SUPPLY AND DEMAND

25 November 2021

KEY POINTS

- Despite a rise in wheat production, the tightest opening stocks this century limits availability. Imports are forecast to slow, with strong freight costs and logistical issues proving challenging.
- Barley production is back, following an area decline. Demand recovery is projected in the H&I sector, although declines in animal feed demand are estimated to offset this.
- Maize imports are back substantially, with the grain currently not price competitive.
- Higher than anticipated oat production has led to oat end-season stocks becoming bolstered.

INTRODUCTION

1. This release covers the first official estimates made of UK cereal supply and demand for 2021/22 (Appendix 1).

2. The UK Cereals Supply and Demand Estimates include the official production figures for all cereals published by Defra in the results of the Cereal and Oilseed Rape Production Survey. Please note that the Defra cereal production estimates are standardised to 14.5% moisture content, with production tonnages being adjusted accordingly.

3. **Total cereals demand for animal feed is estimated at 12.990Mt, 247Kt lower than 2020/21 levels.** Animal feed production as a whole is expected to decline on the year, driven by a fall in production by compounders. Poultry feed production is expected to stay largely in line with 2020/21, with increases early in the season balancing declines projected in the second half of the marketing year. The fall in compound feed demand is expected due to labour and logistic shortages in the supply chain, restricting the volumes of livestock that can be processed. As a result, maintaining additional animals on farm, at a time of rising input costs, is anticipated to contribute to herd rationalisation for some. Barley usage by the brewing, malting and distilling (BMD) sector is expected to recover above the previous two seasons, but still behind 2018/19 volumes. Bolstered demand as the country continues its pandemic recovery is expected, although labour challenges may restrict the size and pace of this. Flour milling usage is anticipated to stabilise in the second half of the season, following liquidity and logistical hurdles impeding volumes during the first half of the marketing year.

WHEAT

4. **In 2021/22 total availability of wheat is estimated at 16.889Mt, 2.362Mt higher than in 2020/21, but the second lowest since 2013/14.** The tightest opening wheat stocks this century, at 1.416Mt, have capped increases in availability from a rebound in production. The provisional Defra wheat production figure for 2021, at 14.022Mt, is 4.364Mt higher year on year. From July to September 2021, the UK imported 607Kt of wheat compared with 724Kt over the same period in 2020. After a historically strong start in July and August, driven by low ending stocks, September's import pace dropped off considerably. This slower pace is anticipated to persist due to current high freight costs. As such, UK wheat imports are forecast at 1.450Mt, 40% less than 2020/21 volumes.

5. **At 7.279Mt, human and industrial (H&I) consumption of wheat in 2021/22 is 692Kt more than 2020/21 levels.** The increase on the year is largely driven by a rise in usage by the bioethanol and starch sectors, as a result of the introduction of E10 in September 2021. It is assumed that the bioethanol industry will be fully on line during the first half of 2022, with greater use of home-grown wheat rather than maize. While total usage of wheat by flour millers is expected to remain relatively stable on the year, the proportion of home-grown wheat is estimated to increase on last season. Despite quality concerns at harvest, the functionality of UK wheat is proving better than anticipated. While challenges sourcing sea freight may limit some imports, transport logistics within the UK could see imports favoured in some regions if more readily available.

6. **Wheat usage in animal feed is expected to increase by 1.207Mt on the year, to 7.206Mt.** This returns volumes more in line with the 2018/19 and 2019/20 seasons. Due to the greater availability of wheat this season, it is expected that animal feed producers will increase the wheat inclusions in their rations, at the expense of barley and maize. Much of this will depend on the discount barley achieves relative to wheat, which has reduced after the peaks recorded during July and August. Wheat usage in compound feed production is expected to remain largely in line with last season, despite greater availability. Labour and logistical issues have impacted the livestock sector, resulting in backlogs on farm and at abattoirs, while input costs have remained strong. As such, it is estimated that some livestock producers may rationalise herds, or exit, thereby reducing compound feed demand during the second half of the season. Wheat usage in integrated poultry unit (IPU) feed production is also forecast to increase this season, driven by an increase in wheat inclusion in rations, rather than an increase in overall demand.

