

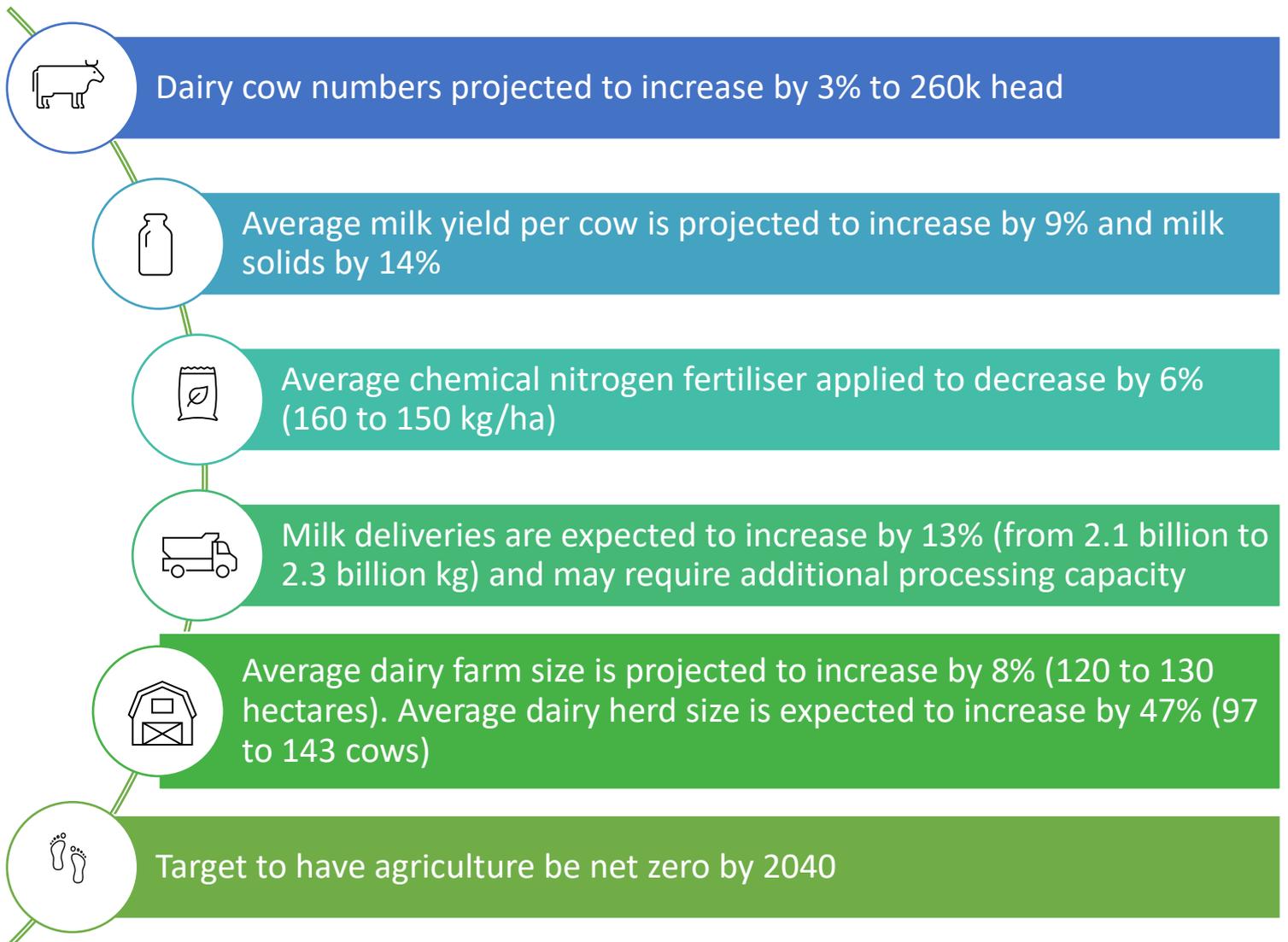
Analysis of the Welsh dairy sector to 2030

