SUPPLY AND DEMAND

28 November 2019

KEY POINTS

- Considerably higher levels of UK wheat production combined with relatively stable domestic consumption has led to the largest wheat balance since 2015/16.
- The surplus of barley available for either export or free stock is forecast at the highest level in four years.
- Maize imports are estimated to fall back, but remain higher than the previous five year average.
- Oat output is estimated to be the highest in over 45 years. With no clear market signals to where this larger volume will go, there is a level of uncertainty around actual export and closing stocks at this point.

INTRODUCTION

1. This release covers the first official estimates made of UK cereal supply and demand for 2019/20 (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. Defra are assessing different options available, regarding production and moisture content to take account of the varied climate conditions.

3. **Total cereals demand for animal feed is estimated at 13.204Mt in 2019/20, 2% higher year on year. While total animal feed production is expected to be down on the year this season, cereal inclusions in rations is anticipated to be higher.** This is driven partly by the greater availability and competitive price of domestic crops for both manufacturers and for feeding direct on farm. From July to September the cereal inclusion rate in GB compound feed production was 46% compared with 44% over the same period in 2018/19. The decline in total animal feed production is driven by a fall in ruminant feed demand, outweighing a rise in pig feed output. Poultry feed demand is expected to remain relatively stable on the year.

WHEAT

4. **In 2019/20, UK wheat availability is estimated to be 19.244Mt, 2.113Mt (12%) higher than levels recorded in 2018/19.** This is driven by a substantial increase in production and, to an extent carry in stocks, outweighing a drop in projected imports**.** Provisional results from the Defra Cereals and Oilseed Rape Production Survey reported UK wheat production for 2019 at 16.283Mt, a 2.728Mt (20%) increase on 2018 levels, driven by a higher than average yield combined with a larger planted area. Opening stocks are estimated to be 1.911Mt, 11% higher than in 2018/19. At 1.050Mt, UK wheat imports are estimated to be 808Kt or 43% lower year on year. Season to date (Jul-Sep) UK wheat imports totalled 294Kt, 62% lower than levels recorded at this point in 2018. Imports are expected to remain lower than year earlier levels as the season continues, driven by higher domestic availability.

5. **At 6.876Mt, human and industrial (H&I) consumption of wheat is 1% lower than levels recorded in 2018/19.** While the proportion of wheat used by the bioethanol sector is anticipated to be higher this season, due to its relative price and availability compared with imported maize, it is expected that total usage will be lower, with the assumption that Vivergo fuels will remain offline. Bioethanol demand will be monitored closely throughout the season. Although the final results of the AHDB Cereal Quality Survey report a similar proportion of wheat samples meeting full specification as in 2018, reports suggest there is more inconsistencies with this year’s crop. Therefore, while demand for wheat by flour millers is likely to remain relatively stable on the year, a slightly higher proportion of imported wheat usage is expected in some grists. Wheat usage by brewers, maltsters and distillers (BMD) is expected to be relatively unchanged on the year, with planned maintenance breaks capping any rises in usage.

6. **Usage of wheat in animal feed is estimated at 7.477Mt, 1% higher than in 2018/19.** From July to September, GB compounders and integrated poultry units (IPU) used 5% less wheat than year earlier levels. Despite this, wheat usage is expected to increase, to an extent, over the rest of the season at the expense of maize, due to its relative price. The rise in wheat usage is expected to be capped somewhat by a proportionally greater rise in barley usage, due to its availability and price. Furthermore, IPU demand for wheat is expected to decline on the year, despite production remaining relatively stable. This is partly driven by a combination of lower cereal inclusion rates in IPU rations as well as a slightly higher proportion of maize usage.

7. **In 2019/20 the balance of total availability and domestic consumption is estimated to increase by 88% to 4.529Mt.** Taking into account an estimated operating stock requirement of 1.550Mt, the surplus available for either export or free stock is 2.979Mt, over four times the level recorded in

2018/19. Exports from July to September totalled 414Kt, which leaves 2.565Mt to be either exported from October to June or carried over into next season.

