World Agricultural Commodity Markets in the Marketing Year 2020/21

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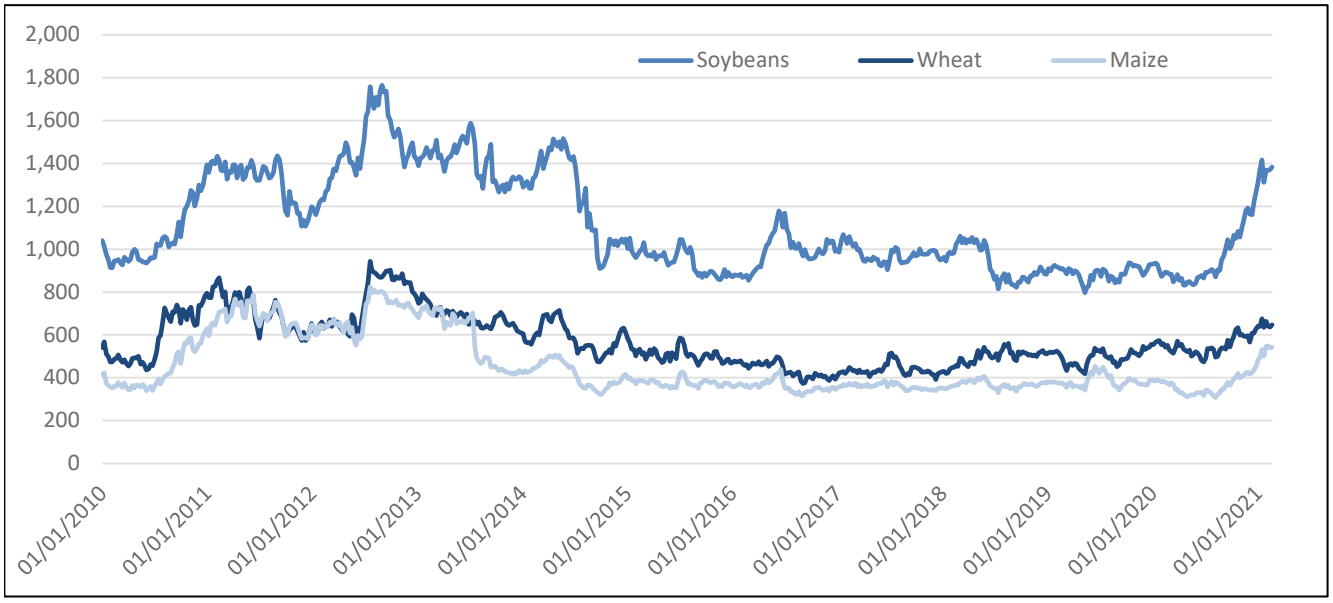
1 Introduction

Agricultural commodity markets have been very volatile in 2020. From February onwards the global spread of the Corona Virus and the lockdowns that followed along with fear of lower demand led to a sharp reduction in prices. The maize contract (front month) at the Chicago Mercantile Exchange (CME) went down from $3.82 per bushel to $3.03 per bushel within two months (see Figure 1). Palm oil, which is more dependent on the Chinese import market, was hit earlier and even harder in the first half of 2020. Price quotations on the Bursa Malaysia (BMD) in Kula Lumpur fell from highs of 3,100 ringit/MT in early January to 2.573 ringit/MT in late January and as low as 1.948 ringit/MT in early May. In the retrospective, it turned out that it was mainly the ethanol sector in the USA as well as the biodiesel sector in the EU, Brazil, and Indonesia, the food sector in Asia and also beer consumption and thus malting barley demand where the use of agricultural commodities was affected. Trade with agricultural raw material turned out to be very resilient against the global crisis of the pandemic.

Prices recovered quickly after the first wave of lockdowns had been lifted. This was supported by the recovery from ASF. The Chinese hog herd has started to recover quickly last year after ASF had reduced the herd by 46% in 2019. In 2021, China will still not reach the original level of pork production of 54 MMT recorded before the outbreak of ASF. However, the USDA estimates the production for 2021 at 44 MMT, up significantly from the low of 38 MMT in 2020. The re-increase in feed demand further widens the gap between domestic grain and oilseed supply and demand. Consequently, Chinese import demand not only for soybeans but also for grains has grown significantly and has a major impact on global markets.

In addition, supplies in the crop year 2020/21 (July/June) were reduced already during the autumn of 2019. Excessive rains in the UK, France and northwestern Germany prevented farmers from planting winter wheat successfully. In spring 2020 Southern Russian winter wheat growing areas have been extraordinarily dry. North American crop production was hit by hot temperatures during July. The latest abnormal weather event is the weather phenomenon La Niña, which will have a negative impact on the Argentinian maize and soybean crop. The harvest has just started there.

Figure 1. CBOT quotation - front month (US cts/bu)



Source: Reuters

DOI: 10.30430/70.2021.5.13-22

On 15 January 2020, the USA and China signed a so-called Phase One Trade Agreement, which includes a Chinese commitment to purchase agricultural goods worth $36.5 billion in calendar year 2020, which compares with a value of $14.0 billion recorded in 2019. And actually the annual trade value increased to $24 billion in 2020. However, no good-will purchases could have been noted. Chinese buyers always bought the cheapest origin and in the case of soybeans focused on US origin only from August onwards, the time when Brazilian soybeans became scarce and thus less competitive against US origin.