Combination of increasing dairy cow numbers and increasing productivity expected



WORK PACKAGE 4
DAIRY SECTOR ANALYSIS

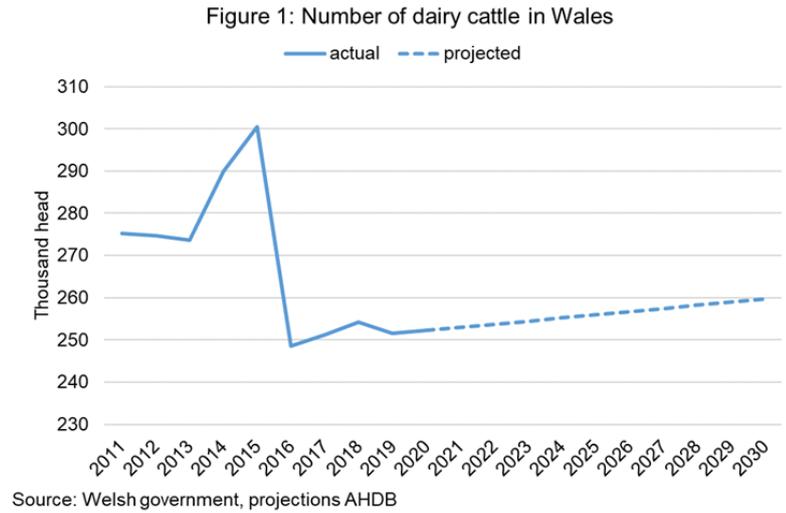
Overview of outlook to 2030:



- Projections are subject to no trade disruption on foot of Brexit, CAP reform or future free trade agreements.
- Projections subject to no major environmental policy changes associated with climate change, water quality or biodiversity.

DAIRY COW NUMBERS

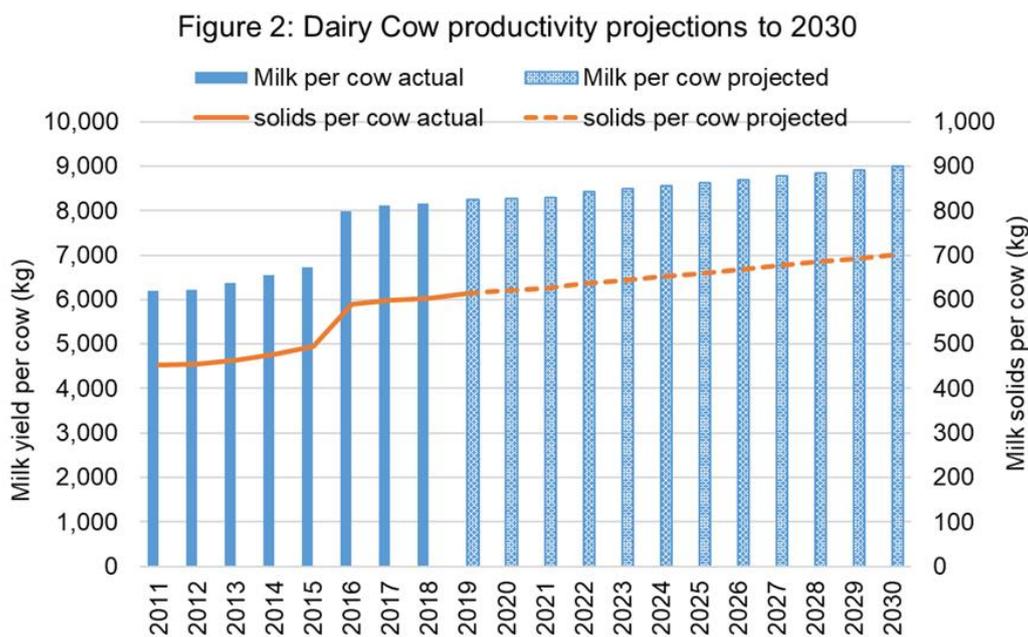
Based on the overall trend of the last 5 years (2016-2020), the number of cows is expected to increase over the next 10 years. This would go from 252k head in 2020 to 260k head in 2030, up 3% overall. Welsh cow numbers were turbulent over the last ten years (2011-2020), with the data showing that cow numbers rose by 27k head between 2013 and 2015, but then fell by 52k head between 2015 and 2016, during the last dairy crisis. We have seen some recovery since then, but by 2030 our projected figure of 260k head will still be substantially below the 2015 peak of 300k head. As the long-term trend for the GB dairy herd as a whole is long-term decline, we would not expect a return to pre-2016 levels.



