SUPPLY AND DEMAND

24 March 2022



KEY POINTS

- Total cereals demand for animal feed is estimated to be down on 2020/21 levels. While on farm livestock backlogs are forecast to continue throughout the first half of 2022, some producers are taking early turnout opportunities due to rising feed costs.
- Despite a rise in wheat production, the tightest opening stocks this century limits availability. Demand is expected to persist, but origin sources and strong freight and haulage costs could prove challenging.
- Barley production is down, following an area decline. Demand recovery is projected in the H&I sector, although declines in barley inclusion rates for animal feed are estimated to offset this.
- Maize imports are substantially lower, with Ukrainian origin maize unable to access the global market for the foreseeable future.

INTRODUCTION

- 1. This release covers the third estimates made of UK cereal supply and demand for 2021/22 (Appendix 1). Please note AHDB revised the registry for the GB compound animal feed and integrated poultry unit surveys in January 2022, with updated data received. 'Usage as animal feed' for wheat, barley, maize and oats has been revised for 2019/20 and 2020/21 to account for these changes.
- 2. The UK Cereals Supply and Demand Estimates include the official production figures for all cereals published by Defra in the results of the <u>Cereal and Oilseed Rape Production Survey</u>. Please note that the Defra cereal production estimates are standardised to 14.5% moisture content, with production tonnages being adjusted accordingly.
- Total cereals demand for animal feed is estimated at 13.065Mt, 59Kt more than the January estimate, but 292Kt less than 2020/21 levels. Livestock backlogs on farm remain and push into the second quarter of 2022. Relatively settled winter weather has allowed early turnout for some. This has been more pronounced given current high feed costs. As such, total cereal use in animal feed has been revised down from January estimates. Herd reductions in the pork sector are forecast in the second half of 2022. While the dairy herd is expected to expand, this will be with younger animals, who require less grain. Therefore, animal feed production as a whole is expected to decline on the year. Human and industrial (H&I) consumption of total cereals is forecast back from the January estimates, by 50Kt, but 439Kt up on the year. With a second bioethanol plant not yet fully on-line by mid-March, consumption is revised back from January figures. However, it is our assumption that the plant is to be operational by the end of Q1 2022, and fully on-line next season. **WHEAT**

4. In 2021/22 total availability of wheat is estimated at 16.904Mt, 2.441Mt more than in 2020/21. This is driven by a rebound in production. The final Defra wheat production figure for 2021 is 13.988Mt, 4.330Mt more year-on-year. Total availability is revised up 50Kt from the January estimate, driven by a 50Kt increase in forecast

- imports, to 1.500Mt. Between July and January, the UK imported 1.179Mt of wheat, 26% behind the same point last season. While transport logistics and global supply tightness may limit some imports, milling wheat meeting specification will still need to be sourced.
- At 7.119Mt, human and industrial (H&I) consumption of wheat in 2021/22 is 525Kt higher than 2020/21 levels. However, this is a decrease of 126Kt from the January release. 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. However, the decrease from the January estimate reflects the delay in the bioethanol industry being fully online. It is assumed the second major bioethanol plant will be operational by the end of Q1 2022, and operating at full capacity next season. 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. However, imported wheat usage by flour millers is still expected to be above fiveyear average levels. Import origins may likely change, given the current conflict in Ukraine.
- Wheat usage in animal feed is expected to increase by 1.162Mt on the year, to 7.273Mt. This is relatively unchanged (-2Kt) from the January estimate. The 2021/22 projection is increased on the year due to the continued livestock backlogs. These are expected to extend into the first half of 2022, with herd reductions not being realised until the second half of the year. Furthermore, 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. While, high feed costs and more favourable winter weather is expected to lead to earlier turnout for some livestock producers, total animal feed production is expected to be higher compared with the January estimate, leading to wheat inclusions remaining relatively unchanged.
- 7. The balance of total availability and domestic consumption of wheat is estimated at 2.164Mt, 732Kt more than 2020/21 levels. However, this is the third lowest level this century. With tight opening stocks this season, coupled with a

rebound in consumption to 2019/20 levels, the picture remains relatively tight. The increase of 178Kt from the January estimate reflects a decrease in consumption by H&I sectors. 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 664Kt. From July 2021 to January 2022, the UK exported 261Kt of wheat, which leaves a total surplus of 403Kt to date. Commercial end-season stocks are estimated at 1.664Mt, 248Kt more than 2020/21.

