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Turkey

Grain and Feed Annual

After Plentiful Winter Rain, Spring Weather Will be Crucial for Yields

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Report Highlights:

The drought in Turkey has finally ended, with rainfall from October 2018 through February 2019 significantly higher than the previous two years. Despite decreasing planting area, Turkey's wheat production forecast for marketing year (MY) 2019/20 is expected to remain the same at 19 million metric tons (MMT). The barley production forecast for MY 2019/20 is up to 8 MMT, and rice remains the same at 910,000 MT. The wet spring and good returns on other crops are reducing corn planted area with a production forecast of 5.5 MMT. Despite the economic downturn in Turkey, demand from the feed sector continues to grow and wheat products exports remain strong.

Turkey Grain and Feed Annual Report 2019

EXECUTIVE SUMMARY

Although it is still early in the season and yields for crops are dependent on spring weather, the MY 2019/20 wheat production forecast estimate is 19 million metric tons (MMT). This is assuming higher yields due to sufficient rain and favorable conditions from April to June, which is expected to offset losses from decreased planting area. Due to weather problems, some farmers could not harvest last year's crops on time, which limited wheat sowing in MY 2019/20. While there was country-wide precipitation during recent months which caused higher sub soil moisture, favorable spring weather will be crucial for good yields. In some areas in Turkey, there was rust observed in the wheat fields, which may negatively impact yields in those areas.

Turkey successfully increased wheat products exports in recent years. Turkey exported about 6.2 MMT of wheat products in MY 2017/18 and it is expected that wheat product exports will be higher in MY 2018/19, mainly due to growth in pasta and other non-flour wheat products exports, despite a slight decrease in flour exports.

MY 2019/20 barley planting is projected to grow to 3.8 million hectares (ha), up about 5 percent from MY 2018/19. The barley area increased particularly in unirrigated areas of the Central Anatolia region compared to last year. Good returns on barley and the high cost of chemicals (such as pesticides and fertilizers) used in production of other crops, influenced farmers' planting decisions. Barley production for MY 2019/20 is forecast at 8 MMT, up fourteen percent compared to the previous year due to increasing planted area and favorable weather since planting.

Corn planting area for MY 2019/20 is expected to be about 520,000 ha and production at 5.5 MMT, assuming sufficient rain and favorable conditions. Total compound feed production is 24.1 MMT, up eight percent compared to a year ago, due to the increase in poultry and ruminant feed production. Previously unregistered feed mills are being newly incorporated into the data this year, accounting for some of the growth in the production numbers in 2018 as well.

The MY 2019/20 paddy rice area estimate is 100,000 ha with production forecast at 910,000 MT, the same as the previous year, assuming high yields due to sufficient rain and favorable conditions.

The Turkish lira has lost more than 40 percent of its value against the U.S. dollar over the past year. As a response to the currency depreciation and ongoing domestic food price inflation problems, Turkey has put some new policies in place, including limiting exports of some wheat flour and some feed materials such as broken grains. Increasing food prices continue to be an important issue in Turkey. Food inflation is a high priority, and has been the driving force of consumer price inflation in 2018. On October 9, 2018, Turkey's Ministry of Finance announced a campaign against inflation. In the scope of this campaign, companies signed up to voluntarily reduce their prices. The site for the campaign is: <http://enfasyonlamucadele.org.tr/>