PRODUCTIVITY

Predicted growth in milk production in Wales comes from a combination of increasing dairy cow numbers and increasing productivity. At a GB level, we have historically seen growth in yield per cow in the range of 1.5%-2.3% per year, which comes from the cumulative effect of improving herd genetics and improving farm practices. The projections indicate that yield per cow could increase by 9% between 2019 and 2030, from just over 8,200 kg/year to just under 9,000 kg/year.

The projections also indicate an improvement in milk solids production, from both the increased overall production, and a higher solids content (butterfat + protein). Of the two components, butterfat is more easily influenced and therefore likely to drive more of the growth in solids content.



MILK DELIVERIES & PROCESSING CAPACITY

Milk production in Wales is expected to increase by 13% between 2019 and 2030, from 2.1 million tonnes to 2.3 million tonnes, if recent production trends can be maintained. This would come from a combination of increased herd size and increased productivity per cow. At the same time, the number of dairy plants is expected to reduce from 11 to 9 in the same period, also based on previous trends. Expectation is that the remaining plants will increase throughput to offset the losses from closing plants. We do not believe the reduction in plants will limit milk production as Wales, as a region, is not isolated.

In 2020/21, 50% of the milk produced by Welsh farmers was processed in Wales and 50% was transported into England for processing. Of the volume processed in Wales, the vast majority (47% out of 50%) was turned into cheese. (Source: AHDB analysis). Therefore, the whole GB processing picture will affect Welsh capacity – though this will also require investment in infrastructure to achieve it. Analysis indicated that any investment should be focused on cheese and yoghurt production, though niche products such as bespoke milk powders could also be profitable. (Source: AHDB analysis).

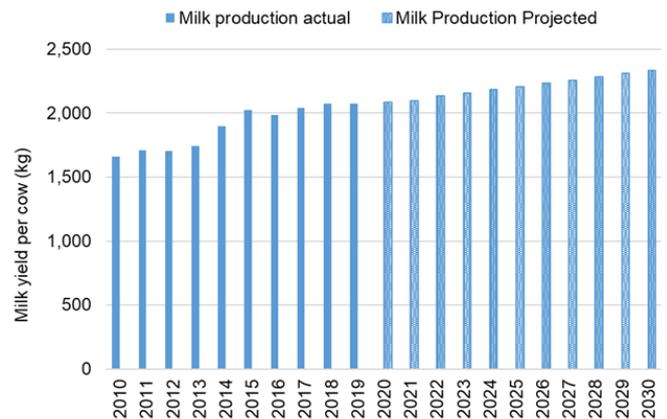
DAIRY FARM STRUCTURES

There were just under 2,600 registered dairy holdings in Wales as of 2019, and this is projected to fall 30% to around 1,800 by 2030. However, it is important to note that ‘registered dairy holdings’ is a broad category – any holding that carries at least 1 dairy herd member will have to register. Because of this, 37% of the holdings in 2019 had less than ten cows and are not necessarily commercial dairy farms (unfortunately data for commercial dairy farms only not available for most things). This group is also the one in fastest decline and would likely make up a large share of the reduction in holding numbers.

