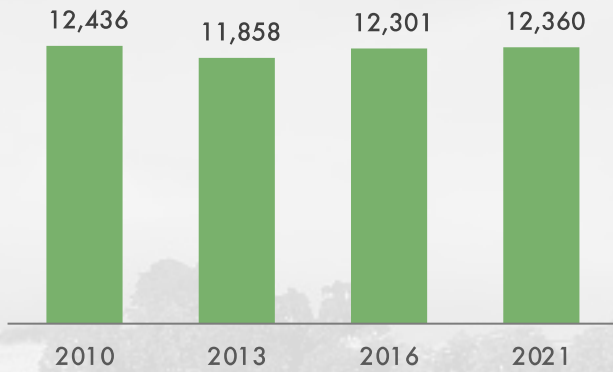


Whilst the wheat crop has fallen as a proportion of the total cereal crop across Lincolnshire, it remains the largest at 70%, and continues to make up a greater proportion of the cereals crop than nationally.

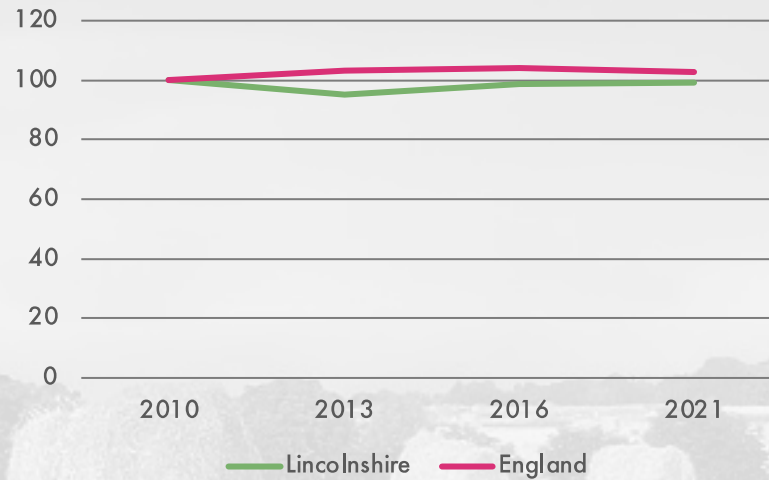
The winter barley crop has remained static as a proportion of the cereals crops over time across both Lincolnshire and England whereas the spring barley has increased.

POTATOES

Total Potatoes Area (Ha) in Lincolnshire



Change in Potatoes Area, 2010=100



Potatoes (Ha), 2021

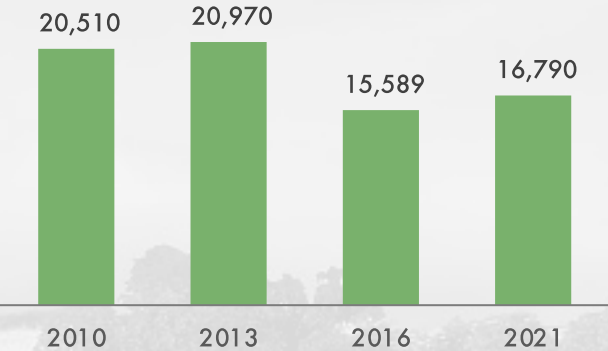
12,360

12.0% of England Total

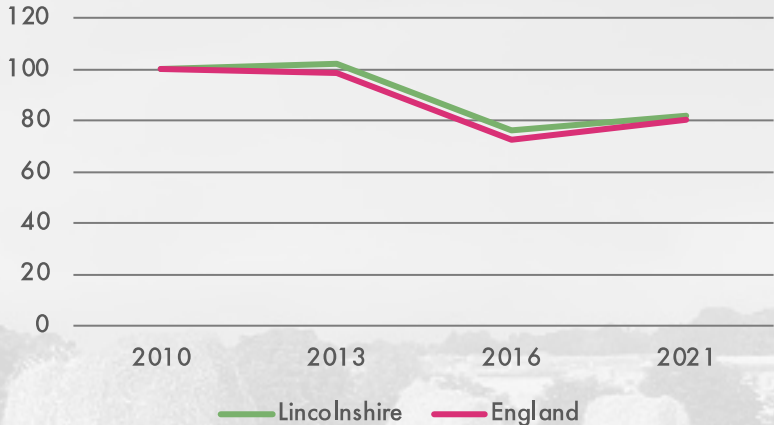
SUGAR BEET

Page 178

Total Sugar Beet Area (Ha) in Lincolnshire



Change in Sugar Beet Growing Area, 2010=100



Sugar Beet (Ha), 2021

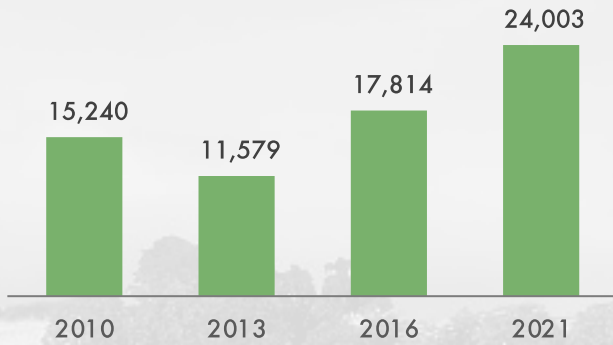
16,790

17.6% of England Total

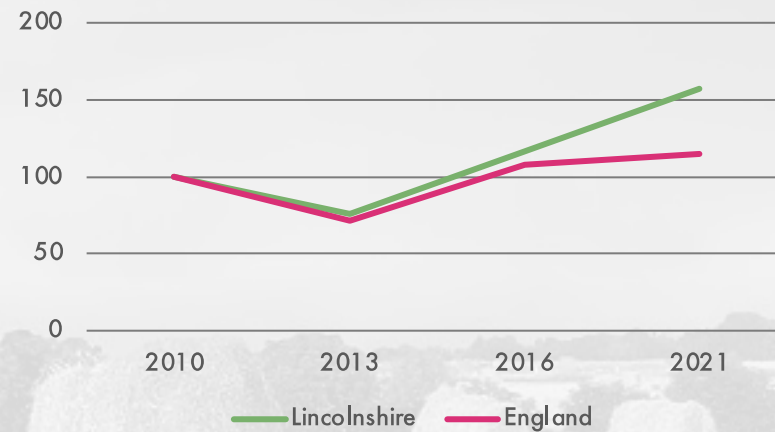
Note: Sugar beet that is not for stock feeding.

FIELD BEANS

Total Field Beans Area (Ha)
in Lincolnshire



Change in Field Beans Growing
Area, 2010=100



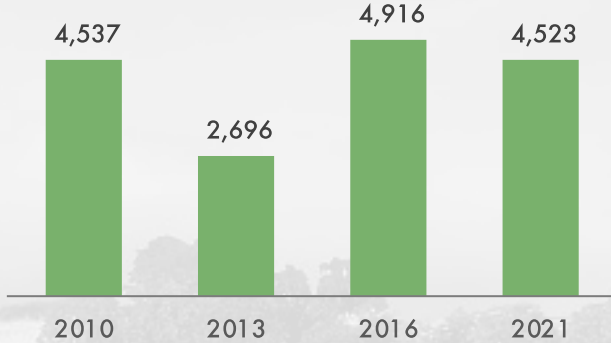
Field Beans (Ha),
2021

24,003

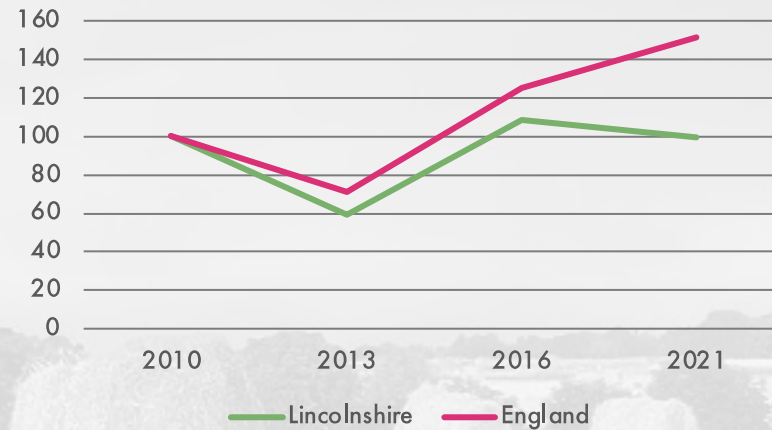
13.0% of England Total

PEAS FOR HARVESTING

Total Peas for Harvesting Area (Ha) in Lincolnshire



Change in Peas for Harvesting Growing Area, 2010=100



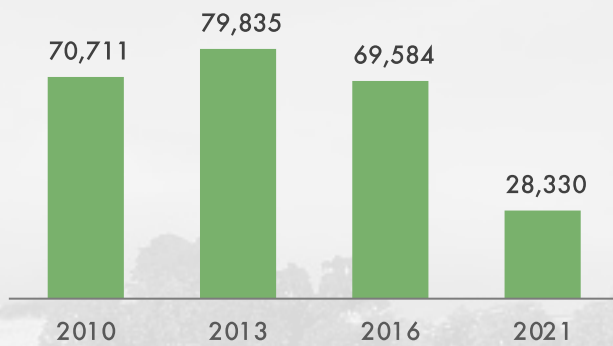
Peas for Harvesting (Ha), 2021

4,523

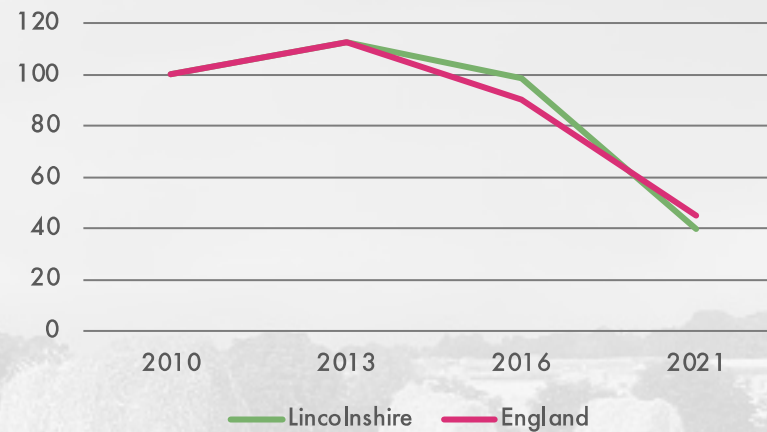
7.5% of England Total

OILSEED RAPE

Total Oilseed Rape Area (Ha) in Lincolnshire



Change in Oilseed Rape Growing Area, 2010=100



Oilseed Rape (Ha),
2021

28,330

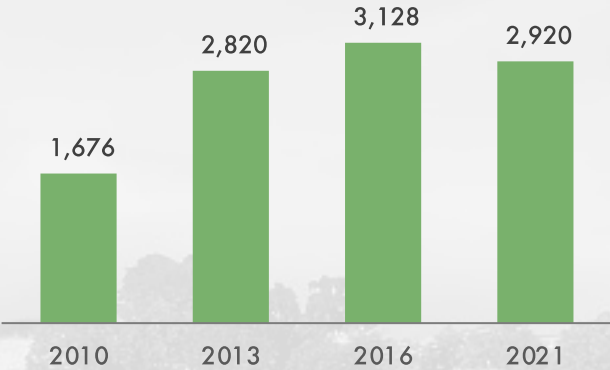
10.6% of England Total

Note: Includes both spring and winter oilseed rape.

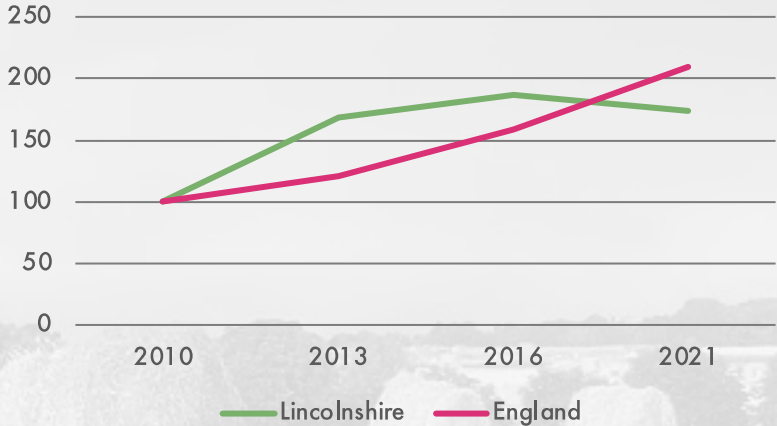
CROPS FOR STOCKFEED

Page 182

Total Crops for Stockfeed Area (Ha) in Lincolnshire



Change in Crops for Stockfeed Growing Area, 2010=100



Crops for Stockfeed (Ha), 2021

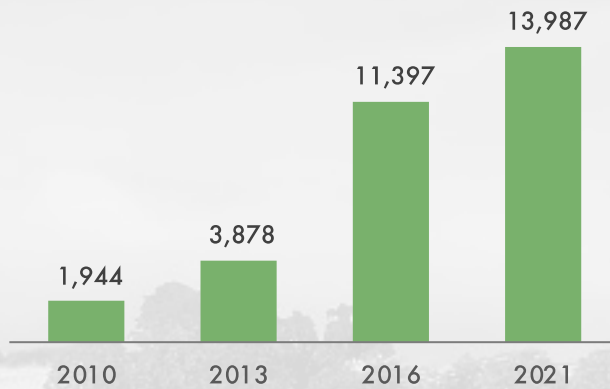
2,920

5.0% of England Total

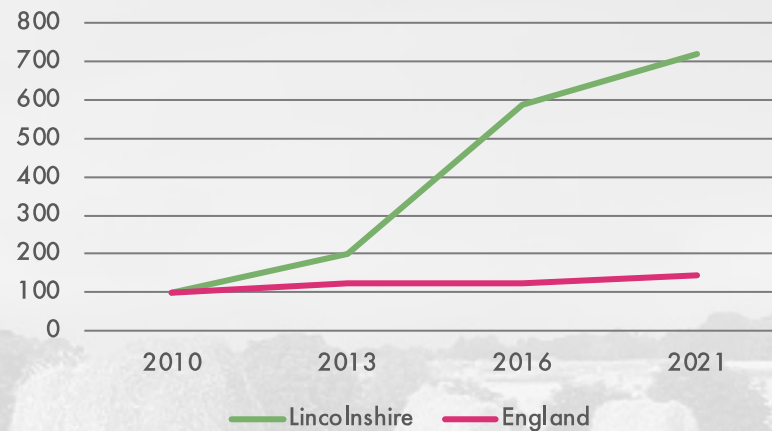
Note: The figure now includes leguminous forage crops.

MAIZE

Total Maize Area (Ha) in Lincolnshire



Change in Maize Growing Area, 2010=100



Maize (Ha), 2021

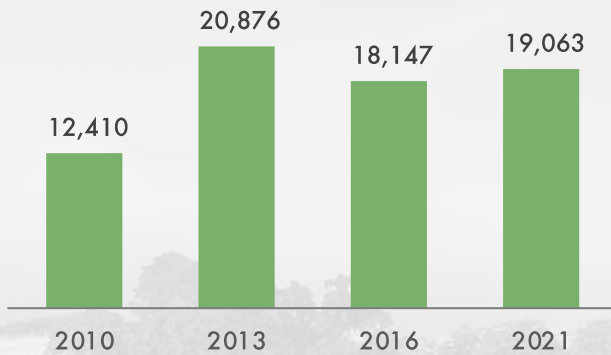
13,987

6.7% of England Total

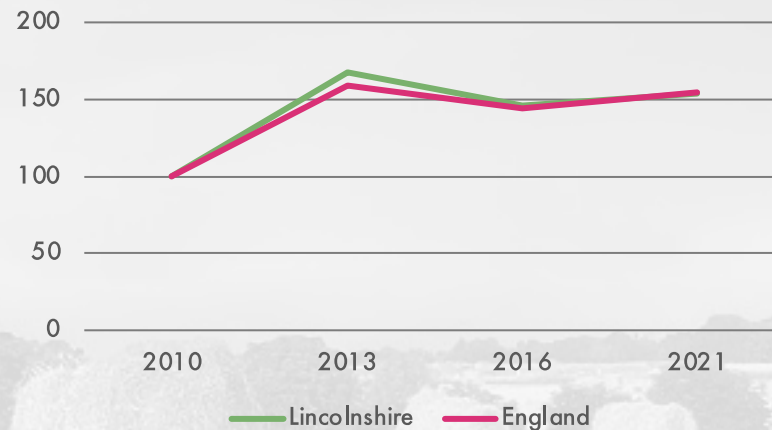
Notes: Includes fodder and grain and maize for anaerobic digestion. Anecdotally, then the increase in maize growing in Lincolnshire is almost entirely due to anaerobic digestion production growth.

BARE FALLOW

Total Bare Fallow Area (Ha)
in Lincolnshire



Change in Bare Fallow Area,
2010=100



Bare Fallow (Ha), 2021

19,063

8.3% of England Total

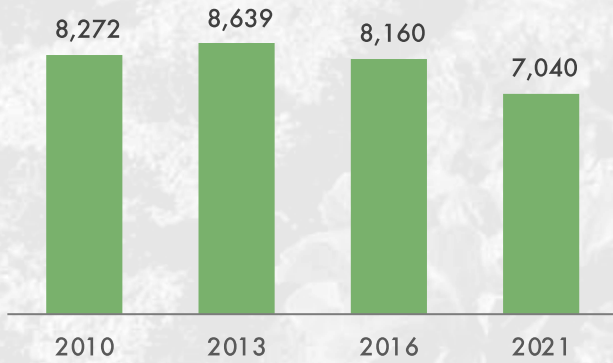
Note: Uncropped arable land/Bare fallow. Includes all arable land not in production, including wild bird cover and game cover.