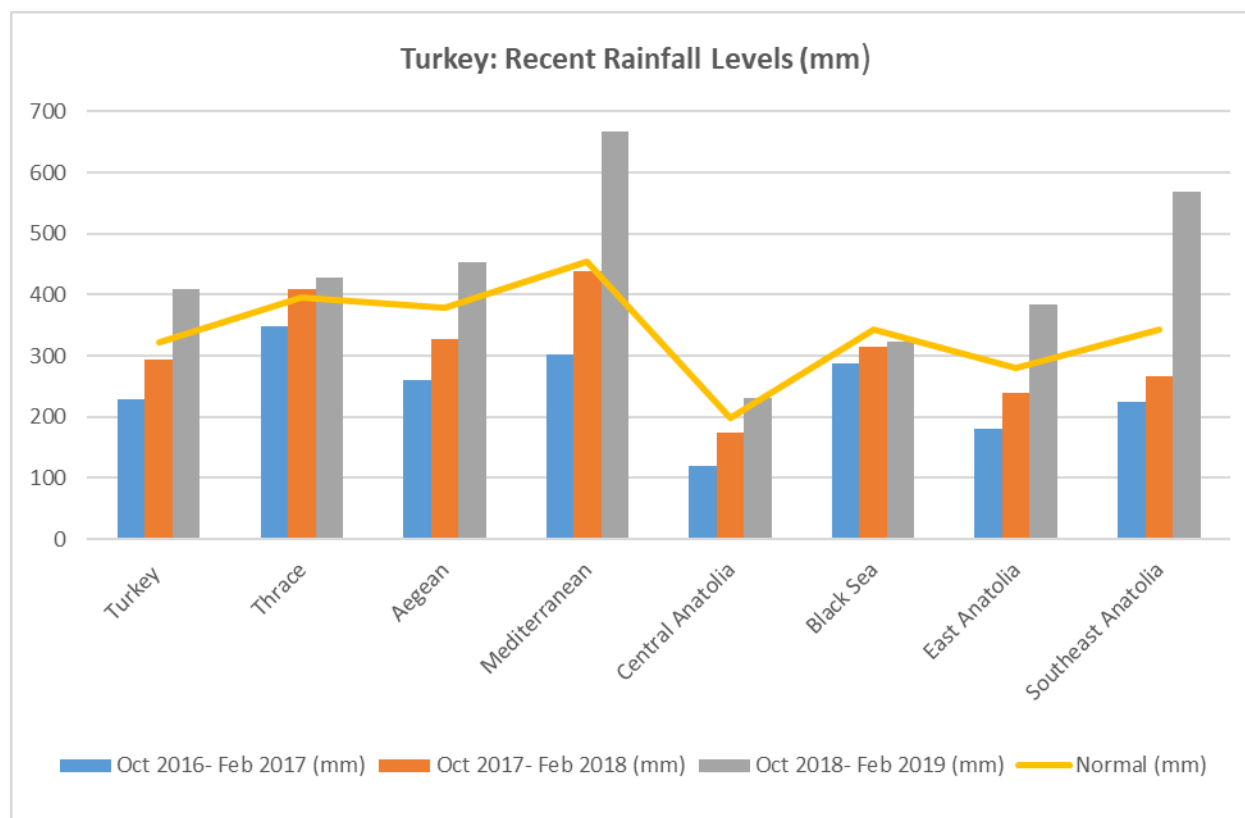
New licensed warehouse systems for grain storage are developing in Turkey. As of February 2019, there were 67 active licensed warehouse operations (LWO) with a capacity of 3.3 MMT. There were only 19 LWO as recently as two years ago.

PRODUCTION

Weather Situation

Average rainfall in Turkey from October 2018 through February 2019 was 410 millimeters (mm), which is higher than the same period the last two years. This year's rainfall amount is 27 percent higher than the national historical average and it is 40 percent higher than last year. During the same period in the previous year, rainfall was 292.9mm. This increase in rainfall was very beneficial in most of regions in Turkey after two consecutive years of drought.

Figure 1: Turkey: Cumulative Rainfall Levels by Region in Last Three Terms compared with Historical Average (mm)



Source: Turkish State Meteorological Service

The areas with the greatest increase in rainfall compared to the previous year were the Southeast Anatolia region (also known as Southeast region and the GAP region), followed by the East Anatolia regions and Mediterranean region. As seen in Table 1, the cumulative rainfall from October to February in the Southeast region was 568.9 mm, while the average level for that region is 342.5 mm. This amount of rainfall is 66 percent higher than the national historical average for Southeast Anatolia, and it is 114 percent higher than 2018. This amount of rainfall has been the second highest level since 1981.

Table 1: Cumulative Rainfall in Turkey between 1 November 2018 and 28 February 2019

Turkey: Recent Rainfall Levels					
Region	Oct 2017- Feb 2018 (mm)	Oct 2018- Feb 2019 (mm)	Normal (mm)	2018/19 deviation from normal	2018/19 deviation from previous year
Thrace	409.5	428.4	394.6	9%	5%
Aegean	326.5	453.3	379.1	20%	39%
Mediterranean	438.3	666.3	453.5	47%	52%
Central Anatolia	173.5	231.9	199.3	16%	34%
Black Sea	314.9	323.9	343.0	-6%	3%
East Anatolia	239	384.5	279.3	38%	61%
Southeast Anatolia	265.9	568.9	342.5	66%	114%
Turkey Total	292.9	410	323.2	27%	40%

Source: Turkish State Meteorological Service

During the planting season, precipitation was near to above average over the majority of the winter grains area, with the exception of the Black Sea region. The cumulative rainfall from October to February in the Black Sea region was 314.9 mm, which is six percent lower than the national historical average for Black Sea region, while it is just above the amount from last year.

Wheat

MY 2019/20 wheat planting is forecast to decrease to 7,235,000 ha, down five percent compared to the previous year. Winter wheat planting, which finished in October 2018, was nearly 380,000 ha below the previous year, mainly due to competition with barley in unirrigated areas, as well as other products differing by region.

Although it is still early in the season and yields for crops are dependent on good spring weather, the MY 2019/20 wheat production forecast estimate is 19 million metric tons (MMT). This is assuming high yields due to sufficient rain and favorable conditions from April to June, which is expected to offset losses from the decreased planting area. Despite the fact that there was country-wide precipitation during recent months which caused higher sub soil moisture, spring weather will be crucial for good yields.

Winter wheat planting finished in October 2018. Rain surplus has been reported as a concern for the winter grains crop in the Mediterranean and Southeast regions of Turkey along the Syrian border. Because of floods in the fields, farmers could not plant anything in some areas of the Cukurova and

Southeast regions, such as the areas of Amik ovasi and Harran. Moreover, in the Mediterranean region and Southeast Turkey, some planted areas are flooded.