The average dairy herd size in Wales is projected to increase by 47%, from 97 to 143 cows, across all holdings. This in part could come from the loss of small, likely-non-commercial holdings which pull down the average. However, our projections also indicate a significant loss in holdings with 50-100 cows – farms that are likely commercial dairy farms, but small. The share of the herd in this size farm is expected to fall from 13% in 2019 to 4% in 2030. In contrast, the share of cows in farms of more than 100 is projected to rise from 83% to 95%. As farm numbers are expected to decline, this suggests that this 50-100 group is likely to leave the industry and their herds be sold to others. However, these farms expanding into the 100+ categories is also an option.

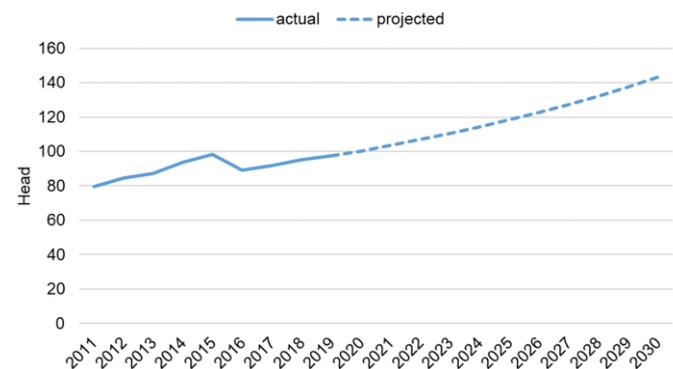
Based on 2018-19 trends, dairy farm sizes in Wales could increase by 8%, from 120ha in 2019 to 143ha in 2030. This figure is based on active dairy farms – that is, registered holdings not classified as mixed, very small, or dormant by the Welsh government. Unfortunately, a longer historical trend is not available as prior to 2018 dairy was not split out in the data.

Figure 3: Projected milk deliveries to 2030



Source: AHDB, Defra, Eurostat, projections AHDB

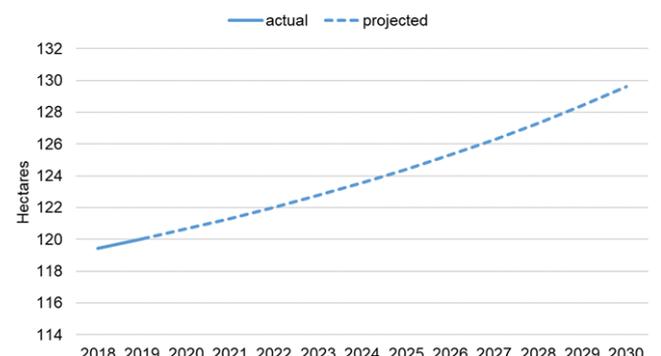
Figure 4: Average dairy herd size in Wales*



Source: Welsh government, projections AHDB

*All registered dairy herdings - not necessarily all commercial dairy farms

Figure 5: Average dairy farm size in Wales*



Source: Welsh government, projections AHDB

*Active dairy farms only - excludes holdings considered mixed, very small, or dormant



Environmental footprint

The UK agricultural industry is coming under increasing scrutiny with regards to its environmental impact.

According to the UK Dairy Roadmap group: “In the United Kingdom agricultural emissions are placed at 10% of the nation’s GHG footprint, with the dairy farming emissions estimated to account for less than 3% of the total footprint, a small fraction compared to other sectors such as Transport (27%), Energy (21%), Business (17%) and Residential (15%)

Data from the Welsh government indicates that in Wales specifically, Agriculture accounted for 14% of emissions in 2019 – although it is noted that the dataset does not include emissions from international aviation and shipping. (Source: [Welsh Government](#))

The UK Dairy Roadmap group also say: “The latest available data shows that the largest proportion of UK dairy emissions, have been attributed to emissions from enteric fermentation (45%) and from feed (28%). Beyond this 11% of emissions are linked to fertilisers, 10% to manure handling, 4% to energy production and the remaining 2% to other sources.” (Source: [UK Dairy Roadmap](#))

On the fertiliser front, Welsh data for average chemical nitrogen fertiliser applied to farms was not available, so England data was used as a proxy. The projections suggest that usage would reduce by 6%, from 160kg/ha in 2019 to 150 in 150kg/ha, assuming a business-as-usual scenario. However, environmental policies could further restrict usage in the upcoming years.