HORTICULTURAL CROPS

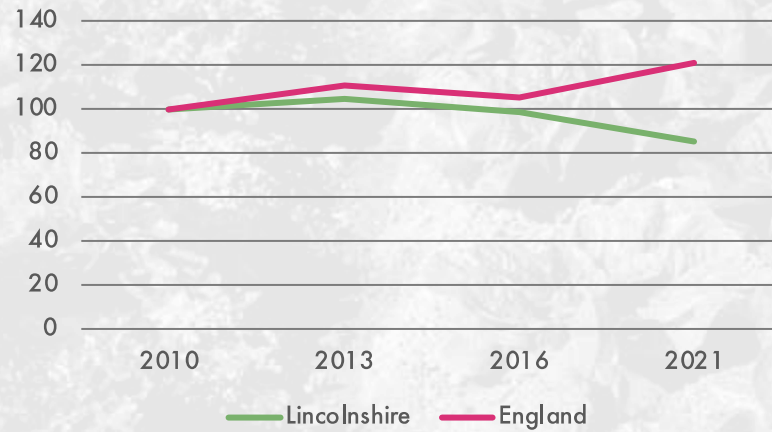


PEAS AND BEANS

Total Peas and Beans Area (Ha) in Lincolnshire



Change in Peas and Beans Area, 2010=100



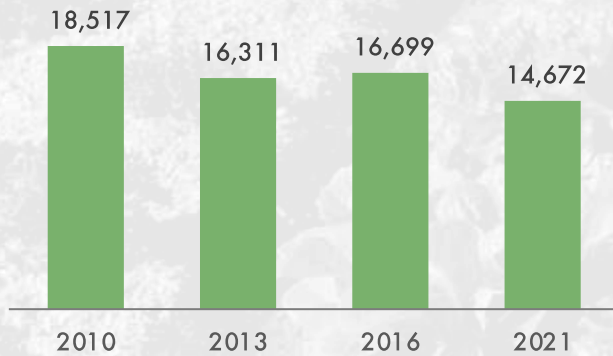
Peas and Beans (Ha), 2021

7,040

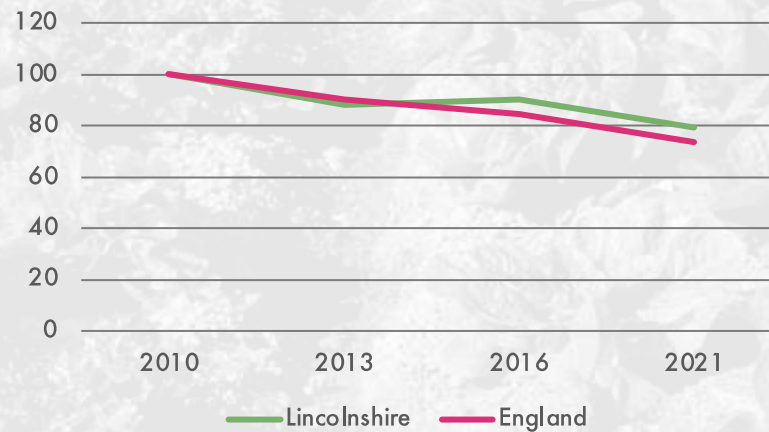
22.0% of England Total

ALL OTHER VEG AND SALAD

Total All Other Veg and Salad Area (Ha) in Lincolnshire



Change in All Other Veg and Salad Area, 2010=100



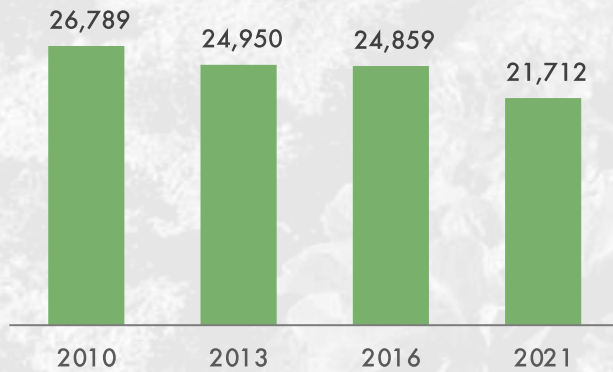
All Other Veg and Salad (Ha), 2021

14,672

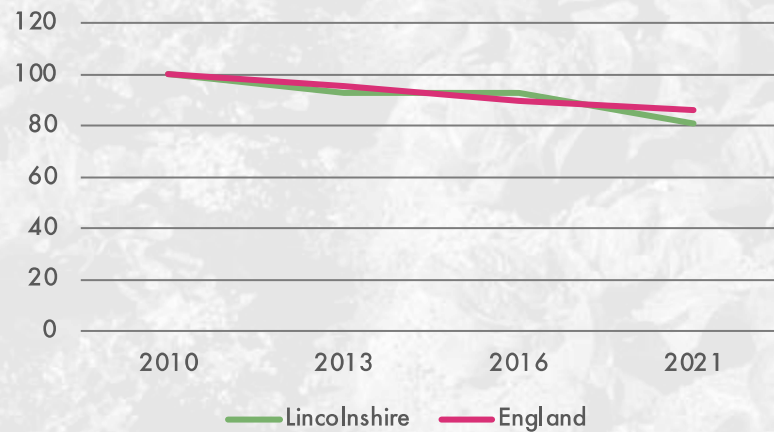
26.0% of England Total

TOTAL VEG GROWN IN OPEN

Total Veg Grown in Open Area (Ha) in Lincolnshire



Change in Total Veg Grown in Open Area, 2010=100



Total Veg Grown in Open (Ha), 2021

21,712

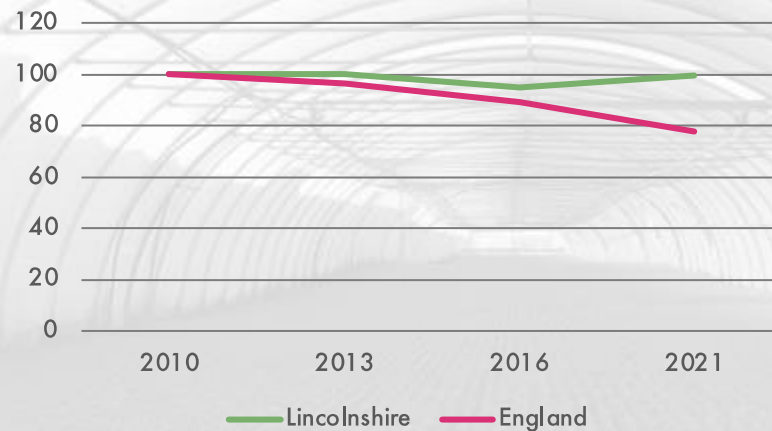
24.5% of England Total

GLASSHOUSE AND PROTECTED CROPS

Total Glasshouse and Protected Crop Area (Ha) in Lincolnshire



Change in Glasshouse and Protected Crop Area, 2010=100



Glasshouse and Protected Crops (Ha), 2021

89

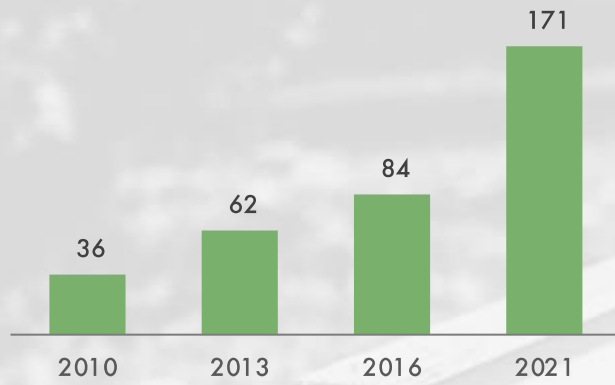
7.7% of England Total

Notes: Includes any fixed or mobile structure high enough to walk through which is glazed or clad with film, rigid plastics or other glass substitutes. It excludes lights, low plastic tunnels, French and Spanish tunnels. Mushroom sheds are included from 2013 onwards.

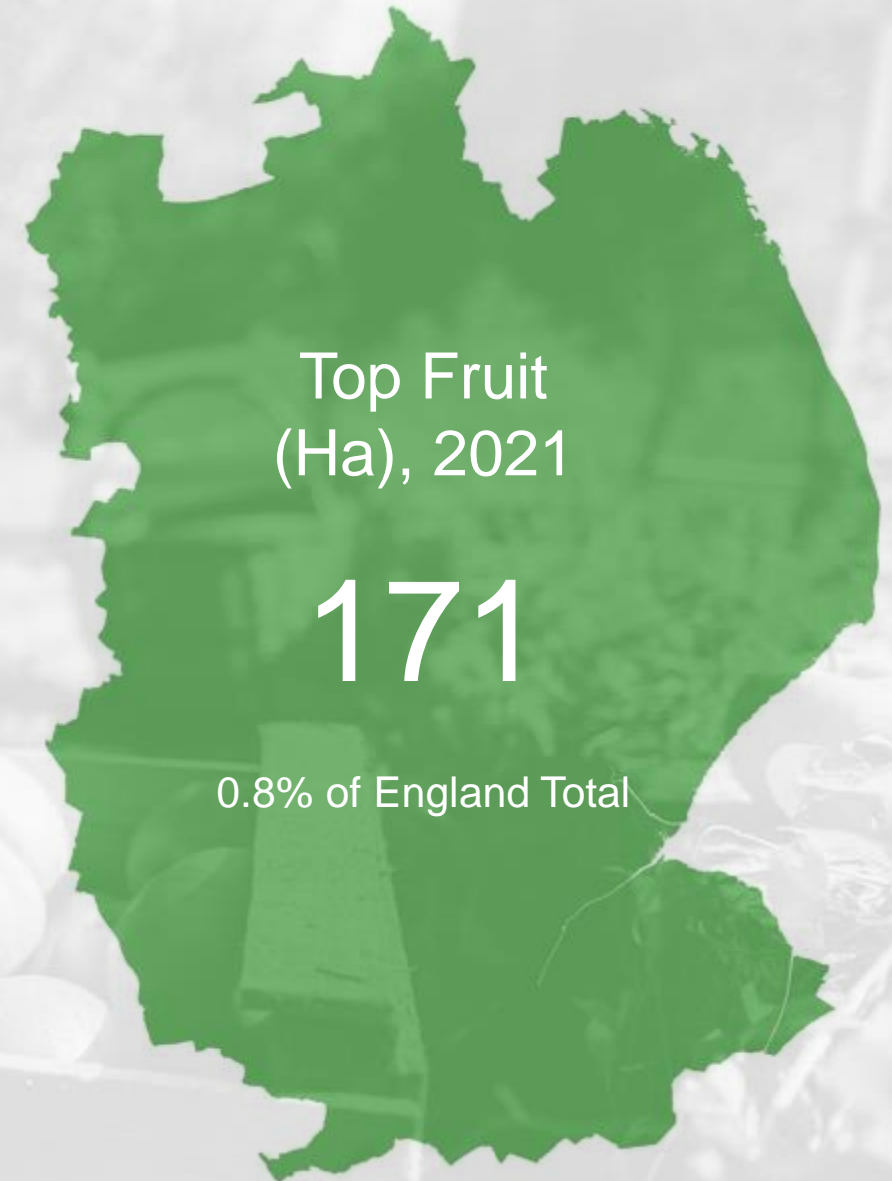
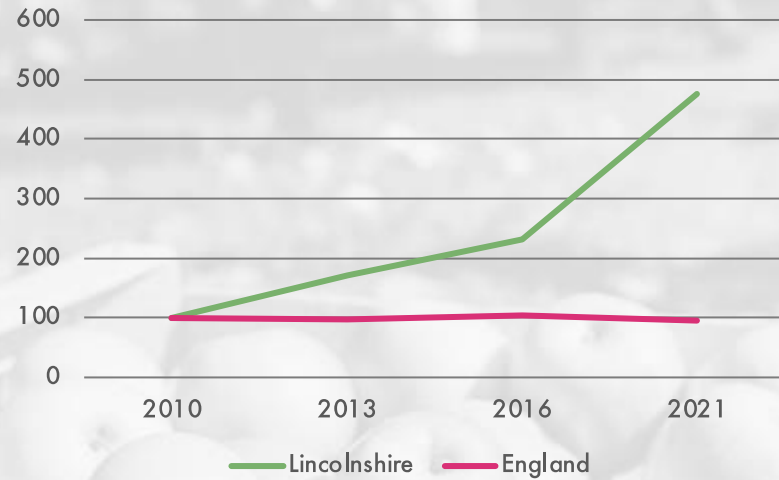
Glasshouses becoming operational since 2021 include those at Bridge Farm, Spalding (17ha), and Carrington (6ha – courtesy of Dyson Farming). Planned glasshouses include 10ha near Holbeach, 14ha at Crowland, 3ha near Spalding, 6ha near Boston, plus proposals for 32ha north of Lincoln.

TOP FRUIT

Total Top Fruit Area (Ha) in Lincolnshire



Change in Top Fruit Area, 2010=100



Top Fruit (Ha), 2021

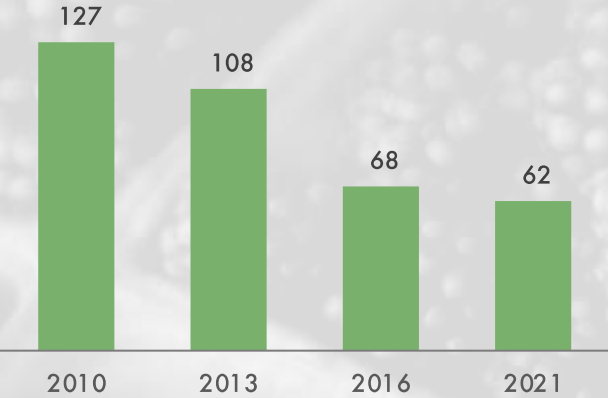
171

0.8% of England Total

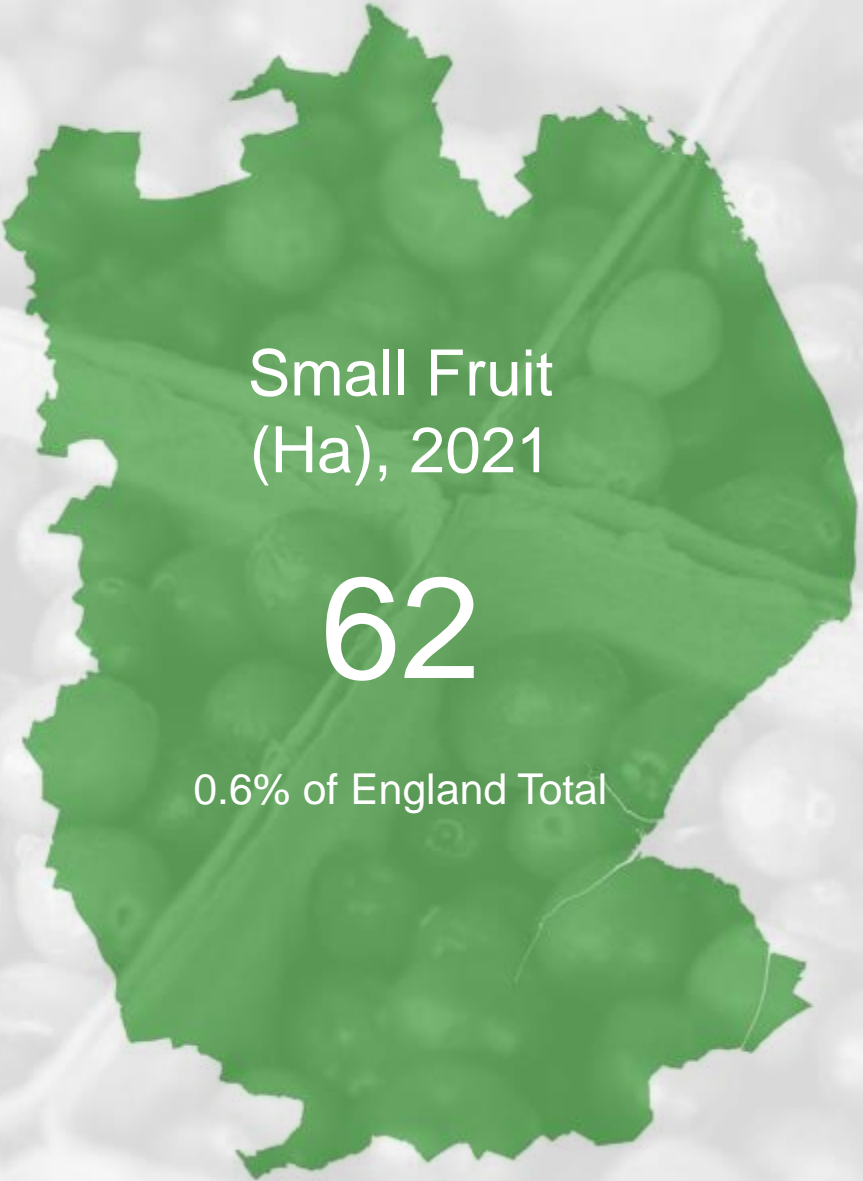
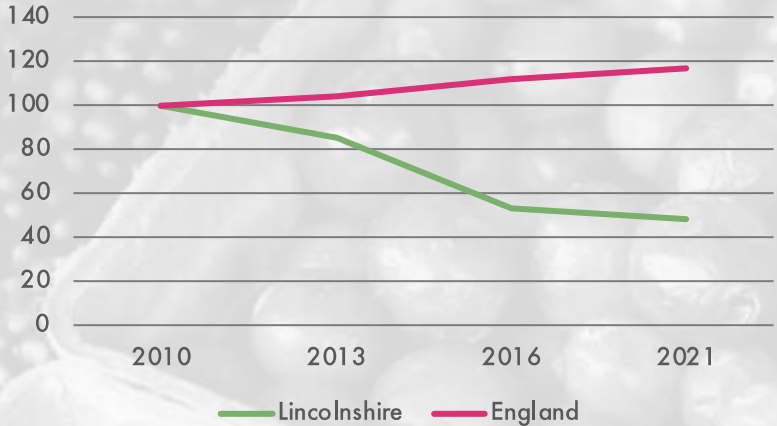
SMALL FRUIT

Page 191

Total Small Fruit Area (Ha) in Lincolnshire



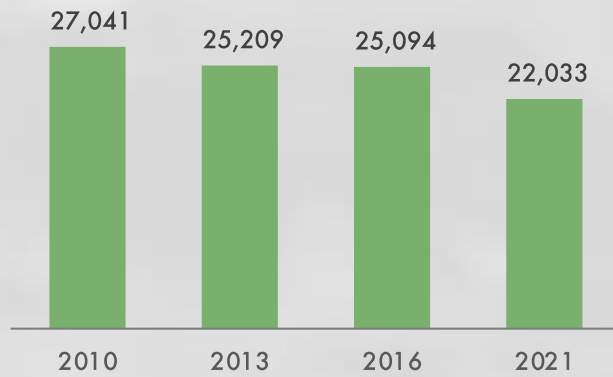
Change in Small Fruit Area, 2010=100



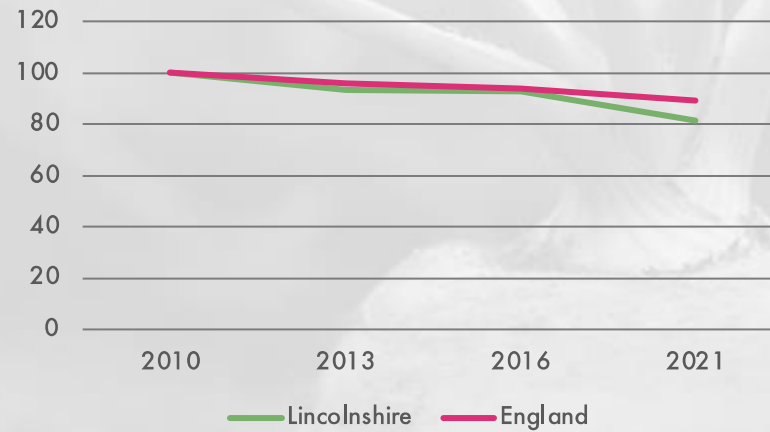
Note: Includes crops grown in Spanish tunnels.

TOTAL FRUIT AND VEG

Total Fruit and Veg Area (Ha) in Lincolnshire



Change in Fruit and Veg Area, 2010=100



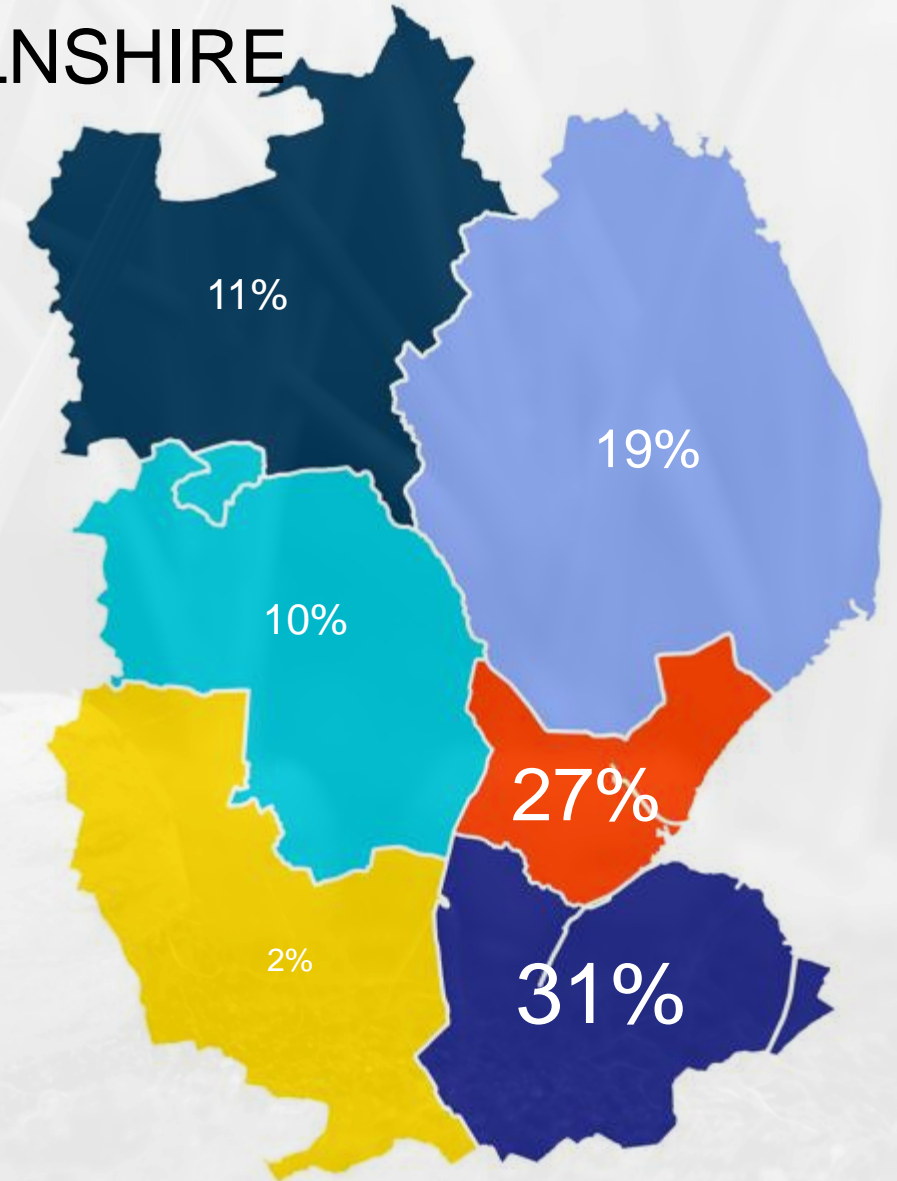
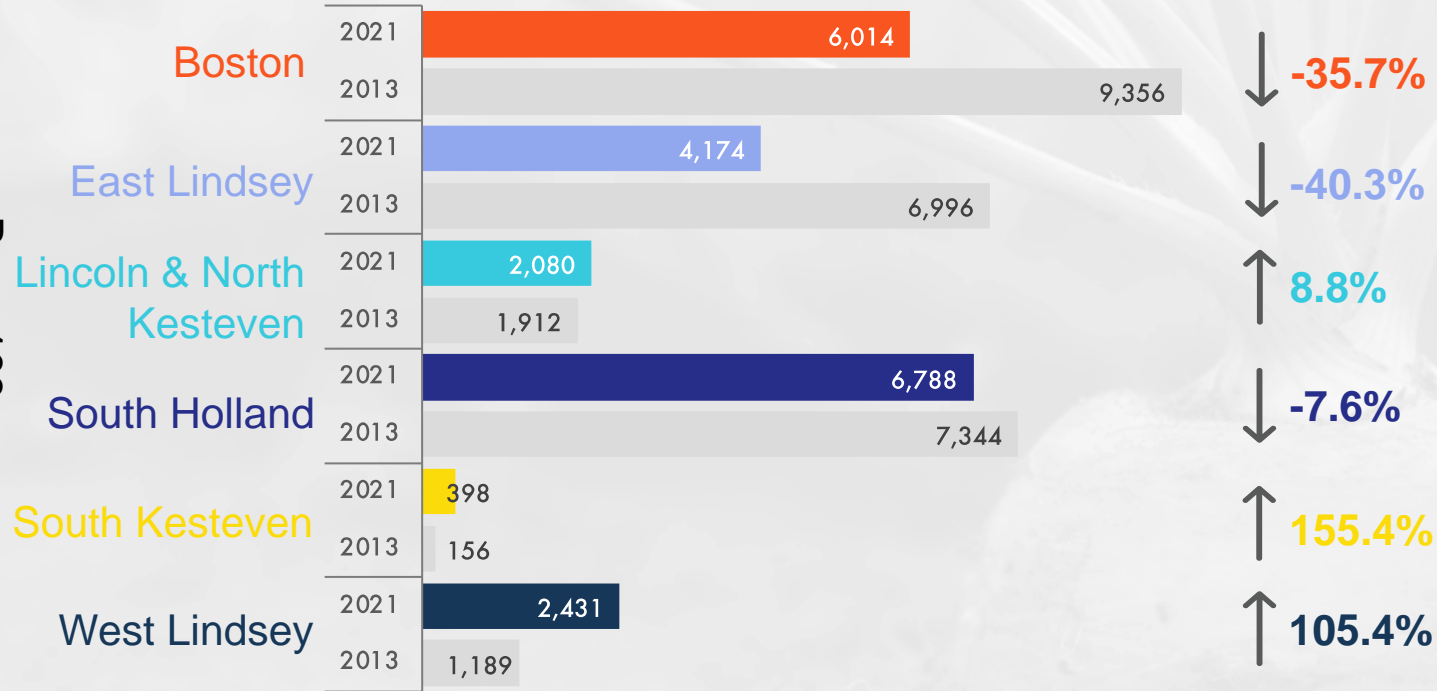
Total Fruit and Veg (Ha), 2021