Central Anatolia is the main grain production region of Turkey. Wheat and barley are the traditional products of this high plateau region. So far in MY 2019/20, rainfall in the region is higher than normal and snow cover is favorable for wheat production.

Total wheat area in Central Anatolia is 2,650,000 ha and the average yield is about two MT/ha. Nearly half of the fields are unirrigated and yields are directly linked to rainfall. Barley has continued to gain planting area from wheat in unirrigated areas in recent years due to good returns. Also the high cost of inputs such as fertilizer and other chemicals needed for producing high quality wheat have driven some farmers to switch. Of the total 5.3 MMT of wheat projected in Central Anatolia in MY 2019/20, 1 MMT is durum wheat.

Table 2: Turkish Wheat Production by Region*

Regions	MY 2016 Avg. yield (MT/HA)	MY 2017 Avg. yield (MT/HA)	Long term Avg. yield (MT/HA)	Harvest Time	MY 2017/18		MY 2018/19		MY 2019/20	
					Harvested Area	Production (MT)	Harvested Area	Production (MT)	Harvested Area	Production (MT)
					(ha)		(ha)		(ha)	
Çukurova region	3.5-4.5	4.5-5	4.5-5.5	May 10- 10-Jun	260,000	1,250,000	260,000	1,300,000	260,000	1,400,000
Hatay region	3	4.7	5-5.5	May 25- 25-Jun	85,000	225,000	85,000	225,000	35,000	100,000
Southeast region	2.9	3.3	3-3.5	May 15- 25-Jun	927,000	3,150,000	924,000	2,900,000	890,000	3,000,000
Central Anatolia	1.7	1.9	1.5-2	June 15- 25-Jul	2,995,000	5,650,000	2,835,000	5,300,000	2,650,000	5,300,000
Polatlı	2.8-3	3.4	3.3	June 15- 20-Jul	130,000	375,000	130,000	375,000	125,000	375,000
Aegean region	2-2.5	3	3	May 25- 25-Jun	500,000	1,800,000	500,000	1,850,000	500,000	1,850,000
Aydın region	4.5	4	4	May 20- 10-Jun	6,000	50,000	6,000	50,000	6,000	50,000
Thrace	4.8	4.1	4.1	June 15- 15-Jul	617,000	3,250,000	615,000	3,300,000	605,000	3,175,000
Other regions	1.4	1.6	1.5	June 15- 15-Jul	2,280,000	3,750,000	2,260,000	3,700,000	2,164,000	3,750,000
Total	2.3	2.5	2.3	May 15- July 15	7,800,000	19,500,000	7,615,000	19,000,000	7,235,000	19,000,000

Source: FAS Post Estimates

*MY 2019/20 are forecasts

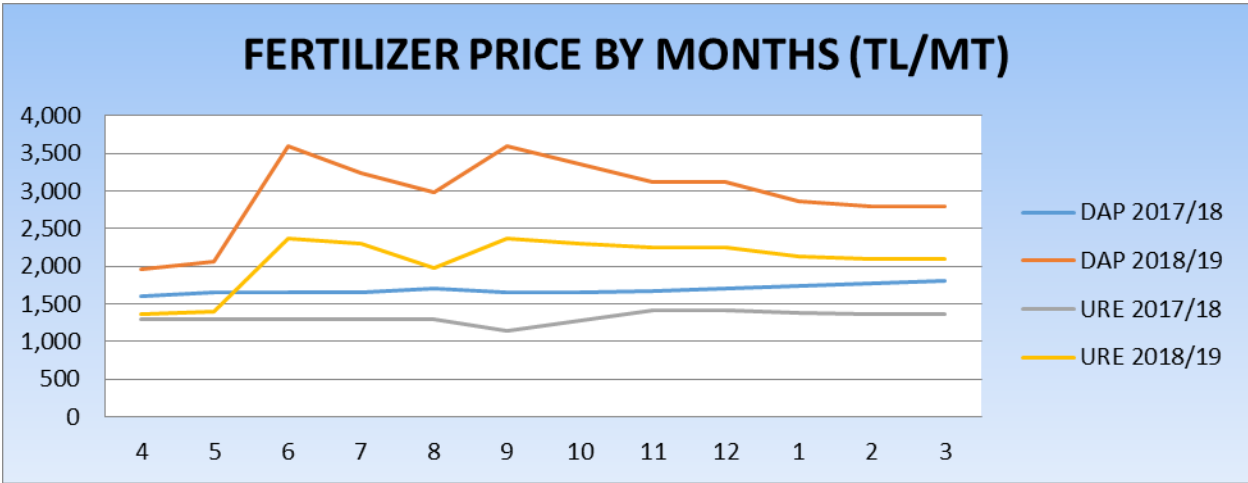
The **Cukurova region** has 260,000 ha of wheat planted in MY 2019/20, which is similar to last year. However, planting area decreased in plateaus but increased in irrigated areas. Soil moisture dramatically improved after January rains, benefiting the region's crop, however regional floods damaged some fields. The Cukurova region is expected to produce 1.4 MMT of wheat in MY 2019/20.