BARLEY

- 8. Total availability of barley is estimated at 8.089Mt in 2021/22, 1.473Mt lower than 2020/21, driven by a decrease in production and opening stocks. The final Defra production figure for 2021 is 6.961Mt, 1.156Mt less than 2020/21. Improved winter drilling conditions in 2020 saw a swing back to winter drilling and a reduction in the spring barley area. Barley imports are estimated down 19Kt on 2020/21 and 15Kt on the January estimate, at 70Kt.
- 9. In 2021/22 H&I usage of barley is estimated to rise by 171Kt on the year to 1.893Mt. With the country continuing to recover post lockdowns, barley demand by the BMD sector is expected to grow to meet this recovering demand. Barley usage near, or at, pre-pandemic levels is expected
- 10. At 4.175Mt, barley usage in animal feed is estimated to be 1.134Mt lower than levels recorded in 2020/21. The latest estimate is 90Kt more than what was forecast in January. The change compared with previous estimates is driven by an increase in the amount of barley fed on farm, outweighing a fall in the use in compound and IPU feed production.
- 11. The balance of barley supply and demand is estimated to be smaller, 503Kt less than 2020/21 and 130Kt lower than the January forecast at 1.801Mt. The decrease in consumption has not been to quite the same degree as the fall in availability, given the projected rise in demand by the H&I sector and the extended demand for animal feed. The estimated operating stock requirement of 800Kt is increased 20Kt on the year. The result is a reduction in the surplus of 567Kt, to 1.001Mt. The UK has exported 517Kt of barley from July to January, which leaves a total surplus to either be exported from February to June or carried over into next season as free stock of 484Kt.

MAIZE

12. In 2021/22 total availability of maize is forecast at 2.193Mt, 888Kt less than last year, and 59Kt less than the January estimate. This is primarily driven by a decrease in imports. Full season imports of maize are forecast to be 877Kt lower than year earlier levels at 1.983Mt. So far this season (JulJan) the UK has imported 1.203Mt, down 32% on the 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. Equally, with Ukrainian maize imports unavailable while war continues, global availability will tighten further. Should maize prices soften later in the season and Ukrainian maize enter the market again, the grain may become more price attractive and we may see imports start to rise. Additionally, the temporary suspension of the US maize tariff may result in further import volumes. However, the outlook for global prices remains supported with tight availability. Therefore, maize imports are expected to remain relatively subdued during the season.

- 13. H&I demand for maize in 2021/22 is estimated at 757Kt, 254Kt lower year on year. Despite an overall increase in cereal usage by the bioethanol & starch sector, strong wheat prices would incentivise maize usage. However, availability of maize remains a concern moving forward. At 1.163Mt, animal feed usage of maize is expected to decline 379Kt on the year and 63Kt compared with January estimates. The relative price and availability of maize 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 255Kt on the year to 270Kt. This would be the lowest since 2015/16. Exports are estimated at 90Kt, 48Kt lower year on year, with closing stocks pegged at 180Kt, 31Kt lower than in 2020/21 and back to 2015/16 levels.

OATS

- 15. Total availability of oats is estimated to be 133Kt more on the year at 1.290Mt. Defra's final estimate for oat production is 92Kt higher than in 2020/21 at 1.123Mt. Opening stocks of oats are forecast to be 41Kt more on the year at 147Kt, while imports are estimated to stay at 2020/21 levels, at 20Kt.
- 16. At 528Kt, H&I usage of oats in 2021/22 is marginally down (-3Kt) on year earlier levels. Oat miller's usage is expected to decrease marginally, although consumer demand is still present. However, the usage of oats in animal feed is expected to increase 59Kt, to 453Kt. With high feed costs, it is expected that crops will be fed on farm where economically viable.
- 17. In 2021/22, the balance of oats total availability and domestic consumption is estimated at 275Kt, 75Kt more than in 2020/21, but 31Kt less than January forecasts. While both domestic demand and exports are forecast up, this is not to the same degree as the rise in both production and to a lesser extent opening stocks. Oat exports are forecast at 100Kt, 59Kt more on the year, given the current price competitiveness of UK oats. This leaves estimated closing stocks at 175Kt, 27Kt higher year on year.
- 18. Appendix II shows cumulative usage and trade data to end-January. This release and related information can be found at ahdb.org.uk/cereals-oilseeds-markets.

