



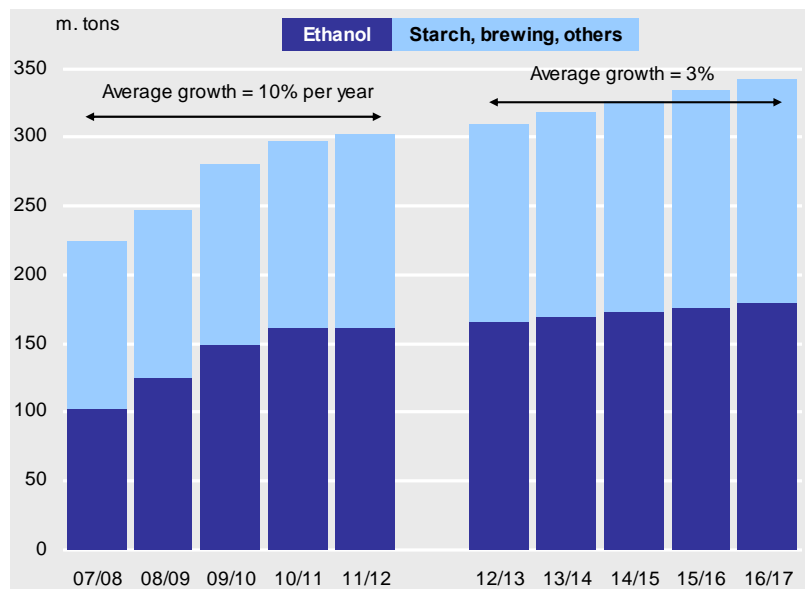
## Five-year global supply and demand projections for grains\* and rice

The following provides a summary of medium-term baseline projections which were prepared for the IGC Council on 8 December 2011. Rather than specific forecasts of grains supply and demand, the figures represent the Secretariat's view of the general development of the global grains economy in the period to 2016/17, taking into account a number of broad assumptions. These include assumed trends in population growth, prices, agriculture and trade policy, as well as prospects for the global economy. The latter have become increasingly uncertain over the past year but, while there are significant downside risks which could undermine global growth in the period to 2016/17, the analysis assumes the current economic problems do not worsen.

### TOTAL GRAINS\*:

- World grains **production** in 2016/17 is projected to reach 1.98bn tons, a 158m. increase (+9%) compared with 2011/12; wheat output is forecast to rise by 30m. (4%) and maize by 94m. (11%).
- Despite heightened economic uncertainty, the analysis assumes any slowdown in global economic growth will be temporary and increasing prosperity will boost grains **consumption**, particularly for feed and industrial uses. Feed use is expected to rise at a slightly faster pace than in recent years, while increases in industrial use will slow from the very rapid rates in the past decade. Diversifying diets, particularly in favour of livestock products, will slow the rise in direct use of grains for human food. Total grains consumption is projected at 1.98bn. tons in 2016/17 (1.83bn. in 2011/12), including 659m. (630m.) for human food, 846m. (769m.) for feed and 343m. (302m.) for industrial uses.

### TOTAL GRAINS: INDUSTRIAL USE

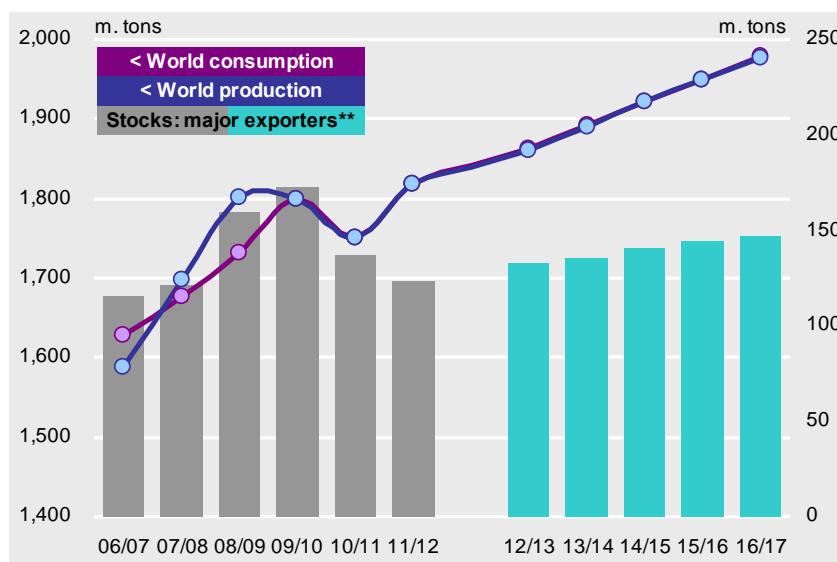


- World grains **stocks** are forecast to show little change in the medium term and are set to remain relatively tight, especially for maize. At the end of 2016/17, world grain carryover stocks are projected at 354m. tons (compared with 360m. at the end of 2011/12), including 118m. (123m.) of maize, 196m. (202m.) of wheat and 26m. (23m.) of barley.
- World grains **trade** is projected to increase by about 2% per year, to 273m. tons in 2016/17, with wheat and maize rising to new records. Increasing demand for wheat-based foods will lift wheat import needs in Africa and Asia. Imports of maize for feed will rise, especially in Pacific Asia, with China seen as a more regular buyer.