In the **Thrace region**, the wheat area will marginally decrease due to crop rotation patterns and better returns on other alternatives like sunflower and canola. So far, plant germination is normal because of good rainfall. The Thrace region is expected to produce 3.18 MMT of wheat in MY 2019/20.

In MY 2019/20, wheat planted area in the **Southeast Anatolia region** decreased four percent, about 34,000 ha, due to good returns on other alternatives like chickpeas, lentils, and barley. Especially in Harran, cotton has been gaining area from corn and wheat production for the last two years. Kiziltepe and Viransehir are the main areas in Southeast Anatolia where farmers planted wheat. In some areas in Gaziantep, there was rust observed in the wheat fields, which will probably negatively impact the yield. Due to weather problems, farmers could not harvest on time, which limited wheat sowing. Of the total 19 MMT of wheat which is expected to be produced in Turkey in MY 2019/20, 2 MMT is durum wheat.

Alternative crops, orchard development, greenhouse development, and vegetables with new irrigation areas are increasing their share of farm area every year in Turkey, which reduces wheat acreage.

Figure 2: Fertilizer Price by Months (TL/MT)



Source: Fertilizer Retailers

Fertilizer prices in Turkey rose significantly from 2017 to 2018 in parallel with their imported ingredients costs, which increased with TL depreciation. Farmers were very concerned about high fertilizer prices during the planting season. The DAP (compound fertilizer) price doubled to 3,355 TL/MT in October 2018, compared to 1,650 TL/MT a year ago. Likewise, the URE (nitrate fertilizer) price was 2,295 TL/MT in October 2018, compared to 1,275 TL/MT a year ago. Although fertilizer prices peaked in the autumn, the price went down slightly in parallel with exchange rate fluctuations. One of the main concerns of grain producers in the coming season will be the high cost of chemicals used for production. Besides fertilizer, this also includes the high costs of pesticides, which may lead to lower use of fertilizer and crop protection materials, and therefore lower yields.

As the governmental authority in the grain market, the Turkish Grain Board (TMO) was an active player in the wheat market in MY 2018/19. TMO announced MY 2018/19 grain intervention prices on May 12, 2018. TMO has procured grain in different ways, such as at commodity exchanges and licensed

warehouses, through its branches spread across different points in Turkey. They announced the intervention price for Anatolian Hard Red Milling Wheat (AKS) at 1,050 TL/MT (\$233/MT), durum wheat at 1,100 TL/MT (\$244/MT) and barley at 825 TL/MT (\$183/MT). As of May 2018, \$1 USD = 4.5 TL. Prices shown in the table below differed up to five percent depending on quality, which has been the case since 2015. Due to depreciation of the Turkish Lira in summer 2018, farmers were reportedly not happy with their returns. TMO procured about 2.4 MMT of wheat in MY 2018/19, and in MY 2017/18 they procured 2.6 MMT.

Table 3: TMO Grain Procurement between June 2018 and February 2019 (1000 MT)

TMO Grain procurement from June 2018 to February 2019							
Type of Grain	Durum Wheat	Milling Wheat	Barley	Rye	Oat	Corn	Paddy Rice
Quantity (thousand MT)	222	2,137	77	-	-	184	0.4

Source: Turkish Official Gazette

The GOT also gives support for fertilizer, gasoline, certified seed usage, and soil analysis – rates are similar to last year, except for fuel, which has increased (Table 4). However, farmers are asking for more support for 2019 due to increases in costs of production. Initial statements by the GOT suggest wheat and barley premiums will be increased in MY 2019/2020.

Table 4: Government support program for wheat (TL/MT)

Turkey: Government support for wheat producers					
Year	Certified seed (TL/ha)	Premium (TL/Ton)	Soil analysis (TL/ha)	Diesel (TL/ha)	Fertilizer (TL/ha)
2009	50	45	22.5	29.3	38.3
2010	50	50	25	32.5	42.5
2011	60	50	25	37.5	47.5
2012	60	50	25	40	50
2013	75	50	25	43	55
2014	75	50	25	46	60
2015	85	50	25	48.5	66
2016	85	50	110*		
2017	85	50	8	130	40
2018	85	50	8	170.3	40

Source: Turkish Official Gazette

* The GOT paid 110 TL for these three categories combined in 2016

Considering the depreciation of the Turkish Lira against the U.S. Dollar and other foreign currencies, TMO intervention prices in terms of value in dollars decreased from \$268 in MY 2017/18 to \$233 in MY 2018/19 (Table 5).