In Russia domestic flour and feed prices soared to a new record. The government reacted to this and implemented several export measures.

All the above mentioned factors led to a recovery of international prices of food commodities. The FAO Food Price Index rose in January 2021 to its highest level since July 2014. During January 2021 food prices rose on average by 4.3% on-month, which reflects the eighth consecutive monthly increase. Thereof, the meat price index declined by 7% since January 2020, while the most remarkable increase of 28% was noted for vegetable oils. Quotations for the world's leading vegetable oil, crude palm oil, on the BMD stood at 3,365 ringgit per ton at the end of January 2021. This is even an increase of 31% compared to the end of January 2020. At the CME (see Figure 1) maize was traded at $5.47 per bushel on the last trading day of January, which is an increase of 44% compared to the quotation during January a year ago. The equivalent soybean quotation rose by 57% to $13.68 per bushel. European wheat was traded at the Matif at €226.50 per ton (+19%) and rapeseed at €439.75 per ton (+10%). The exchange rate of the Euro against the US Dollar was quoted at 1.21 €/USD which reflects a firmed European currency by 9% and partly offsets the higher international quotations of agricultural commodities in Euro terms.

In the following chapter 2 the most remarkable developments in the grain sector are outlined, while chapter 3 will describe the dynamics of oilseeds, vegetable oils as well as the feed sector. Chapter 4 will finally contain concluding remarks as well as an outlook.

2 Grain Production and Consumption

The United States Department of Agriculture (USDA) estimates **global** grain production during marketing year 2020/21 (July/June) at 2.716 billion tons, which is an increase of 43.7 million tons compared to the previous year. World grain consumption is seen at 2.728 billion tons and thus exceeds the production. As a result, world grain ending stocks are expected to decline by 11.4 to 798.5 million tons during the crop marketing year. This results in a stocks-to-use ratio of 29.3 (2019/20: 30.3) %, the tightest ratio since 2014/15 (see Table 1).

According to the USDA, global production of **wheat** (including durum) is estimated at a new record level of 773 (764) MMT. Yields varied widely around the world. Production in the EU has been very disappointing with a figure of just 135.8 (154.5) MMT. This includes 7.3 (7.4) MMT of durum. The production losses in the EU have mainly been a result of excessive rains in France, the UK and north-western Germany during fall 2019. Farmers have not been able to access fields for planting activities. The harvested area is reported at 24.6 (26.1) million hectares only. Also the yield of 5.52 t/ha turned out to be below the 5-year average of 5.67 t/ha. The quality of the 2020 crop in the EU was overall good.

In contrast to the EU, farmers in Russia have expanded the area to a new record of 28.6 (27.3) million hectares. The national yield is reported at 2.98 (2.70) t/ha, the highest since the record 3.11 t/ha

Table 1. World grain supply and demand (MMT)

	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Beginning stocks	484	453	467	478	577	674	737	799	821	807	810
Production	**2,214**	**2,344**	**2,296**	**2,512**	**2,560**	**2,519**	**2,667**	**2,617**	**2,626**	**2,673**	**2,716**
Imports	282	315	312	355	371	390	393	418	410	429	453
Supply	2,979	3,112	3,075	3,345	3,507	3,583	3,797	3,834	3,857	3,908	3,980
Exports	285	344	301	374	394	377	430	416	430	442	469
Consumption	**2,244**	**2,330**	**2,285**	**2,413**	**2,462**	**2,456**	**2,604**	**2,599**	**2,641**	**2,670**	**2,728**
thereof feed	789	837	812	874	902	915	986	983	1,000	1,024	1,056
Ending stocks	**453**	**467**	**478**	**577**	**674**	**737**	**799**	**821**	**807**	**810**	**799**
Stocks-to-use-ratio	20.2%	20.1%	20.9%	23.9%	27.4%	30.0%	30.7%	31.6%	30.6%	30.3%	29.3%

Source: USDA

harvested in 2017. However, it is important to differentiate between the regions here: In Southern Russia, which is largely responsible for the country's export surplus, the weather has been abnormally dry during March and April. In some areas almost no rain has been received during this time of the season. This weather pattern was followed by a heat wave in June, which impacted kernel filling negatively. The Russian Federal State Statistics Service, as a consequence, reports wheat yield in Southern Russia at 3.4 (3.7) t/ha, the lowest level since 2013. However, in production areas in the Centre and East of Russia, which are far away from the export ports, farmers have collected outstanding yields so that the occurred losses in Southern Russia have been more than offset. Total Russian wheat production is estimated by the USDA at a new record of 85.3 (73.6) MMT. In Ukraine the weather pattern has been similar to Southern Russia so that wheat output is only estimated at 25.5 (29.2) MMT.

A large crop of an estimated 35.2 (previous year: 32.7) MMT was harvested in Canada. There, excellent conditions prevailed in almost all parts of the country from sowing through to late grain development. By contrast, the harvest in the USA has been small again at just 49.7 (52.6) MMT. However, this is not due to any loss of yield, since yields were even higher than the average of recent years. Rather, this is due to a decrease in the area, which is reported at only 14.9 (15.1) million hectares, the lowest level since at least 1960 when the USDA statistics started!

