

2nd March 2021

AHDB milk forecasting forum

AHDB Market Intelligence

<https://ahdb.org.uk/dairy-markets>



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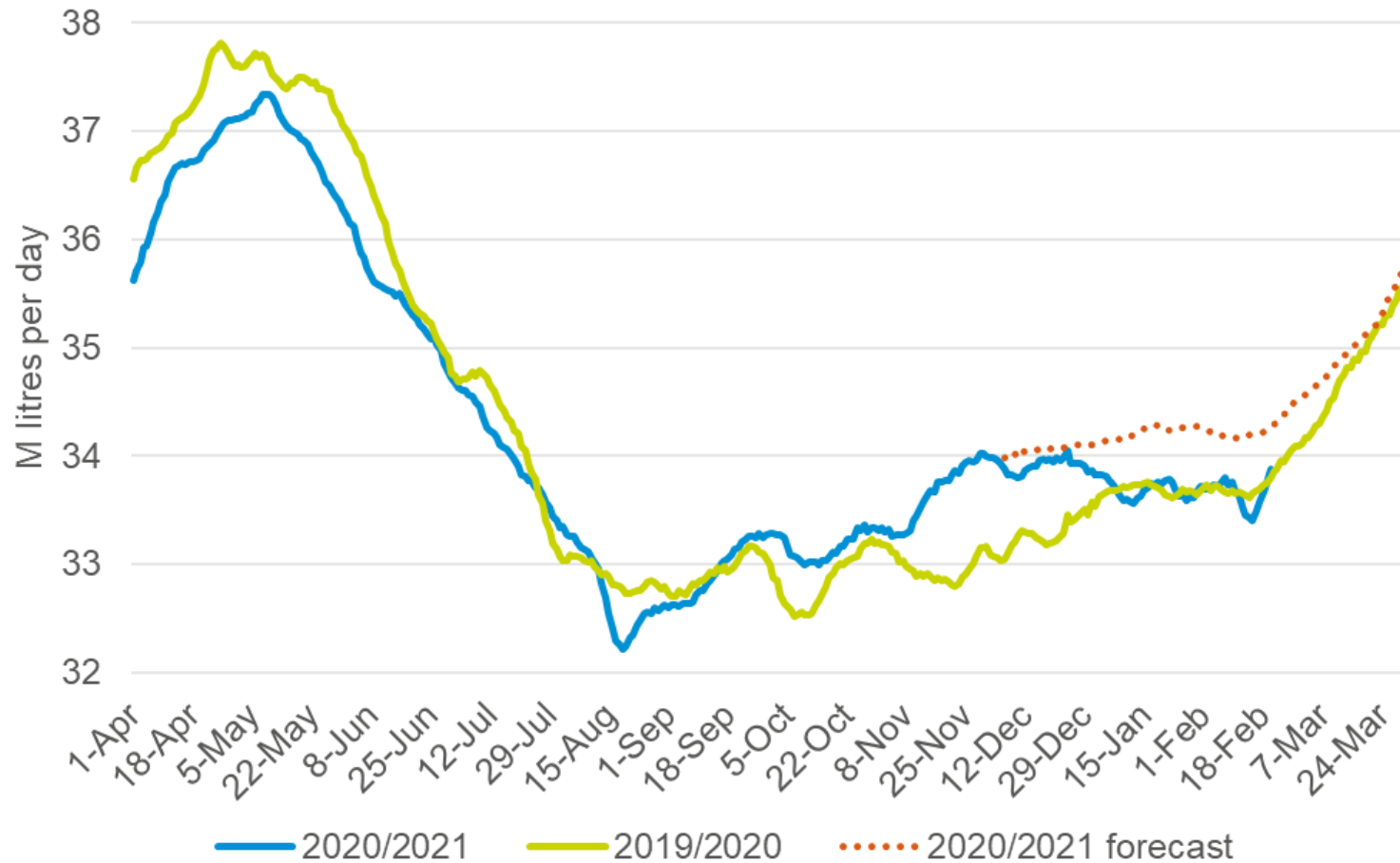
- Update since previous forecast
- Key topics:
 - Inseminations, calf numbers and herd structure
 - Feed update and impact on production
 - Peak milk production
- Milk forecast
- Compositional quality

Previous milk forecast

Previous forecast v latest production

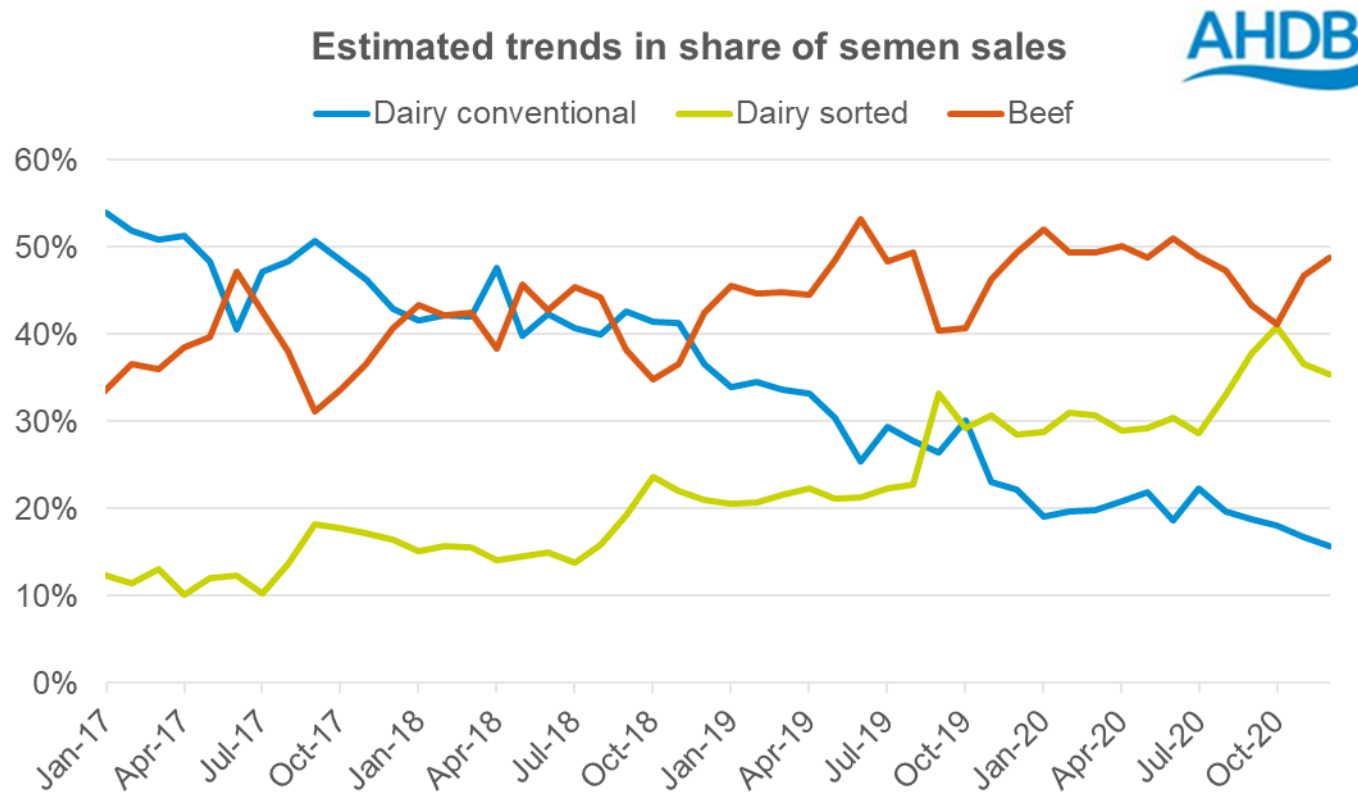


GB daily milk deliveries with latest forecast
(7 day rolling average)



Herd size

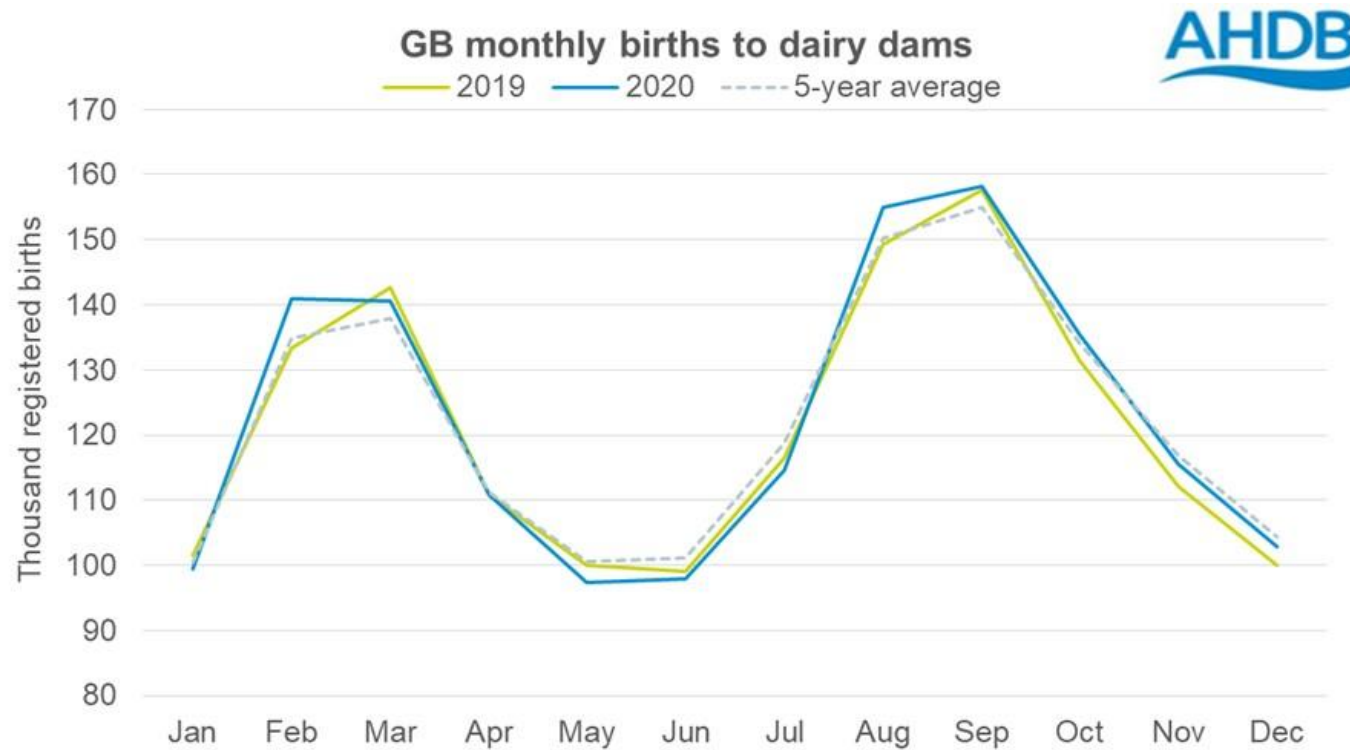
Inseminations



Source: AHDB, Genus
 Estimates based on Genus monthly figures adjusted by AHDB annual survey results.