CEREALS & OILSEEDS



Appendix I

UK CEREAL SUPPLY AND DEMAND ESTIMATES (a) Estimates made in March 2022

July to June crop years Thousand tonnes

		WHEAT							BARLEY								
		2016/17						Absolute	%	2016/17						Absolute	%
		2020/21	2018/19	2019/20	2020/21	2021/22	2021/22	change	change	2020/21	2018/19	2019/20	2020/21	2021/22	2021/22	change	change
		average	estimate	estimate	estimate	Jan-22	Mar-22	Jan-22	on 20/21	average	estimate	estimate	estimate	Jan-22	Mar-22	Jan-22	on 20/21
(1)	Opening stocks	2,122	1,718	1,911	2,438	1,416	1,416	-	-42%	1,199	1,076	1,091	1,357	1,058	1,058	-	-22%
(2)	Production	13,731	13,555	16,225	9,658	13,988	13,988	-	45%	7,300	6,510	8,048	8,117	6,961	6,961	-	-14%
(3)	<u>Imports</u>	1,772	1,858	988	2,367	1,450	1,500	50	-37%	88	70	70	89	85	70	-15	-21%
(4)	Total availability	17,626	17,131	19,123	14,463	16,854	16,904	50	17%	8,587	7,657	9,210	9,562	8,104	8,089	-15	-15%
(5)	Human and industrial consumption (b)	7,279	6,969	6,932	6,594	7,245	7,119	-126	8%	1,829	1,901	1,778	1,722	1,869	1,893	24	10%
(5a)	(of which home grown)	6,226	5,918	6,169	5,108	6,187	5,999	-187	17%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
(6)	Usage as animal feed (c)	7,165	7,402	7,560	6,111	7,275	7,273	-2	19%	4,147	3,582	4,144	5,310	4,085	4,175	90	-21%
(6a)	(of which home grown)	6,478	6,652	7,060	5,361	6,725	6,723	-2	25%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
(6b)	(of which compounders)	4,080	4,164	4,320	3,648	4,129	4,119	-10	13%	1,374	1,172	1,399	1,887	1,595	1,590	-5	-16%
(6c)	(of which integrated poultry units)	1,175	1,155	1,185	1,082	1,140	1,148	8	6%	71	50	44	147	90	85	-4	-42%
(7)	Seed (d)	265	281	215	278	278	278	-	0%	193	187	223	185	185	185	-	0%
(8)	Other	69	68	81	48	70	70	-	46%	37	33	40	41	35	35	-	-15%
(9)	Total domestic consumption	14,777	14,720	14,788	13,031	14,868	14,740	-128	13%	6,206	5,703	6,185	7,257	6,173	6,288	115	-13%
(10)	Balance (4) - (9)	2,848	2,411	4,336	1,432	1,986	2,164	178	51%	2,381	1,954	3,025	2,305	1,931	1,801	-130	-22%
(11)	Exports (e)	731	358	1,205	205	250	500	250	144%	1,214	863	1,790	1,290	710	750	40	-42%
(12)	Intervention stocks (e)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(13)	Commercial end-season stocks (e)	1,848	1,911	2,438	1,416	1,736	1,664	-72	17%	1,137	1,091	1,357	1,058	1,221	1,051	-170	-1%
(14)	(of which estimated operating stock requirement) (f)	1,552	1,550	1,550	1,500	1,500	1,500	-	-	776	780	790	780	740	800	60	3%
(15)	(of which free stock) (g)	296	361	888	-	236	164	-72	*	361	311	567	278	481	251	-230	-10%
(16)	Surplus available for either export or free stock (10)-(12)-(14)-(18)	1,296	720	2,093		486	664	178	*	1,567	1,174	2,356	1,568	1,191	1,001	-190	-36%
(17)	2020/21 operating stock deficit (13)-(14)**				-84												
(18)	Residual (10)-(11)-(13)		142	693	-189						-	-121	-44				