Environmental policy

The projections produced heretofore are premised on a business-as-usual policy environment. There are a number of environment and macro environment factors which could influence the structure of the Welsh dairy sector to 2030.

GREENHOUSE GAS EMISSIONS

The UK’s aim is to reach net zero emissions by 2050, and the National Farmers’ Union (NFU) has announced an aim to get Agriculture in England and Wales to net zero by 2040. These targets have been agreed by the Welsh government and NFU Cymru respectively. Additionally, in order to reach net zero by 2050, Wales has an interim target of a 63% reduction in emissions by 2030. (Source: Welsh Government).

Significant action will need to be taken in order to achieve these targets. However, the UK’s track record is not great on this front. According to AHDB: “In domestic legislation, the Climate Change Act 2008 committed the UK to reduce greenhouse gas emissions by 80% from a 1990 baseline by 2050. This led to UK agriculture adopting the Greenhouse Gas Action Plan (GHGAP), aiming for a reduction of 5.2 Mt CO₂e by 2020 – we missed, achieving only about a third of this objective. This is a problem for agriculture, as all other industry sectors have made bigger cuts in their emissions.” (Source: AHDB) Nevertheless, renewed target of net zero by 2050 provides an opportunity for Agriculture to increase their contribution to reductions, and the commitment to 2040 may help it achieve this.

As well as traditional reduction of emissions, there are also discussions around the potential for Agriculture to be used to offset carbon. However, this is still mainly just an idea, due to difficulties in reliably measuring carbon capture, particularly in soils.

AGRI-ENVIRONMENTAL POLICY

The departure of the UK from the EU also meant a departure from the EU’s common Agricultural Policy. This gives the governments (with agricultural policy being devolved) the opportunity to develop their own replacement subsidy schemes. For England, the government is going with the mantra ‘Public money for public goods’ – that is, removing the basic payment and replacing it (not necessarily completely) with agri-environmental schemes. As of 2021, the plan to phase out basic payments is already underway, while the first new environmental schemes, the Strategic Farming Incentive (SFI), was beginning early trials.

Two more schemes, the landscape Recovery (LR) and Local Nature Recovery (LNR), were only announced in early 2022, and are yet to be trialed. These new schemes should incentivise increased environment work from farmers – but the gap between old schemes and new will add increased financial pressure to English farmers over the coming years.

The Welsh government has not yet announced their replacement subsidy schemes. They are taking a more cautious approach and appear to be waiting to see how English policy develops. If it works, they will likely adopt a similar approach. For the time being the Welsh government is maintaining the basic payment subsidy, which will lend support to Welsh farmers during this time of transition.

Another policy to note is the assignment of Nitrate Vulnerable Zones (NVZs), which places extra restrictions on areas at risk of pollution. In early 2021 the Welsh government announced that it would be designating the entire country as an NVZ, which was implemented in April 2021. Previously, only 2.4% of the land area was an NVZ (source: Farmer's Weekly). This has the potential to greatly restrict growth in dairy farming, with slurry storage and spreading a particular issue for dairy farmers. There are still challenges being made to this policy, with a consultation period being held after implantation and a legal challenge being proposed.

INDUSTRY RESPONSE

The UK dairy industry came together and released the UK Dairy Roadmap in 2008, with the aim of “to improve the environmental sustainability of the UK dairy sector whilst ensuring the continued prosperity of the industry” (Source). It has set out a wide range of targets for both farmers and processors, covering climate change, energy, water, landfill, plastic & packaging, waste, biodiversity, soil and air quality.

In response to the UK's commitment to net Zero by 2050, the Roadmap has extended its targets to meet this goal. More details can be found in their document “The dairy roadmap climate ambition: supporting UK net-zero”

In summary, there are potentially significant environmental constraints in realising some of the projections outlined under a business-as-usual scenario to 2030.

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Contact : Katherine Jack and Lis King



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