7. **The balance of total availability and domestic consumption of wheat is estimated at 2.057Mt, just 441Kt more than 2020/21 levels and the third lowest this century.** With tight opening stocks this season, coupled with a rebound in consumption to 2018/19 and 2019/20 levels, the picture remains relatively tight. Operating stocks have been estimated at 1.500Mt, in line with last year. This results in a surplus available for either free stock or

export of 557Kt. From July to September 2021, the UK exported 88Kt of wheat, which leaves a total surplus of 469Kt to date.

BARLEY

8. **Total availability of barley is estimated at 8.246Mt in 2021/22, 1.316Mt lower than year earlier levels, driven by a forecast decrease in production and opening stocks.** Production for 2021 has been provisionally estimated by Defra at 7.108Mt, 1.009Mt back on the year. With improved winter drilling conditions in 2020, a return to winter cropping was seen last season. As a result, the spring barley area, inflated by the previous seasons weather challenges, reduced. However, production reductions were softened slightly, due an increase in area to higher yielding winter barley and above average yields this season for both winter and spring varieties.

9. **In 2021/22 H&I usage of barley is estimated to rise by 150Kt on the year to 1.871Mt.** From July to September the BMD sector in the UK used 10.7% more barley than the same period in 2020/21. With the country continuing to recover post pandemic lockdowns, barley demand by the BMD sector is expected to grow to meet this recovering demand. However, labour shortages within the hospitality industry may limit growth back to pre-pandemic levels.

10. **At 4.066Mt, barley usage in animal feed is estimated to be 1.240Mt lower than levels reported in 2020/21.** While season to date (Jul-Sep) usage of barley in GB animal feed production (including IPU) is 15.1% higher year on year, this likely reflects more the lack of wheat availability at the start of the season. With the barley discount to wheat reducing since the start of September, wheat inclusions in rations are estimated to increase, at the expense of barley. Additionally, total cereals usage for animal feed is projected to decline, particularly in the second half of the season, as high costs and labour and logistical shortages result in some producers rationalising herds or exiting the industry.

11. **The balance of barley supply and demand is estimated to be marginally smaller (-220Kt) than 2020/21 at 2.088Mt.** The decrease in consumption has not been to quite the same degree as the fall in availability, given the projected rise in the H&I sector. The estimated operating stock requirement of 740Kt has been trimmed 50Kt on the year. The result is a reduction in the surplus, of 211Kt, to 1.348Mt. The UK has exported 267Kt of barley from July to September, which leaves a total surplus to either be exported from October to June or carried over into next season as free stock of 1.081Mt.

MAIZE

12. **In 2021/22 total availability of maize is forecast at 2.332Mt, 747Kt less than last year, primarily driven by a decrease in imports.** Full season imports of maize are forecast to be 736Kt lower than year earlier levels at 2.122Mt. So far this season (Jul-Sep) the UK has imported 316Kt, down by just over half (51%) on the same period last year. High global maize prices have significantly reduced its competitiveness, and there is a lower requirement projected from both the H&I and animal feed sector. Should maize prices soften later in the season, and the grain become more attractive in price relative to other cereals, we may see imports start to rise. However, as it currently stands, the outlook for global prices remains supported and therefore, maize imports are expected to remain relatively subdued during the season.

13. **H&I demand for maize in 2021/22 is estimated at 688Kt, 321Kt lower year on year and in line with 2017/18 volumes.** Despite an overall increase in cereal usage by the bioethanol & starch sector, strong maize prices and greater wheat availability are reportedly reducing the attractiveness of maize. **At 1.310Mt, animal feed usage of maize is expected to decline 224Kt on the year.** The relative price of maize and the greater availability of wheat are both reducing demand from the animal feed sector.