Table 5: Historic TMO Wheat Intervention Price and Government Premiums

Turkey: TMO milling wheat intervention prices and wheat premiums (TL/MT)

Year	Intervention price	Premium (Same as Table 4)
2007	425	45
2008	500	45
2009	500	45
2010	550	50
2011	605	50
2012	665	50
2013	720	50
2014	-	50
2015	862	50
2016	910	50
2016 (As of July 2016, \$1 USD = 3 TL)	\$303	\$16.6
2017	940	50
(As of July 2017, \$1 USD = 3.5 TL)	\$268	\$14
2018	1050	50
(As of May 2018, \$1 USD = 4.5 TL)	\$233	\$11

Source: Turkish Grain Board (TMO) www.tmo.gov.tr

Barley

Barley production for MY 2019/20 is forecast at 8 MMT, up 15 percent compared to the previous year, due to abundant rainfall after harvest and increased planting area. This forecast is assuming sufficient rain and favorable conditions from April to June. Barley fields are generally unirrigated and yields are directly linked to rainfall, but so far, field observations indicate good barley germination and plant development.

MY 2019/20 barley planting is projected to grow to 3.8 million hectares, up about 5 percent from MY 2018/19. The barley area increased particularly in unirrigated areas of the Central Anatolia region compared to last year. Good returns on barley and the high cost of chemicals (such as pesticides and fertilizers) used in production of other crops, influenced farmers' planting decisions. In the other important production area for barley, the Southeast/GAP region, the planted area remained the same.

Post revised the barley production estimate down to 7 MMT for MY 2018/19. The decrease is primarily due to late rains in springtime, which were not enough to eliminate winter drought effects in a few areas in Central Anatolia, despite increased planting area compared to the previous year.

Corn

In MY 2019/20, Turkish corn planting area forecast is down about two percent to 520,000 hectares and production to 5.5 MMT, assuming sufficient rain and favorable conditions, similar with the long term yield average.

The regions of the Southeast, Cukurova, Central Anatolia, and Aegean are the primary corn production areas in Turkey. MY 2019/20 corn planting in Turkey has already started in many regions. Normally the

first-crop corn will be planted from the first week of March until mid-April. However, wet weather is still preventing planting in Cukurova. Farmers may partly shift from corn to either cotton, peanuts, or soybeans, if the weather will not allow them to plant corn on time. There are not any issues in other regions at this time for first-crop corn planting.

Second-crop corn is a common product in Southeast Anatolia, especially in Sanliurfa and Mardin regions. Some farmers in Harran, a region in the Southeast, who used to plant milling wheat as a first crop and corn as a second crop, have switched back to cotton instead of double cropping. Due to increased cotton planted area replacing corn in the Southeast for the last two years, the second-crop corn harvest production expectation is also down. The decrease in total corn planting (for first and second crops combined) is projected to be about 10,000 ha in MY 2019/20.

Rice

The MY 2019/20 paddy rice area estimate is 100,000 hectares with production forecast of 910,000 metric tons, the same as the previous year, assuming high yields due to sufficient rain and favorable conditions. MY 2018/19 total rice area and production increased compared to the year before, and are estimated at 100,000 hectares and 910,000 MT, due to yield increases with new varieties and good weather.

Rice planting will start at the end of April 2018 and finish by the end of the next month. Edirne Province in the Thrace Region produces more than 50 percent of the country's paddy rice. In Central Anatolia, the regions of Cankiri and Corum produce nearly a quarter of Turkey's paddy rice. The Marmara region is also an important area for paddy production. There has been countrywide precipitation in the last few months, and according to the Turkish State Water Authority, the cumulative rainfall from October 2018 to February 2019 in the Thrace region was 428.4 mm, which is nine percent above the historical average level for that region of 394.6 mm. It is also five percent higher than last year. Sufficient precipitation and high water levels in the dams will enable farmers to plant as much rice as they did last year, but the exact numbers will be clear after May. The harvest normally begins in September and ends in October.

Rice farmers in Turkey always look for better varieties to meet consumer preferences and try to use more efficient farming practices to compete with imported rice. Farmers are taking advantage of opportunities to increase yields, and they have begun trying different varieties. Osmancik and Baldo varieties are the well-known varieties among farmers and consumers and have dominated the region for many years. However, new varieties such as Cammeo, Galileo, Ronaldo, Vasco and Luna are rising in popularity because of high yields and high milling rates (Table 6). Despite similar shapes of grain, the new varieties have different cooking and flavor characteristics. According to market sources, some farmers faced marketing issues with new varieties due to the fact that they have not gained recognition yet by the public.

Turkey has 25,000 paddy rice farms. Bandirma, Samsun, Edirne, Tekirdag and Ankara are the locations of the important commodity exchanges for rice. Turkey has more than 130 paddy rice millers with a yearly capacity of 2.8 MMT.

Table 6: Average yield and Milling Rate by varieties

Paddy Rice Varieties	Yield MT/ha	Milling Rate
Baldo	6.5-7.0	55%
Cammeo	7.0-7.5	57%
Osmancik (inc; Yatkin, Efe, Gala)	7.5-8.5	60%
Ronaldo	7.5-8.5	60%
Luna	9.5-10	68%

Sources: Industry Sources

CONSUMPTION

Wheat

The Turkish domestic wheat consumption forecast for MY 2019/20 is 18.2 MMT, up 200,000 MT from MY 2018/19.