- Estimates based on Genus monthly figures adjusted by AHDB annual survey results
- Figures show sales of straws – not usage
- Sexed semen accounted for the majority of dairy semen sales in 2020.
- Shift to sexed was particularly strong in H2 of 2020
- Improvement in conception rates has helped drive sexed semen sales, with changing dairy calf rules also providing an incentive more recently

Apparent lift in births to dairy dams

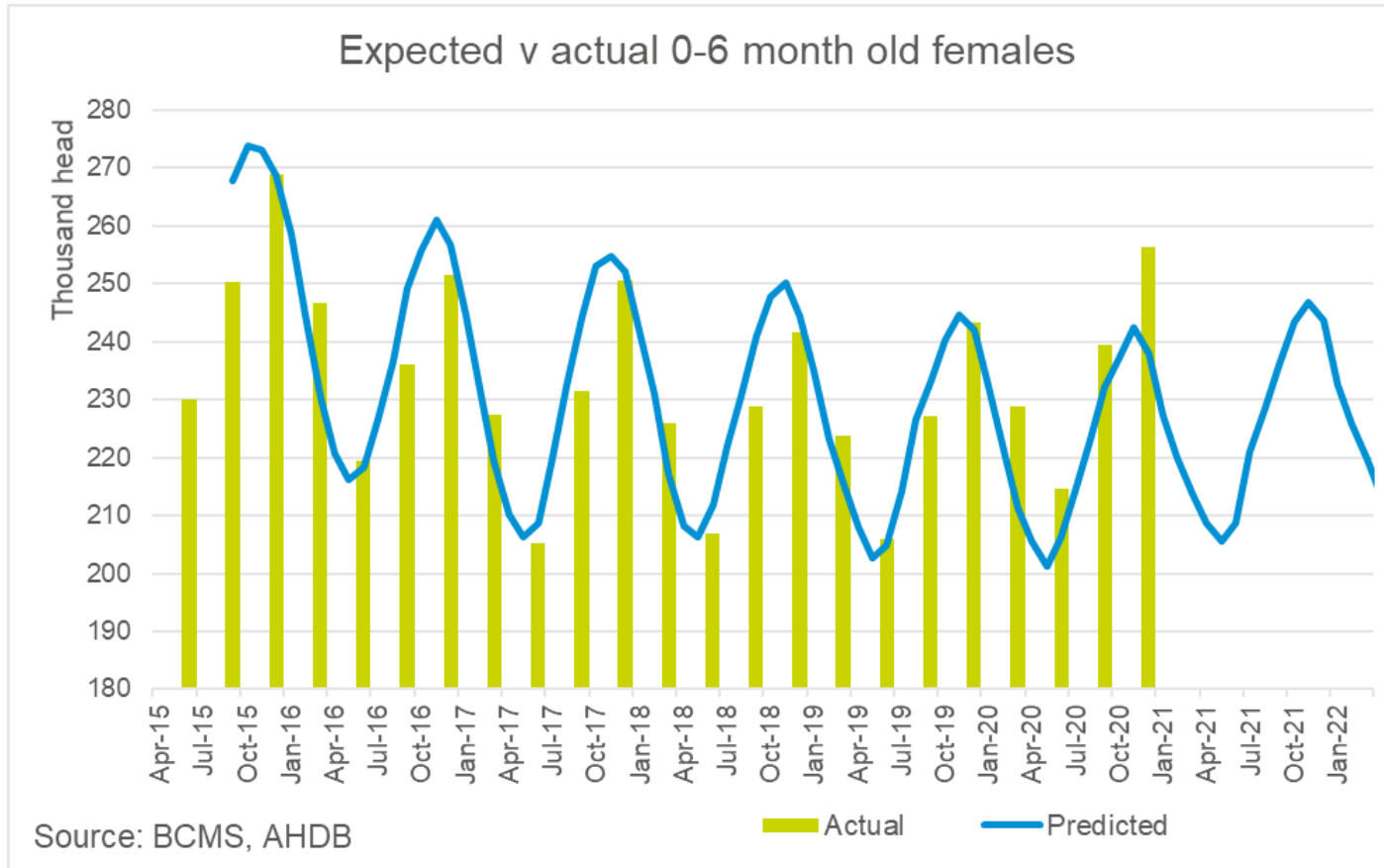


Source: BCMS

Please note that 2020 is a leap year.

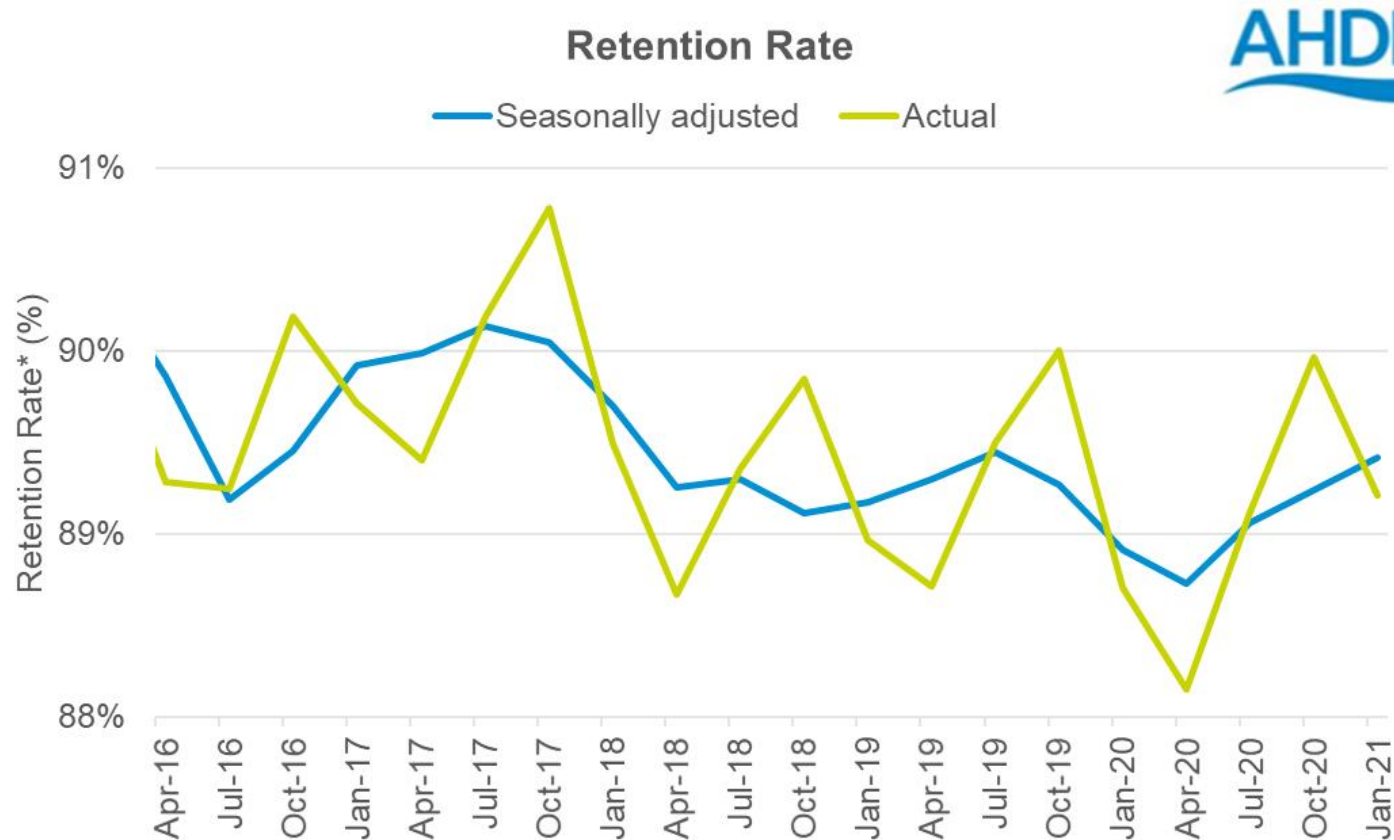
- 2020 births to dairy dams totalled 1.47 million head, up 1% on 2019 (14,300 head)
- This is comparable with the five-year average, up just 3,300 head (0.2%).
- We have seen a shift in the profile of calvings this year, with increase in registrations in February and August
- Improved fertility could be a factor
- Going forwards we might see more calves being registered in those months, rather than an increase in actual births

Expected calvings



- Estimates of the number of 0-6 month old females based on insemination data
- Anything beyond 9 months out assumes inseminations remain as now
- Historically, actual number has been in line with projections
- But, January 2021 actuals significantly above our estimate
- Conception rate improvements will have driven this lift
- Insemination data suggests an increase over the coming year