14. **With domestic consumption not declining at the same volume as availability, the balance of supply and demand is forecast to fall by 202Kt to 330Kt.** This would be the lowest since 2015/16. Exports are estimated at 110Kt, 31Kt lower year on year, with closing stocks pegged at 220Kt, 9Kt higher than in 2020/21.

OATS

15. **Total availability of oats is estimated to be 156Kt more on the year at 1.314Mt.** Defra's provisional estimate for oat production is 118Kt higher than in 2020/21 at 1.149Mt, with reports from the trade suggesting this figure is too high. Opening stocks of oats are forecast to be 41Kt lower on the year at 147Kt, while imports are estimated to decrease by 2Kt to 18Kt.

16. **At 532Kt, H&I usage of oats in 2021/22 is relatively unchanged on year earlier levels.** Oat miller's usage is expected to increase marginally, but more due to the exceptional extraction rates achieved last year than a wholesale increase in demand. **However, the usage of oats in animal feed is expected to increase 10Kt, to 407Kt.**

17. **In 2021/22, the balance of oats total availability and domestic consumption is estimated at 339Kt, 144Kt more than in 2020/21.** While both domestic demand and exports are forecast up, this is not to the same degree as the rise in both production and opening stocks. Oat exports are forecast at 55Kt, 14Kt more on the year, leaving estimated closing stocks at 284Kt, 137Kt higher year on year, this figure may be over-inflated by the potentially over-estimated Defra production figure.

18. Appendix II shows cumulative usage and trade data to end-September. This release and related information can be found at ahdb.org.uk/cereals-oilseeds-markets.

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Appendix I

UK CEREAL SUPPLY AND DEMAND ESTIMATES [a]

Estimates made in November 2021

July to June crop years

Thousand tonnes

		WHEAT						BARLEY					
		2016/17 2020/21 average	2018/19 estimate	2019/20 estimate	2020/21 estimate	2021/22 Nov-21	% change on 20/21	2016/17 2020/21 average	2018/19 estimate	2019/20 estimate	2020/21 estimate	2021/22 Nov-21	% change on 20/21
(1)	Opening stocks	2,122	1,718	1,911	2,438	1,416	-42%	1,199	1,076	1,091	1,357	1,058	-22%
(2)	Production	13,731	13,555	16,225	9,658	14,022	45%	7,300	6,510	8,048	8,117	7,108	-12%
(3)	Imports	1,799	1,858	1,056	2,431	1,450	-40%	88	70	70	88	80	-9%
(4)	**Total availability**	**17,652**	**17,131**	**19,192**	**14,527**	**16,889**	**16%**	**8,587**	**7,657**	**9,210**	**9,562**	**8,246**	**-14%**
(5)	Human and industrial consumption (b)	7,276	6,969	6,923	6,587	7,279	11%	1,827	1,901	1,781	1,721	1,871	9%
(5a)	(of which home grown)	6,225	5,918	6,173	5,099	6,216	22%	n/a	n/a	n/a	n/a	n/a	n/a
(6)	Usage as animal feed (c)	7,118	7,402	7,438	5,999	7,206	20%	4,146	3,582	4,142	5,307	4,066	-23%
(6a)	(of which home grown)	6,431	6,652	6,938	5,249	6,656	27%	n/a	n/a	n/a	n/a	n/a	n/a
(6b)	(of which compounders)	4,033	4,164	4,200	3,536	4,058	15%	1,373	1,172	1,398	1,884	1,574	-16%
(6c)	(of which integrated poultry units)	1,174	1,155	1,182	1,082	1,141	5%	71	50	44	147	93	-37%
(7)	Seed (d)	264	281	215	277	277	0%	194	187	228	185	185	0%
(8)	Other	69	68	81	48	70	46%	37	33	40	41	36	-12%
(9)	**Total domestic consumption**	**14,727**	**14,720**	**14,656**	**12,911**	**14,832**	**15%**	**6,204**	**5,703**	**6,191**	**7,254**	**6,158**	**-15%**
(10)	**Balance (4) - (9)**	**2,925**	**2,411**	**4,535**	**1,616**	**2,057**	**27%**	**2,383**	**1,954**	**3,019**	**2,308**	**2,088**	**-10%**
(11)	Exports (e)	732	358	1,205	209	-	-	1,214	863	1,790	1,290	-	-
(12)	Intervention stocks (e)	-	-	-	-	-	-	-	-	-	-	-	-
(13)	**Commercial end-season stocks (e)**	**1,848**	**1,911**	**2,438**	**1,416**	**-**	**-**	**1,137**	**1,091**	**1,357**	**1,058**	**-**	**-**
(14)	(of which estimated operating stock requirement) (f)	1,552	1,550	1,550	1,500	1,500	-	778	780	790	790	740	-6%
(15)	(of which free stock) (g)	296	361	888	-	-	-	359	311	567	268	-	-
(16)	**Surplus available for either export or free stock (10)-(12)-(14)-(18)**	**1,373**	**720**	**2,093**		**557**	**-**	**1,605**	**1,174**	**2,356**	**1,558**	**1,348**	**-14%**
(17)	**2020/21 operating stock deficit (13)-(14)****				**-84**								
(18)	**Residual (10)-(11)-(13)**		**142**	**892**	**-9**				**-**	**-127**	**-40**		