The majority of wheat is utilized for human consumption as flour and pasta (some of which is exported), with the rest of the wheat is used as feed. Seed and industrial consumption remain the same, so the increase in consumption is in the food and feed use sector, which typically varies inversely to the amount of wheat produced and quality expectations. For example, in high production years, there is abundant low-quality feed wheat.

Consumption for food usage is forecast to increase in parallel with population growth and the return of high numbers of tourists to Turkey in MY 2019/20. According to Turkish National Statistics, the population growth rate of Turkey is 1.2 percent and the median age is 31. Turkey has a population of 81 million and is currently hosting more than three million refugees. In addition, according to Turkish State Institute, the number of foreigners visiting Turkey increased about 20 percent from 32 million in 2017 to 39 million in 2018. The sector is optimistic for the upcoming season and is hoping for 50 million foreign tourists in 2019. In MY 2019/20, despite the decreasing consumption trend for bread among high income consumers in metropolitan cities, total food, seed, and industrial (FSI) consumption forecast is expected to increase to 16.9 MMT, up 100,000 MT from the MY 2018/19.

In addition to high domestic consumption, increasing exports are the driving force of the wheat products industry. Turkey produces more than 21 MMT of a wide range of wheat products and exports wheat flour to 160 countries all over the world. According to industry sources, wheat flour exporters are requesting government assistance on a number of industry issues that are hindering exports. The industry is negatively affected by a [new policy](#) limiting exports of domestically produced wheat. In response to the sudden depreciation in the currency in 2018 and concerns that flour exports would rapidly increase, in September 2018 the Turkish government instituted a new policy that prevented exports of flour made from domestically grown wheat to try to halt a rise in [domestic flour prices](#). Through an amendment to the inward processing regime, Turkish millers are only able to export flour made from imported wheat. This caused disruption in the industry and losses for many millers, although exporters were able to partly offset their losses in the following months.

Exporters also are reportedly concerned about decreasing profits due to the economic environment as well high competition in the sector, and there are concerns that the situation may lead to consolidations

and acquisitions. The economic situation in Turkey generally also contributed to a major credit bottleneck with high rates and local banks' resistance to extend credit, which seriously affected liquidity.

There are 28 active pasta factories in Turkey with more than two MMT/year production capacity. Capacity use rate is around 80 percent. According to the Turkish pasta manufacturing industry, pasta consumption was about eight kilograms per person in 2018. Durum wheat demand has been very strong due to high levels of pasta products exports. There are also more than 140 factories for bulgur, biscuit/cookie/crackers, and semolina production in Turkey (Table 7).

Table 7: Wheat Products Industry Statistics

Wheat Products Industry			
Type of Product	Active Factories	Production Capacity/ Year (MMT)	Capacity use rate/ Year (percent)
Wheat Flour	640	35	50
Pasta	28	2.2	80
Bulgur	103	1.8	65
Biscuit/Cracker	32	1.8	60
Semolina	13	0.8	75

Sources: Industry Sources

The domestic wheat flour price increased about 25 percent in the past year, when comparing the price in February 2019 with the same month of 2018, as is seen Table 8. TMO's domestic sales of wheat for the flour producers seemed to have prevented sharp price increases in the domestic wheat flour market, despite the depreciation of Turkish Lira and strong exports.

Table 8: Average Wheat Flour Price at the Bandırma Commodity Exchange

WHEAT FLOUR PRICE (TL/50 kg)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	64.09	64.20	64.15	63.45	63.81	63.89	65.11	64.61	65.40	69.12	66.19	65.83
2017	67.48	67.53	66.36	68.55	68.83	68.89	69.98	73.35	68.60	69.85	67.81	68.31
2018	68.37	66.57	66.70	68.45	68.41	67.16	69.31	70.02	69.73	79.63	83.52	83.63
2019	83.30	85.40										

Source: Bandırma Commodity Exchange, Turkey

The wheat CIF import price in Marmara in February 2019 was \$222/MT for 11.5 percent protein, \$230/MT for 12.5 percent protein and US\$ 240/MT for 13.5 percent protein. Although these prices were up ten percent compared to previous year, they were down about ten percent from the peak price in the year. The average wheat flour export price was about \$304/MT in 2018, which is similar to the last two years.