### TOTAL GRAINS\*: WORLD SUPPLY AND DEMAND SUMMARY

	m. tons								
	04/05 - 08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
	Average		est.	f'cast					
<b>Area (m. ha.)</b>	522	533	524	533	541	544	548	550	552
<b>Production</b>	1668	1799	1750	1819	1861	1891	1922	1950	1977
<b>Trade</b>	228	240	243	250	250	255	262	267	273
<b>Consumption</b>	1650	1769	1785	1828	1863	1892	1921	1950	1979
<b>Stocks</b>	324	403	368	360	358	356	357	356	354
<i>year/year change</i>		30	-35	-8	-2	-2	1	-1	-2

### TOTAL GRAINS\*: WORLD SUPPLY AND DEMAND

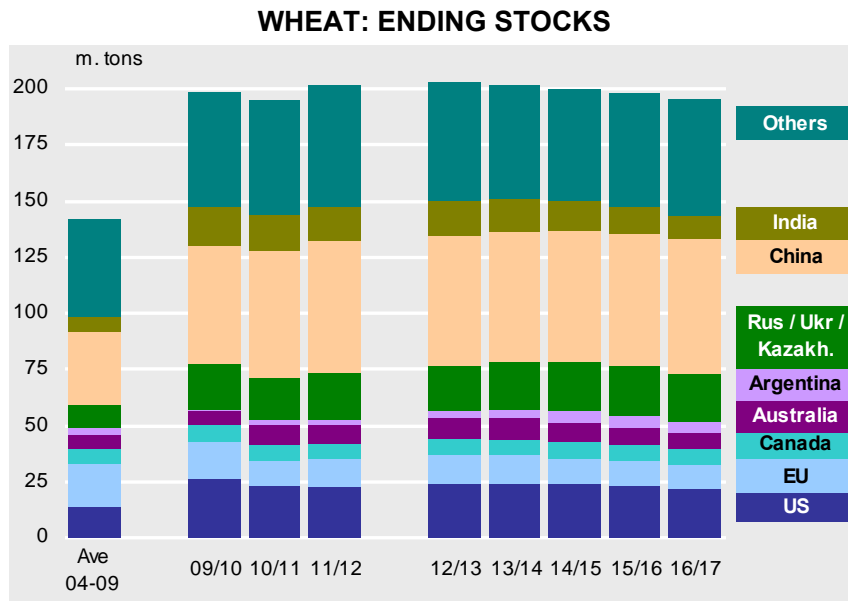


\*\* Argentina, Australia, Canada, EU, Kazakhstan, Russia, Ukraine, United States

\* Wheat and coarse grains.

## WHEAT:

- Increases in world wheat production in the five years ending 2016 are expected to be broadly matched by use, and global stocks are expected to be maintained at close to recent levels.
- Planting decisions will be influenced by likely attractive prices for alternative crops, especially maize and oilseeds. Nevertheless, some rise in global wheat area is anticipated, led by gains in the CIS. After a relatively sharp increase of 1.6% in 2012/13, including a recovery in North America, global areas are projected to expand by around 0.4% annually. Taking into account slightly increased average yields over the period, world wheat **production** is projected to reach a record 714m. tons in 2016/17, representing an increase of 30m. compared with the estimate for 2011.
- World wheat **consumption** is projected to grow by 1.1% annually, close to the long-term average, reaching 716m. tons in 2016/17, up by 39m. compared with 2011/12. A continued increase in human *food* use accounts for half the rise, driven by expanding demand in developing countries. At 0.8% per year, the average annual increase is only slightly slower than the longer-term trend of 1.0%. Increases in world *feed* use mainly reflect a tight S&D outlook for maize and expectations that the cost of wheat will be more attractive than maize at times. Gains in *industrial* use are expected to accelerate, particularly for biofuels, although overall amounts will remain small relative to total consumption.
- World wheat carryover **stocks** are projected to stay relatively ample in the next five years, receding only slightly, to 196m. tons. Those in the eight major exporters are projected to show an initial rise, but then fall back to about the same level as currently.



- World wheat **trade** to 2016/17 is forecast to increase by around 2% per year, reaching a fresh record of 138m. tons. Increases in milling wheat trade will be sustained by rising demand in developing countries in Asia and Africa, while feed wheat may show some further gains if import costs are competitive with maize.