		MAIZE						OATS					
		2016/17 2020/21 average	2018/19 estimate	2019/20 estimate	2020/21 estimate	2021/22 Nov-21	% change on 20/21	2016/17 2020/21 average	2018/19 estimate	2019/20 estimate	2020/21 estimate	2021/22 Nov-21	% change on 20/21
(1)	Opening stocks	240	247	313	222	211	-5%	113	138	116	106	147	38%
(2)	Production	-	-	-	-	-	-	930	850	1,076	1,031	1,149	11%
(3)	Imports	2,418	2,825	2,376	2,857	2,122	-26%	24	32	18	20	18	-10%
(4)	**Total availability**	**2,658**	**3,072**	**2,689**	**3,079**	**2,332**	**-24%**	**1,066**	**1,020**	**1,210**	**1,157**	**1,314**	**13%**
(5)	Human and industrial consumption	765	800	803	1,010	688	-32%	536	536	553	531	532	0%
(5a)	(of which home grown)	-	-	-	-	-	-	509	500	537	513	516	1%
(6)	Usage as animal feed	1,365	1,573	1,351	1,534	1,310	-15%	317	302	350	397	407	2%
(6a)	(of which home grown)	-	-	-	-	-	-	317	302	350	397	407	2%
(7)	Seed	-	-	-	-	-	-	26	25	30	29	29	0%
(8)	Other (h)	4	4	4	4	4	0%	4	4	5	5	6	20%
(9)	**Total domestic consumption**	**2,134**	**2,377**	**2,158**	**2,548**	**2,002**	**-21%**	**883**	**867**	**939**	**962**	**974**	**1%**
(10)	**Balance (4) - (9)**	**524**	**696**	**531**	**532**	**330**	**-38%**	**183**	**153**	**271**	**195**	**339**	**74%**
(11)	Exportable surplus	162	188	135	141	110	-22%	49	37	120	41	55	34%
(12)	**Commercial end-season stocks**	**253**	**313**	**222**	**211**	**220**	**4%**	**124**	**116**	**106**	**147**	**284**	**93%**
(13)	**Residual (10)-(11)-(12)**		**194**	**174**	**180**				**-**	**45**	**7**		

Links connect to relevant Defra/AHDB data pages

Due to rounding, totals may not agree with the sum of individual items

* Change not meaningful

** Due to the highly unusual nature of this seasons hugely reduced wheat production figure, an extra line is included in the balance sheet to show the operating stock deficit.