In the southern hemisphere harvest has been concluded in early January. In Australia for almost all major growing areas long awaited rainfalls were received after two consecutive years of drought. For this reason in combination with an attractive wheat price ahead of the season farmers expanded seeding substantially and planted an area of 13.0 (10.2) million hectares. The USDA reports a yield of 2.31 (1.49) t/ha. The production is estimated at 30.0 (15.2) MMT. In contrast to Australia, Argentine wheat suffered during different development stages because of a lack of moisture. The production is estimated at 17.2 (19.8) MMT only.

Global trade is driven by strong demand from North Africa and extraordinary demand from China and Pakistan. In North Africa especially the Moroccan wheat production had suffered by the second consecutive severe drought. Import demand for the region is estimated by the USDA at 29.4 (27.7) MMT. In China, a further tightening of maize supplies boosts import demand for all major grains. Wheat imports are regulated by an annual import quota of 9.6 MMT, thereof 10% for private market participants and 90% for state-owned enterprises. During the last decade state-owned companies only made use of around one third of the available import quota, while private market participants always fully utilized their quota for successful arbitrage of high quality wheat from North America. This year China is expected to fully use the 9.6 MMT quota (5.4), not only for milling but also for feed purposes. In Pakistan a 60% regulatory duty on wheat imports had been in place since September 2016. Due to a crop failure and consequently soaring wheat flour prices during 2020 the government lifted those duties on 7 June 2020. First cargoes from Europe arrived in Pakistan during October and domestic wheat flour prices declined from 70 rupees per kilogram noted by the FAO in October to 60 rupees per kilogram in November. Total imports are estimated at 2.8 (0.0) MMT.

Given the fact that production losses in major exporting regions in the northern hemisphere were substantial the international demand for Australian wheat is seen as very strong. Australian exports are estimated at 20.0 (9.1) MMT. In spite of the limited supply, EU wheat is very competitive on the international markets. However, the USDA estimate of EU exports of 27.0 (38.4) MMT should be seen as the maximum export potential, which results in a minimum pipeline requirement of ending stocks of 10.6 (14.3) MMT only. In Ukraine – as per the Memorandum of Understanding on Grain Trade – exports are defined at 17.5 (21.0) MMT. The USDA estimates Canada and also the USA to export more this season. Their exports of 26.5 (24.6) and 26.8 (26.3) MMT, respectively, should result in a decline in ending stocks in both countries, too. However, most attention is given to Russia. This is not only because of the fact that Russia became the biggest wheat exporting country within the last decade, but also because according to the FAO GIEWS FPMA Tool, domestic wholesale prices for wheat flour, (highest grade, offer, EXW) soared significantly – in nominal terms from 13,000 rubles per ton at the beginning of 2018 to 23,500 rubles per ton at the beginning of February 2021. In real terms the January quotation marks a new high since June 2013. Between 14 December 2020 and 8 February 2021 the Russian government reacted and implemented different steps of measures to limit grain exports. A quota for the total grain export of 17.5 MMT between 15 February and 30 June 2021 is set. Within the quota

the following export tax is due: €25/MT during 15-28 February and €50/MT during 1 March until 31 May. A floating tax of 70% of the difference between the fob price per ton and $200/MT will be charged from 1st June onwards. The floating tax is announced to remain in place during the whole new crop season 2021/22. Major importing countries such as Egypt react and buy more wheat in advance of the extra cost. According to customs data, Russian wheat exports in December reached 4.8 MMT and shipments in January also exceeded historical volumes substantially. The USDA estimates total exports at 39 MMT. Thereof, more than 80% will likely be shipped by the end of February.

World wheat consumption is estimated at 769 (747) MMT. Thereof, Chinese feed use is estimated to be sharply up on-year at 30 (19) MMT. On a global scale, the USDA estimates a slight increase of stocks to 304 (300) MMT. This is equivalent to a stocks-to-use ratio of 39.5 (40.2) %. In this context it is worth to note that 60% of world stocks are located in China and India, where an annual growth in stocks of 6 MMT is expected by the USDA.

World **maize** production is estimated at 1.134 billion tons and thus to be 17.5 MMT above the previous year's level. The better harvest in the USA accounts for most of the additional supply. US farmers had expanded the area to 33.4 (32.9) million hectares and also a national yield of 10.8 (10.5) t/ha reflects a recovery. However, heat during pollination and damages by the storm Derecho, which swept over parts of the Midwest at the beginning of August, had caused damage and affected the potential for this marketing year's maize production of 360.3 (346.0) MMT. In Ukraine, a lack of moisture had caused substantial yield losses. A yield of 5.4 (7.2) t/ha is the lowest level recorded since 2013 and results in an output of 29.5 (35.9) MMT only. Also in the EU the maize harvest of 63.6 (66.7) MMT was rather disappointing.

Since the beginning of the year the focus is on South America, which is under the impression of the weather phenomenon La Niña. As a consequence the weather is too dry in Argentina for optimal crop growth. For this reason the USDA forecasts the Argentinian maize output below last year at 47.5 (51.0) MMT. For Brazil a crop forecast of 109 (102) MMT is rather optimistic. The optimism is based on very attractive maize prices, especially in the local currency Real, and an area forecast of 19.7 (18.5) million hectares. However, very slow soybean harvesting significantly delays maize plantings. Given the fact that late planting correlates with stronger yield risk, the USDA's crop forecast for Brazil should be taken with caution.