22,033

18.3% of England Total

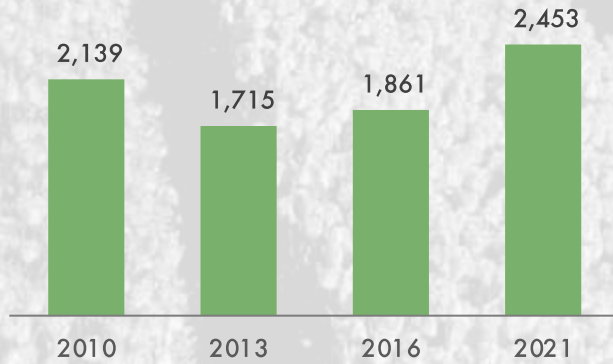
TOTAL FRUIT AND VEG ACROSS LINCOLNSHIRE

Total Fruit and Veg Area (Ha)

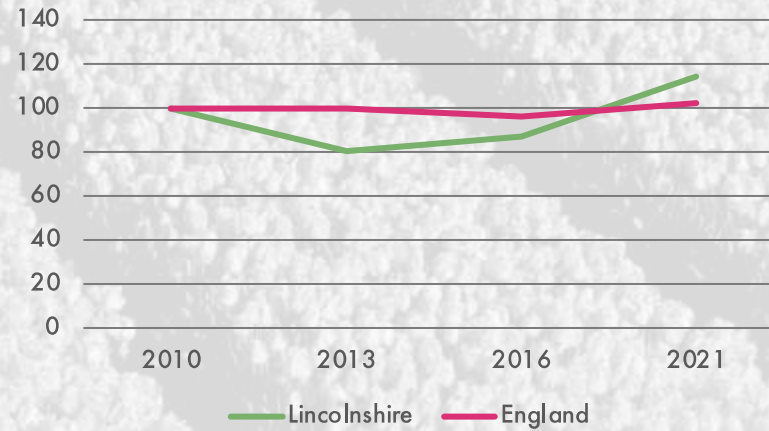


HARDY NURSERY STOCK

Total Hardy Nursery Stock Area (Ha) in Lincolnshire



Change in Hardy Nursery Stock Area, 2010=100



Hardy Nursery Stock (Ha), 2021

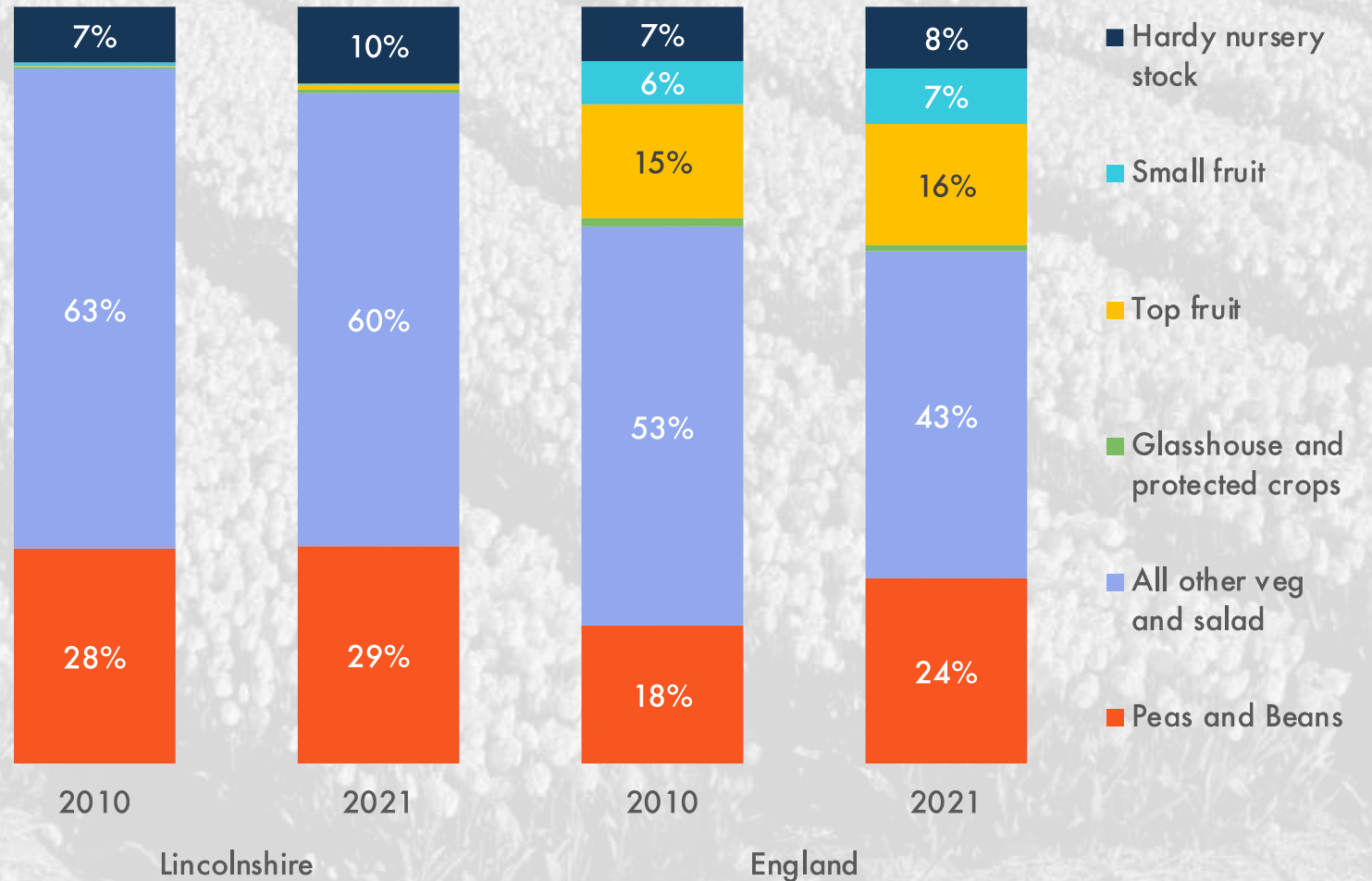
2,453

23.2% of England Total

Note: Includes bulbs and flowers grown in the open.

HORTICULTURAL AREA BY TYPE

Horticulture Area By Type



All other veg and salad crops dominate horticulture in Lincolnshire with 60% of the crop compared to just 43% nationally. The pea and bean crop is also significant in Lincolnshire at 29%, and again higher than the proportion nationally at 24%. Conversely, Lincolnshire is less geared towards fruit crops than nationally.

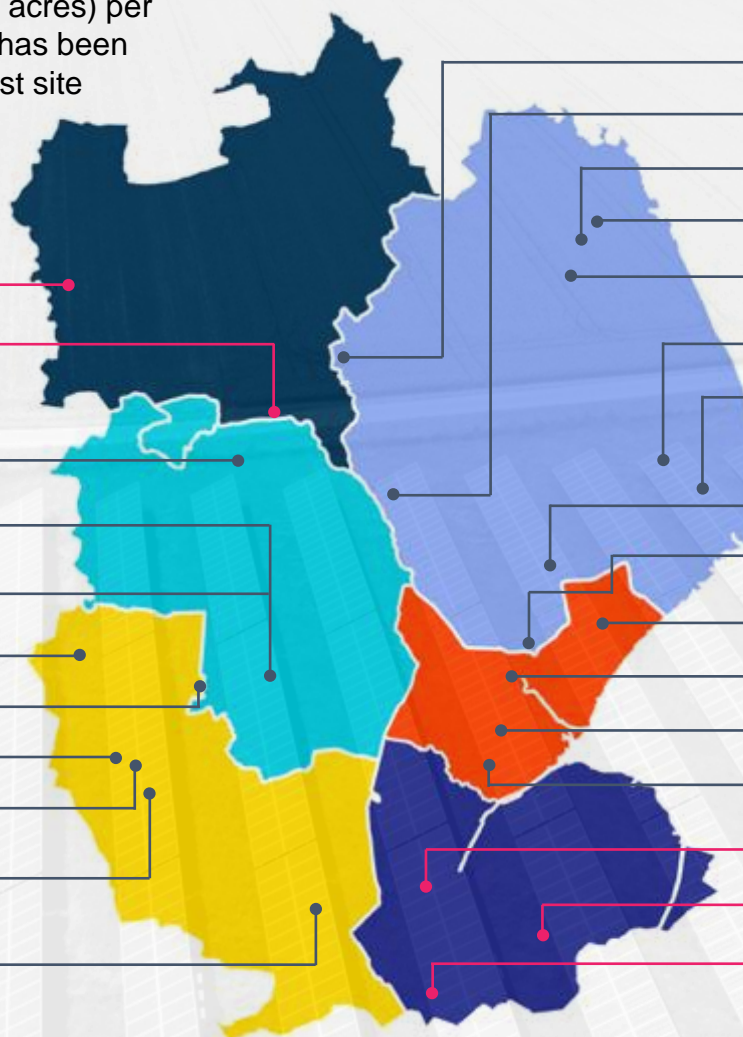
LAND USE FOR ENERGY



OPERATIONAL SOLAR PHOTOVOLTAIC SITES

Typically, developers require about 2 hectares of land (5 acres) per megawatt of power* and it is on this basis that land use has been estimated for these sites. In total, and based on this latest site information, solar photovoltaic sites currently cover 606 hectares of land across Lincolnshire.

	MW Generated	Estimated Ha
Freewatt Renewable Energy, Stow	32.70	66
NESF (formerly Lark Energy), Fiskerton	25.30	51
Inazin Energy Ltd, Branston	18.90	38
Deepdale Farm Solar Ltd, Sleaford	8.00	16
NESF (formerly Lark Energy), Sleaford	15.00	30
TGC Renewables, Claypole	30.00	60
Octopus Investments, Ancaster	32.50	70
British Solar Renewables, Foston	5.00	10
NESF (formerly Lark Energy), Marston	4.90	10
Island Green Power, Woodnock	5.00	10
NESF (formerly Lark Energy), Bourne	4.60	10



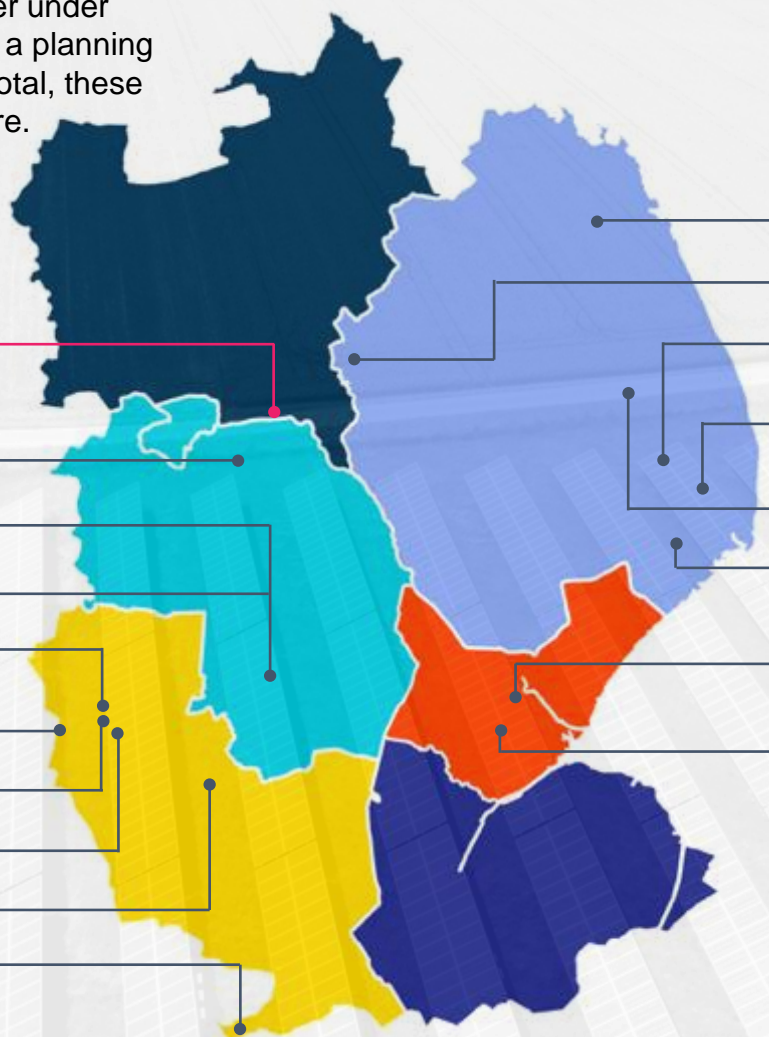
	MW Generated	Estimated Ha
Sun & Soil, Wragby	3.70	7
Solar Park Developments, Kirby on Bain	19.00	38
Foresight, Yarburgh	8.10	16
Ecotricity, Conisholme	1.00	2
European Energy Photovoltaics, South Reston	6.50	13
Juwi Renewables Energies, Irby in the Marsh	11.40	23
The Hollies Solar Park, Croft	8.60	17
Skegness Solar Park, Skegness	4.90	10
Solar Century/ Bluefield Solar, Stickney	5.00	10
Countryside Renewables, Frith Bank	5.00	10
Hazel Capital LLP, Leverton	12.00	24
NESF (formerly Lark Energy), Boston	1.40	3
Ethical Power, Kirton	3.20	6
Estover Energy, Sutterton	8.10	16
Moor Solar, Spalding	2.70	5
Green Switch Solutions, Sutton St James	12.70	25
Push Energy/NESF, Crowland	5.00	10

*NFU Briefing <https://www.nfuonline.com/archive?treeid=21480>

Source: Renewable Energy Planning Database, July 2022, Department for Business, Energy & Industrial Strategy

PLANNED AND PROPOSED SOLAR PHOTOVOLTAIC SITES

The solar photovoltaic sites shown on this slide are either under construction (UC), awaiting construction (AC), have had a planning application submitted (AS), or are being scoped (S). In total, these sites will cover 1,347 hectares of land across Lincolnshire.



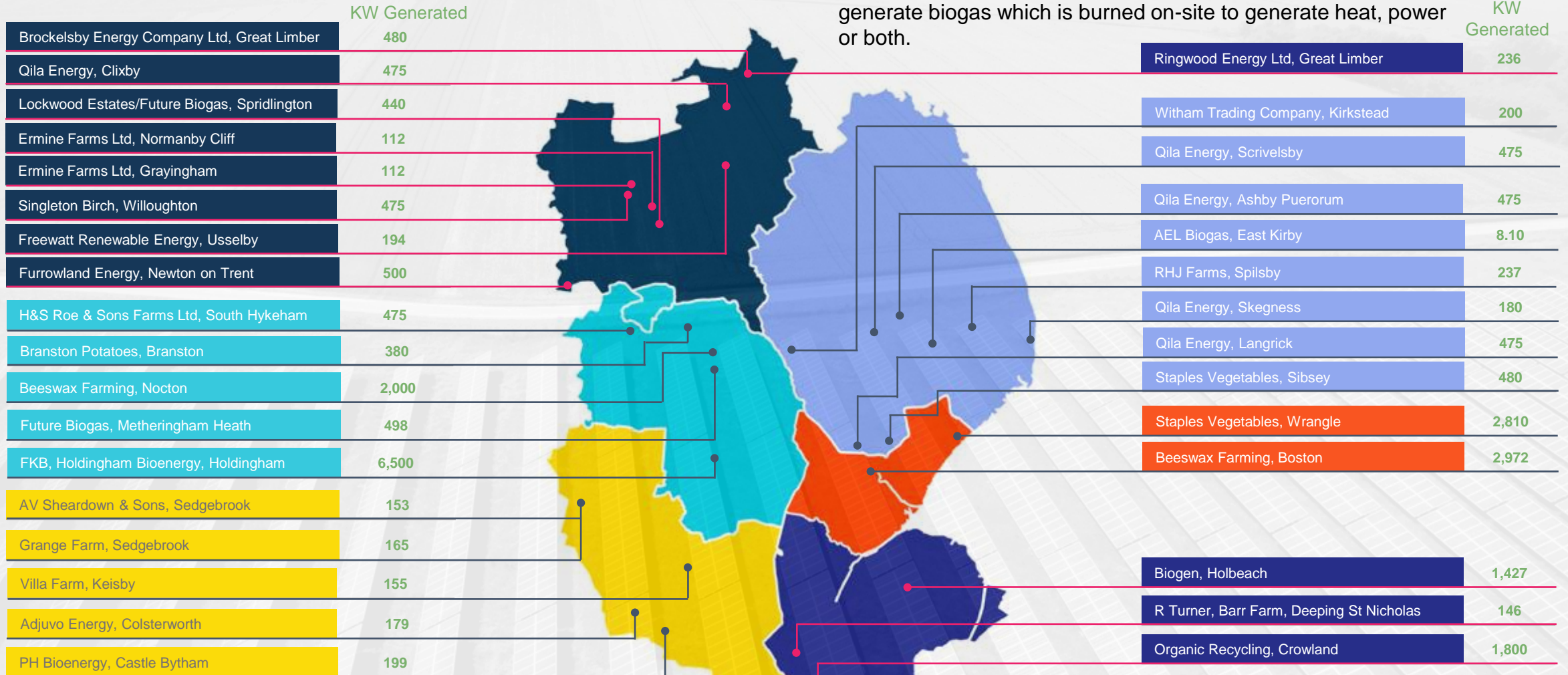
	MW Generated	Estimated Ha
Grey Street Solar Ltd, The Old Airfield, Fiskerton (AC)	49.90	100
Ethical Power, Branston (UC)	40.00	80
Next Power, Sleaford (UC)	25.00	50
Elgin Energy Esco, Sleaford (UC)	20.00	40
By-Pass Farm Solar Ltd, Foston (AC)	49.99	100
JBM Solar Projects Ltd, Belvoir Estate Solar Farm, Muston (AS)	49.90	100
NESF (formerly Lark Energy), Allington (AC)	4.90	10
Lightsource BP, Great Gonerby (AC)	TBC	TBC
Ridge Clean Energy Ltd, Folkingham Airfield (S)	240.00	480
NESF (formerly Lark Energy), Stamford (AC)	3.90	8

	MW Generated	Estimated Ha
Ecotricity, Fen Farm Solar Park Extension, Conisholme (AC)	5.00	10
Push Energy, Hatton Solar Farm, Sotby (AS)	49.90	100
Innova Renewables Ltd, Irby in the Marsh (UC)	22.00	44
Juwi Renewable Energies, The Hollies Solar Park Extension, Croft (AC)	1.40	3
Marriages Specialist Foods, Alford (AC)	1.50	3
Anesco Ltd, Low Farm Solar, Wainfleet (AS)	49.90	100
Infinis Solar Developments Ltd, Boston landfill, Wyberton (AC)	9.70	19
Renewable Connections Developments Ltd, Bicker (AC)	49.90	100

Source: Renewable Energy Planning Database, July 2022, Department for Business, Energy & Industrial Strategy

ANAEROBIC DIGESTION SITES

We note that currently only two sites shown here provide biomethane into the national grid (FKB at Holdingham, and Lockwood Estates/Future Biogas at Spridlington) The rest generate biogas which is burned on-site to generate heat, power or both.



Sources: Anaerobic Digestion Deployment in the UK April 2021, NNFCC; Renewable Energy Planning Database, July 2022, Department for Business, Energy & Industrial Strategy

ENERGY CROPS

121,000 hectares (ha) of agricultural land was used for bioenergy crops in the UK in 2020 comprising:

- 29,000 ha of wheat and 7,000 ha of sugar beet used for biofuels
- 75,000 ha of maize used for anaerobic digestion
- 8,000 ha of miscanthus and 2,000 ha of short rotation coppice used in biomass

In 2020 Arable land used for bioenergy crops in the UK equated to 2.1% of the total arable area. This was an increase from 1.6% in 2019.