		MAIZE							OATS								
		2016/17						Absolute	%	2016/17						Absolute	%
		2020/21	2018/19	2019/20	2020/21	2021/22	2021/22	change	change	2020/21	2018/19	2019/20	2020/21	2021/22	2021/22	change	change
		average	estimate	estimate	estimate	Jan-22	Mar-22	Jan-22	on 20/21	average	estimate	estimate	estimate	Jan-22	Mar-22	Jan-22	on 20/21
(1)	Opening stocks	240	247	313	222	211	211	-	-5%	113	138	116	106	147	147	-	38%
(2)	<u>Production</u>	-	-	-	-	-	-	-	-	930	850	1,076	1,031	1,123	1,123	-	9%
(3)	<u>Imports</u>	2,418	2,825	2,376	2,860	2,041	1,983	-59	-31%	24	32	18	20	20	20	-	0%
(4)	Total availability	2,659	3,072	2,689	3,082	2,252	2,193	-59	-29%	1,066	1,020	1,210	1,157	1,290	1,290	-	11%
(5)	Human and industrial consumption	765	800	800	1,011	702	757	54	-25%	536	536	553	531	531	528	-3	-1%
(5a)	(of which home grown)	-	-	-	-	-	-	-	-	509	500	537	513	514	511	-3	0%
(6)	Usage as animal feed	1,368	1,573	1,362	1,542	1,226	1,163	-63	-25%	316	302	346	394	420	453	34	15%
(6a)	(of which home grown)	-	-	-	-	-	-	-	-	316	302	346	394	420	453	34	15%
(7)	Seed	-	-	-	-	-	-	-	-	26	25	29	28	28	28	-	0%
(8)	Other (h)	4	4	4	4	4	4	-	0%	4	4	5	5	6	6	-	20%
(9)	Total domestic consumption	2,137	2,377	2,166	2,557	1,932	1,923	-9	-25%	881	867	933	958	985	1,016	31	6%
(10)	Balance (4) - (9)	521	696	523	525	320	270	-50	-49%	185	153	276	199	306	275	-31	38%
(11)	Exportable surplus	161	188	135	138	100	90	-10	-35%	49	37	120	41	58	100	42	143%
(12)	Commercial end-season stocks	253	313	222	211	220	180	-40	-15%	124	116	106	147	248	175	-73	19%
(13)	Residual (10)-(11)-(12)		194	166	176							50	11				

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.

		OTHER CEREALS (i)										
		2016/17						Absolute	%			
		2020/21	2018/19	2019/20	2020/21	2021/22	2021/22	change	change			
		average	estimate	estimate	estimate	Jan-22	Mar-22	Jan-22	on 20/21			
(1)	Opening stocks	5	5	5	5	4	4	0	-22%			
(2)	Production	145	169	168	156	297	297	-	90%			
(3)	Imports	3	3	1	2	2	2	-	-37%			
(4)	Total availability	152	177	174	164	303	303	-	85%			
(5+6)	H&I and animal feed	144	169	166	156	294	296	2	90%			
(5a+6a)	(of which home grown)	142	166	165	155	293	293	-	89%			
(7)	Seed	3	3	3	3	3	3	-	0%			
(8)	Other	-	-	-	-	-	-	-	-			
(9)	Total domestic consumption	147	172	169	159	297	299	2	88%			
(10)	Balance (4) - (9)	5	5	5	5	6	4	-2	-23%			
(11)	Exportable surplus	-	-	-	1	-	-	-	-1			
(12)	Intervention stocks	-	-	-	-	-	-	-	-			
(13)	Commercial end-season stocks	5	5	5	4	6	4	-2	-12%			

		TOTAL CEREALS										
		2016/17						Absolute	%			
		2020/21	2018/19	2019/20	2020/21	2021/22	2021/22	change	change			
		average	estimate	estimate	estimate	Jan-22	Mar-22	Jan-22	on 20/21			
(1)	Opening stocks	3,679	3,184	3,437	4,128	2,836	2,836	-	-31%			
(2)	Production	22,105	21,085	25,517	18,962	22,369	22,369	-	18%			
(3)	Imports	4,306	4,789	3,453	5,337	3,598	3,574	-24	-33%			
(4)	Total availability	30,090	29,058	32,407	28,428	28,803	28,779	-24	1%			
(5)	H&I (wheat, barley, maize, oats) (h)	10,409	10,206	10,063	9,858	10,347	10,296	-50	4%			
(6)	Animal feed (wheat, barley, maize oats) (h)	12,996	12,858	13,412	13,357	13,006	13,065	59	-2%			
(5a + 6a)	Other cereals (H&I and animal feed)	144	169	166	156	294	296	2	90%			
(7)	Seed	487	496	470	494	494	494	-	0%			
(8)	Other	114	109	130	98	115	115	-	17%			
(9)	Total domestic consumption	24,149	23,838	24,241	23,962	24,255	24,266	11	1%			
(10)	Balance (4) - (9)	5,941	5,220	8,165	4,465	4,548	4,513	-35	1%			
(11)	Exports	2,156	1,446	3,249	1,676	1,118	1,440	322	-14%			
(12)	Intervention stocks	-	-	-	-	-	-	-	-			
(13)	Commercial end-season stocks	3,367	3,437	4,128	2,836	3,430	3,073	-357	8%			
(14)	Estimated operating stock requirement (wheat & barley only)	2,328	2,330	2,340	2,280	2,240	2,300	60	1%			
(15)	Free stock for wheat and barley***	657	673	1,455	278	716	415	-302	49%			
(16)	Surplus available for either export or free stock (10)-(12)-(14)-(17)	3,613	2,553	5,038	2,232	2,308	2,213	-95	-1%			
(17)	Residual (10)-(11)-(13)		336	788	-46							