The major part of the Brazilian maize crop will be available at the end of July only. For this reason, global trade mainly depends on the limited export supply of Argentina and Ukraine and on the export supply of the USA until then. Exports are estimated at 34.0 (36.0) MMT for Argentina, 24.0 (28.9) MMT for Ukraine and at a record 66.0 (45.2) MMT for the USA.

Domestic use in the USA is estimated to drop to 143.5 (149.9) MMT, although livestock inventories are seen relatively stable and alternative feedstuffs such as sorghum, soybean meal and DDGS are seen relatively scarce. The biggest impact of Covid-19 on the supply and demand of grains can be observed for biofuel production. This is inherent with the collapse of overall fuel demand, while the mandate to blend biofuel is kept stable. Weekly ethanol production in the USA dropped by 48% on year within April 2020. Since then, a gradual recovery can be observed. However, ethanol production in the first six weeks in 2021 was still reported 11% below the same time a year ago. The USDA estimates a slight annual recovery of maize use for ethanol to 125.7 (123.3) MMT. This compares with 136.6 MMT of maize used for ethanol production during the marketing year 2018/19. The above described estimates for production, exports and domestic use in the USA result in a carry-out of 38.2 (48.8) MMT only, which reflects the tightest supply and demand situation in the USA since 2013/14. Ethanol production also weakens in Brazil and the EU. However, the impact on world grain demand is rather small.

World maize trade is heavily impacted by the soaring import demand of China. Traditionally, the Chinese government regulated maize imports by a quota of 7.2 MMT. Thereof, not much more than the 2.88 MMT for private market participants has been used per annum during recent years. During the year 2020 the Chinese government obviously reacted to very high domestic maize prices of up to $400/MT and opened the market for more imports. No official statement has been made. However, the USDA has reliable information to estimate Chinese maize imports at 24.0 (7.6) MMT, which is well above the 5-year average of 3.8 MMT shipped before 2019/20. Suddenly, China becomes the biggest maize importing country and, according to the USDA, imports around 50% more than the annual level of the EU, Japan and

Mexico, the so far top-3 importing countries. The USA is benefitting the most from China's increasing hunger for maize imports. Almost 75% of China's imports are expected to come from there, leading to the aforementioned sharp increase in total US exports. Most of the rest will come from Ukraine.

World maize consumption is estimated at 1.151 (1.134) billion metric tons. In contrast to wheat, world ending stocks for maize are forecast to decline by 17 to 287 (303) MMT, which results in a stocks-to-use-ratio of 24.9 (26.7) %, the lowest since 2013/14.

Also sorghum and barley are in the focus of Chinese buying activity. The USDA reckons with imports of 7.6 (3.7) MMT of sorghum and 8.3 (6.0) MMT of barley. Globally, depressed beer consumption as a result of missing social events leads to less malt production. However, stronger feed demand for barley compensates for the lack of malt production so that global barley stocks are seen unchanged on-year at 19.8 (20.0) MMT.

3 World Market for Oilseeds, Vegetable Oils and Oilseed Meals

3.1 Oilseeds

According to the USDA, world production of the seven most important oilseeds (soybeans, rapeseed, sunflower seed, peanuts, cottonseed, palm kernels and copra) is expected to be around 594.5 MMT in the 2020/21 marketing year, 18 MMT above the previous year's level of 576.4 MMT (see Figure 2). The main reason for the higher production volume is the increase in cultivated area by around 4.2 million ha compared to the previous year to 279.0 million ha. Yields are also around 1.5% above the previous year´s level.

Total oilseed consumption is also expected to rise to a record 608.8 (598.0) MMT, of which 512.3 (506.2) MMT are processed in oil mills. This means that the growth in consumption has now continued for well over 30 years. However, the growth rate is slowing down and is this marketing year at only 1.8 (2.3) %, well below the ten-year average of 3.1%. According to the USDA, global ending stocks are expected to fall to 96.5 (110.8) MMT, the lowest level since 2015/16. The stocks-to-use ratio would correspondingly fall to 15.9 (18.5) %, which is well below the 10-year average and a lower ratio was last seen in 2012/13.

The USDA estimates global production of **soybeans** in the 2020/21 marketing year at 361.0 (336.5) MMT. The main reason for the significant increase is the recovery of US production, after it has suffered from the effects of persistent rainfall during plantings in 2019. Soybeans were harvested on 33.3 (30.3) million hectares and production increased to 112.5 (96.7) MMT.

In Brazil, production is expected to increase from 126.0 to 133.0 MMT due to a further significant expansion of the planted area. For Argentina, the USDA anticipates an unchanged area and a slightly lower production of 48.0 (48.8) MMT. Similar to maize, Argentine soybean production is also influenced by the La Niña weather pattern. However, this year not only most of Argentina was too dry until early January, but also important growing regions in Brazil, such as Mato Grosso, received well below average rainfall. Harvesting activities in parts of Brazil started at the end of January. In Argentina the harvest will only begin in early April. Thus, the South American soybean crop could still turn out to be higher or lower than currently expected by the USDA.

Worldwide soybean crush is expected to be at 321.8 (309.4) MMT, the biggest increase in 6 years. Taking into account the soybeans that are used either directly in feed or as food, global consumption of soybeans is expected to increase to 372.1 (353.9) MMT. Consequently, global ending stocks are likely to fall to 84.3 (95.4) MMT, with the stocks-to-use ratio falling rapidly to 22.7 (27.0) %. A ratio this low was last seen in 2012/13.