Retention rate

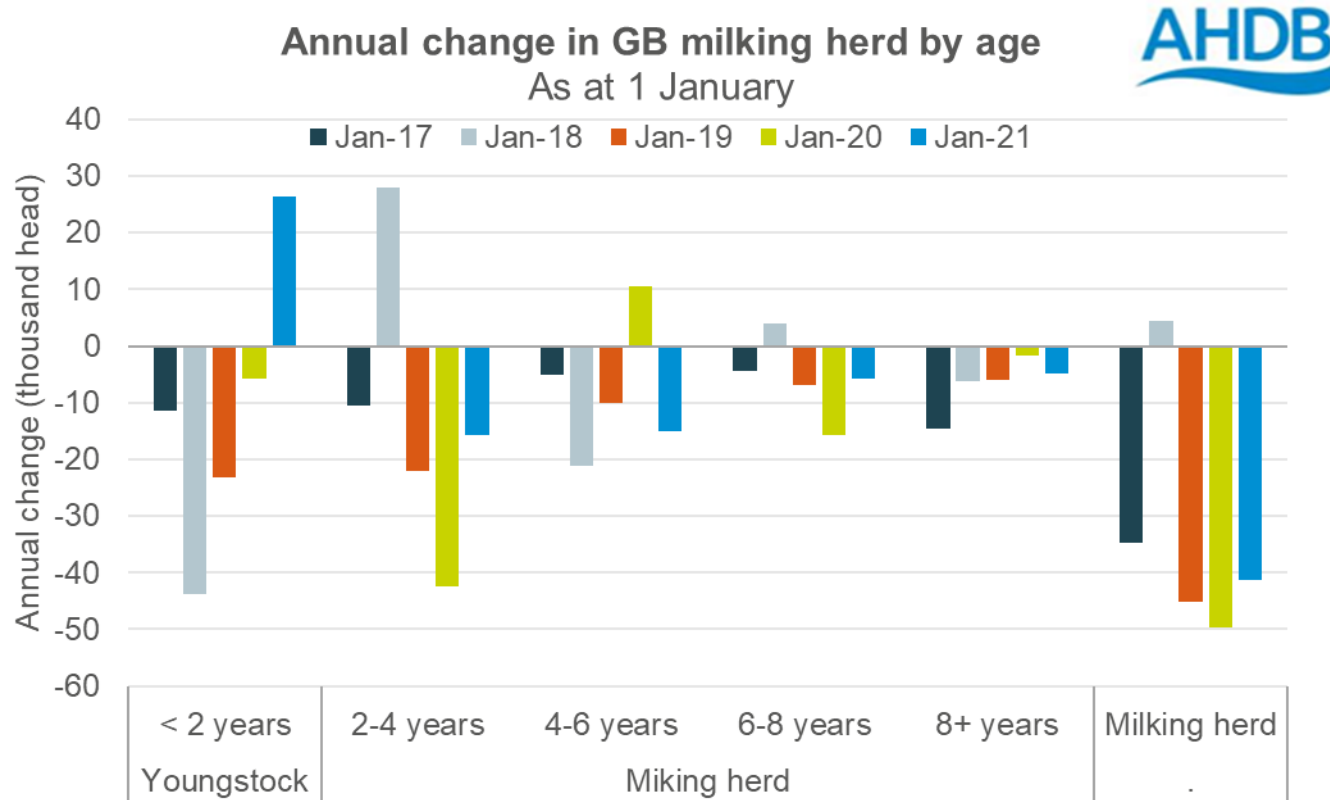


Source: BCMS, AHDB

*Seasonally adjusted 6-monthly retention rate for 2-8yrs

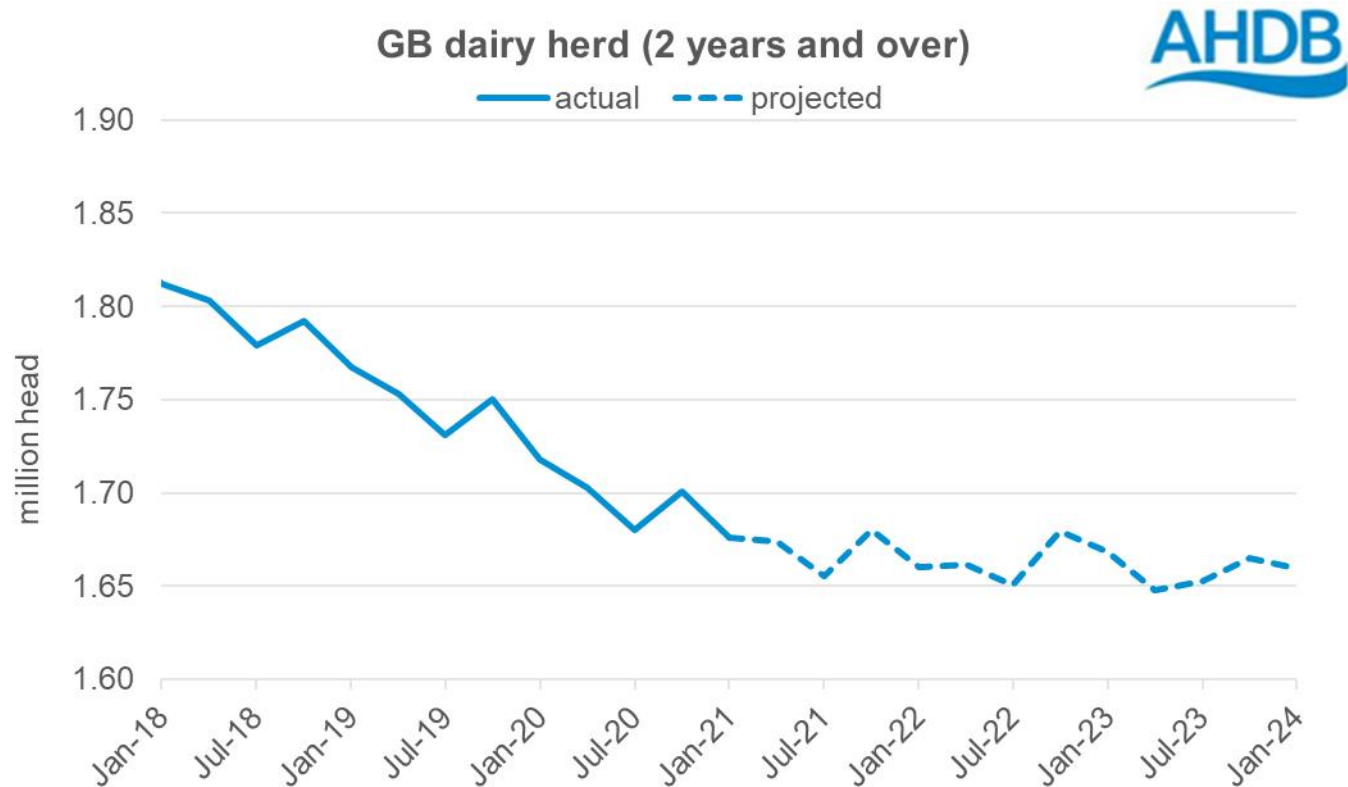
- Retention of cows over 6 month period
- We seasonally adjust because Oct always high and Apr always low – allows us to see trends easier
- Retention rates have been rising since low in April 2020 (post-Covid)
- Latest figures flow through into long-term projection of herd size

Age structure of the herd



- Movement in herd by age group
- Overall annual drop in milking herd at January was 2.4%
- Majority of decline has come from the 2-4 and 4-6 year olds
- Increase in youngstock numbers
- 5% more 0-12 month olds compared with January 2020

Provisional herd size expectation



Source: BCMS, AHDB

Chart shows data presented at the forum, although this will be updated following feedback from the group

- AHDB projection of number of cows in the GB dairy herd
- Based on predicted youngstock numbers (from insemination data) and 3 year average retention rates
- Expectation that milking herd will be around 1.66m by Jan 2022, down 0.9% yoy
- Initial projections suggested herd numbers will flatten off, due to more 0-6m olds in Jan-21 coming through
- However, expectation is this will be offset by higher culling rates so that herd continues to fall
- NVZ's in Wales and land are limiting factor for herd sizes
- Milk price currently not high enough to encourage expansion

2 March 2021

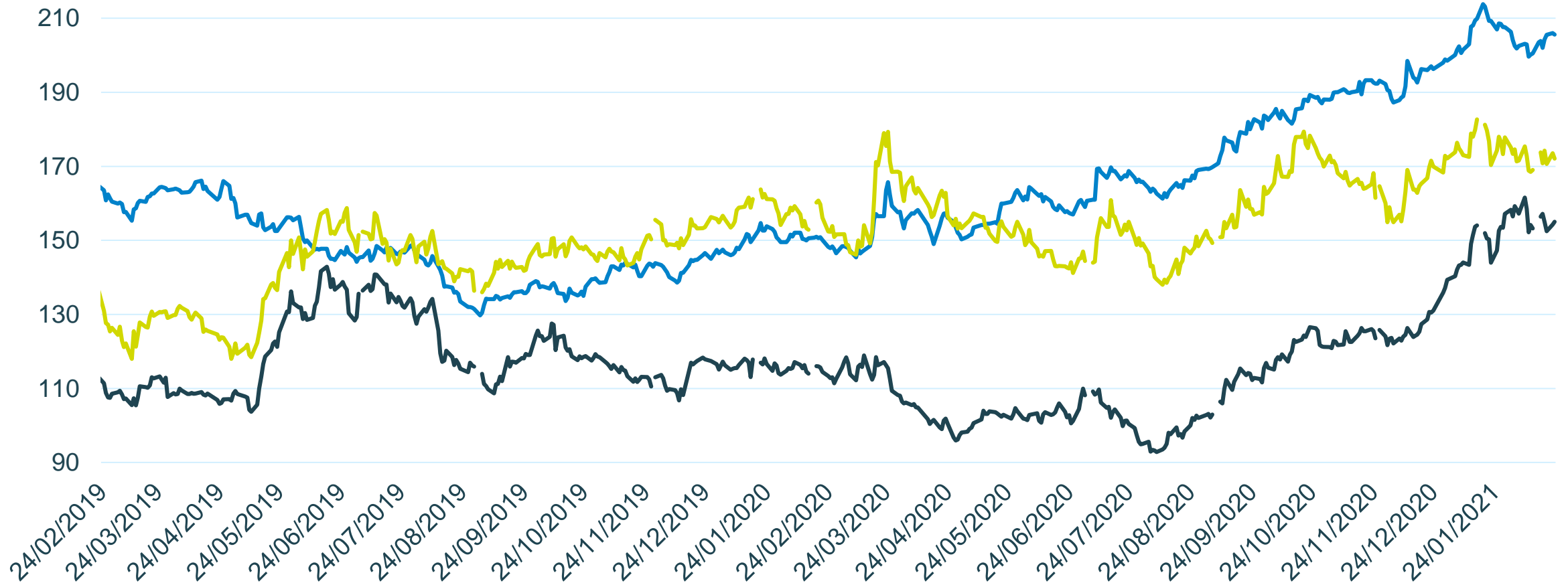
What is going on with straights prices?

James Webster, Senior Cereals & Oilseeds Analyst

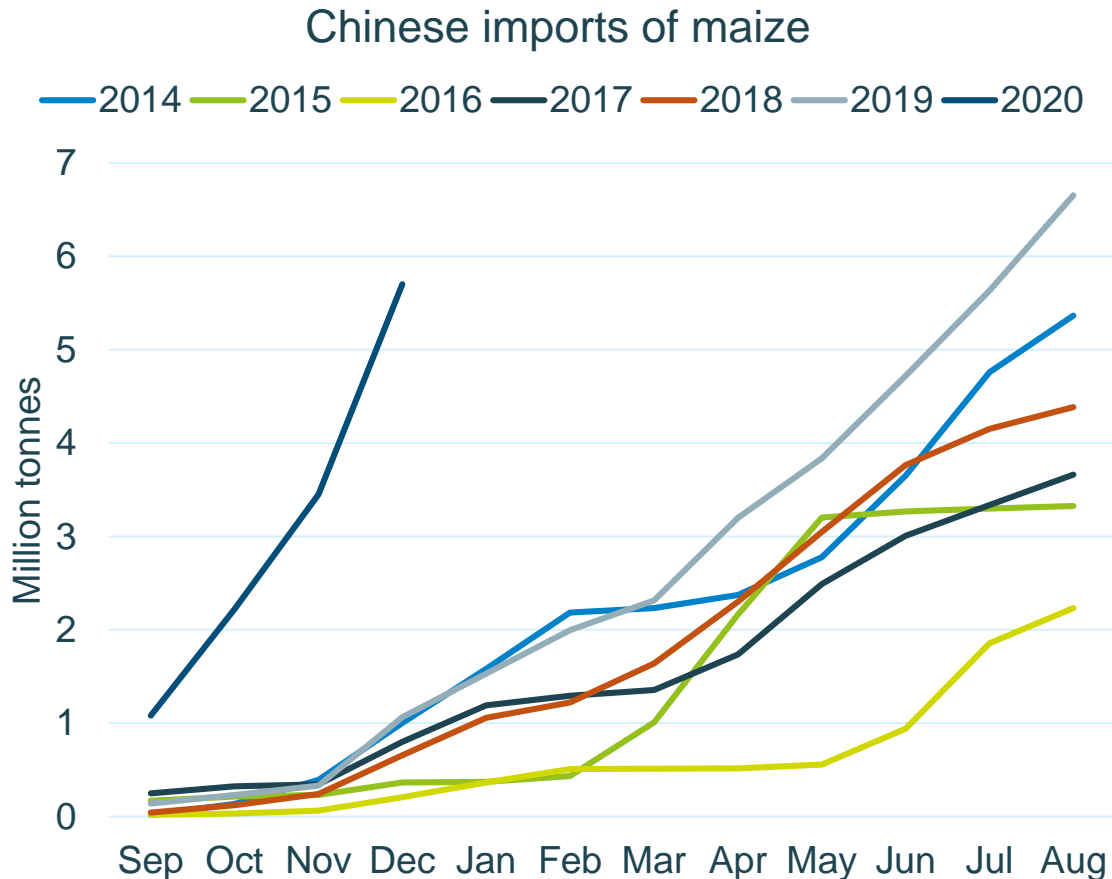


UK market taking its lead from global prices.