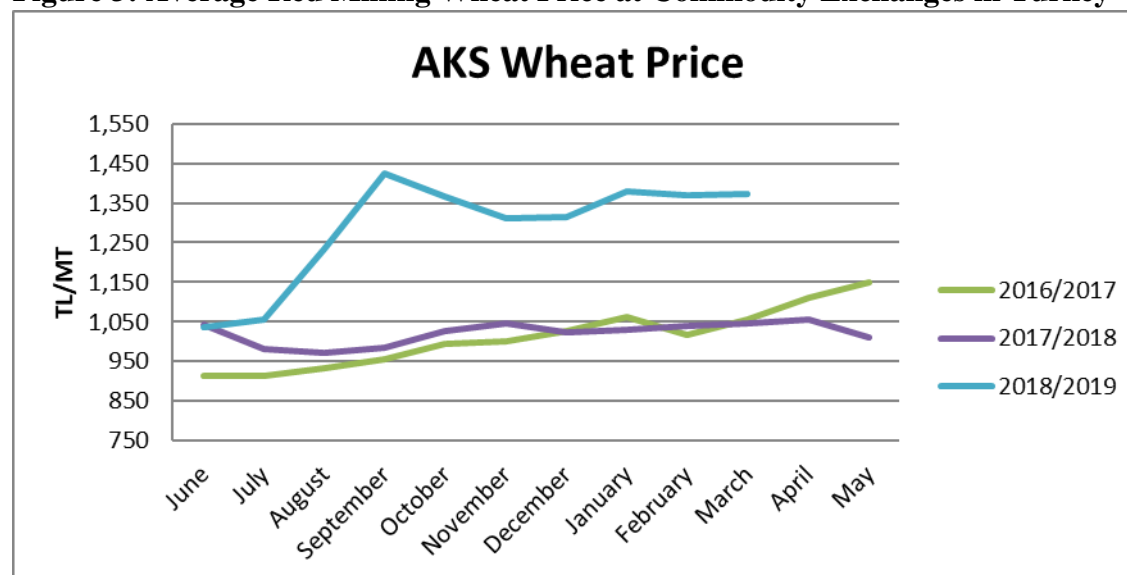
TMO was very active in the market so far in MY 2018/19. As indicated in the [Grain and Feed Update in October 2018](#) and [February 2019](#), TMO received two authorizations for import through presidential decrees, on August 15, 2018 and January 16 2019, in order to stabilize domestic prices during the year. TMO opened several tenders after the harvest until March 2019 for about 1 MMT of wheat in order to supply high quality wheat to the domestic market.

TMO [announced](#) in September 2018 that it would continue selling domestic wheat at around 1,100 TL/MT (from its stocks of approximately 3.5 MMT) to provide stability to the internal wheat and flour market. In an effort to control food price inflation in Turkey, TMO sold imported milling wheat to the millers for domestic market usage at a lower price than its import cost.

TMO again announced it was willing to sell imported milling wheat stocks (12.5 and 13.5 percent protein content) to domestic flour producers in October 2018 at a price of 1,275-1350 TL/MT (~\$237/MT- \$251/ MT), excluding VAT and handling charges. As can be seen in Figure 3, just after TMO started selling milling wheat stocks, the price stabilized.

The Polatli CME is the main commodity market exchange for red milling wheat in Turkey. High quality red milling wheat on the Polatli CME was about 1,500 TL/MT (\$284/MT) in February 2019 and was 1,080 TL/MT (\$286/MT) in February 2018. Average red milling wheat price at the main commodity exchanges was around 1,373 TL/MT (\$260/MT) in February 2019.

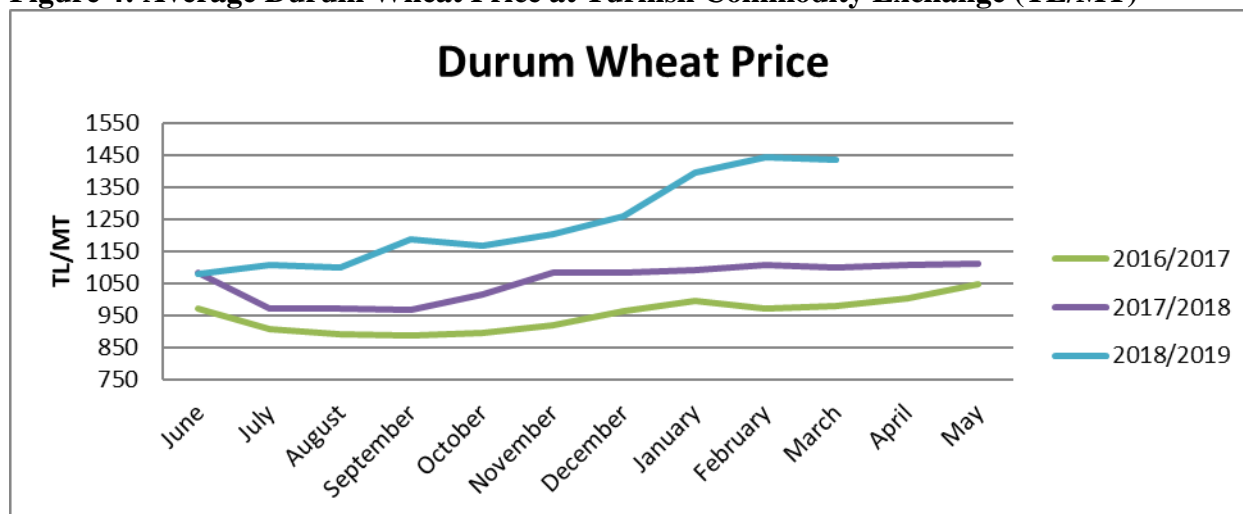
Figure 3: Average Red Milling Wheat Price at Commodity Exchanges in Turkey



Source: Price average from multiple commodity exchanges in Turkey

TMO also has been selling its domestic durum wheat stocks to pasta and semolina producers since August 2018 at a price of 1,150 TL/MT (around \$201/ MT), excluding VAT and handling charges. Despite domestic milling wheat prices, durum wheat prices steadily increased due to TMO's limited supply. Average durum wheat prices at the main commodity exchanges was around 1,433 TL/MT (~\$271/MT) in February 2019, which was 1,100 TL/MT (~\$291/MT) in February 2018.