BARLEY

8. **Total availability of barley in 2019/20 is estimated to increase by 1.666Mt on the year to 9.323Mt, driven by a rise in production and to an extent opening stocks.** At 8.180Mt, barley production is provisionally estimated to be 1.670Mt higher than in 2018 and the highest level recorded since 1988. Higher than average yields combined with a larger planted area has led to the projected rise in output. Opening stocks of barley are estimated at 1.091Mt, 1% higher than in 2018/19. With a larger domestic crop, imports of barley are expected to be lower on the year at 52Kt (-26%).

9. **At 1.929Mt, H&I consumption of barley is 26Kt higher year on year.** From July to September, the UK BMD sector used 477.4Kt of barley, 3% higher on the year. For the rest of the season barley usage is expected to be slightly higher than year earlier levels, partly driven by improved productivity, with no changes in capacity or unscheduled closures being anticipated.

10. **Barley usage for animal feed is estimated to increase by 13% in 2019/20 to 4.047Mt.** From July to September, 4% more barley was used in GB animal feed production (including IPU). With the discount of feed barley to other grains larger than last season, usage of the grain is expected to continue to be higher in some rations, such as pigs and ruminants. Likewise, the amount of barley fed on farm this season is projected to increase, due to the larger size of the domestic crop.

11. **At 3.118Mt, the balance of barley supply and demand in 2019/20 is 60% higher than levels recorded in 2018/19.** The estimated operating stock requirement is 10Kt higher year on year at 790Kt. This leaves a surplus for either export or free stock of 2.328Mt, nearly double that of 2018/19. To date (Jul-Sep) the UK has exported 671Kt, which would leave 1.657Mt to either export over the rest of the season or carry into 2020/21.

MAIZE

12. **In 2019/20, total availability of maize is estimated to be 584Kt (19%) lower than in 2018/19 at 2.484Mt.** The decrease in supply is driven by a 23% reduction in imports, which are forecast at 2.171Mt. While season to date (Jul-Sep) maize imports are 3% higher than the same period last year at 561Kt, the current pace is expected to slow somewhat on the back of larger domestic cereal availability. Although usage by the animal feed sector as a whole, and to an extent the H&I sectors, is projected to decline, it is expected that maize will continue to feature at high rates in feed rations in Northern Ireland (NI) due to its relative price compared with other cereals. Opening stocks are estimated to be 27% higher at 313Kt.

13. **At 746Kt, H&I usage of maize is 7% lower than in 2018/19,** driven predominantly by a decline in bioethanol demand outweighing a rise in usage by the BMD sectors. **In 2019/20 maize usage in animal feed is anticipated to fall by 17% on the year to 1.335Mt.** While usage is forecast to be down year on year, it remains higher than the five year average. This is partly driven by maize inclusions remaining relatively higher than average in selected rations due to its usage leading to favourable results for some livestock producers. Furthermore, with UK wheat prices currently presenting a positive carry into next season, maize has become more favourably priced to import into NI and use in rations.

14. **The balance of supply and demand of maize is estimated at 399Kt in 2019/20, 38% lower than levels recorded in 2018/19.** Taking exports, to date, of 26Kt into account, full season exports are forecast at 129Kt, 31% down year on year. Closing stocks of maize are expected to be 14% lower at 270Kt.

OATS

15. **At 1.215Mt, total availability of oats in 2019/20 is 19% higher than year earlier levels.** The increase in availability is driven by a 27% rise in the provisional production estimate of 1.082Mt. This is the largest oats output figure recorded since the 1970's. Opening stocks are 16% lower at 116Kt and imports are forecast to fall by 47% to 17Kt.

16. **In 2019/20 H&I usage of oats is expected to remain relatively stable on the year at 530Kt, with no expected capacity changes. Animal feed demand is estimated to increase by 14% on the year to 345Kt**. With a substantially larger oats crop projected for this season and reports of large variances in quality, it is expected that more oats will be fed on farm.

17. **The balance of total availability and domestic consumption of oats is estimated at 310Kt, more than double that of 2018/19.** Taking account of the 26Kt exported between July and September, full season trade is forecast at 70Kt, 89% higher year on year. End-season stocks are currently estimated at 240Kt, 124Kt higher than 2018/19. With no clear market signals at this point in the season indicating where the increased volume of oats will go, there is a level of uncertainty around actual export and closing stock volumes come the end of the season.