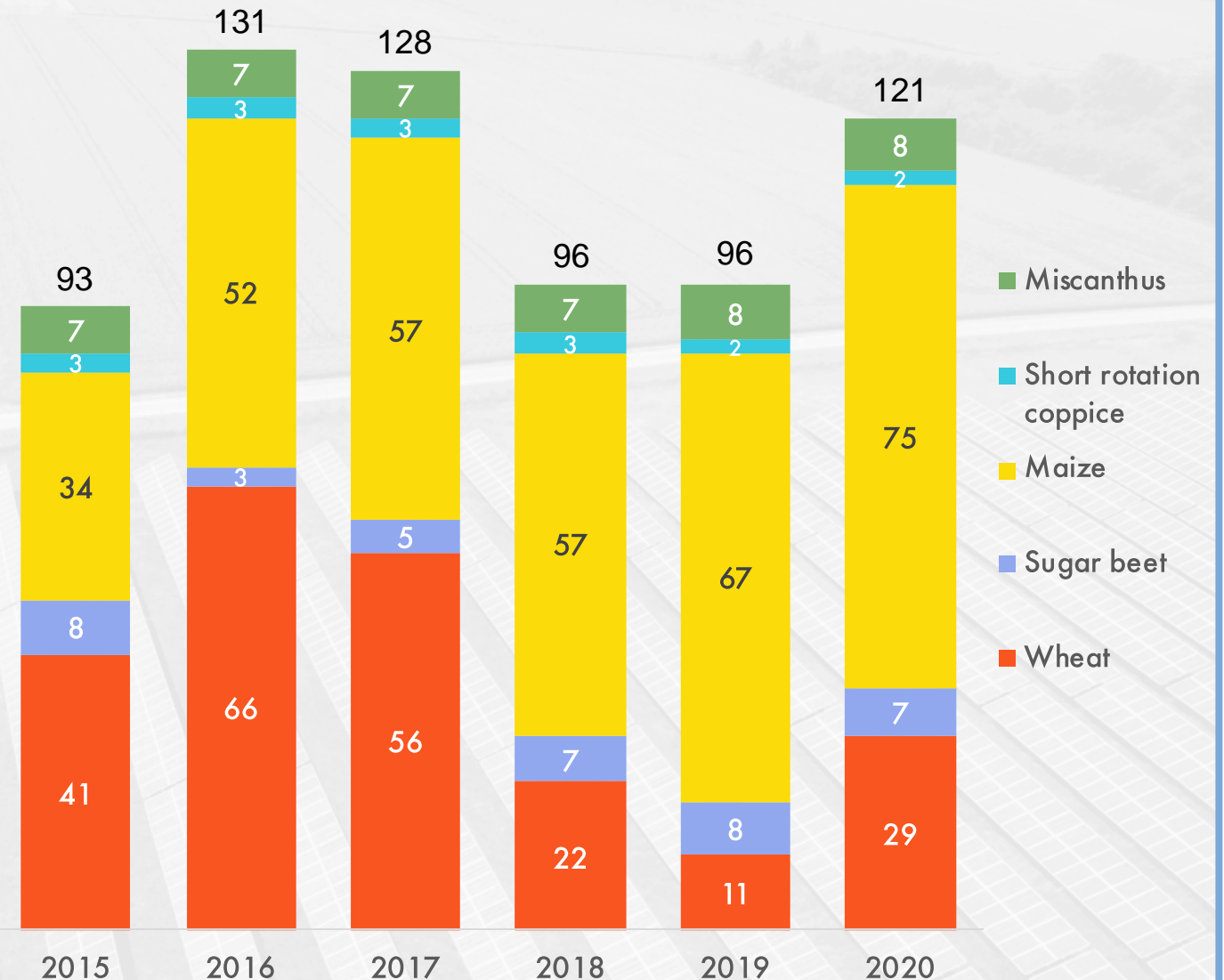
30% of land used for bioenergy in 2020 was for biofuel (biodiesel and bioethanol) crops for the UK road transport market, with the remainder used mostly for heat and power production.

293 million litres/kilograms of biofuel for the UK road transport market were produced from UK grown crops.

Just under 7.2 million tonnes oil equivalent of plant biomass were used to produce electricity and heat in the UK.

Source: <https://www.gov.uk/government/statistics/area-of-crops-grown-for-bioenergy-in-england-and-the-uk-2008-2020>

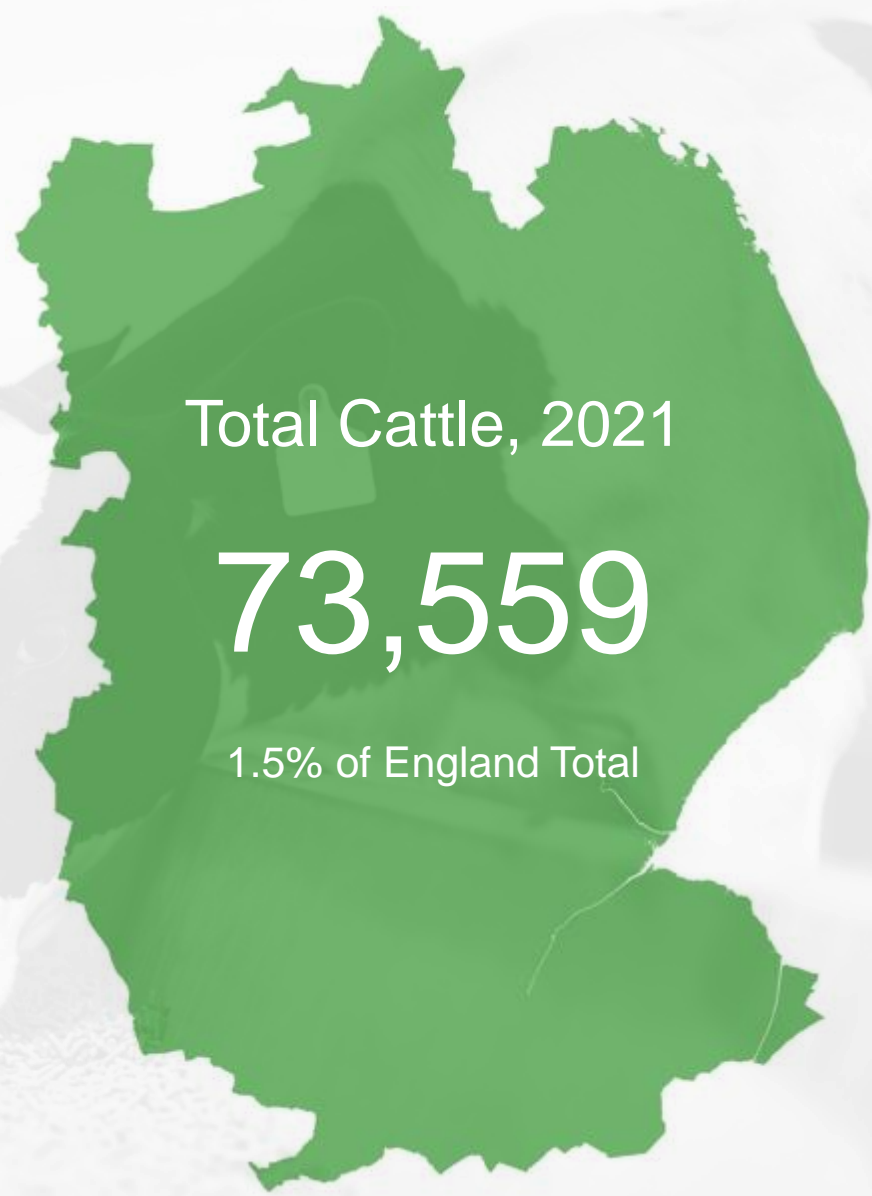
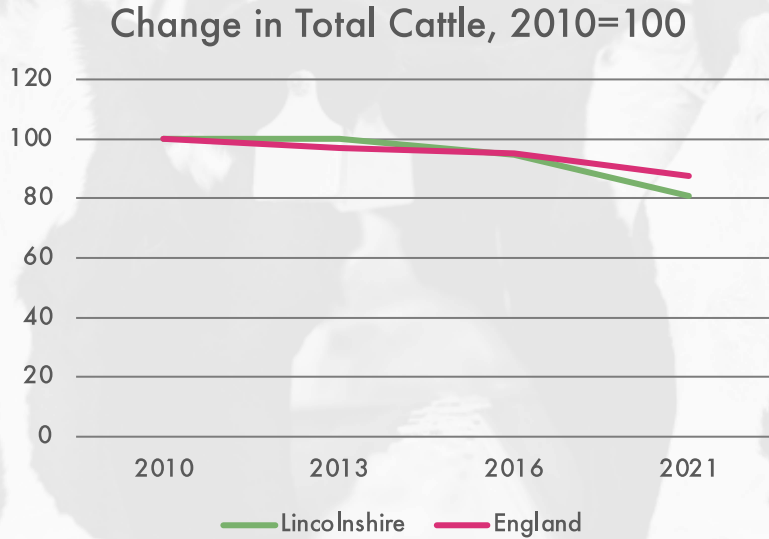
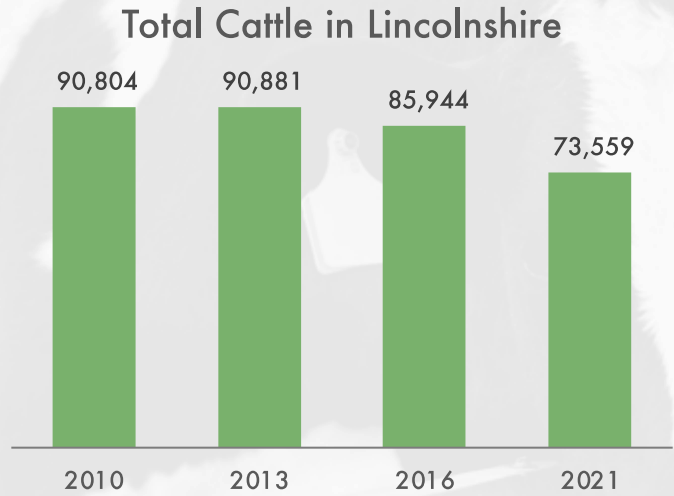
National Agricultural Land Use (Ha) for Energy Crops



CATTLE

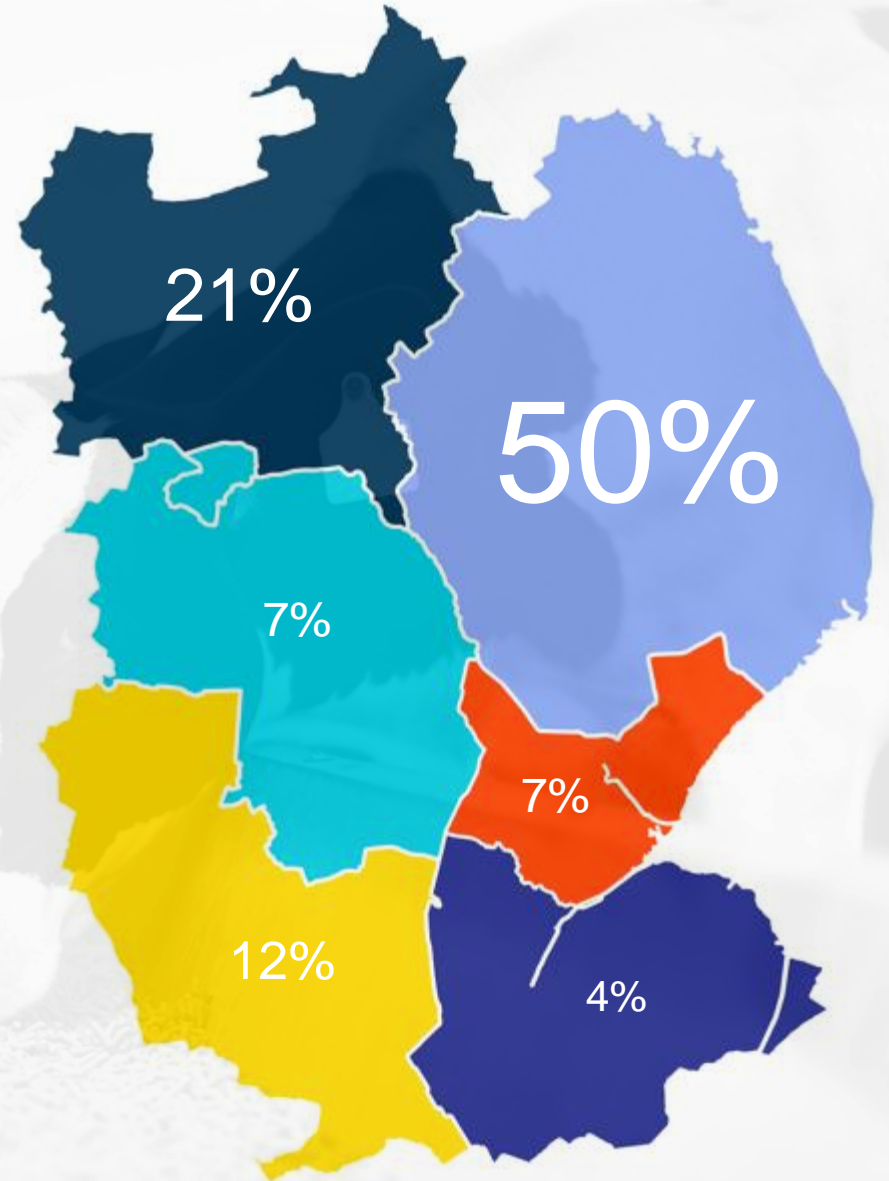
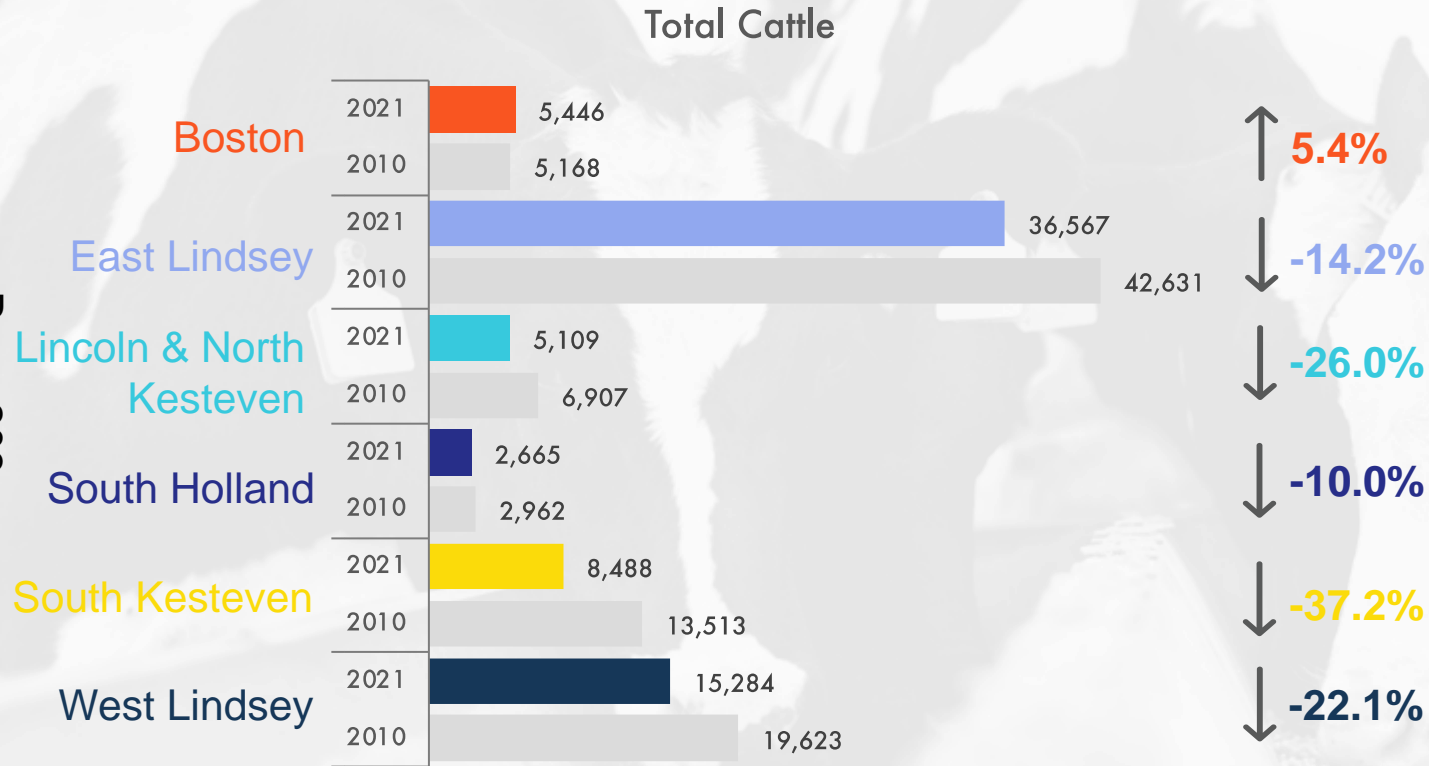


TOTAL CATTLE



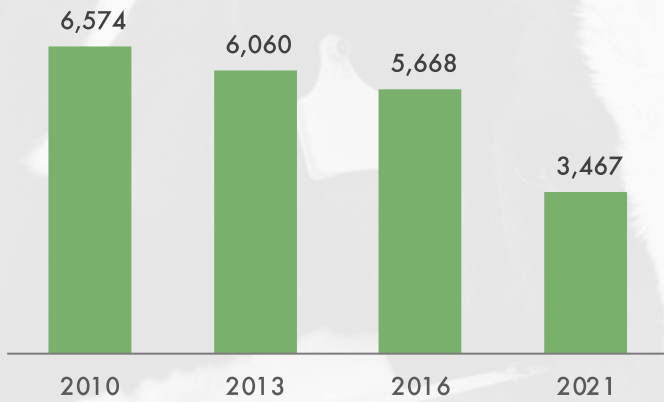
Note: Cattle figures relate to commercial holdings only.