## WHEAT: WORLD SUPPLY AND DEMAND SUMMARY

	m. tons								
	04/05 - 08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
	Average		est.	f'cast					
<b>Area (m. ha.)</b>	217	222	218	221	225	225	226	227	228
<b>Production</b>	628	678	651	684	685	691	699	707	714
<b>Trade</b>	116	128	126	132	127	130	133	135	138
<b>Consumption</b>	619	652	655	677	683	692	701	709	716
<b>Stocks</b>	142	199	195	202	203	202	200	198	196
<i>year/year change</i>		27	-4	7	1	-1	-2	-2	-2
<b>Major exporters*</b>	59	77	71	74	77	78	79	76	73

\* Argentina, Australia, Canada, EU, Kazakhstan, Russia, Ukraine, United States

## MAIZE (CORN):

- The supply and demand for maize (corn) is projected to remain tight, with world inventories projected to drop to historically low levels.
- With firm global demand and generally tight availabilities expected to support world prices, maize plantings are projected to remain high across the forecast period. Increases in area and improvements in yields, especially in the US, Latin America and China, result in large consecutive crops. World maize **production** is forecast to increase to 949m. tons in 2016/17, some 94m. higher than the estimate for 2011.
- Global maize consumption is projected to rise to 949m. tons in 2016/17, up by 86m. from 2011/12. Growth in use is forecast to decelerate, mainly due to slowing industrial demand. With use for ethanol in the US levelling out, industrial consumption is projected to rise by 2% annually, compared to 12% in the last five years. Despite high prices, rising meat demand in developing countries will lift feed maize consumption by around 2% per year. Population growth, rising per capita incomes and changing dietary preferences are expected to boost meat consumption in parts of Asia, Latin America and Africa.

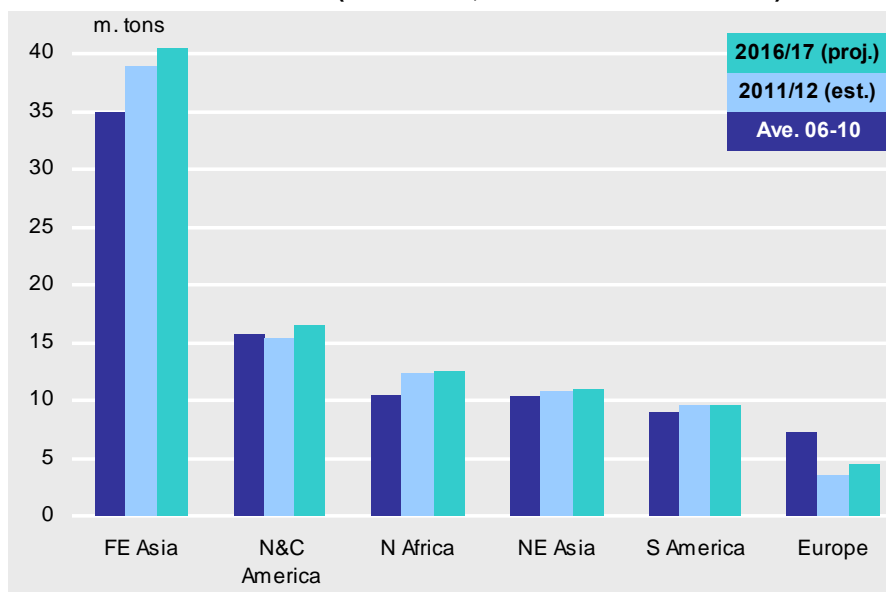
## MAIZE: WORLD SUPPLY AND DEMAND SUMMARY

	m. tons								
	04/05 - 08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
	Average		est.	f'cast					
<b>Area (m. ha)</b>	150	157	162	165	164	166	167	167	168
<b>Production</b>	743	820	826	855	880	899	916	932	949
<b>Trade</b>	85	86	93	93	97	99	102	105	107
<b>Consumption</b>	735	821	843	863	883	899	916	932	949
<b>Stocks</b>	133	148	131	123	120	119	119	119	118
<i>year/year change</i>		-1	-17	-8	-3	-1	-	-	-1
<b>Major exporters*</b>	54	56	43	35	37	39	43	48	54

\* Argentina, Brazil, India, Ukraine, United States

- World closing **stocks** are expected to tighten but, with supply and demand seen broadly in balance towards the end of the forecast period, the projected 2016/17 carryover of 118m. tons would only be 5m. below that at the end of 2011/12. US ending stocks are forecast to increase from recent lows, but China's will decline.

## MAIZE: TRADE (IMPORTS, SELECTED REGIONS)



- Due to rising feed demand, world **trade** is forecast to rise to record highs, at 107m. tons in 2016/17. China is projected to be among the world's largest buyers by that time. The US will remain the leading exporter, but strong competition is expected from Argentina, Brazil and Ukraine.