— UK feed wheat — Chicago wheat — Chicago corn



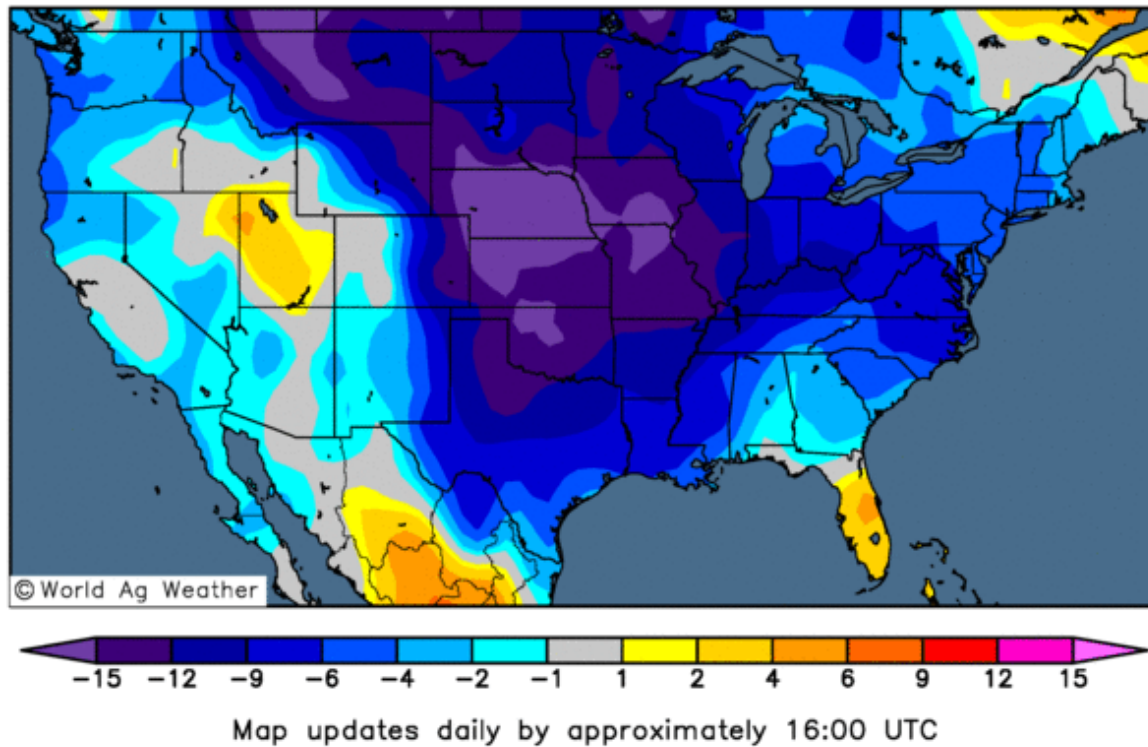
Demand driving prices higher



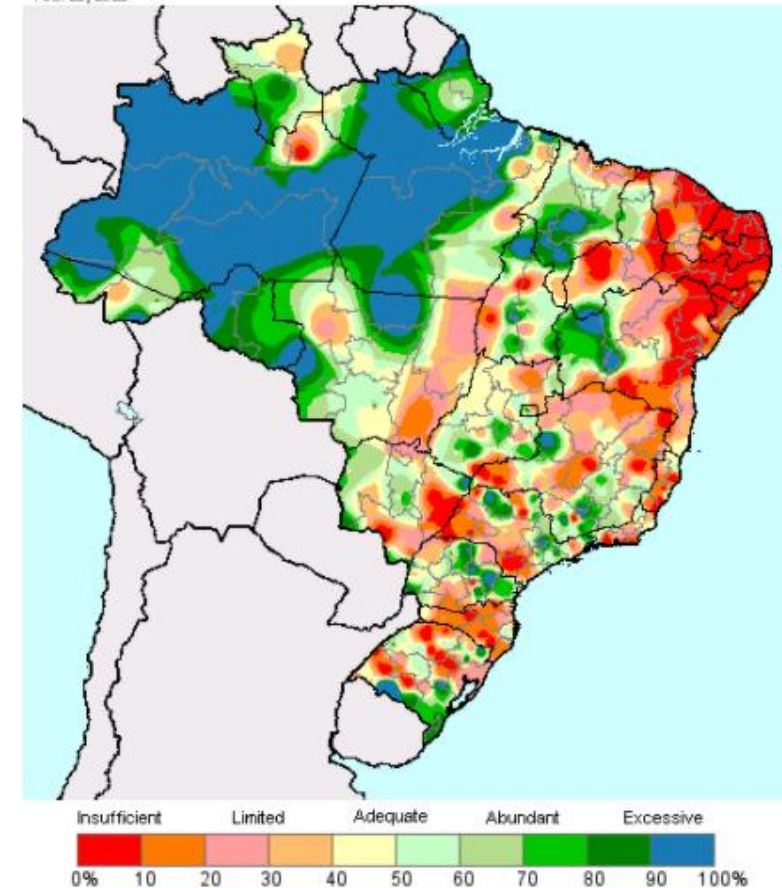
- China supporting its growing pig herd.
- Food security concerns for major importers from Covid.
- Russia and Argentina have high food inflation
 - Russian export tax came in on 15 Feb, goes up on 1 Mar.

Supply side uncertainty

Maximum Temperature Departure from Normal (°F)
30 days ending 22 Feb 2021



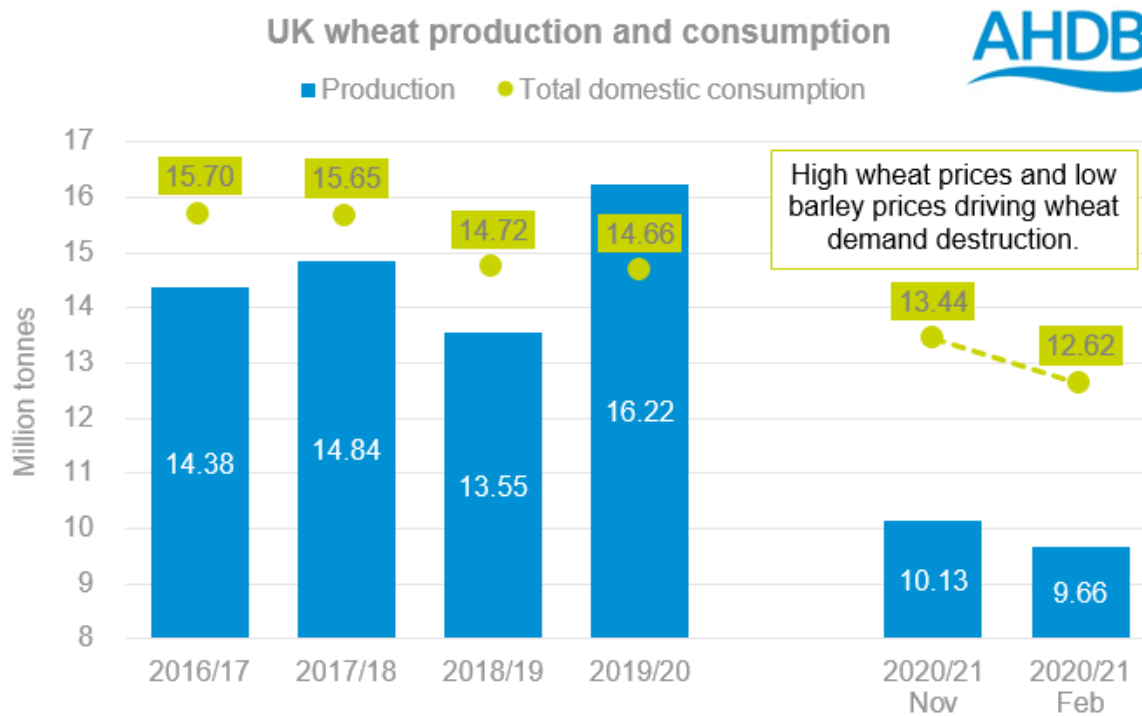
Percent Soil Moisture (WMO)
Feb. 21, 2021



USDA Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

Source: World Meteorological Organization
<http://www.nws.noaa.gov/ncs/nwsgtfs.html>

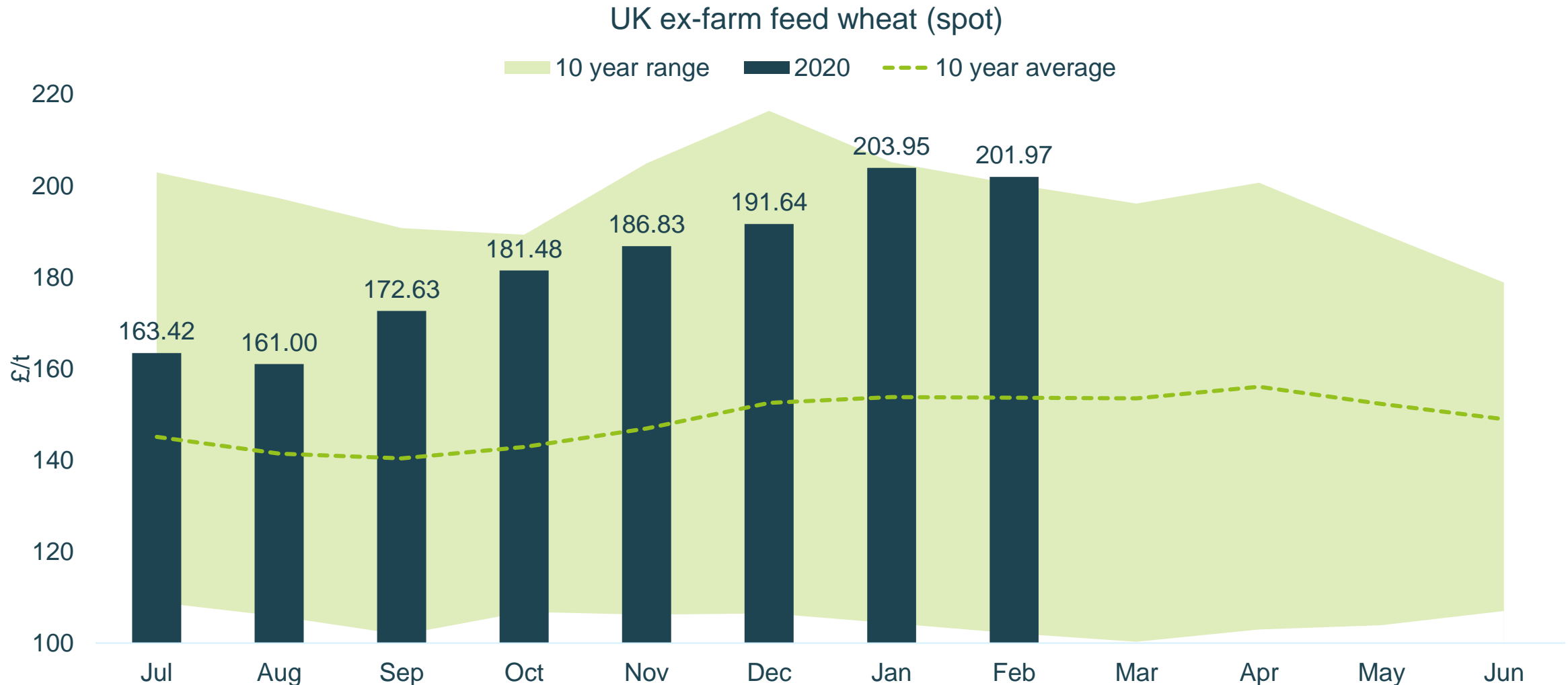
Balance of UK supply and demand wheat



Source: AHDB Balance Sheet

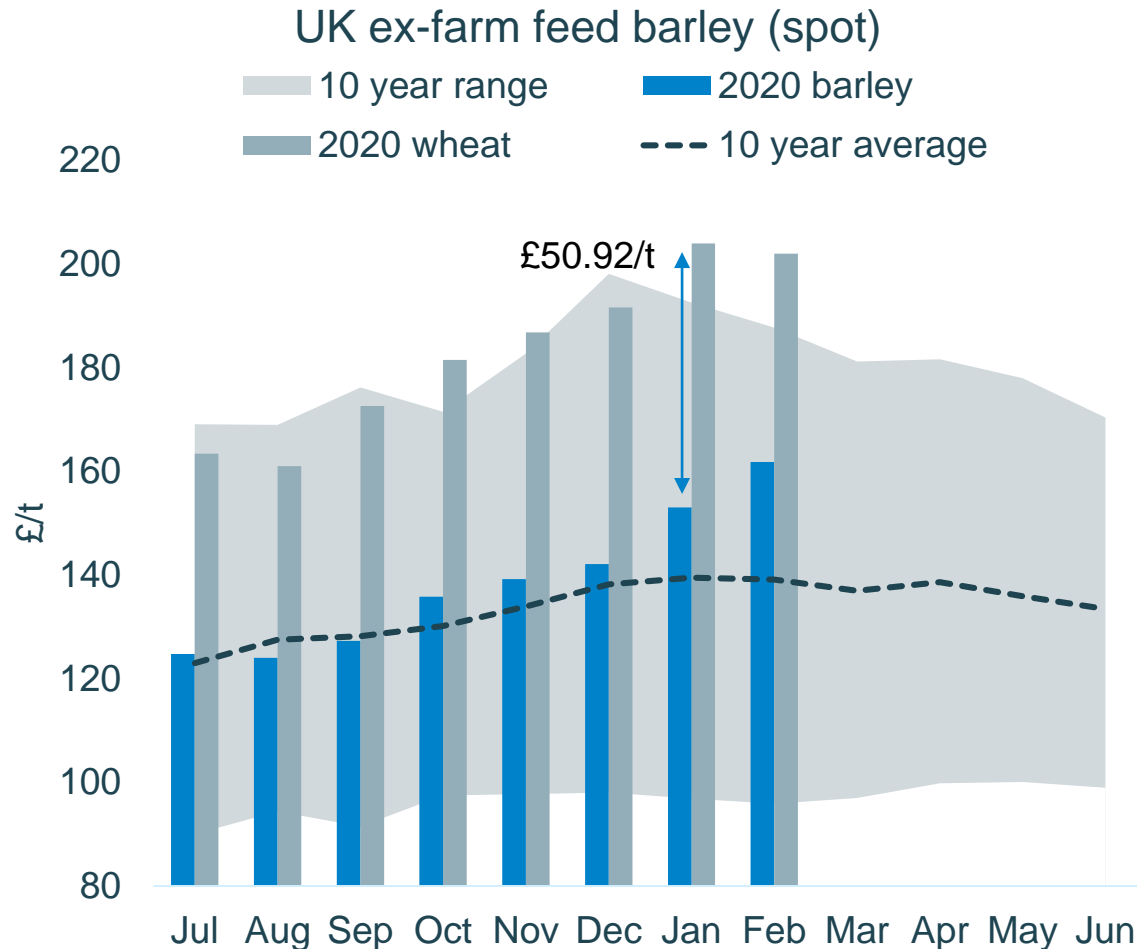
- Even with falling consumption deficit is huge
- Increased need to import/ displace wheat.
- Coronavirus implications for milling wheat.
- EU Exit clouded first half of the marketing year.