One of the main reasons for the significant increase in demand are the recent developments in China (see also chapter 3.3). Due to the rapid recovery in the hog and aqua production sectors domestic demand for soybean meal is also growing faster than initially expected (from 71.5 MMT in 2019/20 to a projected 77.4 MMT in the current marketing year). Since last May, the USDA has gradually increased its estimate for soybean processing in 2020/21 from 93.0 to 99.0 (last year 91.5) MMT. The forecast for soybean imports has been raised from 96.0 MMT to 100.0 (98.5) MMT.

Soybean imports are benefiting not only from the strong increase in domestic demand for soybean meal and oil, but also from an observable build-up of stocks, which the USDA estimates at almost 29 MMT at the end of the current marketing year. This corresponds to a doubling of reserves since 2013/14. China may have decided, based on the corona crisis, that it

wants to be less dependent on imports in the future and is therefore building up strategic reserves. The higher Chinese import demand also means higher soybean shipments from the USA and thus contributes to a significant extent to the Phase One Trade Agreement between China and the USA (see Chapter 1).

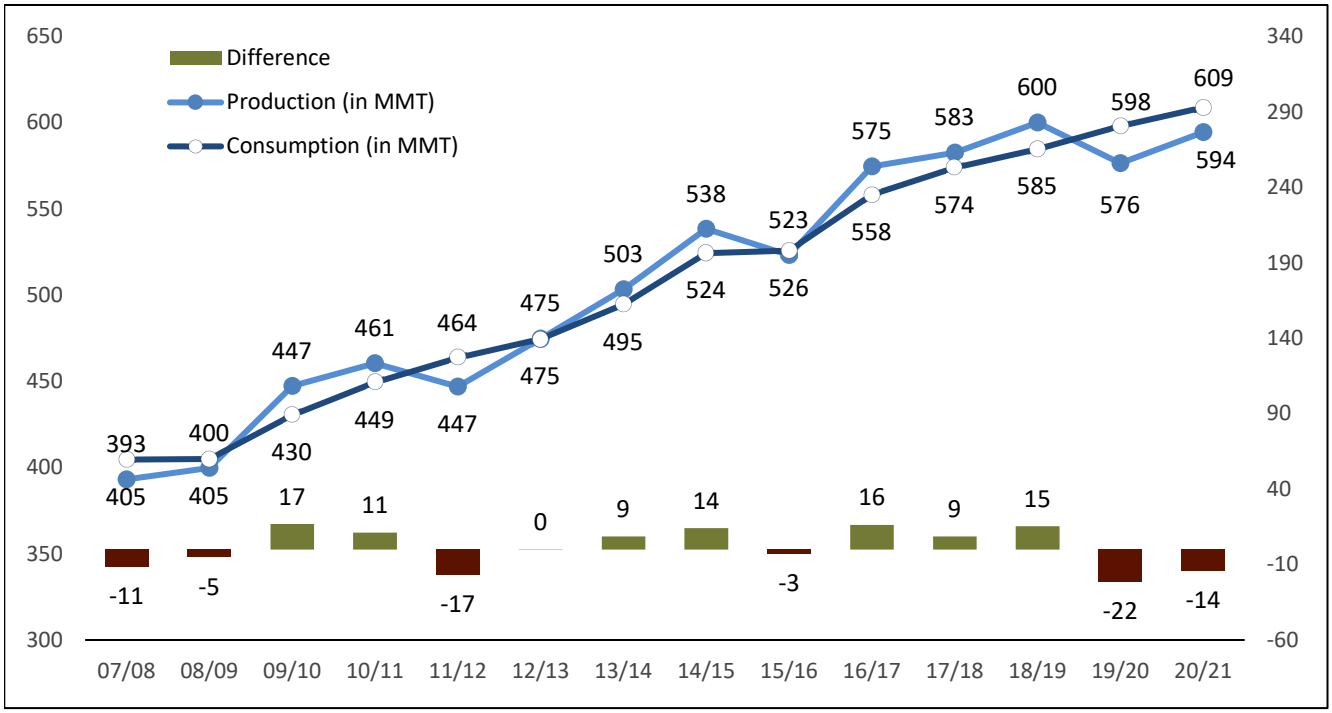
The strong demand from China is leading to a significantly tighter supply situation in the major exporting nations. According to the USDA, the USA will have the largest export programme of all time in the current marketing year, amounting to 60.7 (last year: 45.8) MMT. The same applies to domestic processing as the demand for soybean meal in the US market is expected to suffer less from corona than initially expected. The soybean reserves at the end of the current marketing year are thus forecast to fall to only 3.8 (14.3) MMT, the lowest level since 2013/14.

The supply situation is also tight in Brazil. Here the USDA states that the reserves were only 20.4 MMT at the end of August 2020 and thus more than 12 MMT lower than in the previous 3 years. The USDA expects a similar situation for August 2021. The reason for the shortage in Brazil is not only the high level of exports, which at 92.5 MMT in 2019/20 and a projected 85.0 MMT in 2020/21 are way above the previous records, but also the further increase of crush to 45.5 (44.3) MMT, not least to produce enough soybean oil to meet the domestic biodiesel mandate.