## BARLEY:

- The world barley market is set to remain tight in the next five years, with a rise in production almost offset by higher use, allowing only a limited recovery in stocks.
- World barley **production** is projected at 151m. tons in 2016/17, up by 13% from the low level of 2011. Tight stocks and strong prices are expected to lift plantings by almost 5% for the 2012 harvest, but subsequent area gains will be more modest. Despite some recovery from recent lows, areas in the EU, Canada and Australia are expected to stay below the prior 10-year average.
- Having fallen slowly over the past decade, world barley **consumption** is projected to show some recovery, to 150m. tons in 2016/17, up by 11m. from 2011/12. This is mainly because of stronger projected *feed* demand, boosted by tight maize supplies. Gains in *industrial* use will be tempered by slower brewing growth, this affected by economic concerns, rising awareness of alcohol related health risks and by increased alcohol taxation in some countries. Use of barley for ethanol manufacture, mainly in the EU, is expected to stay relatively small.
- Only a modest recovery in world barley **stocks** is projected, to 26m. tons at the end of 2016/17 (23m. in 2011/12). Those in the EU will be contained by reduced support from the intervention system.
- World **trade** in feed and malting barley (excluding malt) is projected to increase by 2% per year, marginally faster than in recent years, to 18.4m. tons in 2016/17 (16.3m. in 2011/12); the total includes 14.0m. (12.2m.) of feed barley and 4.4m. (4.1m.) of malting barley. Increasing malting capacity in some countries will limit expansion in malt trade to about 1% annually, to 6.6m. tons (6.3m.) in 2016/17.

## BARLEY: WORLD SUPPLY AND DEMAND SUMMARY

m. tons

	04/05 - 08/09 Average	09/10	10/11 est.	11/12 f'cast	12/13	13/14	14/15	15/16	16/17
<b>Area (m. ha.)</b>	57	56	50	52	54	55	56	56	56
<b>Production</b>	144	150	125	133	141	144	147	149	151
<b>Trade</b>	17	17	15	16	17	17	18	18	18
<b>Consumption</b>	142	145	137	139	142	144	145	148	150
<b>Stocks</b>	32	41	29	23	22	22	24	25	26
<i>year/year change</i>		5	-12	-6	-1	-	2	1	1
<b>Major exporters*</b>	20	29	19	14	15	15	16	17	17

\* Argentina, Australia, Canada, EU, Kazakhstan, Russia, Ukraine, United States

## RICE:

- Only a modest expansion in the global paddy (rice) area is forecast in the five years to 2016/17, with the average year-on-year increase projected at just 0.3% (compared to an average of 0.7% in the prior five-year period). To some extent, this reflects an expected contraction in China's sowings, amid a continued shift to diets that are richer in protein. Taking into account slightly reduced average yield gains, global rice **production** (milled basis) is projected to increase by 23m. tons, to 482m. by 2016/17, an annual average growth rate of 1%.

## RICE: WORLD SUPPLY AND DEMAND SUMMARY

m. tons (milled basis)

	04/05 - 08/09 Average	09/10	10/11 est.	11/12 f'cast	12/13	13/14	14/15	15/16	16/17
<b>Area (m. ha.)</b>	154	155	157	160	161	161	162	162	163
<b>Production</b>	424	440	451	459	465	470	474	478	482
<b>Trade</b>	30	31	33	32	33	34	35	36	37
<b>Consumption</b>	422	437	448	457	464	469	474	478	482
<b>Stocks</b>	79	95	97	99	101	102	102	103	103
<i>year/year change</i>		3	2	2	2	1	-	1	-
<b>Major exporters *</b>	18	28	29	31	33	35	35	34	33

\* India, Pakistan, Thailand, US, Vietnam.

- Global rice **consumption** is projected to reach 482m. tons by 2016/17, up by 25m. from 2011/12. At 1.1%, average growth, while broadly in line with the global population trend, will be lower than in previous years. This is due to a forecast contraction in China, as well as more moderate growth in other parts of Asia. Elsewhere, sub-Saharan Africa is expected to be one of the fastest growing regional markets, the result of a rising population and a shift away from traditional, locally-grown cereals.
- The world rice **carryover** is projected to rise only slightly over the next five years, to 103m. tons. In the five major exporters, stocks are expected to initially increase – centred on inventory accumulation in India and Thailand – before edging slightly lower. Their share of the world total will average around one-third through to 2016/17.
- Global rice **trade** is projected to expand by nearly 3% annually, to 37.2m. tons by 2017, broadly in line with maize but comfortably exceeding the year-to-year rise in wheat. Growth will be underpinned by larger shipments to Far East Asia, especially the Philippines, and sub-

Saharan Africa. The latter sub-region will remain heavily dependent on imports to meet domestic requirements; their share of total consumption is forecast to average 45%.