Where are prices at the moment



Source: AHDB Corn Returns

Barley prices moving up in recent months



Source: AHDB corn returns

- Barley much better supplied.
- Large area due to wet planting in 2019.
- Average ex-farm discount of feed barley to feed wheat up.
 - Jan 2021 **£50.92/t vs £14.34/t** 10 year average
- More barley being used in rations where possible.
- Pulling prices up.

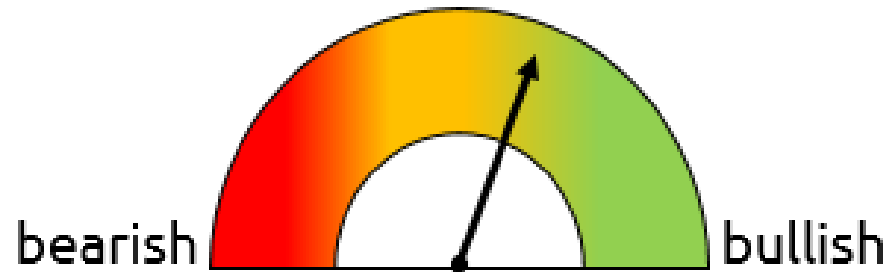
Areas for 2021/22

Kha	2015-20 average	2020/21	2021/22	Difference to average
All wheat	1,802	1,387	1776	-1.5%
Winter barley	429	312	389	-9.3%
Spring barley	711	1,076	756	6.3%
Total barley	1,140	1,388	1145	0.4%
Oats	157	210	214	36.1%
OSR	581	380	312	-46.3%
Pulses	209	233	249	19.1%

- Wheat area returning to normal levels
- Barley area to remain strong
- Oats and pulses growing as OSR takes a back seat.

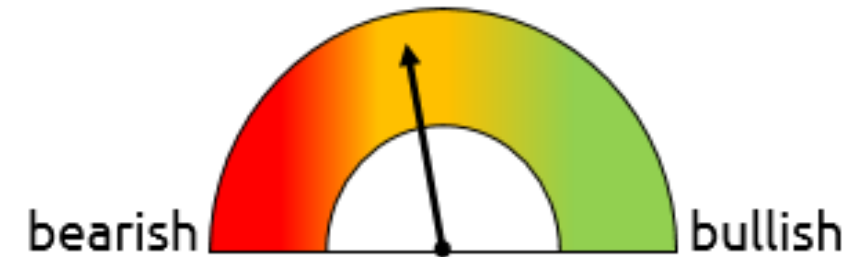
Where do prices go from here?

Wheat



- Very little carry-out from this season.
- New crop unlikely to be huge.
- New crop concerns globally.
- Increased ethanol demand in the UK?

Barley



- Another large crop on the horizon
- What will demand from brewers look like (Covid)?
- Reduced feed demand versus 2020

What has driven oilseed markets?



Soya imports from US up 195%
year-on-year



Slow harvest progress in South
America



UK a big importer despite fire

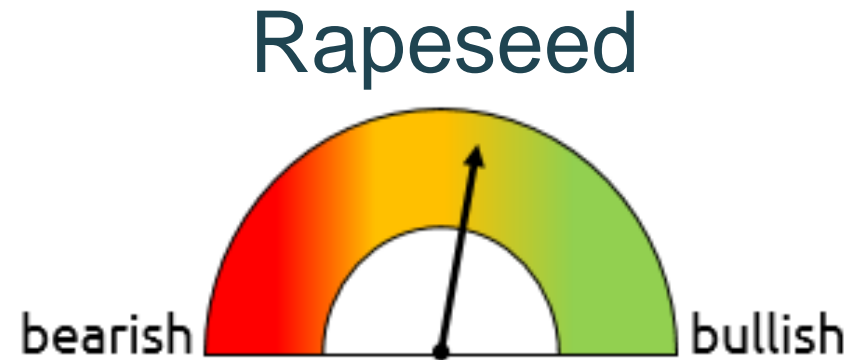


OSR production down 13% on 5ya



Strong demand for vegetable oils
combined with tight supplies

Where do prices go from here?



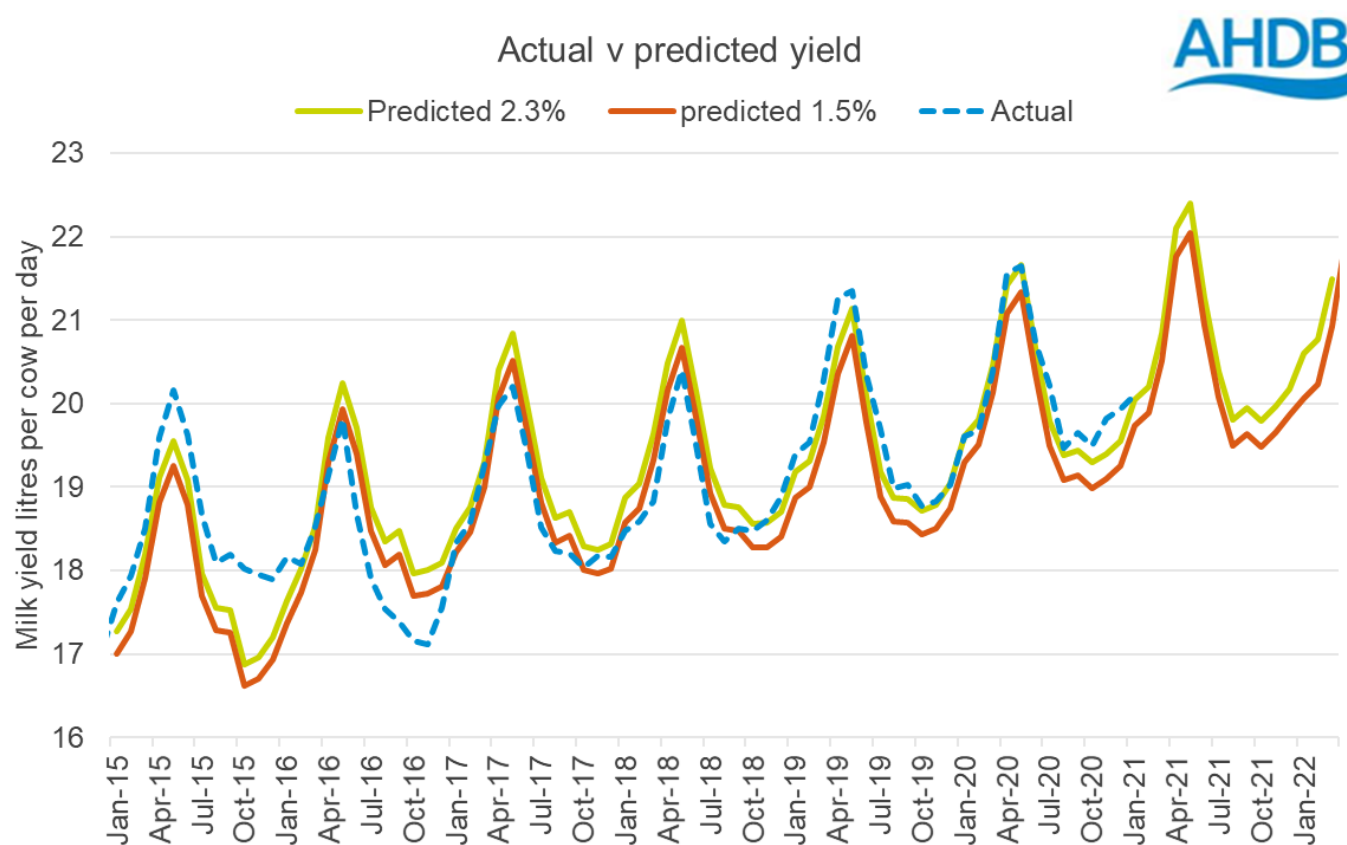
- Continued pressure in the UK from CSFB.
- Another year of below average EU crops.
- Continued strong demand globally.

Feed summary from discussion

- Expect to see dairy farmers growing more protein in the future, rather than sticking to maize
- Concern over rising feed prices and the impact that will have on farmer margins
- Also increases in other input costs such as fertiliser and fuel
- Farmers who bought ahead have been protected from the rising feed prices, but those costs will start to kick in as new deals are done

Milk yields

National milk yields

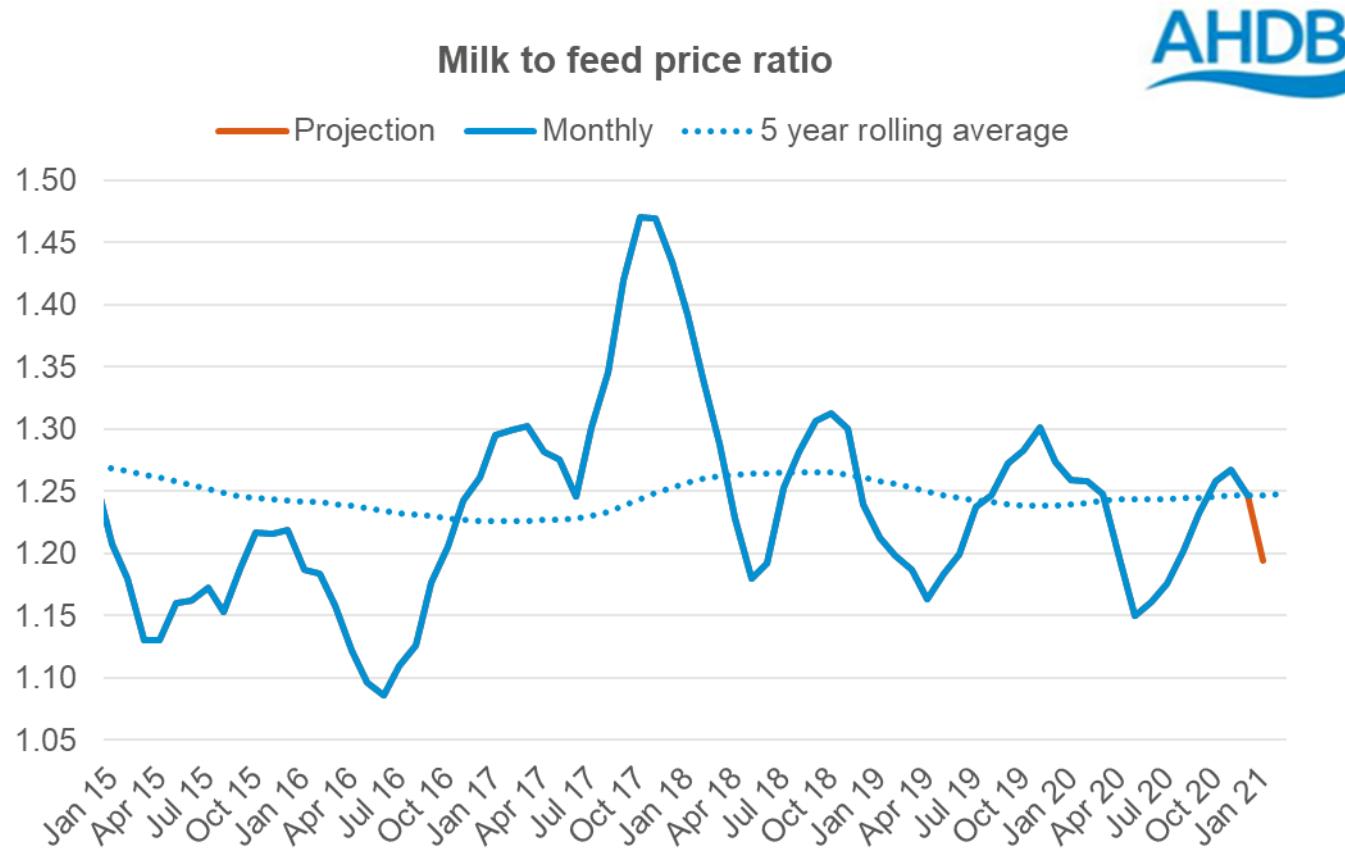


Source: BCMS, Defra, AHDB



- Currently use yield uplift of 2.3% per annum in forecast
- Previous average was 1.5%, but recent years have been at the higher level
- Yields followed 2.3% projection quite closely Jan-Jul 2020
- Would have exceeded this in spring if production had been uncurbed
- Yields were even higher than projected Aug-Dec 2020
- Jan back on track