TOTAL CATTLE ACROSS LINCOLNSHIRE

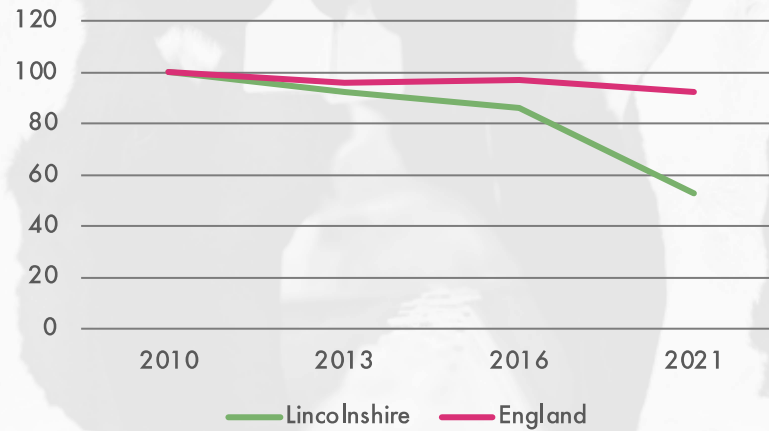


DAIRY BREEDING HERD

Total Dairy Breeding Herd in Lincolnshire



Change in Dairy Breeding Herd, 2010=100



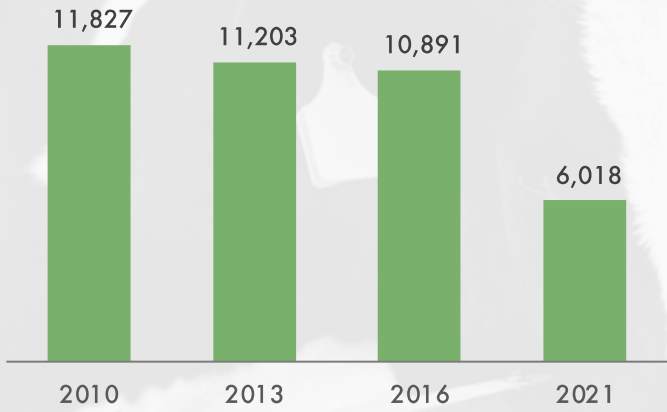
Total Dairy Breeding Herd, 2021

3,467

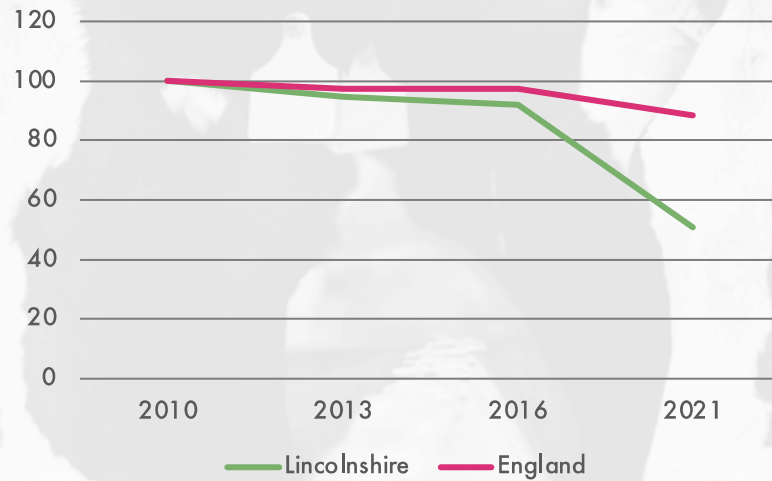
0.3% of England Total

TOTAL DAIRY HERD

Total Dairy Herd in Lincolnshire



Change in Dairy Herd, 2010=100



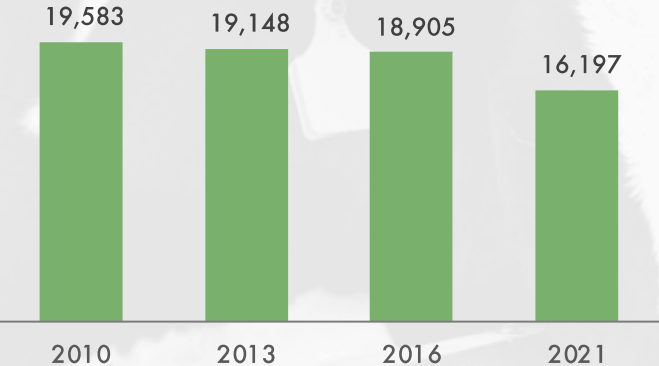
Total Dairy Herd, 2021

6,018

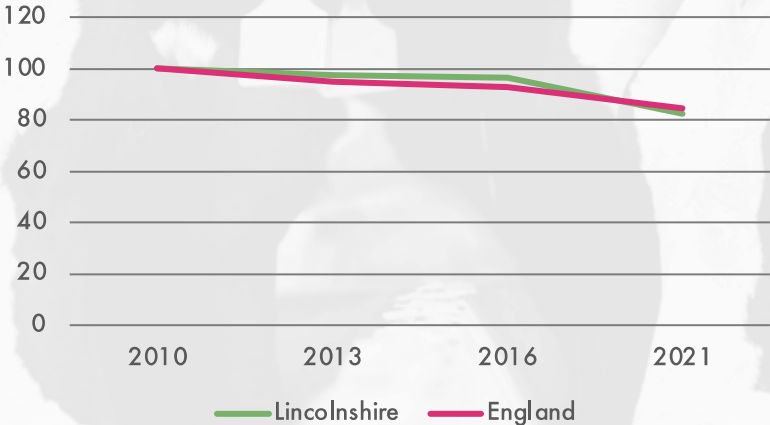
0.3% of England Total

BEEF BREEDING HERD

Total Beef Breeding Herd in Lincolnshire



Change in Beef Breeding Herd, 2010=100



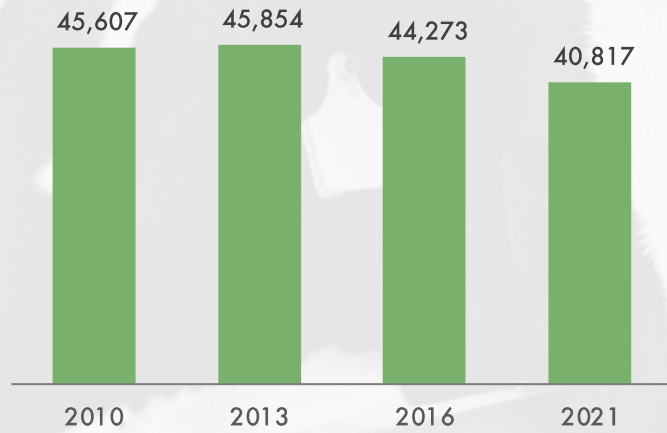
Total Beef Breeding Herd, 2021

16,197

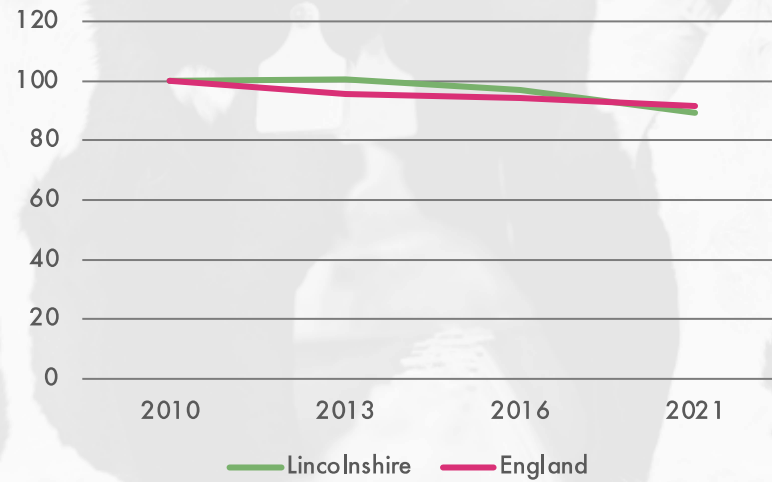
2.5% of England Total

TOTAL BEEF HERD

Total Beef Herd in Lincolnshire



Change in Beef Herd, 2010=100



Total Beef Herd, 2021

40,817

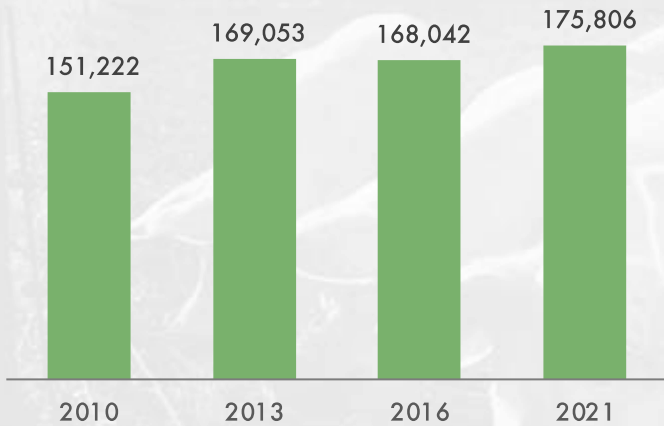
2.3% of England Total

PIGS

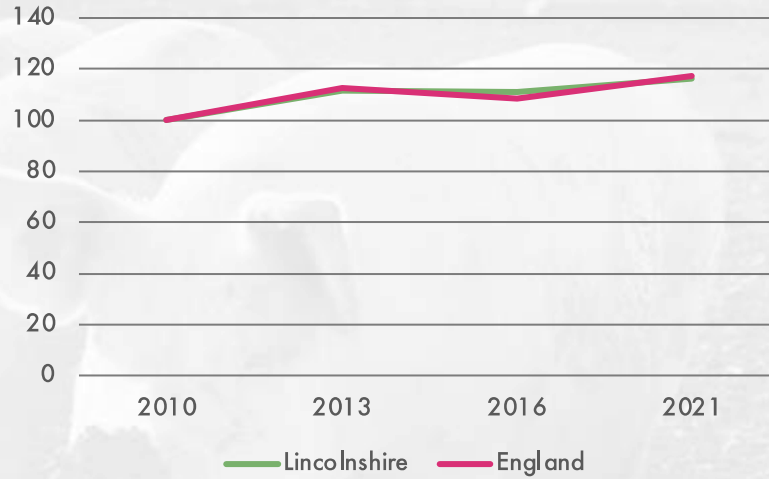


TOTAL PIGS

Total Pigs in Lincolnshire



Change in Total Pigs, 2010=100



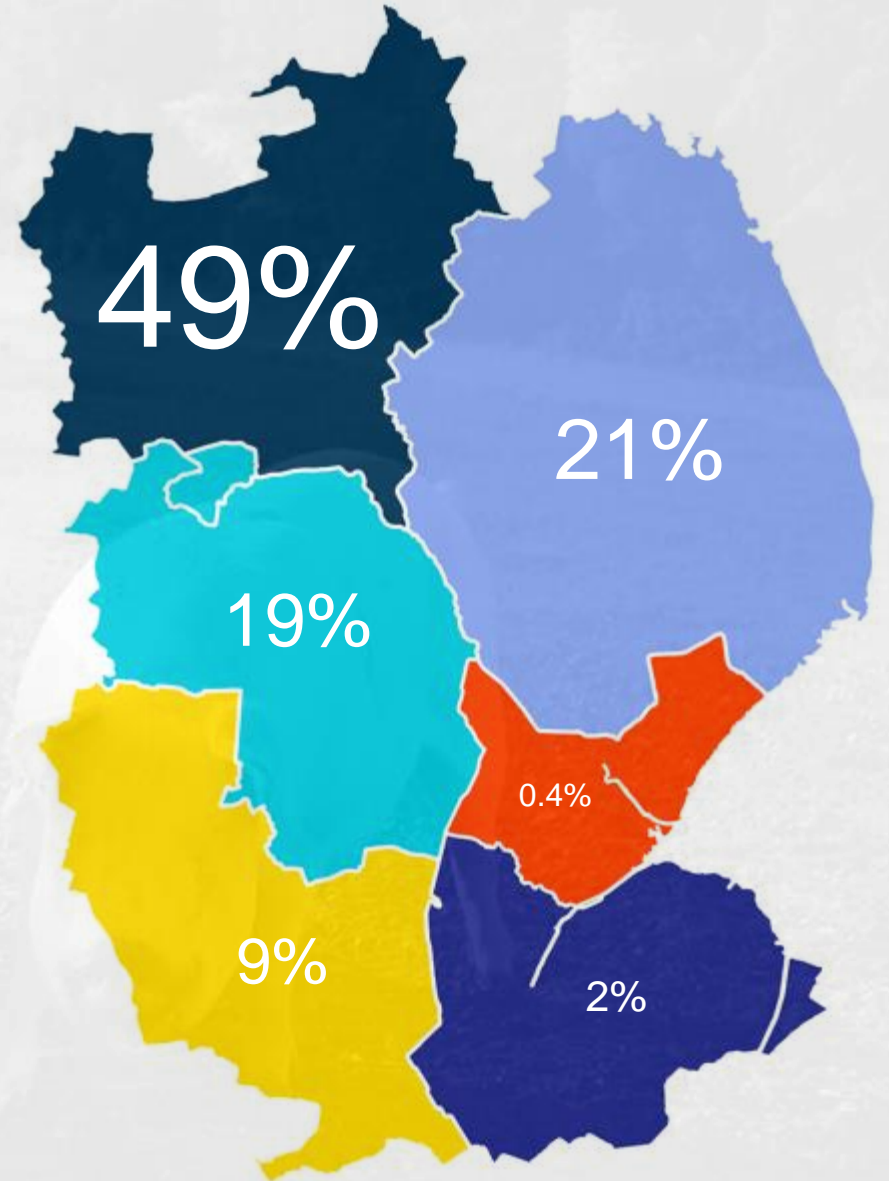
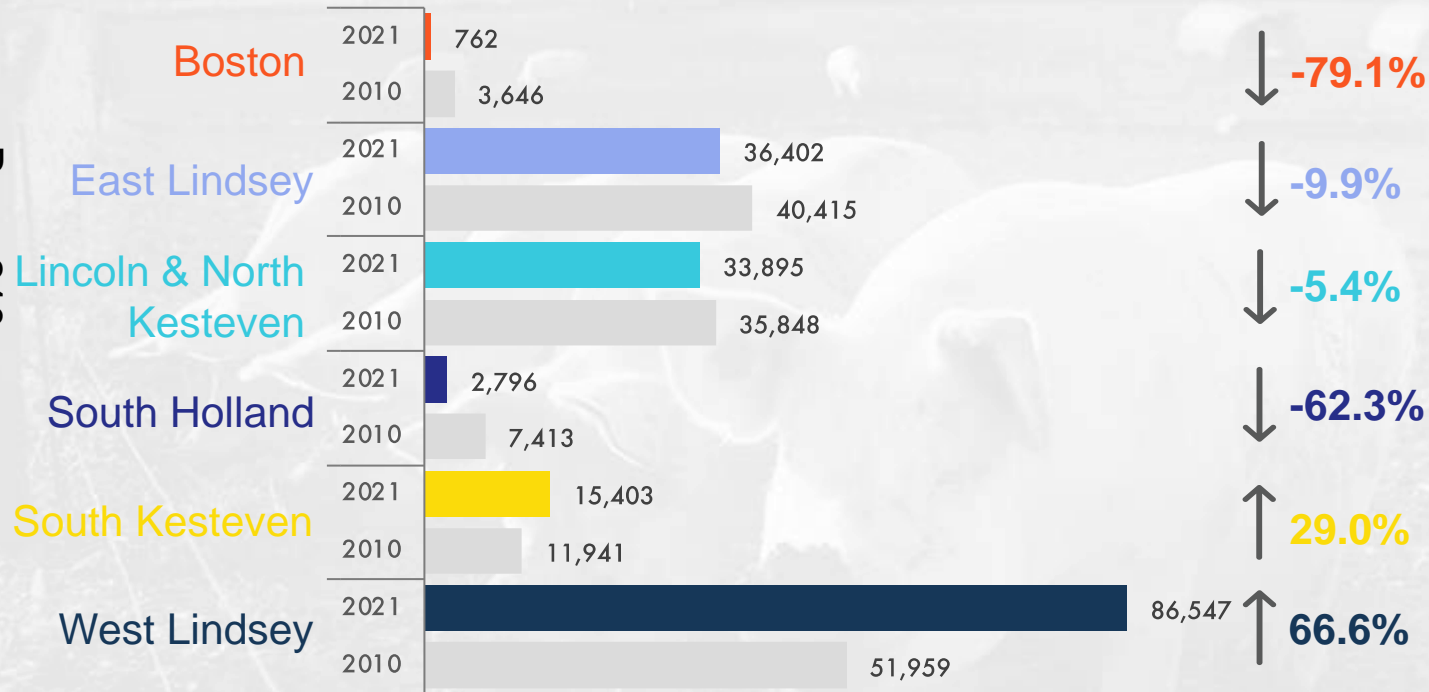
Total Pigs, 2021

175,806

4.1% of England Total

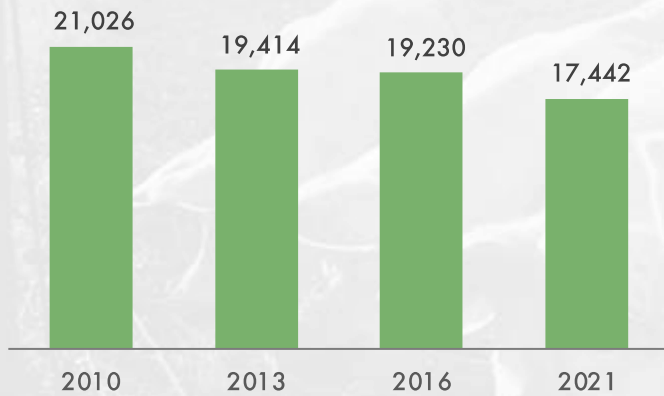
TOTAL PIGS ACROSS LINCOLNSHIRE

Total Pigs

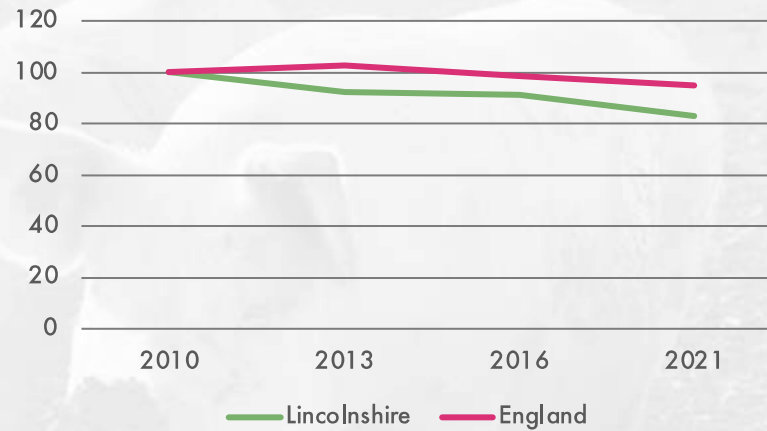


BREEDING PIGS

Total Breeding Pigs in Lincolnshire



Change in Total Breeding Pigs, 2010=100



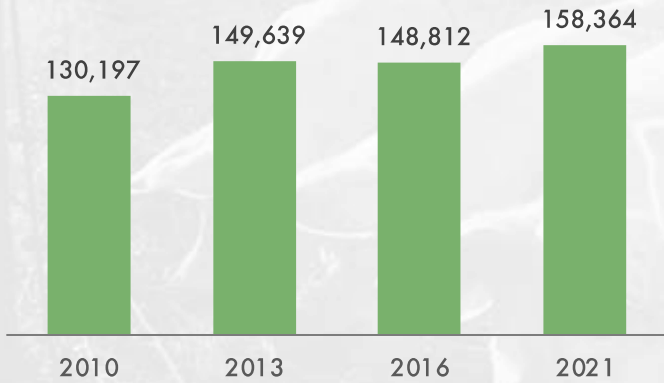
Breeding Pigs, 2021

17,442

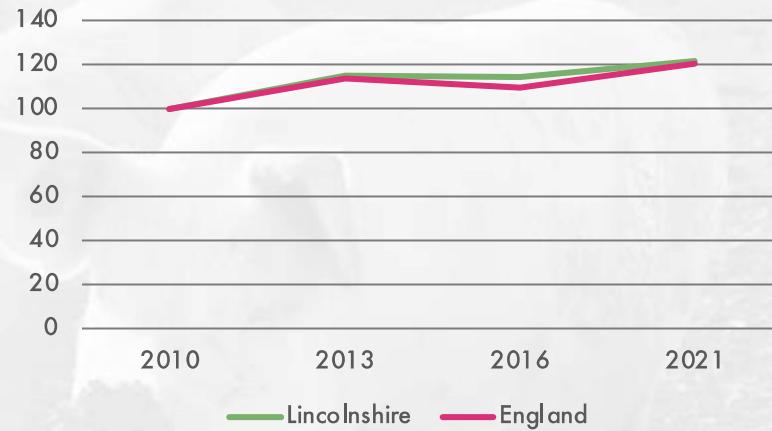
4.3% of England Total

FATTENING PIGS

Total Fattening Pigs in Lincolnshire



Change in Total Fattening Pigs, 2010=100



Fattening Pigs, 2021

158,364

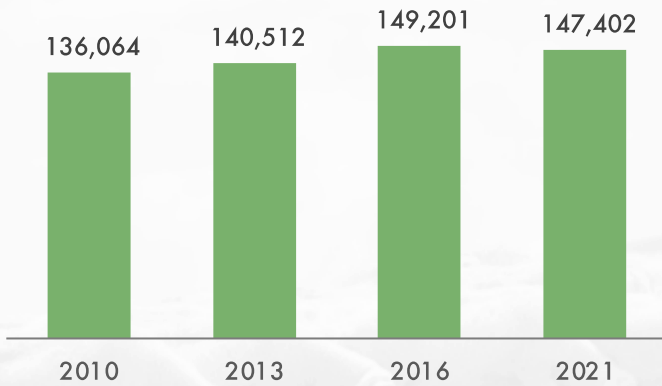
4.1% of England Total

SHEEP, GOATS AND HORSES

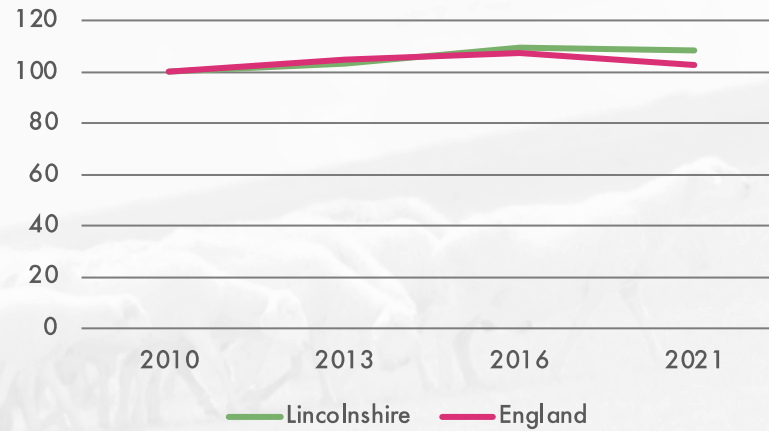


TOTAL SHEEP

Total Sheep and Lambs in Lincolnshire

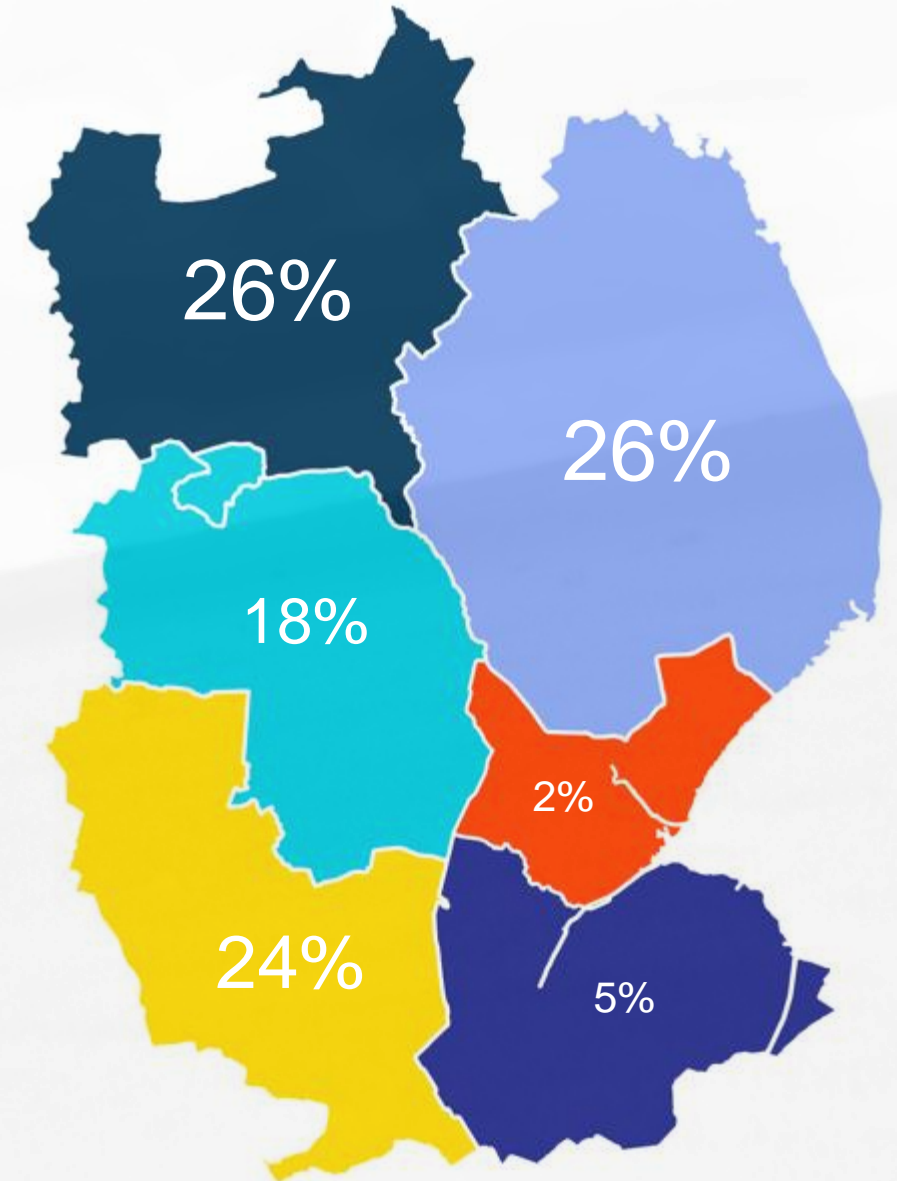
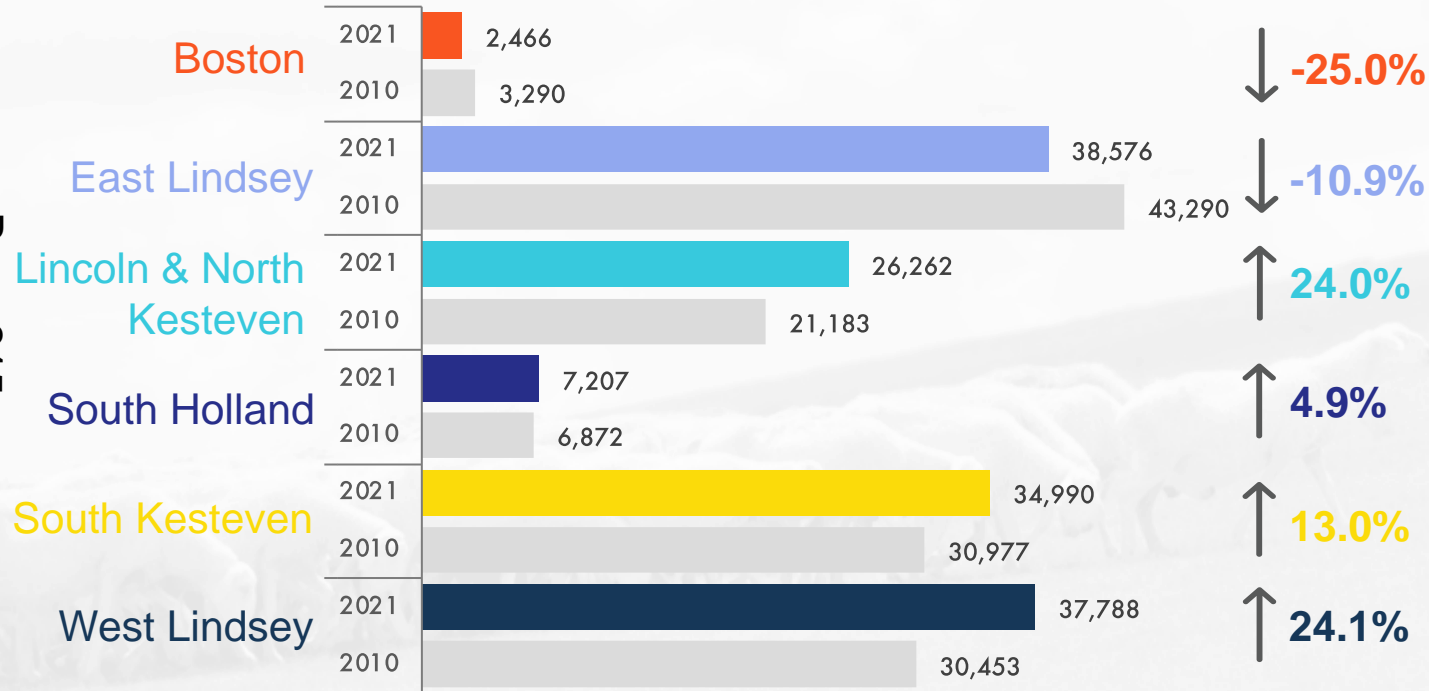