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 2019

July to June crop years — **Thousand tonnes**

		WHEAT						BARLEY					
		2014/15 2018/19 average	2016/17 estimate	2017/18 estimate	2018/19 estimate	2019/20 Nov-19	% change on 18/19	2014/15 2018/19 average	2016/17 estimate	2017/18 estimate	2018/19 estimate	2019/20 Nov-19	% change on 18/19
(1)	Opening stocks	2,051	2,787	1,755	1,718	1,911	11%	1,285	1,367	1,105	1,076	1,091	1%
(2)	Production	15,129	14,383	14,837	13,555	16,283	20%	6,923	6,655	7,169	6,510	8,180	26%
(3)	Imports	1,737	1,855	1,793	1,858	1,050	-43%	116	106	105	70	52	-26%
(4)	**Total availability**	**18,916**	**19,025**	**18,386**	**17,131**	**19,244**	**12%**	**8,324**	**8,128**	**8,379**	**7,657**	**9,323**	**22%**
(5)	Human and industrial consumption (b)	7,614	8,110	7,792	6,976	6,876	-1%	1,886	1,863	1,881	1,903	1,929	1%
(5a)	(of which home grown)	6,582	7,169	6,765	5,923	5,977	1%	n/a	n/a	n/a	n/a	n/a	n/a
(6)	Usage as animal feed (c)	7,248	7,236	7,514	7,403	7,477	1%	3,634	3,655	4,046	3,578	4,047	13%
(6a)	(of which home grown)	6,583	6,523	6,792	6,653	6,927	4%	n/a	n/a	n/a	n/a	n/a	n/a
(6b)	(of which compounders)	3,982	4,034	4,232	4,166	4,245	2%	1,160	1,132	1,278	1,203	1,314	9%
(6c)	(of which integrated poultry units)	1,249	1,211	1,241	1,155	1,126	-3%	52	53	59	50	34	-33%
(7)	Seed (d)	280	278	271	281	281	0%	184	189	183	188	188	0%
(8)	Other	76	72	74	68	81	19%	35	33	36	33	41	24%
(9)	**Total domestic consumption**	**15,218**	**15,696**	**15,651**	**14,728**	**14,715**	**0%**	**5,738**	**5,740**	**6,147**	**5,702**	**6,205**	**9%**
(10)	**Balance (4) - (9)**	**3,698**	**3,329**	**2,735**	**2,403**	**4,529**	**88%**	**2,585**	**2,388**	**2,232**	**1,954**	**3,118**	**60%**
(11)	Exports (e)	1,410	1,438	448	358	-	*	1,296	1,026	1,101	863	-	*
(12)	Intervention stocks (e)	-	-	-	-	-	-	-	-	-	-	-	-
(13)	**Commercial end-season stocks (e)**	**2,121**	**1,755**	**1,718**	**1,911**	**-**	*****	**1,227**	**1,105**	**1,076**	**1,091**	**-**	*****
(14)	(of which estimated operating stock requirement) (f)	1,542	1,560	1,600	1,550	1,550	0%	764	760	770	780	790	1%
(15)	(of which free stock) (g)	579	195	118	361	-	*	463	345	306	311	-	*
(16)	**Surplus available for either export or free stock (10)-(12)-(14)-(17)**	**1,989**	**1,633**	**567**	**720**	**2,979**	**314%**	**1,759**	**1,371**	**1,408**	**1,174**	**2,328**	**98%**
(17)	**Residual (10)-(11)-(13)**		**136**	**568**	**134**				**257**	**54**			