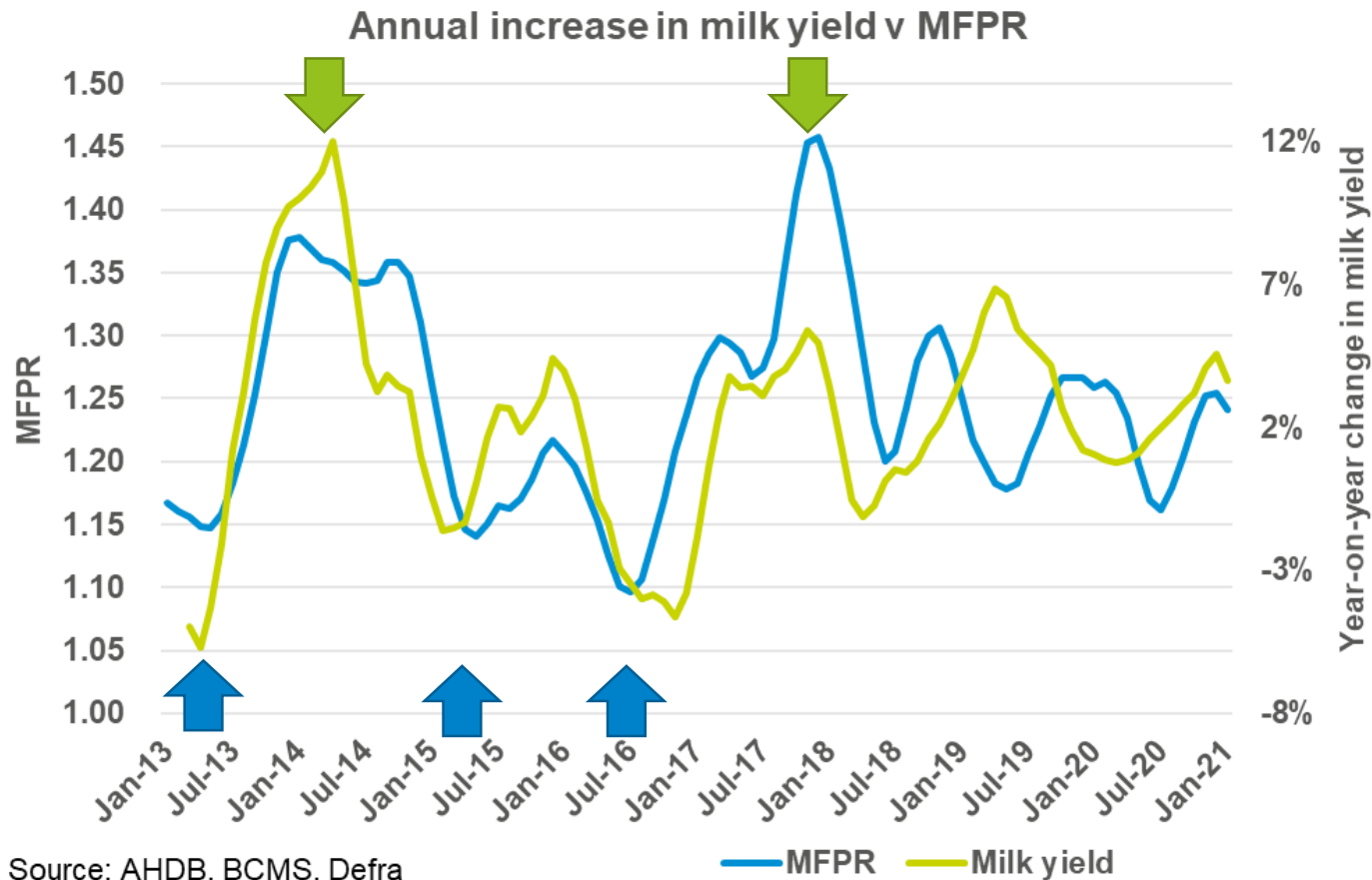
Milk to feed price ratio



Source: Actual - Kingshay, Promar, Defra, AHDB, Daera. Calculated - AHDB, Defra

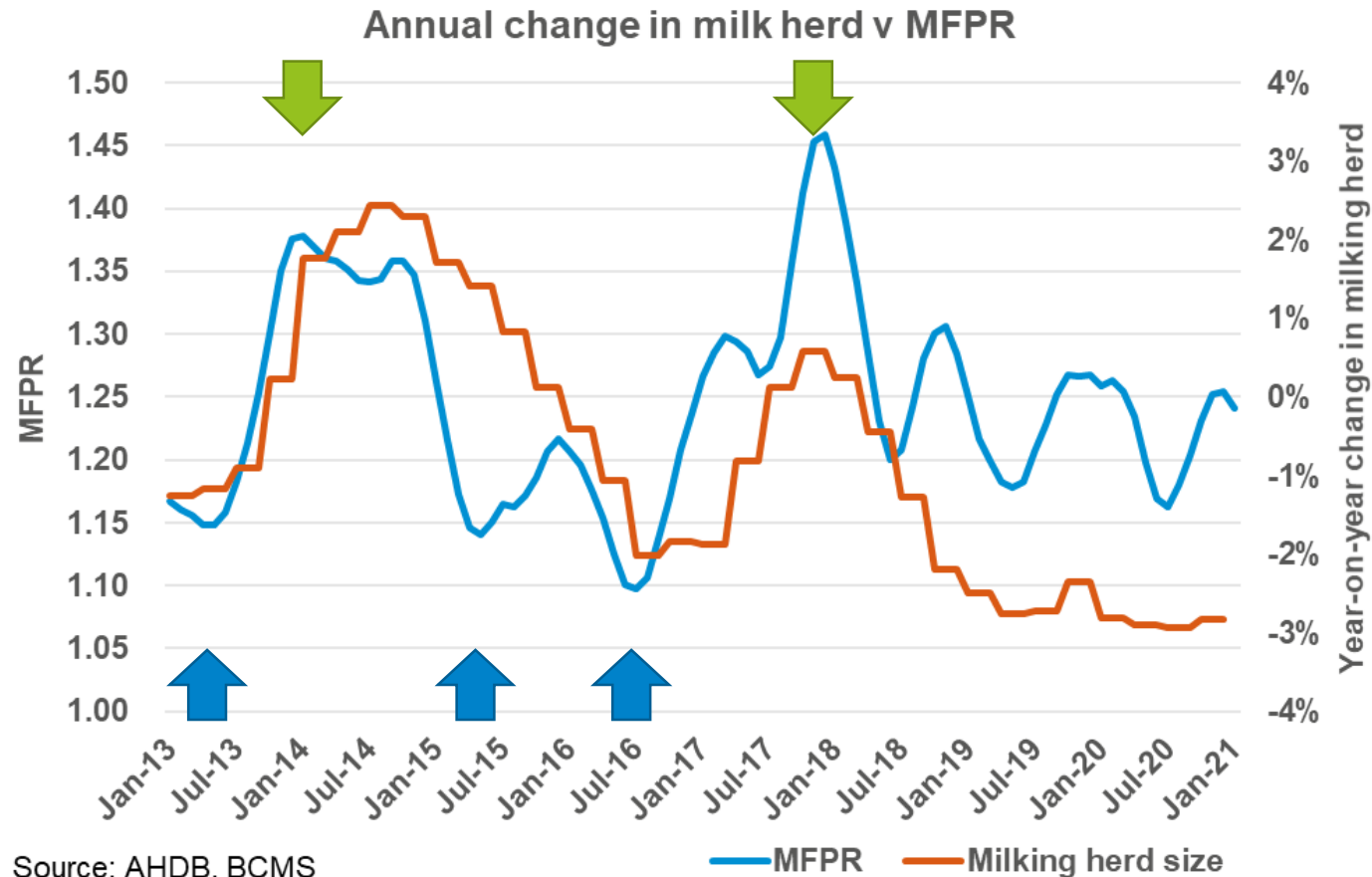
- Latest actuals to December
- Ratio 1.25 – in line with 5 year average
- However, increase in feed costs expected to push this down to 1.19 in January
- Was down at 1.09 in 2016 – lowest in recent history
- To get to that level of MFPR, concentrated feed costs would need to rise by £40/tonne +17% (£243 to £283)
- Milk price would need to rise to 34ppl to offset such an increase in feed

MFPR versus milk yields



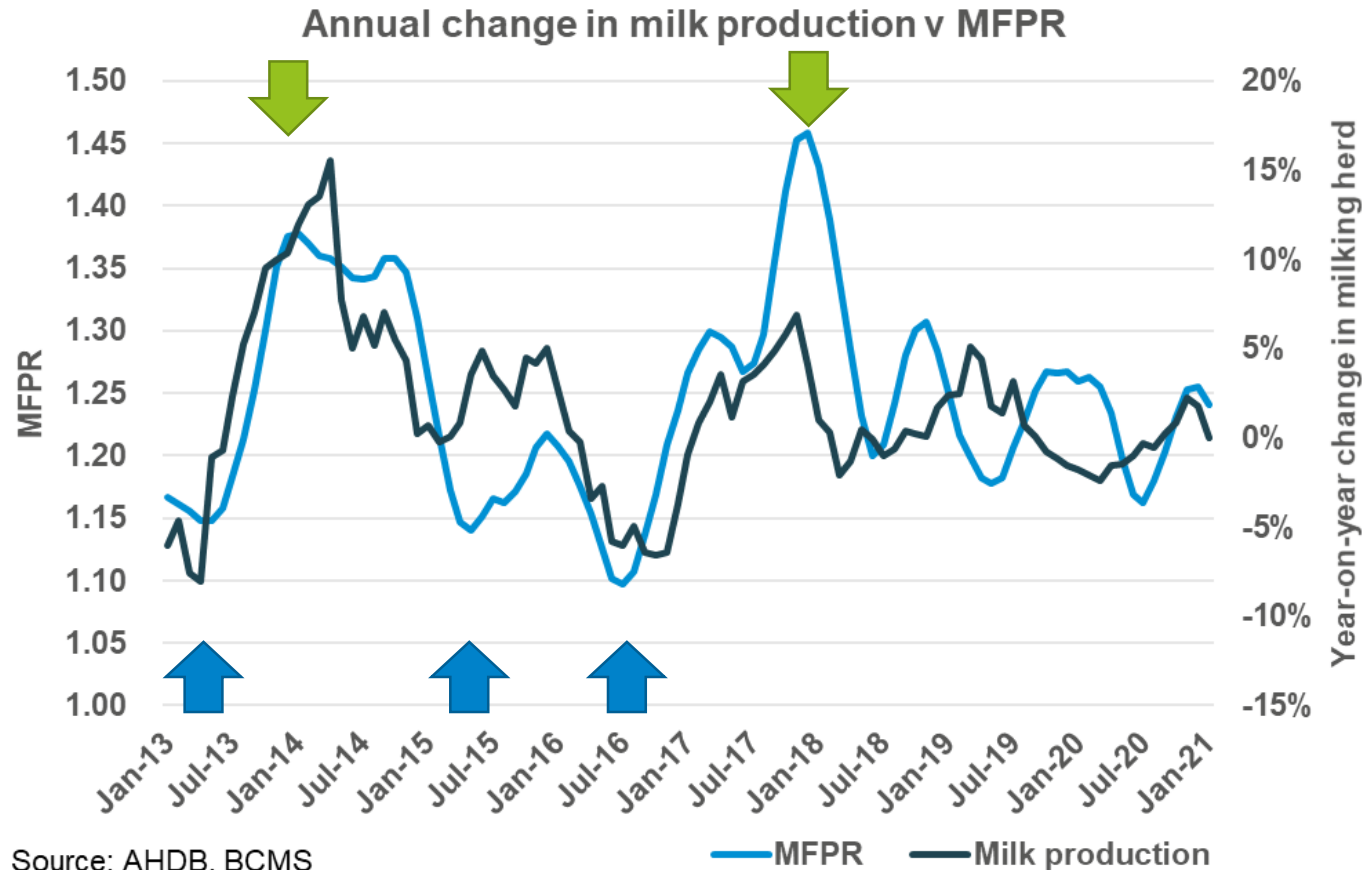
- Historically there has been some relationship between MFPR and milk yields
- Too many other factors at play
- When MFPR is outside normal range (1.17 – 1.30) some evidence of yield reaction
- Falls in 2013, 2015 and 2016 caused yields to fall
- Highs in 2014 and 2018 caused yields to rise