Change in Total Sheep and Lambs, 2010=100



TOTAL SHEEP ACROSS LINCOLNSHIRE

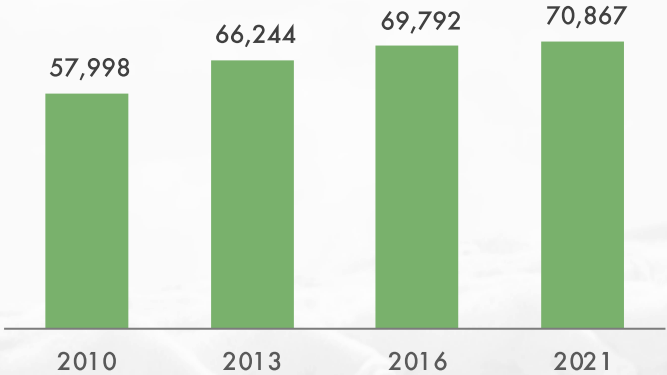
Total Sheep



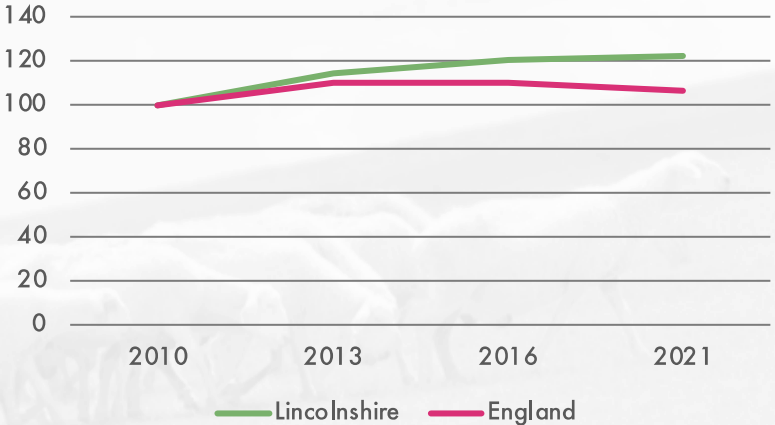
SHEEP FEMALE BREEDING STOCK

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Total Sheep Female Breeding Stock in Lincolnshire

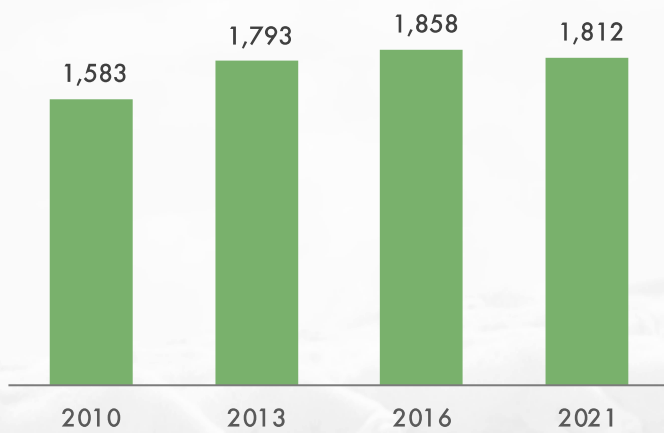


Change in Sheep Female Breeding Stock, 2010=100

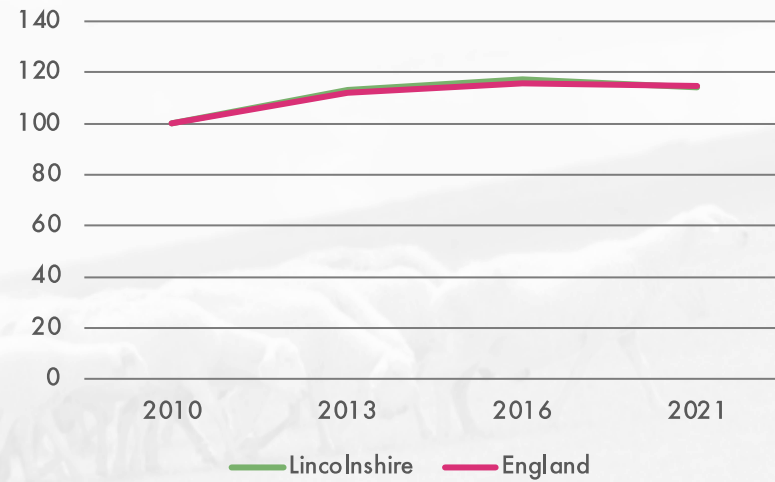


RAMS

Total Rams in Lincolnshire



Change in Rams, 2010=100



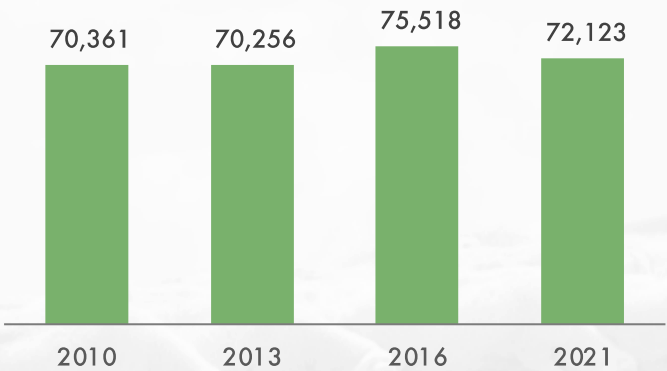
Rams, 2021

1,812

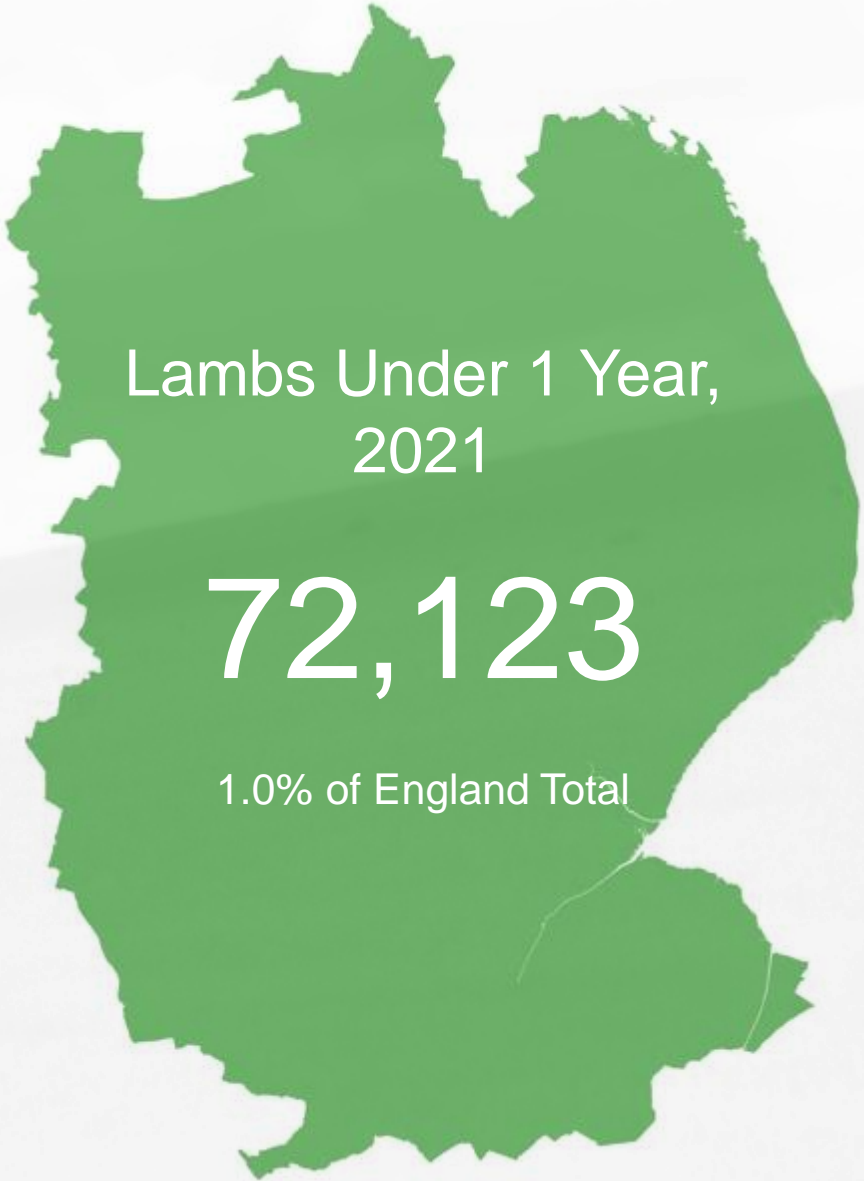
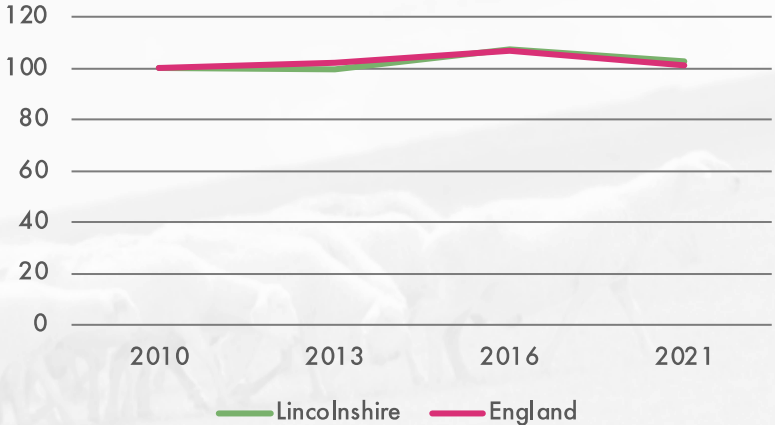
1.0% of England Total

LAMBS UNDER 1 YEAR

Total Lambs Under 1 Year in Lincolnshire

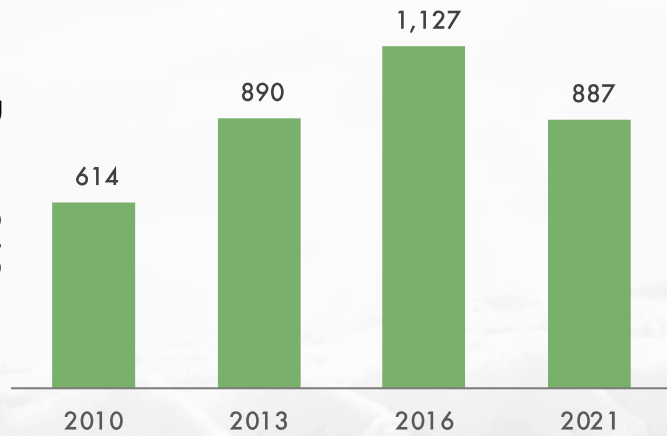


Change in Lambs Under 1 Year, 2010=100

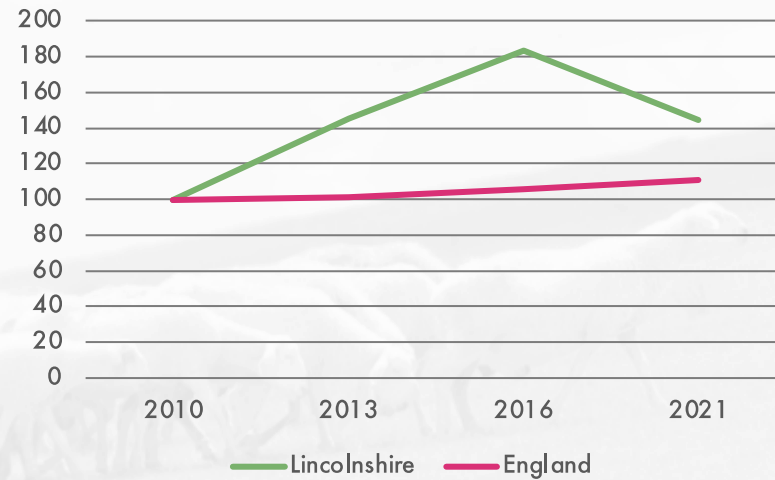


GOATS

Total Goats in Lincolnshire



Change in Goats, 2010=100



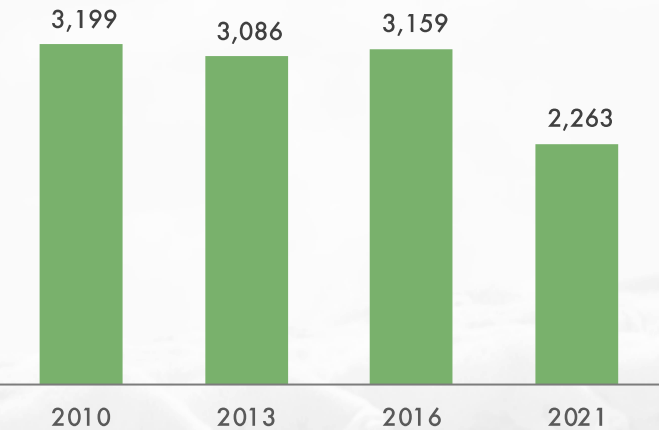
Goats, 2021

887

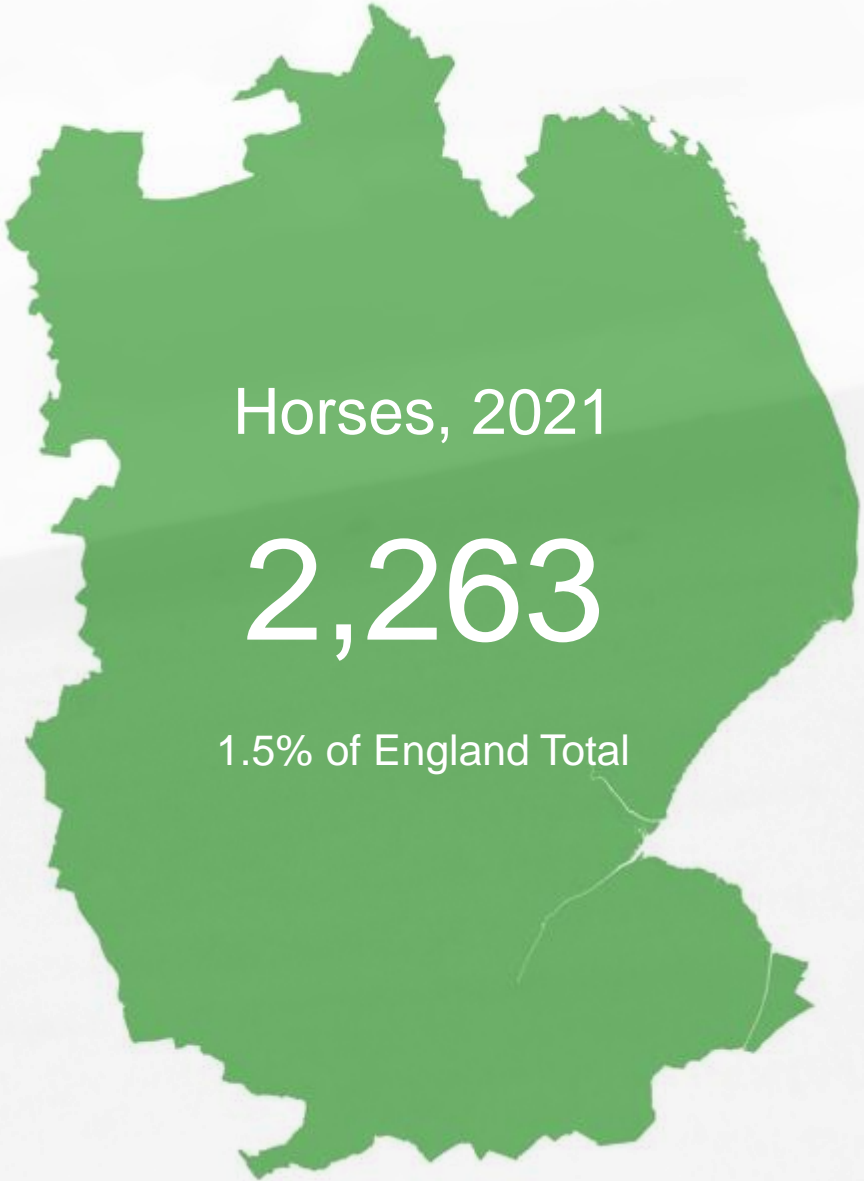
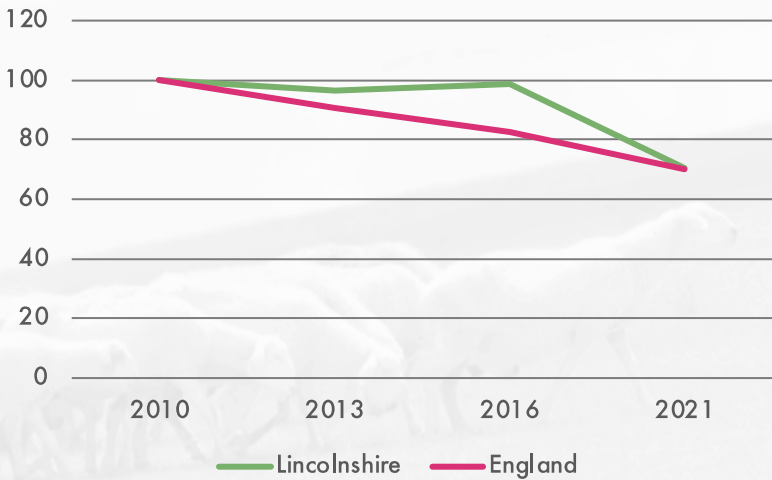
1.0% of England Total