(a) These are revised during the year. Figures rounded to the nearest 1000 tonnes.

(b) Defra updated the registry for the UK flour millers survey in spring 2016, the wheat H&I usage has been adjusted to take account of this change.

(c) Animal feed usage has been split by sector. Note, other users are only included in the total.

(d) Seed numbers have been updated based on a number of assumptions, calculated for the purposes of the balance sheets only.

(e) Split of exports, intervention and total commercial end-season stocks only published for historical seasons.

(f) Estimated operating stocks requirement is a calculated estimate of the minimum tonnage that users of grain require to get through to a point at which new crop can be utilised.

(g) Free stock is the stock available after both exports and estimated operating stock requirements have been fulfilled.

(h) 2014/15 new format: Maize demand in "Other food use" has been added to the H&I total for maize. This was previously included in the "Other" category.

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		OTHER CEREALS (i)					
		2016/17 2020/21 average	2018/19 estimate	2019/20 estimate	2020/21 estimate	2021/22 Nov-21	% change on 20/21
(1)	Opening stocks	5	5	5	5	5	-3%
(2)	Production	145	169	168	156	271	74%
(3)	Imports	3	3	1	2	2	-16%
(4)	**Total availability**	**153**	**177**	**174**	**164**	**278**	70%
(5+6)	H&I and animal feed	144	169	166	156	271	74%
(5a+6a)	(of which home grown)	142	166	165	155	270	74%
(7)	Seed	3	3	3	3	3	0%
(8)	Other	-	-	-	-	-	-
(9)	**Total domestic consumption**	**147**	**172**	**169**	**159**	**274**	72%
(10)	**Balance (4) - (9)**	**5**	**5**	**5**	**5**	**4**	-12%
(11)	Exportable surplus	-	-	-	1	-	-
(12)	Intervention stocks	-	-	-	-	-	-
(13)	**Commercial end-season stocks**	**5**	**5**	**5**	**4**	**4**	0%

		TOTAL CEREALS					
		2016/17 2020/21 average	2018/19 estimate	2019/20 estimate	2020/21 estimate	2021/22 Nov-21	% change on 20/21
(1)	Opening stocks	3,679	3,184	3,437	4,128	2,837	-31%
(2)	Production	22,105	21,085	25,517	18,962	22,550	19%
(3)	Imports	4,332	4,789	3,522	5,399	3,672	-32%
(4)	**Total availability**	**30,116**	**29,058**	**32,475**	**28,490**	**29,059**	**2%**
(5)	H&I (wheat, barley, maize, oats) (h)	10,404	10,206	10,060	9,849	10,370	5%
(6)	Animal feed (wheat, barley, maize oats) (h)	12,946	12,858	13,281	13,237	12,990	-2%
(5a +6a)	Other cereals (H&I and animal feed)	144	169	166	156	271	74%
(7)	Seed	488	496	476	494	494	0%
(8)	Other	114	109	130	98	116	18%
(9)	**Total domestic consumption**	**24,095**	**23,838**	**24,113**	**23,834**	**24,241**	**2%**
(10)	**Balance (4) - (9)**	**6,021**	**5,220**	**8,362**	**4,656**	**4,818**	**3%**
(11)	Exports	2,157	1,446	3,249	1,682	-	-
(12)	Intervention stocks	-	-	-	-	-	-
(13)	**Commercial end-season stocks**	**3,367**	**3,437**	**4,128**	**2,836**	**509**	**-82%**
(14)	Estimated operating stock requirement (wheat & barley only)	2,330	2,330	2,340	2,290	2,240	-2%
(15)	Free stock for wheat and barley***	655	673	1,455	268	-	
(16)	**Surplus available for either export or free stock (10)-(12)-(14)-(18)**	**3,691**	**2,553**	**5,038**	**2,228**	**2,578**	**16%**
(17)	**Residual (10)-(11)-(13)**		**336**	**984**	**138**		