MFPR versus herd size



- Again, there have been times when MFPR does appear to impact expansion/reduction of milking herd
- Again multiple other factors at play
- Falls in 2013 and 2016 caused milking herd to contract
- Highs in 2014 and 2018 caused milking herd to expand
- More recently seen a steady contraction of the herd

MFPR versus milk production



Source: AHDB, BCMS

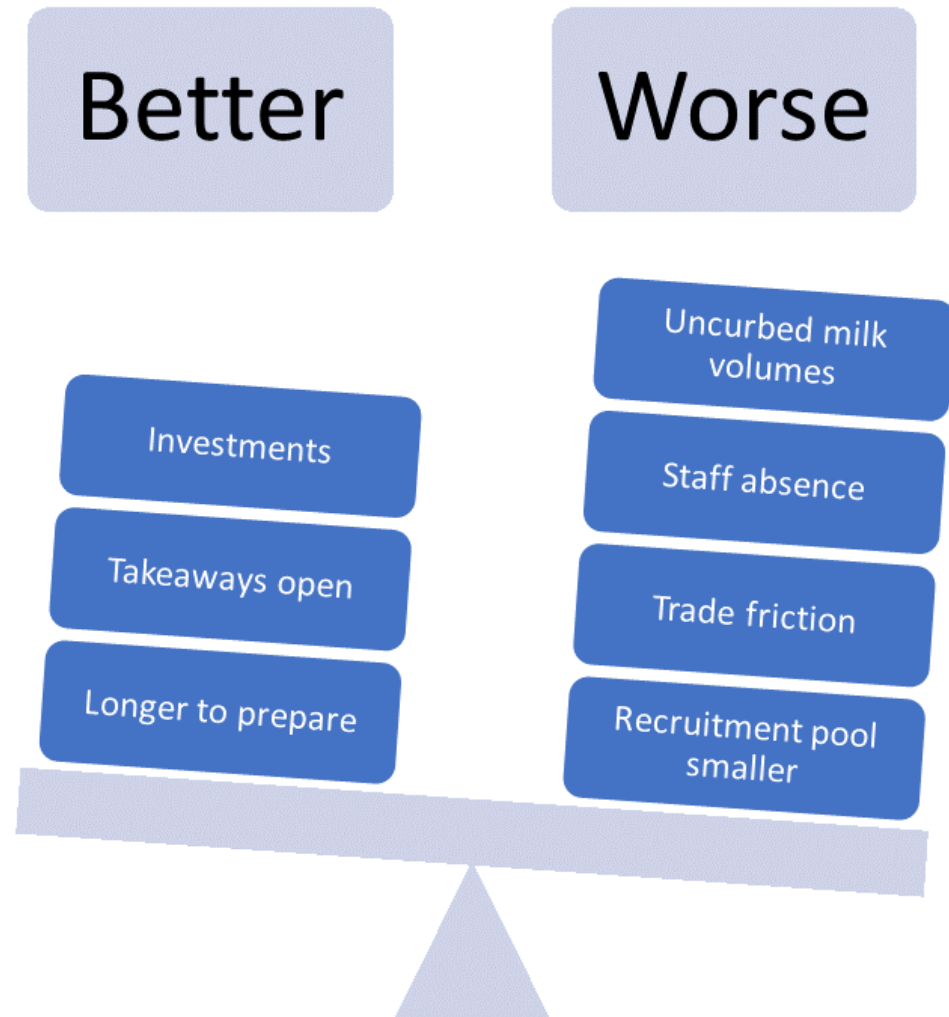
- When we look at overall milk production (annual change) against MFPR it shows a similar trend
- Dropping yield is relatively easy with feeding, but can't then increase it again within the same lactation
- Desire to get milk from forage over next 3-4 months
- In 2016 poor MFPR brought forward increase in retirements – people selling up and packing up

Milk yield summary

- Yields exceeded 2.3% growth in autumn 2020 and would have done in spring if it wasn't for the lockdown and efforts to curb volumes
- However January looks set to be more on track with expectations
- Concern over feed costs and impact on MFPR
- Some evidence that a drop in MFPR would lead to drop in milk production (either from lower yields or contraction of the herd)
- Concentrate prices would need to increase further to get MFPR away from the current long-term average

Impact of coronavirus

How long can the dairy industry handle a third lockdown?



- During 1st lockdown, overall processing capability in GB settled at around 36.9m litres per day
- Based on our Dec forecast, GB volumes would exceed this in the 2nd week of April
- Several factors affecting capacity are different this time around
- Timing of lockdown also different – see next slide

Spring lockdown rules: 2020 vs 2021

2020

- Lockdown from 23 March
- Milk production peaked around 10 May
- Restrictions started to ease on 11 May
- Large foodservice chains McDonalds and Costa began phased reopening in late May/June
- Phased school reopening began 1 June

2021

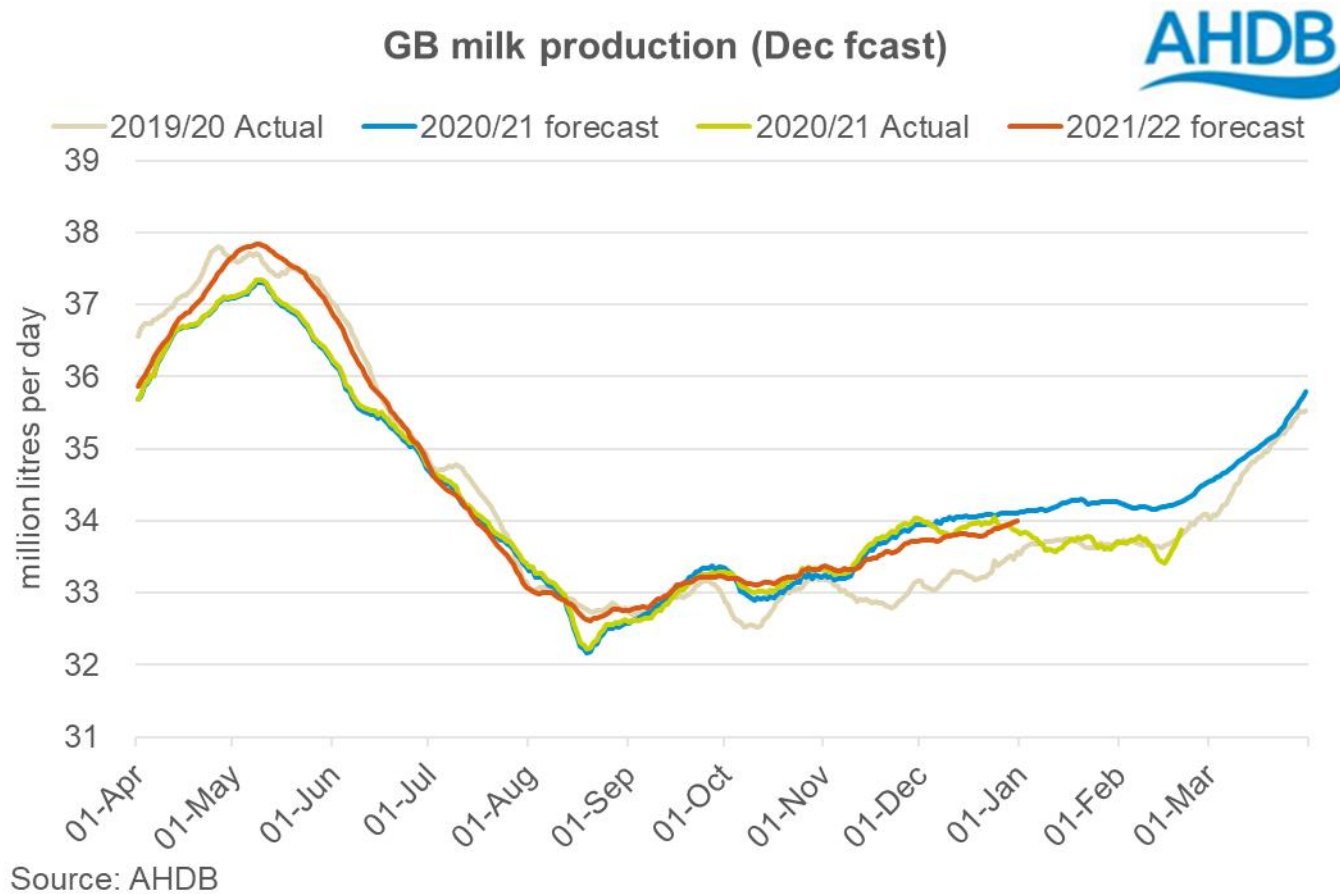
- More foodservice outlets remained open during this lockdown vs 1st lockdown
- Schools reopening 8 March
- Outdoor hospitality to reopen 12 April
- Indoor hospitality to reopen 17 May

Peak processing versus milk production

- Issues are with trade of liquid products such as cream and skim concentrate
- Historically we've relied on trade to balance volumes over peak
- There is demand for product in Europe, but issue is with planning – if we have a site breakdown we don't have the flexibility to export quickly due to paperwork
- Drop in Covid-19 cases has eased concerns about staff absenteeism
- Should be fine to handle milk off-farm, the risk is handling product post processing
- Barring a site breakdown, risks are in-line with 2019, rather than the heightened risks seen in 2020
- Irish capacity reported as being an issue

Latest milk forecast

GB milk production – December forecast



- December forecast put GB milk deliveries at 12.56bn litres for 2020/21
- Latest projection puts it at 12.52bn – down 0.1% on 2019/20
- Strong yields Sep-Nov lifted forecast
- Production has since dropped away from December forecast
- Roughly at year-ago levels since Jan
- Year-ago and forecast trends converge late March, expect production to follow.