HORSES

Total Horses in Lincolnshire



Change in Horses, 2010=100

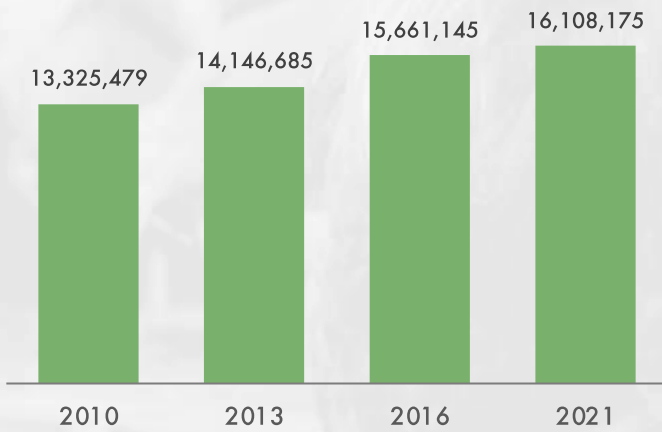


POULTRY

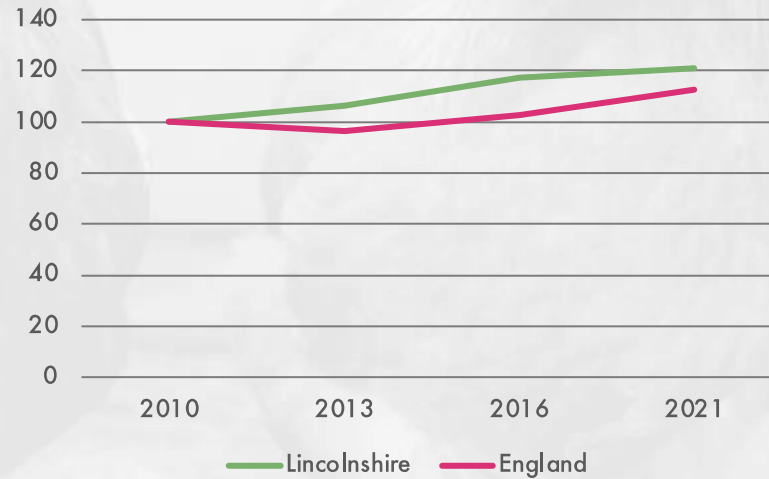


TOTAL POULTRY

Total Poultry in Lincolnshire



Change in Poultry, 2010=100



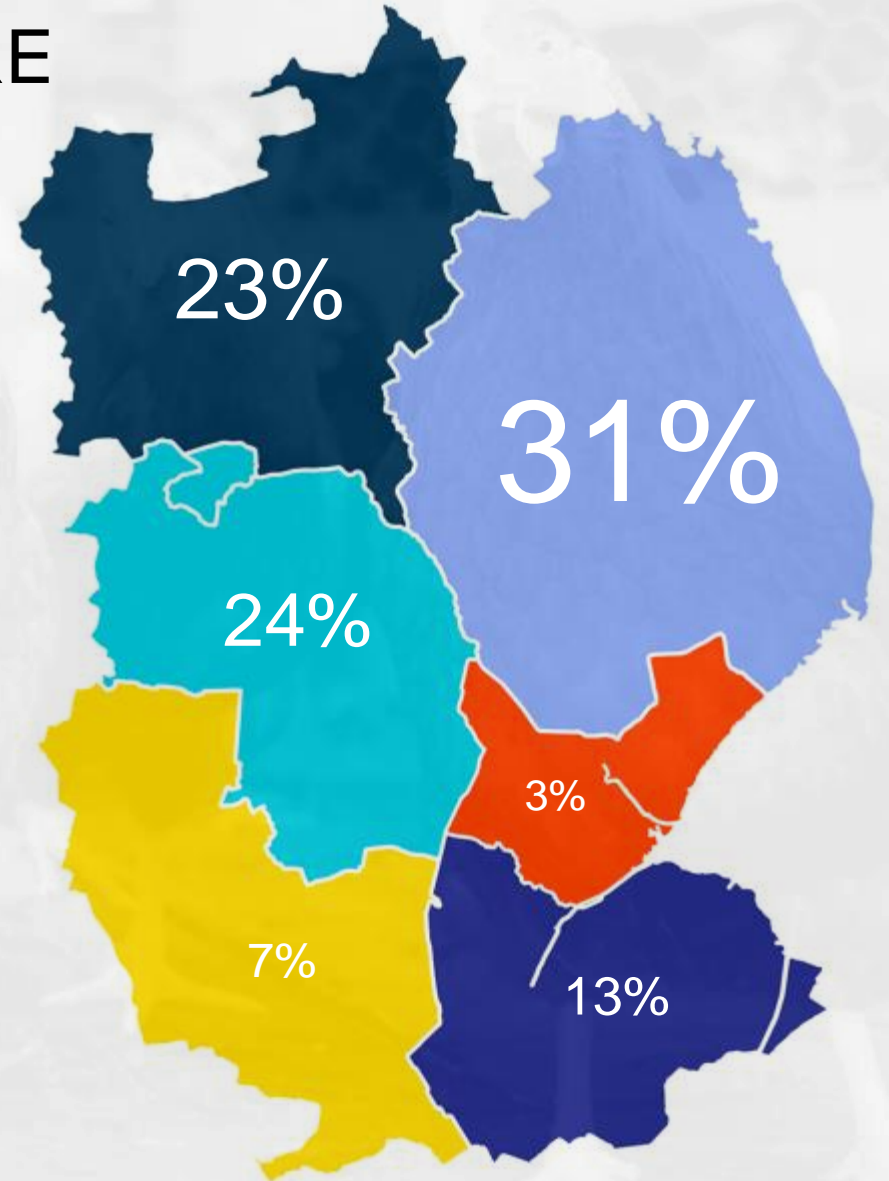
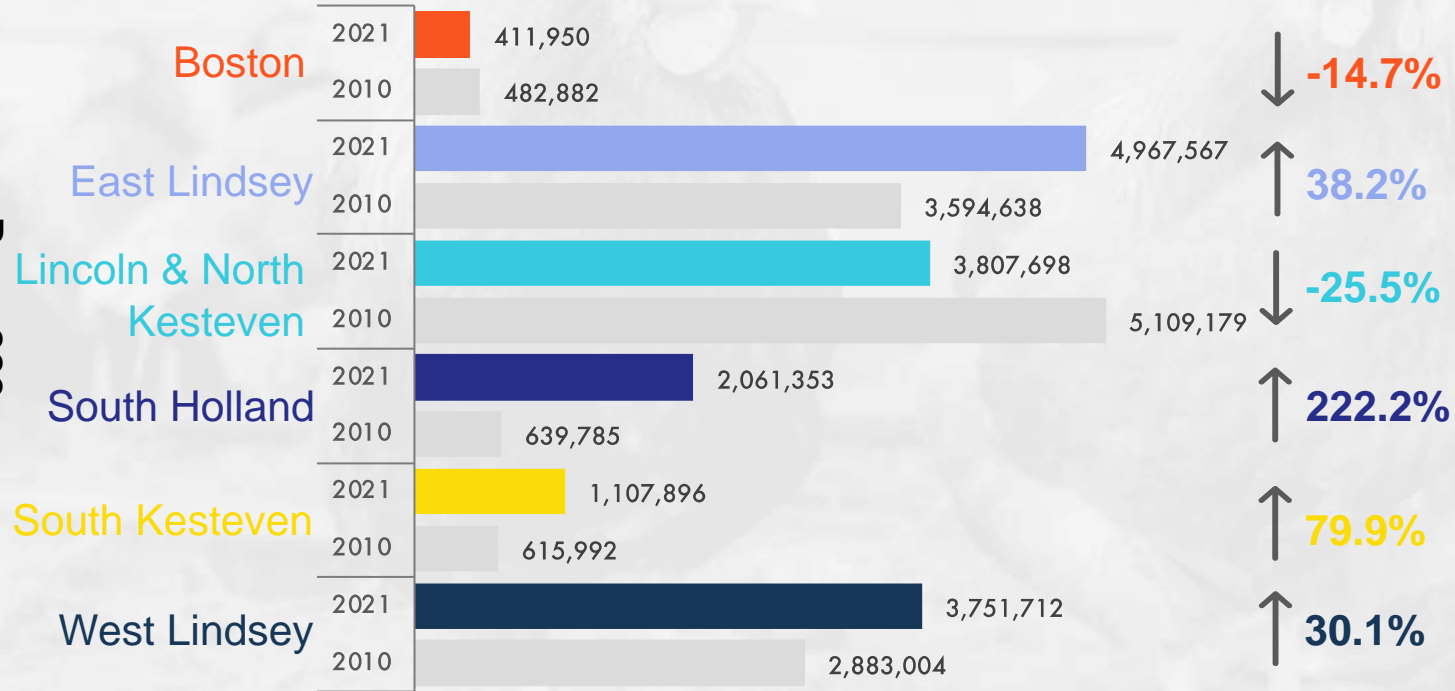
Total Poultry, 2021

16,108,175

11.4% of England Total

TOTAL POULTRY ACROSS LINCOLNSHIRE

Total Poultry



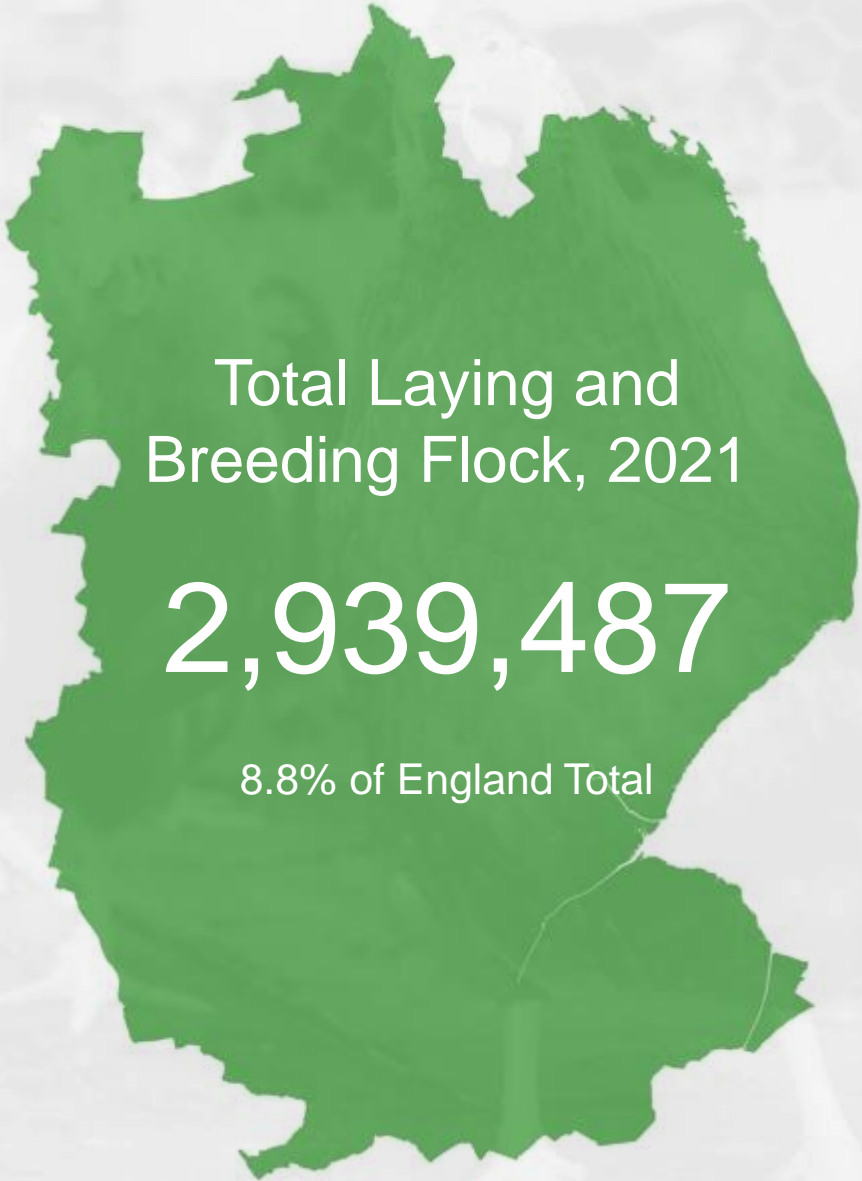
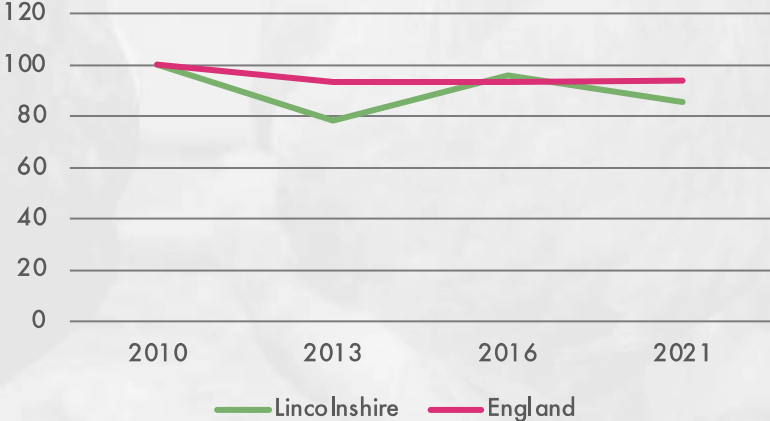
LAYING AND BREEDING FLOCK

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Total Laying and Breeding Flock in Lincolnshire