Global **rapeseed** production is estimated to fall again in the 2020/21 marketing year, to a figure of 68.9 (69.2) MMT. This means a decline of global production for the third year in a row. In the EU, the crop of 16.8 (16.9) MMT was disappointing again. Due to the wet weather during sowing in late summer 2019 as well as more and more diseases and poor yield results, European farmers - as in late summer 2018 - planted rapeseed on just around 5.5 million hectares. This is a decrease of 20-25% compared to previous years. Yields have been very heterogeneous. While yields in France, the United Kingdom and the Balkans were very disappointing due to the weather, they were surprisingly good in Germany, Poland and the Baltic states. In Germany, for example, yields reached their highest level in 5 years, and Baltic farmers actually set a new record.

Due to the tight supply situation the EU will have to import large quantities of rapeseed again in 2020/21. The USDA is again assuming an import volume of around 6.0 (6.2) MMT. In addition to the poor harvest, another reason for the high import needs is a rather stable demand from the EU processing industry, which is expected to only fall by 0.7 MMT from last year's 23.1 MMT. However, the distribution of imports among the individual origins is likely to be slightly different this year. Less rapeseed will reach the EU from Ukraine because the latter's harvest of 2.5 MMT was around 1 MMT less than in 2019.

Figure 2. World Oilseed Supply and Demand (MMT)



Source: USDA

According to preliminary EU import data, 2.2 MMT of rapeseed have been imported from Ukraine between July 1 and February 7, while last year at the same time already 2.8 MMT had been shipped. Conversely, Australia should be able to fill this gap and export more to the EU than in the previous year. The USDA estimates the harvest should increase from 2.5 MMT to 3.5 MMT, while the Australian Agriculture Ministry (ABARES) forecasts this year´s crop already at 4.1 MMT. Private crop analysts and market surveyors also assume that a crop of more than 4 MMT was harvested.

To meet the required import level, the EU may need to import 2 MMT or more of canola from Canada again. Since early February already 1.6 MMT had been imported into the EU from Canada, according to preliminary EU Commission data, which compares to 1.0 MMT at the same time last year. However, in view of the harvest of 19.0 MMT, which is a decline for the third year in a row, and an unchanged high level of domestic processing, the Canadian balance sheet is no longer as comfortable as in previous years. The ending stocks for the current marketing year are expected to decrease to 1.2 (3.1) MMT. Therefore, the trade flow from Canada to the EU is expected to slow down significantly in the second half of the crop year and, accordingly, the price spread between ICE and MATIF rapeseed futures already (as of mid-February) does not support additional trade volumes between the two countries in the coming months.

Not only the EU is dependent on Canadian canola, but also the North American and Asian importing countries need increasing quantities of rapeseed. Therefore, the USDA expects Canadian exports to increase to 10.7 (10.0) MMT. In particular for China, which has imported significantly less canola in the last two years than before due to a trade dispute that has still not been fully resolved, the USDA estimates an increase in imports to 3.0 (2.6) MMT, of which Canada must supply a large part.

Global 2020/21 **sunflower** seed production is expected to decrease significantly and reach only 50.0 (55.0) MMT. This is particularly due to an extreme drought in the Black Sea region. In Russia, production is estimated to have dropped from 15.3 MMT to just 13.5 MMT and in Ukraine from 16.5 MMT to 14.0 MMT. For the EU, where yields suffered mainly in the Balkans, the USDA is assuming a crop of 9.2 (9.6) MMT. And last but not least, a smaller harvest can also be expected in Argentina. It had been too dry in many growing areas at the end of 2020 and in early 2021 because of La Niña. In the northern growing areas, harvesting has already begun, while in the southern areas it will not start until March or early April. The USDA expects production to decline from 3.3 MMT to 2.9 MMT. In view of the poor production global sunflower seed ending stocks are expected to fall to a very low level of only 1.8 (2.5) MMT.

3.2 Vegetable Oils

The USDA estimates production of the nine major oils (soybean, rapeseed, sunflower, cottonseed, peanut, palm, palm kernel, coconut and olive oils) at 209.6 (207.3) MMT in the 2020/21 marketing year (October/September). A further eight vegetable and animal oils and fats (sesame oil, maize oil, castor oil, linseed oil, butterfat, lard, tallow and fish oil), all of which are not included in the USDA forecast, account for an additional production volume of around 34.6 (34.0) MMT, Oil World estimates. Global consumption of the nine major vegetable oils will be about 211.7 MMT, according to the USDA, with a year-on-year increase of 6.5 MMT, or 2.5%, which is higher than last year's growth but smaller than the average of the past 10 years. Demand for use in food accounts for the largest share of total demand at around 73%. Compared to the previous year, the USDA's estimated growth in demand for food, at 2.7%, is slightly higher than last year, but also significantly lower than in the last 10 years. The relative growth of industrial demand - consisting of consumption by biodiesel producers and the oleochemical industry, which accounts for about 24.6% of total demand – is expected to increase again to 2,3% after a small Covid-19 related decline of 0.1% in the previous year. Overall, the demand growth is limited by availability of oil supply, which is reflected in the steep increase of prices in the first half of 2020/21.

Among others, China is responsible for the rising demand, as it remains the world's largest consumer of vegetable oils with a total demand of 41.2 (39.8) MMT. The EU remains in second place in terms of total global consumption, with consumption of 27.4 (27.2) MMT slightly above the previous year. India, the world's third largest consumer and largest importer of vegetable oils, recorded annual growth rates in consumption of more than 5% until 2015/16 and thus stronger increases than China. Since then, however, growth rates have stagnated at a level of around 2% and last year the consumption even declined by 2%. This Covid-19 related setback in 2019/20 was the first

decline of consumption since 2005/06. For the current marketing year, the USDA estimates consumption at 22.6 (22.1) MMT. The three largest consumers mentioned above account for a total of 91.3 (89.1) MMT, or 43% of global consumption.