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

Appendix II

CUMULATIVE MONTHLY STATISTICS Usage of cereals by processors, external trade and stocks

Situation as at end of January 2022 Thousand tonnes

Situation as at e	end of January 2022										Thousand tonnes
		2016/17 to	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	% Change	Actual Change
		2020/21 average	30 weeks	2021/22 on 2020/21	2021/22 on 2020/21						
WHEAT		average	JO WEEKS	JO WEEKS	JU WEEKS	JU WEEKS	30 Weeks	JU WEEKS	JU WEEKS	2020/21	2020/21
	Flour millers (1)	3,729	3,742	4,161	4,007	3,690	3,514	3,275	3,472	6%	198
	of which home-grown	3,110	3,188	3,642	3,477	2,972	3,061	2,398	2,783	16%	385
	of which imported	619	554	518	529	718	452	877	689	-21%	-187
Usage	Brewers, maltsters and distillers	428	362	434	479	404	358	467	545	17%	78
	Animal Feed Processors (2)	2,762	2,587	2,729	2,793	2,858	2,937	2,491	2,680	8%	189
	of which feed compounders	2,082	1,888	2,033	2,082	2,178	2,259	1,857	2,024	9%	166
	of which intergrated poultry units	680	699	696	711	680	679	634	656	3%	22
Imports	From July (3)	1,093	939	956	986	1,309	617	1,597	1,179	-26%	-417
Exports	From July (3)	547	1,301	1,160	305	213	892	162	261	61%	99
BARLEY											
	Brewers, maltsters and distillers	1,062	1,046	1,061	1,099	1,079	1,108	960	1,074	12%	114
Usage	Animal Feed Processors (2)	729	612	575	725	622	723	999	920	-8%	-79
Osage	of which feed compounders	689	583	544	687	590	699	922	860	-7%	-62
	of which intergrated poultry units	40	29	30	38	32	24	76	60	-22%	-17
Imports	From July (3)	47	74	57	62	45	28	43	51	17%	7
Exports	From July (3)	868	1,022	703	779	531	1,308	1,019	517	-49%	-501
MAIZE											
Usage	Human and Industrial (4)	**	**	**	**	**	**	**	**	*	*
Osage	Animal Feed Processors (2)	268	194	178	200	339	269	355	**	*	*
	of which feed compounders	237	161	151	175	313	227	320	203	-37%	-118
	of which intergrated poultry units	31	33	26	24	27	41	34	**	*	*
Imports	From July (3)	1,425	1,078	1,037	1,192	1,681	1,451	1,765	1,203	-32%	-561
Exports	From July (3)	101	58	109	104	113	86	91	63	-31%	-28
OATS											
Usage	Human and Industrial (5)	271	262	256	274	281	267	275	250	-9%	-26
	Animal Feed Processors (2)	35	32	23	32	43	37	42	74	75%	32
Imports	From July (3)	15	21	14	15	27	11	11	12	6%	1
Exports	From July ⁽³⁾	36	51	15	21	29	89	24	28	17%	4

Source: AHDB, Defra, HMRC

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 24 March 2022. The data above may differ from the most recent published data.

Disclaimer

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⁽¹⁾ Includes bioethanol and starch usage

⁽²⁾ Great Britain only

⁽³⁾ HMRC

⁽⁴⁾ Data no longer available. For quarterly data to end of 2017/18, please access using historic balance sheets.

⁽⁵⁾ Oat milled data published quarterly. Data displayed to end of December (26 weeks)

^{*} Changes not meaningful

^{**}Insufficient sample to produce robust figure