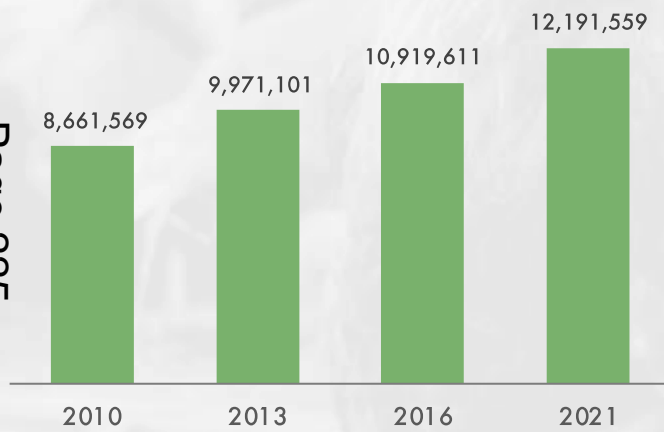


Change in Laying and Breeding Flock, 2010=100

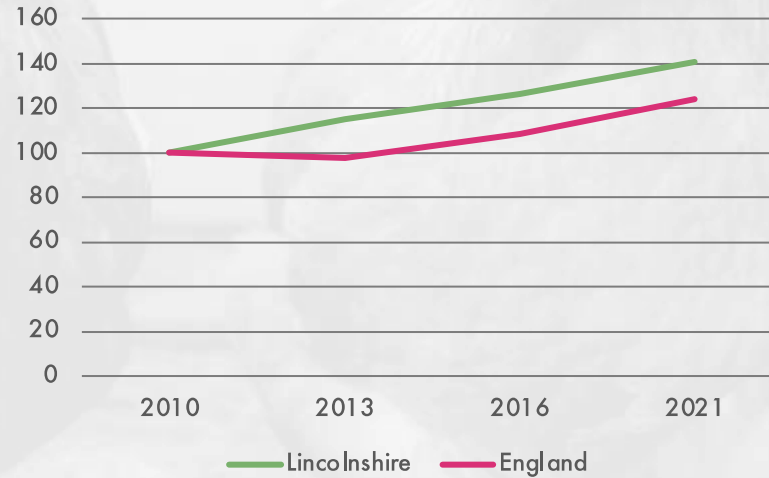


BROILERS

Total Broilers in Lincolnshire



Change in Broilers, 2010=100



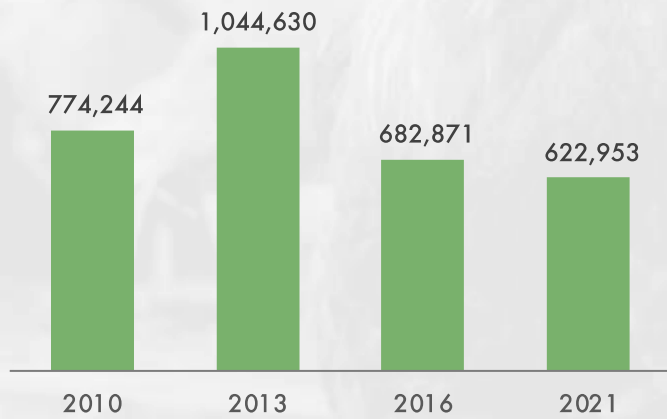
Total Broilers, 2021

12,191,559

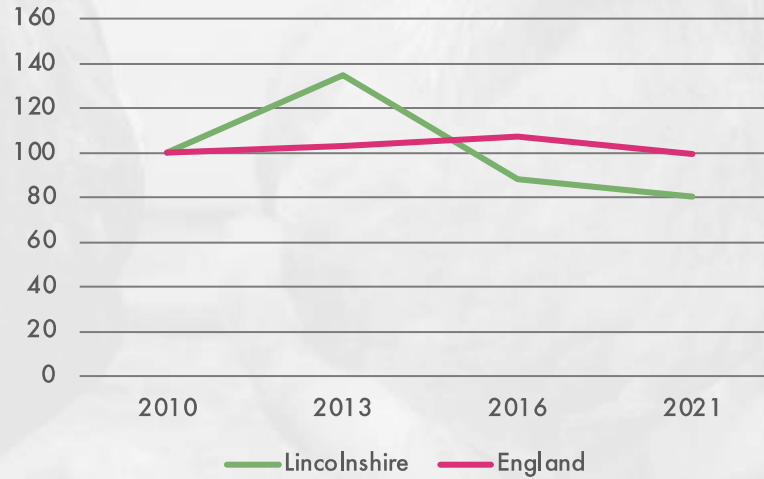
12.5% of England Total

TURKEYS

Total Turkeys in Lincolnshire



Change in Turkeys, 2010=100



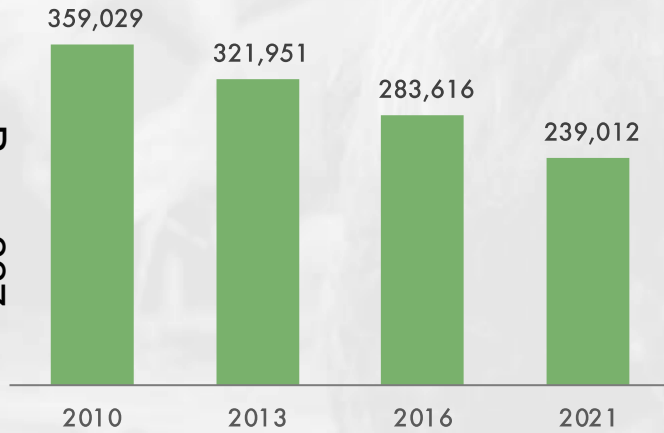
Total Turkeys, 2021

622,953

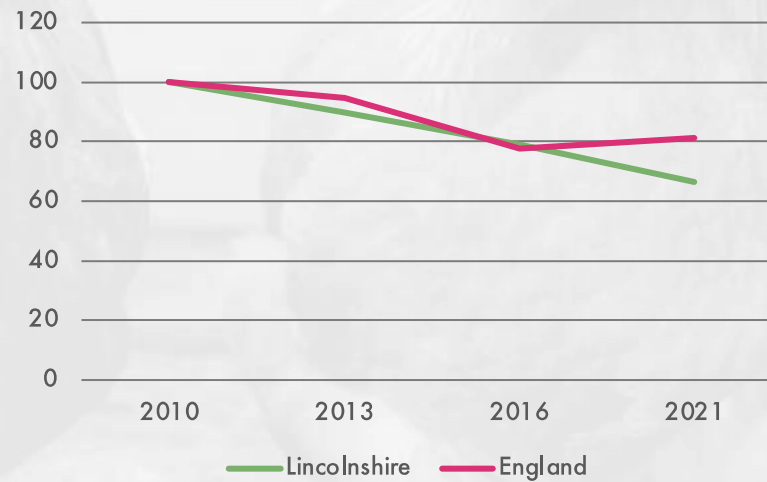
17.3% of England Total

DUCKS

Total Ducks in Lincolnshire



Change in Ducks, 2010=100



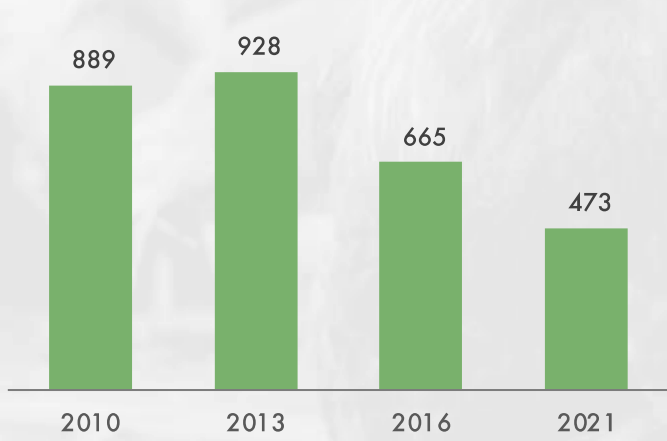
Total Ducks, 2021

239,012

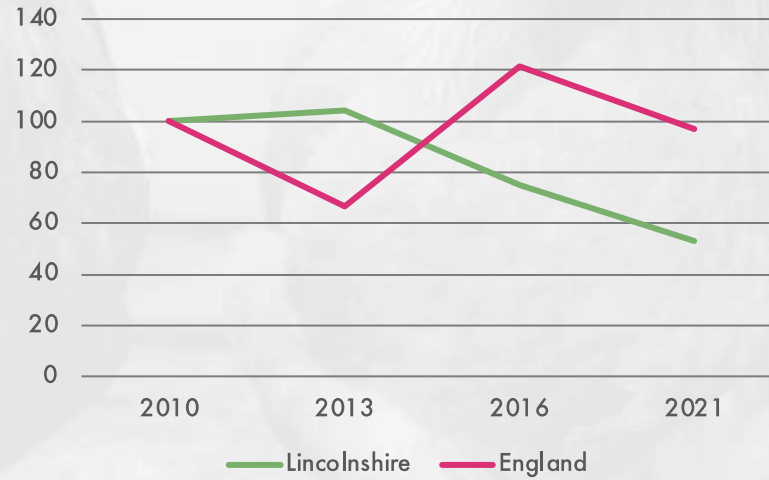
12.5% of England Total

GEESE

Total Geese in Lincolnshire



Change in Geese, 2010=100



Total Geese, 2021

473

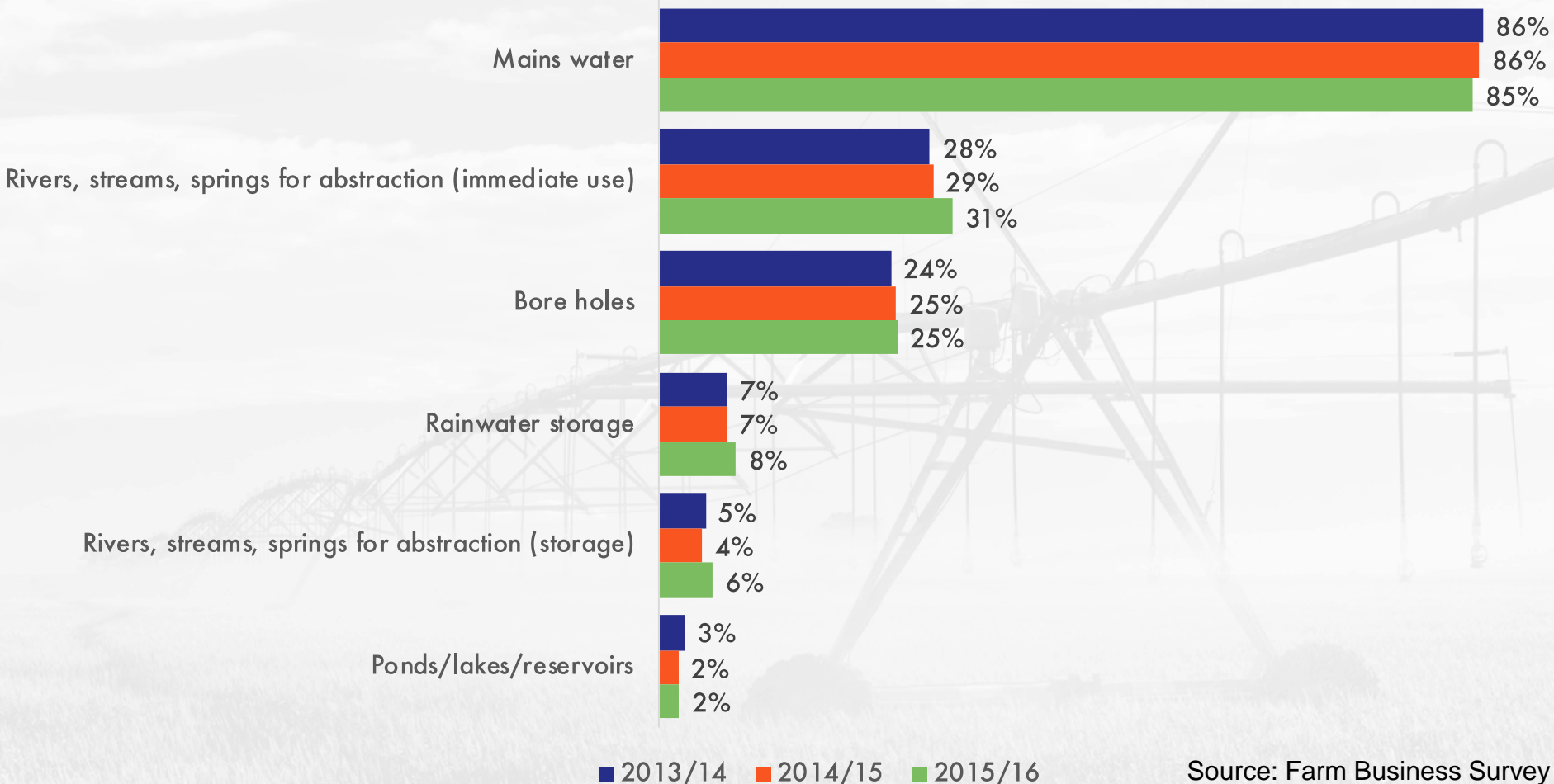
0.4% of England Total

FARM WATER USAGE



FARM USAGE BY WATER SOURCE

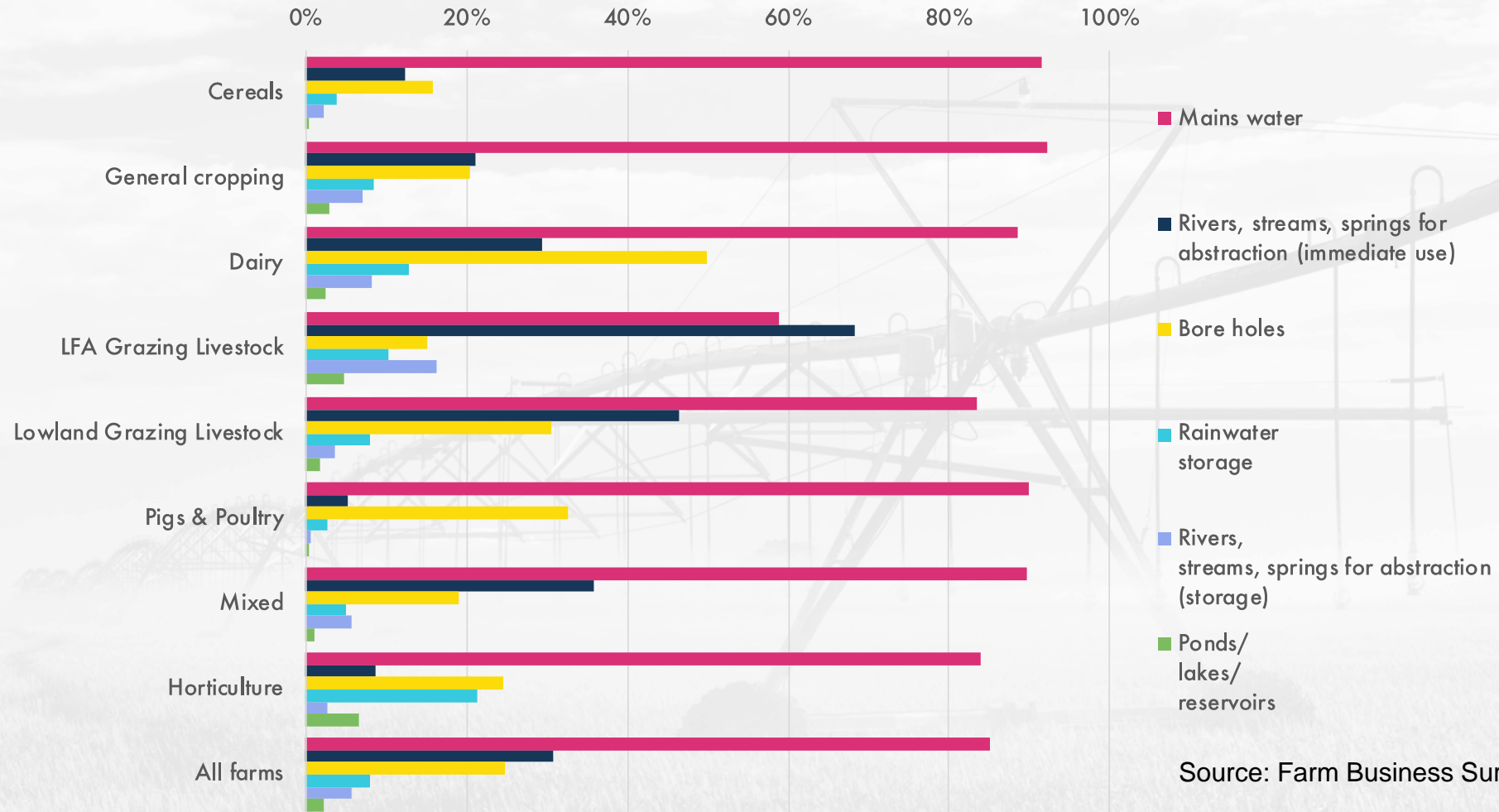
% of farms using various water sources, England



Source: Farm Business Survey

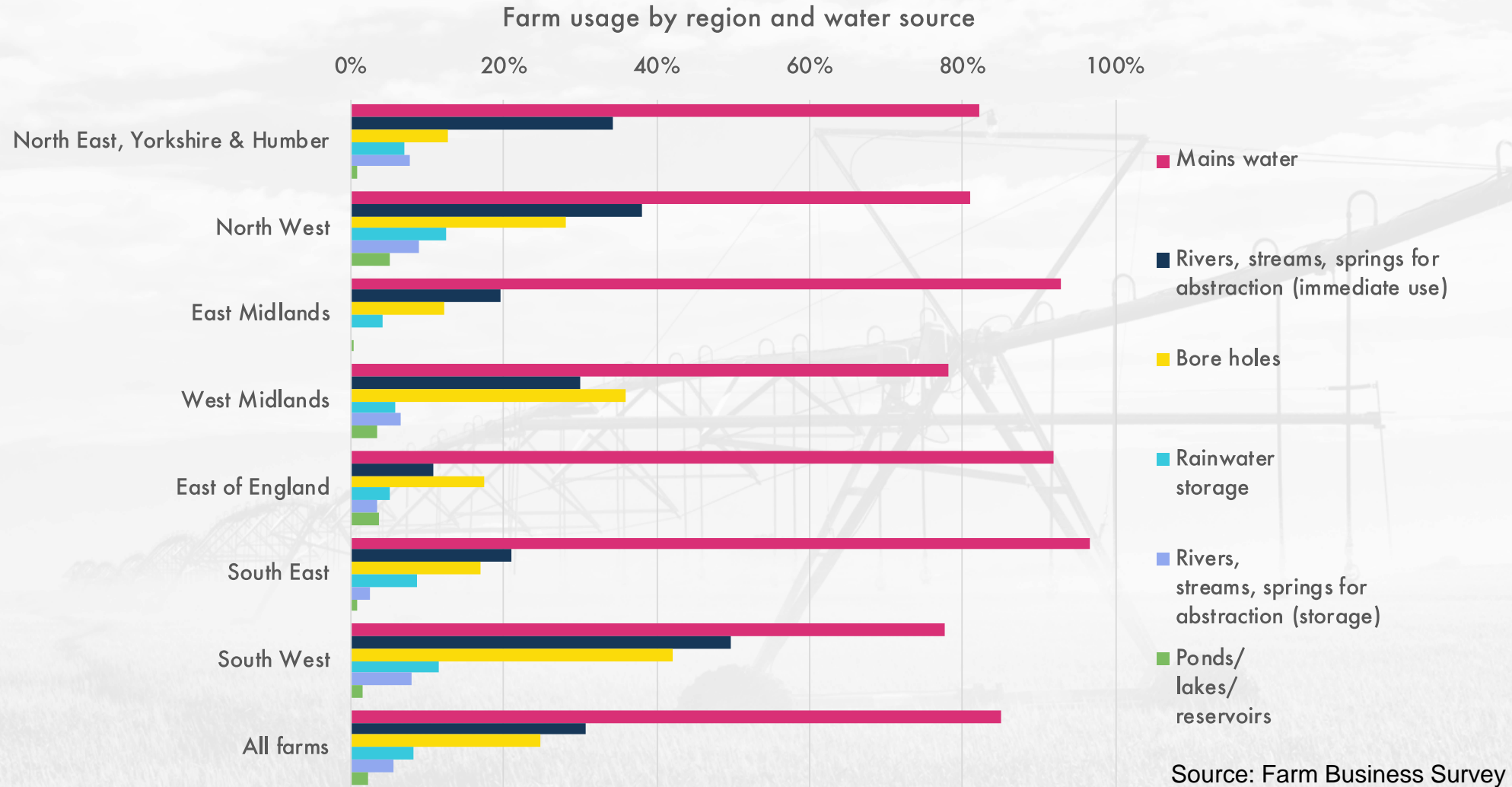
FARM USAGE BY FARM TYPE AND WATER SOURCE, 2015/16

Farm usage by type of farm and water source

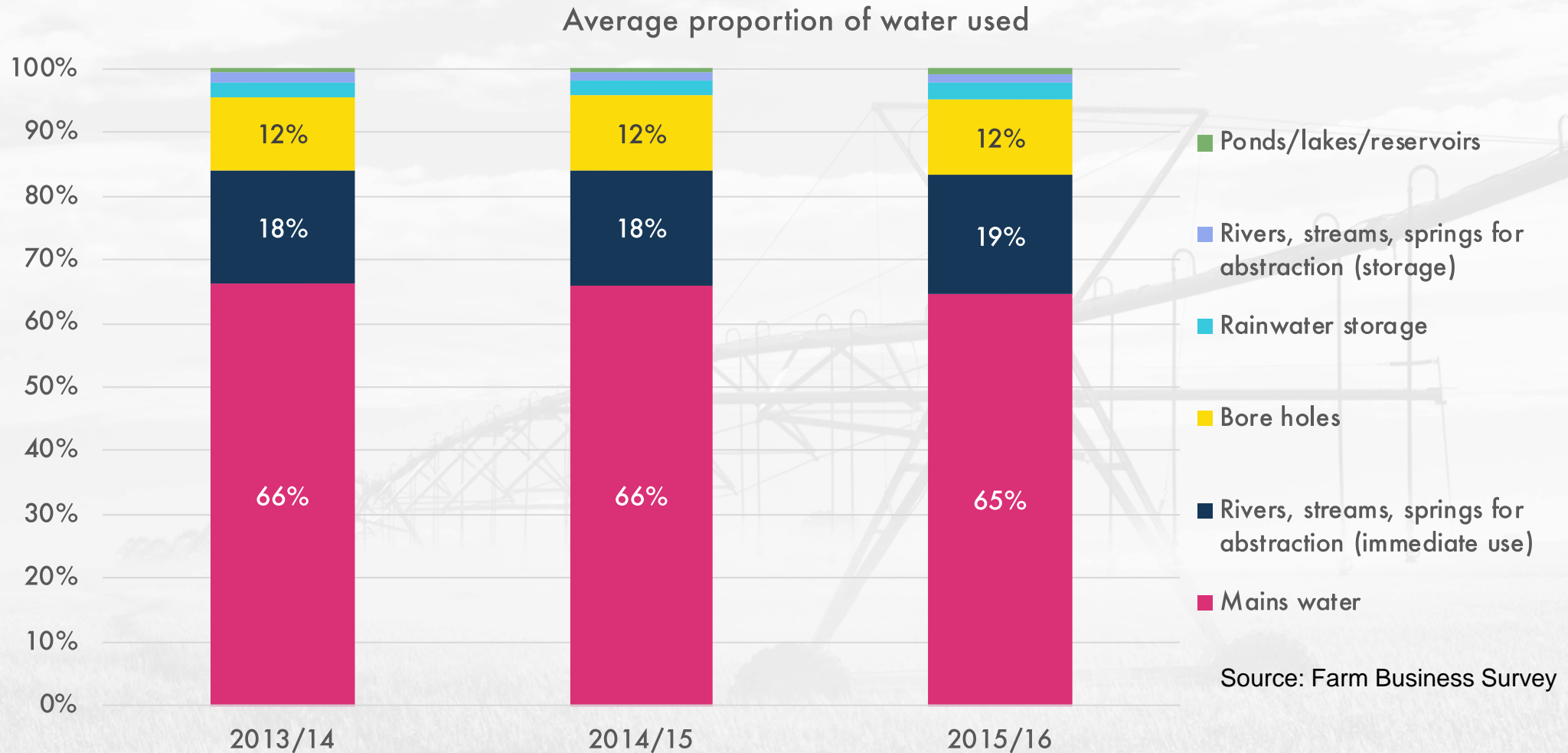


Source: Farm Business Survey

FARM USAGE BY REGION AND WATER SOURCE, 2015/16

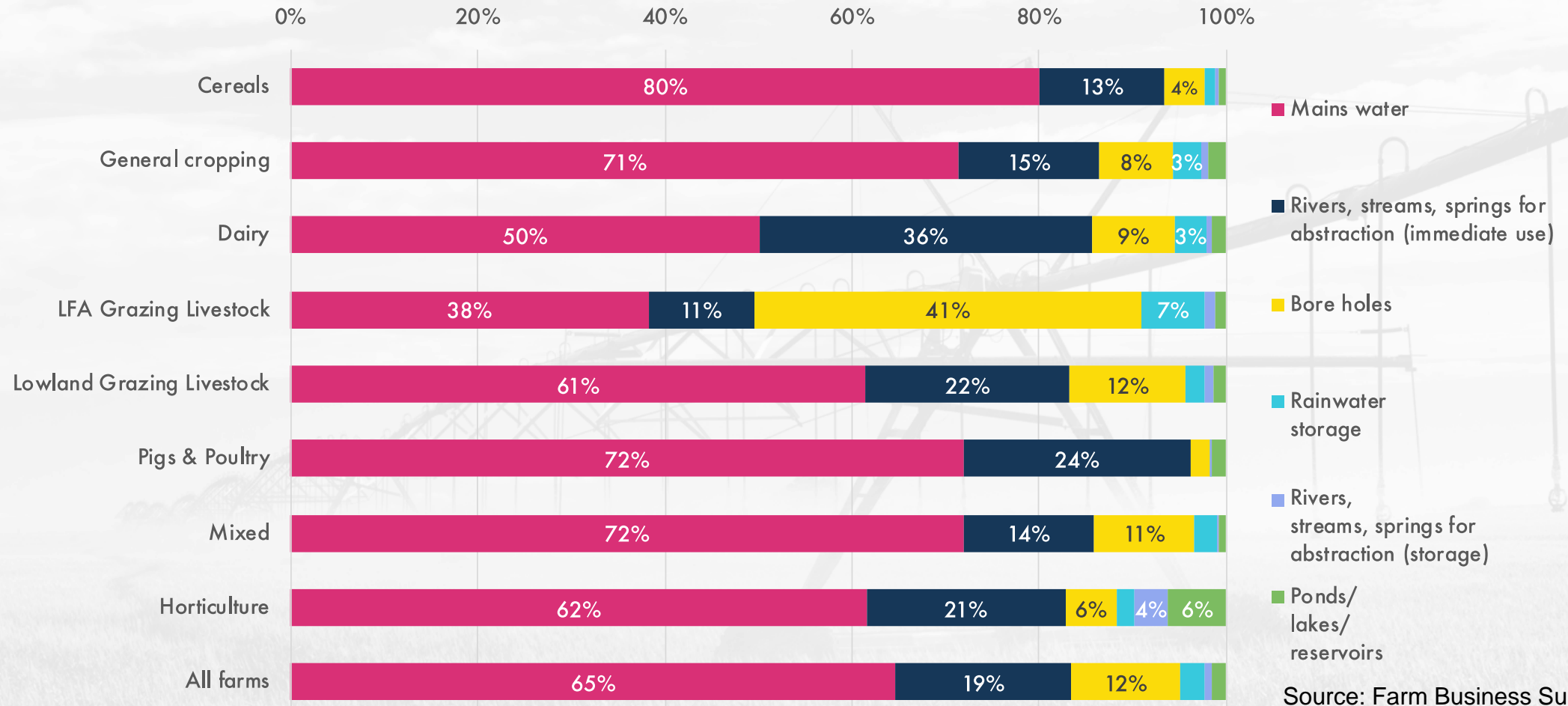


AVERAGE PROPORTION OF WATER USED



AVERAGE PROPORTION OF WATER USED BY FARM TYPE, 2015/16

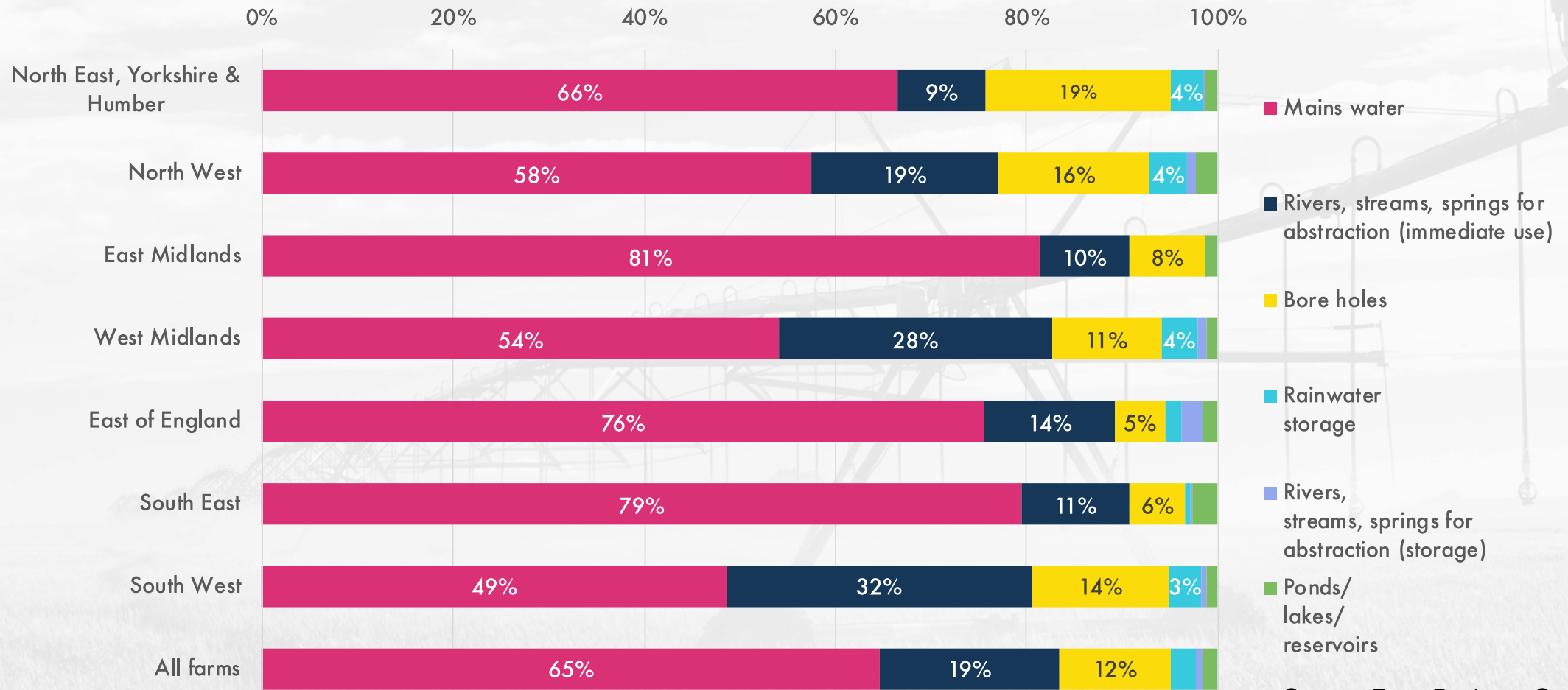
Farm usage by type of farm and water source



Source: Farm Business Survey

AVERAGE PROPORTION OF WATER USED BY REGION, 2015/16

Farm usage by region and water source



Source: Farm Business Survey

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