Palm oil continues to account for the largest share of global production of the nine most important oils, at 36% and the USDA estimates production in 2020/21 at 75.5 MMT. This would be a new record and 2.2 MMT more palm oil than in the previous year. However, it would fall well short of the average annual increase. At the beginning of the year, the impact of a previous drought on yields in Indonesia and Malaysia was clearly noticeable. Later on, the restrictions imposed by the local governments in the wake of the corona pandemic severely impacted logistics and work flows on the plantations, again with a negative impact on production. For Malaysia, it is expected that there will no longer be any significant growth in area. Production is expected to increase to 19.9 (19.3) MMT, after the decrease by 1.5 MMT in the previous season. Since the severe El Niño in 2015, yields per hectare would thus not have reached the levels achieved before 2015. In Indonesia, production is expected to rise from 42.5 MMT to 43.5 MMT due to a further increase in area - although this would also be a below-average increase. The world's two largest producers continue to account for almost 85% of global production.

International demand for palm oil is expected to rise again after the Covid-19-related dip in the previous year. This also applies to India, among others, which imported 2.3 MMT less palm oil in the 2019/20 marketing year than in the previous year, according to the USDA. For 2020/21, imports are expected to rise again to 8.7 (7.4) MMT. China, which kept its palm oil imports almost stable in 2019/20 despite Covid-19 restrictions, is also expected to see import demand rise again in 2020/21. The USDA currently expects an increase from 6.7 MMT to 6.9 MMT.

In line with the renewed growth in international demand, palm oil exports from Indonesia and Malaysia will increase. In addition, there is a significantly growing domestic market in both countries of origin.

In Indonesia, the domestic mandate for biodiesel consumption in 2020 has increased from 20% to 30%. However, as a result of the pandemic, demand for diesel declined last year and the increase in biodiesel demand has been somewhat lower than anticipated. Accordingly, a further increase in domestic biodiesel demand is expected for the current marketing year, assuming a normalization of diesel demand. In Malaysia, the blending obligation should have increased from 10% to 20%, but due to the tight supply situation, the full mandate of "B20" was postponed until 2022. The current USDA forecast is very conservative and only expects an increase in Indonesian and Malaysian palm oil consumption for industrial purposes of 200,000 MT and 30,000 MT respectively. However, a much larger increase seems possible.

Overall, the projected increase in production in Southeast Asia is likely to be too small to keep pace with national and international demand growth. The USDA estimates global demand for palm oil in the current marketing year at 76.6 (72.8) MMT and accordingly assumes a decline in stocks in Indonesia and Malaysia from a total of 6.0 MMT to 5.5 MMT. However, in view of the possible developments in China, Indonesia and Malaysia as well as catch-up effects following a recovery past the pandemic, the supply situation could become even tighter.

For **soybean oil**, the USDA also expects a further increase in production to 60.3 (57.8) MMT in the 2020/21 marketing year. Especially the strong soybean processing in China described in Chapter 3.1 (Oilseeds) is responsible for the strong growth. However, due to a further increase in domestic consumption to 17.7 (previous year: 15.9) MMT, continued strong soybean oil imports of 1.1 (1.0) MMT are needed to keep the stocks at 650,000 MT and thus unchanged year over year.

In Argentina as well as in the EU, the quantities of soybean oil produced should be sufficient to maintain a sufficient supply with average ending stocks. The USDA estimates soybean oil production in Argentina unchanged at 7.7 (7.7) MMT. Production in Brazil, on the other hand, is expected to rise further, to 8.8 (8.5) MMT. But more and more soybean oil is needed for the production of biodiesel. Over the past few years, the biodiesel mandate was gradually increased to 13%, with the aim of reaching 15% at some point. Last year, however, the Brazilian supply of soybean oil became so tight that the mandate had temporarily been reduced. Brazil can no longer export more than around 1 MMT of soybean oil. Up until 10 years ago, the figure was around 2.5 MMT despite there being a much smaller soybean harvest.

In the USA, even the forecast increase in production is unlikely to keep pace with the expected growth in demand. Soybean oil use for industrial purposes is assumed to increase, reaching 3.8 (3.6) MMT. This is

not only due to traditional biodiesel production, but also because renewable diesel production may increase substantially in 2021. By 2022, renewable diesel production capacity is even expected to exceed the esterification plant capacity of 1.7 billion gallons per year. This will create additional feedstock demand in the coming years. Soybean oil is likely to benefit the most from this additional demand, as the plants coming online in the next two years are located inland and thus in close proximity to soybean growing areas. The expected additional demand will further tighten the US soybean oil balance. Consequently, ending stocks in 2020/21 are expected to fall to only 777,000 (838,000) MT - the lowest level since 2016/17.

Global soybean oil consumption of 60.3 (57.4) MMT is therefore expected in line with global production and global reserves at the end of the 2020/21 marketing year are expected to remain almost stable at 4.5 (4.6) MMT.