		MAIZE						OATS					
		2014/15 2018/19 average	2016/17 estimate	2017/18 estimate	2018/19 estimate	2019/20 Nov-19	% change on 18/19	2014/15 2018/19 average	2016/17 estimate	2017/18 estimate	2018/19 estimate	2019/20 Nov-19	% change on 18/19
(1)	Opening stocks	247	148	271	247	313	27%	123	93	110	138	116	-16%
(2)	Production	-	-	-	-	-	-	832	816	875	850	1,082	27%
(3)	Imports	2,090	2,007	2,024	2,822	2,171	-23%	32	32	19	32	17	-47%
(4)	**Total availability**	**2,337**	**2,155**	**2,295**	**3,068**	**2,484**	**-19%**	**987**	**941**	**1,004**	**1,020**	**1,215**	**19%**
(5)	Human and industrial consumption	609	570	643	800	746	-7%	522	521	537	536	530	-1%
(5a)	(of which home grown)	-	-	-	-	-	-	496	476	519	500	512	2%
(6)	Usage as animal feed	1,287	1,135	1,230	1,617	1,335	-17%	281	263	273	302	345	14%
(6a)	(of which home grown)	-	-	-	-	-	-	281	263	273	302	345	14%
(7)	Seed	-	-	-	-	-	-	22	23	24	25	25	0%
(8)	Other (h)	5	4	4	4	4	0%	4	4	4	4	5	25%
(9)	**Total domestic consumption**	**1,901**	**1,709**	**1,877**	**2,421**	**2,085**	**-14%**	**829**	**811**	**837**	**867**	**905**	**4%**
(10)	**Balance (4) - (9)**	**436**	**446**	**418**	**647**	**399**	**-38%**	**158**	**130**	**166**	**153**	**310**	**102%**
(11)	Exportable surplus	149	175	171	188	129	-31%	46	21	28	37	70	89%
(12)	**Commercial end-season stocks**	**258**	**271**	**247**	**313**	**270**	**-14%**	**113**	**110**	**138**	**116**	**240**	**107%**
(13)	**Residual (10)-(11)-(12)**				**146**								

Links connect to relevant Defra/AHDB data pages

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

(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.

* Change not meaningful

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		OTHER CEREALS (i)					
		2014/15 2018/19 average	2016/17 estimate	2017/18 estimate	2018/19 estimate	2019/20 Nov-19	% change on 18/19
(1)	Opening stocks	5	5	5	5	5	0%
(2)	Production	130	110	119	169	168	-1%
(3)	Imports	3	3	4	3	3	1%
(4)	**Total availability**	**138**	**118**	**129**	**177**	**176**	-1%
(5+6)	H&I and animal feed	130	110	121	169	168	-1%
(5a+6a)	(of which home grown)	127	107	116	166	165	-1%
(7)	Seed	3	3	3	3	3	0%
(8)	Other	-	-	-	-	-	-
(9)	**Total domestic consumption**	**133**	**113**	**124**	**172**	**171**	-1%
(10)	**Balance (4) - (9)**	**5**	**5**	**5**	**5**	**5**	0%
(11)	Exportable surplus	-	-	-	-	-	-
(12)	Intervention stocks	-	-	-	-	-	-
(13)	**Commercial end-season stocks**	**5**	**5**	**5**	**5**	**5**	0%

		TOTAL CEREALS					
		2014/15 2018/19 average	2016/17 estimate	2017/18 estimate	2018/19 estimate	2019/20 Nov-19	% change on 18/19
(1)	Opening stocks	3,710	4,400	3,247	3,184	3,437	8%
(2)	Production	23,014	21,964	22,999	21,085	25,713	22%
(3)	Imports	3,978	4,003	3,945	4,785	3,293	-31%
(4)	**Total availability**	**30,702**	**30,366**	**30,191**	**29,054**	**32,443**	12%
(5)	H&I (wheat, barley, maize, oats) (h)	10,630	11,064	10,853	10,215	10,081	-1%
(6)	Animal feed (wheat, barley, maize oats) (h)	12,449	12,288	13,064	12,901	13,204	2%
(5a +6a)	Other cereals (H&I and animal feed)	130	110	121	169	168	-1%
(7)	Seed	489	493	481	497	497	0%
(8)	Other	120	113	118	109	131	20%
(9)	Total domestic consumption	23,819	24,068	24,636	23,890	24,082	1%
(10)	**Balance (4) - (9)**	**6,883**	**6,298**	**5,556**	**5,164**	**8,361**	62%
(11)	Exports	2,901	2,660	1,749	1,446	-	*
(12)	Intervention stocks	-	-	-	-	-	-
(13)	**Commercial end-season stocks**	**3,724**	**3,247**	**3,184**	**3,437**	**-**	*****
(14)	Estimated operating stock requirement (wheat & barley only)	2,306	2,320	2,370	2,330	2,340	0%
(15)	Free stock for wheat and barley	1,042	541	424	673	-	*
(16)	**Surplus available for either export or free stock (all)**	**4,318**	**3,587**	**2,563**	**2,553**	**6,022**	**136%**
(17)	**Residual (10)-(11)-(13)**		**392**	**623**	**280**		