Source: AHDB, Defra

Links connect to relevant Defra/AHDB data pages
Due to rounding, totals may not agree with the sum of individual items
(i) Includes mainly rye, triticale and mixed grain.
* Change not meaningful
*** Free stock figure in total cereals balance sheet relates to barley only due to the wheat deficit

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Appendix II

CUMULATIVE MONTHLY STATISTICS

Usage of cereals by processors, external trade and stocks

Situation as at end of September 2021

Thousand tonnes

		2016/17 to 2020/21 average	2015/16 13 weeks	2016/17 13 weeks	2017/18 13 weeks	2018/19 13 weeks	2019/20 13 weeks	2020/21 13 weeks	2021/22 13 weeks	% Change 2021/22 on 2020/21	Actual Change 2021/22 on 2020/21
WHEAT											
Usage	Flour millers [1]	1,645	1,612	1,759	1,817	1,726	1,444	1,478	1,472	0%	-6
	of which home-grown	1,361	1,370	1,539	1,575	1,290	1,238	1,166	1,113	-4%	-52
	of which imported	283	242	220	242	436	206	313	359	15%	46
	Brewers, maltsters and distillers	185	172	179	208	168	192	180	210	16%	29
	Animal Feed Processors [2]	1,174	1,133	1,182	1,188	1,226	1,169	1,103	1,080	-2%	-23
	of which feed compounders	879	814	880	884	927	892	813	805	-1%	-8
	of which intergrated poultry units	294	319	302	304	299	276	291	275	-5%	-15
Imports	From July [3]	535	447	424	430	772	303	744	627	-16%	-118
Exports	From July [3]	277	325	671	147	79	417	73	91	25%	19
BARLEY											
Usage	Brewers, maltsters and distillers	449	448	447	469	461	470	400	443	11%	43
	Animal Feed Processors [2]	291	237	213	299	285	290	370	426	15%	56
	of which feed compounders	275	226	200	282	270	279	343	388	13%	45
	of which intergrated poultry units	17	11	13	17	16	11	27	38	43%	11
Imports	From July [3]	26	47	32	35	22	16	25	39	58%	14
Exports	From July [3]	352	360	338	343	129	671	279	267	-4%	-12
MAIZE											
Usage	Human and Industrial	**	85	72	57	**	**	**	**	*	*
	Animal Feed Processors [2]	100	83	72	83	101	124	118	106	-10%	-12
	of which feed compounders	87	69	62	71	92	105	104	93	-10%	-11
	of which intergrated poultry units	13	14	11	11	9	19	14	13	-12%	-2
Imports	From July [3]	506	388	387	398	544	561	640	316	-51%	-324
Exports	From July [3]	33	18	26	35	38	31	35	15	-57%	-20
OATS											
Usage	Human and Industrial	133	125	126	130	142	128	139	128	-8%	-11
	Animal Feed Processors [2]	12	14	10	10	15	12	13	26	98%	13
Imports	From July [3]	7	15	9	11	6	2	6	3	-56%	-4
Exports	From July [3]	16	17	7	17	14	26	16	6	-64%	-10

Source: AHDB, Defra, HMRC

[1] Includes bioethanol and starch usage
[2] Great Britain only
[3] HMRC
* Changes not meaningful
**Insufficient sample to produce robust figure

Notes

Due to rounding, totals may not agree with the sum of the individual items.
There are 53 weeks in the statistical year 2020. In order to incorporate the change January 2020 was increased to a 5 week period compared to 4 weeks in 2019.
There are 53 weeks in the statistical year 2016. In order to incorporate the change April 16 was increased to a 5 week period compared to 4 weeks in 2015.
Figures in Appendix II were updated on 25 November 2021. The data above may differ from the most recent published data.