The global **rapeseed oil** production in the 2020/21 marketing year is estimated to fall to 27.8 (28.0) MMT. This is mostly due to a further sharp decline in the European Union to 9.4 (9.7) MMT and a small reduction in Canada to 4.3 (4.4) MMT, while the Chinese production is expected to remain unchanged at 6.0 (6.0) MMT. The three countries mentioned are the largest producers and together account for just over 70% of global production.

In the EU, the decline in production is ultimately due to lower availability following the third poor harvest in a row. Due to the tighter supply situation, the USDA also sees consumption in the biodiesel industry again below the previous year, while consumption for food is expected to remain stable. However, due to the Covid-19 pandemic, biodiesel demand is subject to great uncertainty. In the spring of 2020, biodiesel consumption briefly plummeted by up to 50%, significantly easing the relatively tight EU rapeseed oil balance. The pandemic-related restrictions over the winter months have also restricted rapeseed oil demand for biodiesel, but not to the same extent as in spring. Global ending stocks are expected to fall for the seventh year in a row. However, this development must be viewed in a differentiated manner, as it is also significantly influenced by China, which had built up large state reserves until 2014/15 and has since reduced them.

In the case of **sunflower oil** global production in 2020/21 is expected to significantly decline to 19.5 (21.5) MMT, which would be the first decrease since 2014/15. This is mostly due to the sharp drop of sunflower seed production in the Ukraine, Russia and parts of the EU as described in Chapter 3.1. Global stocks at the end of the marketing year are thus expected to drop to only 1.1 (2.0) MMT, the lowest level since 2004/05. As a result, sunflower oil has experienced a huge price rally since the beginning of the marketing year and is now once again the most expensive oil of the four major vegetable oils on the physical market in Northwest Europe.

3.3 Oilseed Meals

According to the USDA, global production of the seven most important oilseed meals (soybean, rapeseed, sunflower, peanut, palm kernel, cotton and copra) is expected to rise again in 2020/21 to a new record level of 347.8 (339.9) MMT. This is mainly due to the steadily growing global demand for meat and thus feed requirement. The USDA estimates global meal consumption at 350.1 (342.4) MMT.

Most of the increase is due to the rise in soy meal production, the most important oil meal. Soy meal production is also assume that a crop of more than 4 MMT was harvested.to increase by 10 MMT to 252.9 MMT. The largest increase is expected in China (+5.9 MMT), followed by Brazil (+0.9 MMT) and the USA (+0.7 MMT). The three countries together account for about 63% of global soy meal production. Meanwhile, soybean meal production in Argentina, the fourth largest soybean meal producer at 30 MMT and the largest exporter of soybean meal at 27 MMT, is only expected to stagnate. The production of **sunflower meal** is, however, expected to decrease to 20.9 (22.2) MMT and that of **rapeseed meal** to remain almost stable at 39.3 (39.5) MMT.

One of the main reasons for the renewed increase in demand for oilseed meals, which is almost back to the growth rates of the first half of the last decade, is the containment of ASF in large parts of Southeast Asia. Hog production in China (as already mentioned in the introduction and chapter 3.1) is rapidly recovering from the effects of ASF.

Strong growth is also being seen in the aquaculture sector again. The sector had suffered from the corona-related closure of restaurants, where the biggest portion of the fish is consumed. And flooding along the Yangtze River destroyed or damaged many important production facilities during June. However, much of the damage has now been repaired.

4 Outlook

This article describes significantly tightening markets for major agricultural commodities. The stocks-to-use ratio for maize declines to the lowest level since 2013/14 and for oilseeds since 2012/13. An increase in production can be noted for major grains and oilseeds. However, the growth in grain consumption is stronger and global oilseed consumption also exceeds production. According to the USDA, wheat is not quite as tight. However, abundant wheat stocks are mainly located in China and India, while stocks actually decline in major exporting regions.

The pandemic has mainly an impact on biofuels, which is a consequence of constrained mobility. Global maize use for ethanol production is estimated to drop by 25-30 MMT in major exporting countries since the outbreak of Covid-19. However, the growing maize import demand of China offsets the lack of domestic demand in the US and other countries such as Brazil and the EU. Also biodiesel use declined globally. However, in spite of less biodiesel production vegetable oils were so tight that Malaysia postponed the introduction of B20 to 2022 and Brazil temporally reduced the blending mandates. The scarcity of vegetable oils is mainly driven by declining growth of palm oil in Indonesia and especially in Malaysia, which is a production combination of a very limited increase of the area and stagnating yields. During the pandemic palm oil harvesting was also respectively negatively impacted because of its labor intensity.

The above highlighted observations have led to a significant recovery in agricultural commodity prices, which have not been quoted since the beginning of the last decade. What does all this mean for the future? High prices are the best solution for high prices. This means that high prices can lead to demand rationing and are an incentive for farmers to plant as much as possible and also use marginal land, which has not been used during recent years, for production again. In the EU as well as in the USA winter wheat plantings have been significantly increased during last autumn. In spring, a strong competition between major grains and oilseeds for arable land is expected.

Population growth is the main driver of the need of a continuation of growth in production. A continuation of the recovery in the pig herd in China will likely support the import demand of grains and oilseeds. However, this will likely not be enough to fulfill the Chinese commitment to buy agricultural products in the USA being worth $80 billion within calendar year 2020 and 2021. In the course of 2021 a control of the pandemic and consequently a recovery of worldwide biofuel demand could accelerate the global demand growth. A recovery in beer consumption might add to this trend. For this reason favorable weather will be crucial during the vegetation period ahead.

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