Preliminary 2021-22 forecast

GB milk production forecast - February 2021 PRELIMINARY

m litres	2019/20	2020/21	2020/21	2020/21	2021/22	2020/21
	Actuals	Actuals	Forecast	Yr-on-yr	Forecast	Yr-on-yr
Apr	1,118	1,102		-1.5%	1,110	0.8%
May	1,160	1,142		-1.5%	1,160	1.5%
Jun	1,070	1,058		-1.1%	1,070	1.1%
Jul	1,056	1,052		-0.4%	1,045	-0.7%
Aug	1,019	1,012		-0.6%	1,015	0.2%
Sep	988	990		0.1%	990	0.0%
Oct	1,019	1,027		0.8%	1,030	0.3%
Nov	989	1,008		2.0%	1,005	-0.3%
Dec	1,033	1,052		1.9%	1,050	-0.2%
Jan	1,044	1,042		-0.2%	3,130	1.7%
Feb	947		950	0.3%		
Mar	1,086		1,085	-0.1%		
Year	12,530		12,521	-0.1%	12,605	0.7%

Source: AHDB

Note: 28-day equivalent used for February 2020

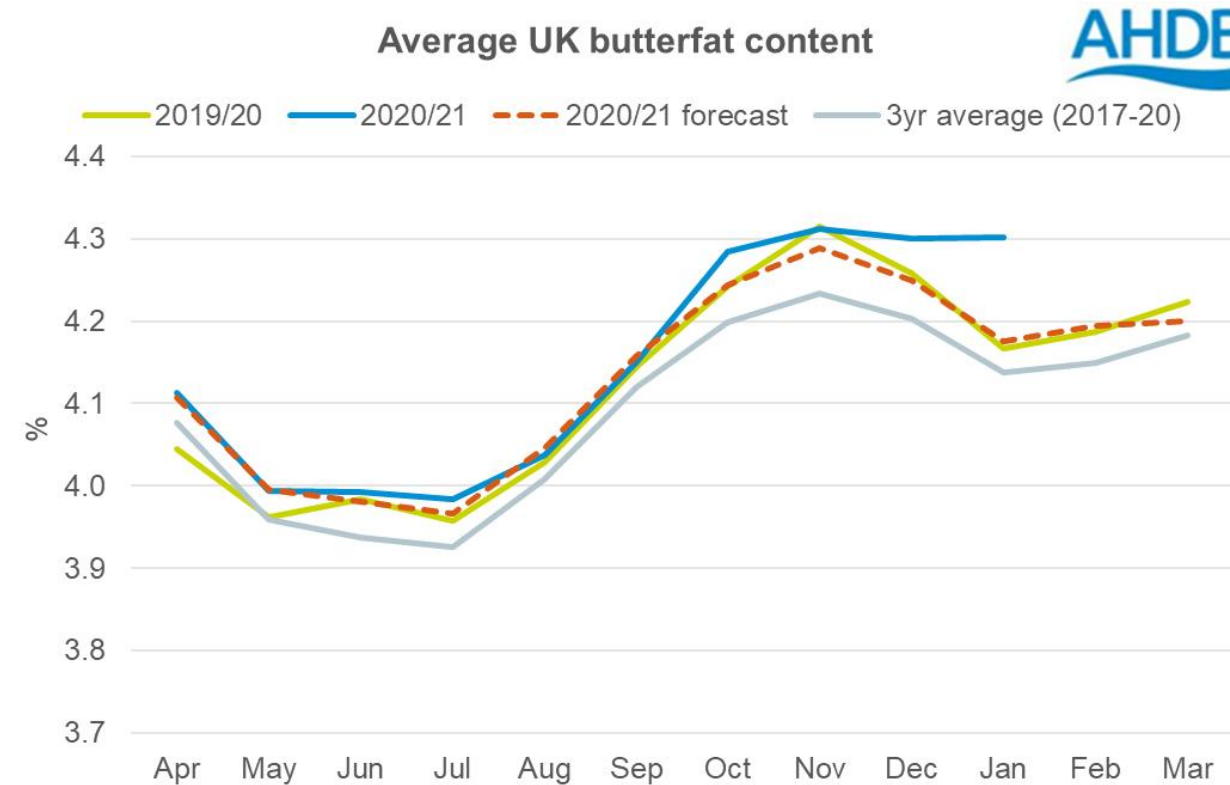
Note: Figures in italics are provisional. Figures in red are forecasts.

Table shows data presented at the forum, although this will be updated following feedback from the group

- Preliminary forecast update puts production at 12.605bn litres for 2021/22
- Up 0.7% on expected 2020/21 total
- Official forecast later this month
- Spring up YoY as we expect no production curbing
- Assumes yields and herd size won't be impacted by MFPR
- Feedback from the forum is that MFPR will impact milk volumes
- Also, expect increase in culling to offset increase in youngstock numbers

Compositional quality

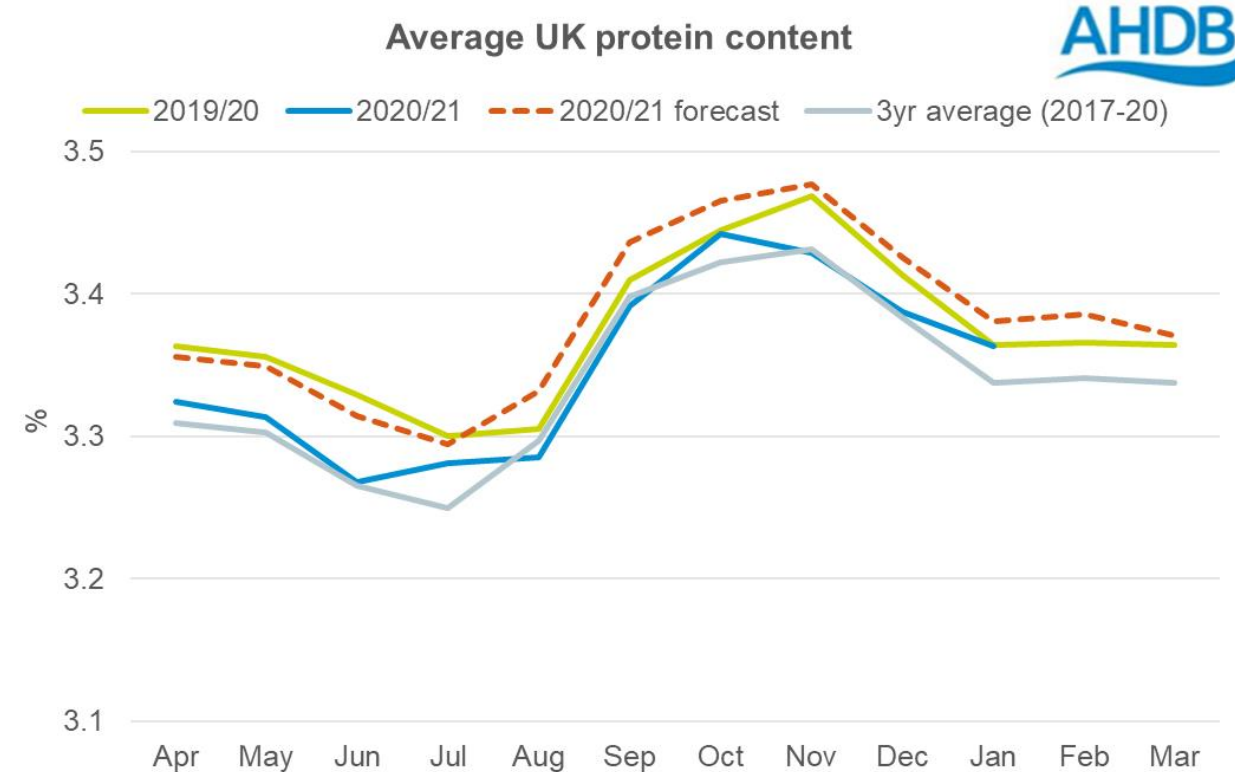
Latest butterfat vs forecast



Source: Defra, AHDB

- Butterfat content ran in line with forecast projections to Sep
- Butterfat lightly higher Oct-Dec
- January butterfat highest for at least 25 years
 - Aligns to AHDB quality survey results and feedback from the group
- Farmers have been pushing for higher quality rather than volume
- Forecast based on improvement trend over last 5 years

Latest protein vs forecast



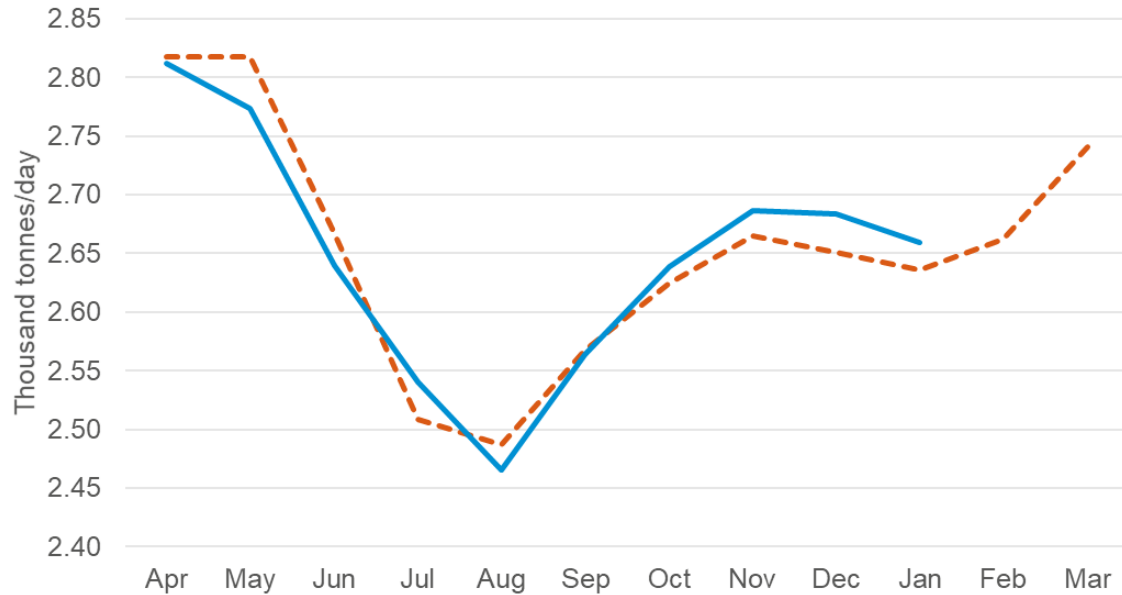
Source: Defra, AHDB

- Protein content has been consistently below forecast, and roughly in line with 3-yr average.
- Protein levels improved in January and back in line with 2020
- 2019/20 seen as a one-off, and should be ignored for long-term trends
- Forecast based on improvement trend over last 5 years

Milk solids production vs Apr-20 forecast

Daily solids production

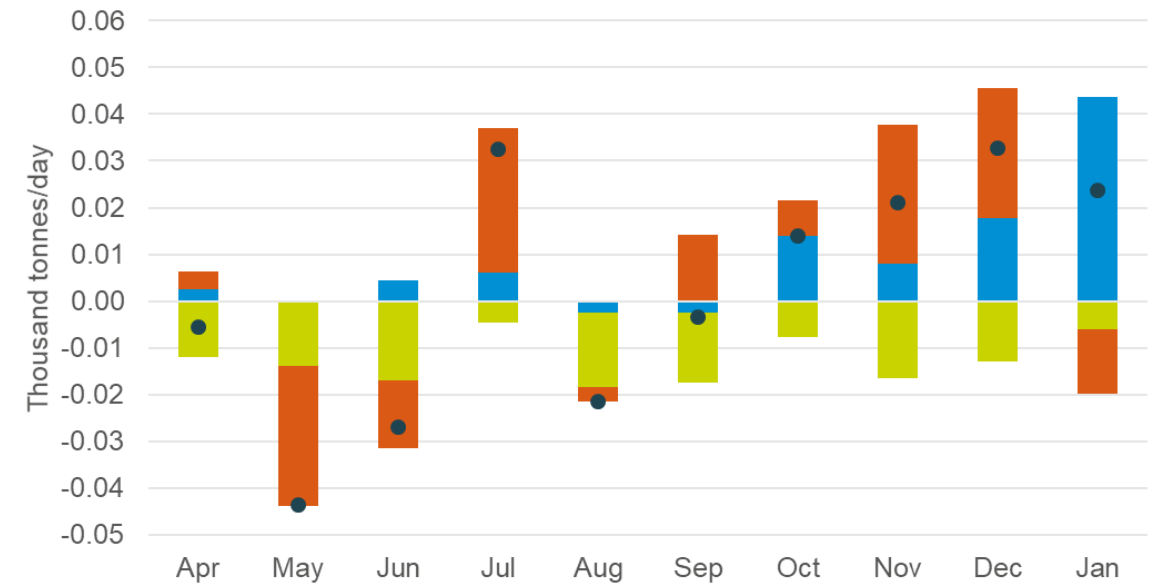
--- Forecast — Actual



Source: AHDB, Defra

Contribution to difference between forecast and actual solids production

■ Fat ■ Protein ■ Production ● Total difference



Source: AHDB

- Volume variances drove difference in overall solids versus forecast May to July, and Nov/Dec
- Higher butterfat level in January cause notable lift in overall solids
- Protein levels have been below forecast for the whole year

Compositional quality summary

- Protein levels have been below forecast all year
- Significant lift in butterfat levels in January
- Expectation that milk solids will continue to gradually increase, as liquid demand becomes a smaller share of overall production
- This is a long-term trend that we would expect to continue
- Genetic improvements likely to drive further increase in comp quality, although high proteins recorded in 2019/20 likely to have been a one-off

A vibrant landscape of a green field at sunset. A path leads from the foreground towards the horizon where the sun is setting, creating a warm glow. The sky is filled with colorful clouds. The text is overlaid in the center of the image.

**‘Inspiring our farmers, growers
and industry to succeed in a
rapidly changing world’**