Source: AHDB, Defra

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

(i) Includes mainly rye, triticale and mixed grain.

Appendix II

CUMULATIVE MONTHLY STATISTICS

Usage of cereals by processors, external trade and stocks

Situation as at end of September 2019 — Thousand tonnes

		2014/15 to 2018/19 average	2013/14 13 weeks	2014/15 13 weeks	2015/16 13 weeks	2016/17 13 weeks	2017/18 13 weeks	2018/19 13 weeks	2019/20 13 weeks	% Change 2019/20 on 2018/19	Actual change 2019/20 on 2018/19
WHEAT											
Usage	**Flour millers (1)**	**1,720**	**1,571**	**1,683**	**1,612**	**1,759**	**1,817**	**1,727**	**1,446**	**-16%**	**-281**
	of which home-grown	1,413	984	1,289	1,370	1,539	1,575	1,292	1,239	**-4%**	**-53**
	of which imported	307	587	395	242	220	242	435	207	**-52%**	**-228**
	Brewers, maltsters and distillers	**185**	**206**	**195**	**172**	**179**	**208**	**168**	**188**	**11%**	**19**
	Animal feed processors (2)	**1,166**	**1,145**	**1,099**	**1,133**	**1,182**	**1,188**	**1,226**	**1,166**	**-5%**	**-61**
	of which feed compounders	850	775	744	814	880	884	927	889	**-4%**	**-38**
	of which intergrated poultry units	316	369	355	319	302	304	299	276	**-8%**	**-23**
Imports	**From July (3)**	**536**	827	608	447	424	430	772	294	**-62%**	**-478**
Exports	**From July (3)**	**302**	44	288	325	671	147	79	414	**423%**	**335**
BARLEY											
Usage	**Brewers, maltsters and distillers**	**461**	**460**	**480**	**448**	**447**	**469**	**462**	**477**	**3%**	**16**
	Animal feed processors (2)	**261**	**231**	**273**	**237**	**213**	**299**	**285**	**296**	**4%**	**11**
	of which feed compounders	246	213	254	226	200	282	270	285	**6%**	**15**
	of which intergrated poultry units	15	17	19	11	13	17	16	11	**-31%**	**-5**
Imports	**From July (3)**	**33**	25	28	47	32	35	22	16	**-26%**	**-6**
Exports	**From July (3)**	**293**	258	295	360	338	343	129	671	**420%**	**542**
MAIZE											
Usage	**Human and industrial**	**79**	**90**	**101**	**85**	**72**	**57**	**	**	*	*
	Animal feed processors (2)	**88**	**87**	**100**	**83**	**72**	**83**	**101**	**125**	**23%**	**24**
	of which feed compounders	74	64	74	69	62	71	92	106	**14%**	**13**
	of which intergrated poultry units	14	23	26	14	11	11	9	19	**117%**	**10**
Imports	**From July (3)**	**402**	382	293	388	387	398	544	561	**3%**	**18**
Exports	**From July (3)**	**26**	13	12	18	26	35	38	26	**-32%**	**-12**
OATS											
Usage	**Human and industrial**	**128**	120	118	125	126	130	142	128	**-10%**	**-14**
	Animal feed processors (2)	**14**	**17**	**22**	**14**	**10**	**10**	**15**	**11**	**-24%**	**-4**
Imports	**From July (3)**	**10**	20	11	15	9	11	6	2	**-68%**	**-4**
Exports	**From July (3)**	**15**	7	22	17	7	17	14	26	**88%**	**12**

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 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 28 November 2019. The data above may differ from the most recent published data.