Figure 4: Average Durum Wheat Price at Turkish Commodity Exchange (TL/MT)



Source:

Price average from multiple commodity exchanges in Turkey

Turkish wheat prices can be followed by using the major Commodity Exchanges' websites:

- 1) <http://www.polatliborsa.org.tr/>; 2) <http://www.ktb.org.tr> 3) <http://www.adanatb.org.tr/>
- 4) <http://www.esktb.org.tr/> 5) Also TMO's [Daily Market and Commodity Exchange Prices Bulletin](#) states recent commodity prices.

Table 9: Turkey Wheat Selling Price of TMO-purchased Grains after the harvest in MY 2018/19

TMO Selling Prices																
Type	Selling Price (TL/MT); and Price in \$USD/MT, using exchange rate at the time of price; Excluding VAT and handling charges															
	Aug. '18		Sep. '18		Oct. '18		Nov. '18		Dec. '18		Jan. '19		Feb. '19		Mar. '19	
Anatolian Hard	1090	1120	1090	1120	1090	1120	1090	1120	1120	1140	1120	1180	1120	1180	1120	1180
	\$190	\$195	\$171	\$176	\$186	\$191	\$203	\$209	\$211	\$215	\$209	\$220	\$212	\$223	\$206	\$217
Durum	1150	1180	1150	1180	1150	1180	1170	1200	1200	1230	1200	1250	1200	1250	1200	1250
	\$201	\$206	\$181	\$185	\$196	\$201	\$218	\$223	\$226	\$232	\$223	\$233	\$227	\$237	\$221	\$230
Feed	950		950		950		970		970		990		990		970	
Wheat	\$166		\$150		\$162		\$181		\$183		\$186		\$184		\$188	
Imported	1230		1230		1230		1275		1350		1275		1350		1275	
Milling	\$215		\$193		\$210		\$237		\$251		\$240		\$254		\$237	
\$/TL	5.73		6.37		5.86		5.37		5.31		5.37		5.28		5.44	

Source: Turkish Grain Board; www.tmo.gov.tr
<http://www.tmo.gov.tr/Upload/Document/istatistikler/tablolalar/2018icsatistr.pdf>

Barley

The barley consumption forecast for Turkey in MY 2019/20 is projected at 7.9 MMT due to a better production expectation. This is assuming that a competitive domestic price will increase the usage of barley in the feed sector. The barley consumption estimate for Turkey in MY 2018/19 was 7.5 MMT tons, up 12 percent from MY 2017/18, due to high production compared to the previous year.

There are two major sectors using barley in Turkey. One is the malting and beer industry and the other is the feed sector. Malting barley consumption, which is estimated at 900,000 MT, has been steady in recent years. Barley traditionally has been preferred as a feed grain in Turkey, especially for ruminants, and barley consumption for feed use is directly linked with price. Feed companies can compensate for any reductions in barley availability by using residual and waste products from the food industries, such as bran. However, the feed sector continues to grow, and this also drives continued demand for barley. It is expected that TMO's sales until the harvest will put pressure on barley prices.

Corn

There are two main users of corn in Turkey: the feed industry and the corn starch industry. Corn consumption moves in line with developments in the domestic feed sector. Alternative crop prices, imported feed sources price and availability, corn production, and the sector's demand for corn all impact corn consumption. MY 2018/19 consumption is estimated to be about 8.1 MMT and is expected to decrease to 7.95 MMT in MY 2019/20, due to an expected decrease in corn production, assuming stable demand from the feed sector and other corn related industries.

Utilization by the other corn related industry, the starch based sugar sector, is controlled by the government through production quota allocations, which also govern beet sugar production. The total production capacity of the starch based sugar industry is about 1.5 MMT. The sector typically has used 900,000 MT of domestic corn annually. The Turkish government announces quotas each year. For detailed information, please see [Turkey Sugar Annual Report 2018](#). Any decrease in corn use for starch based sugar production will reduce domestic corn consumption overall in Turkey, though it may be partially offset by utilization for other corn products like corn starch and the amount of starch based sugar produced for export. The impact of the slowdown in the Turkish economy on consumption of corn related products is not yet known. There also has been development of a few plants dealing with bioethanol production from corn in recent years. According to the sector, they use about 200,000 MT of corn annually.

Feed Sector

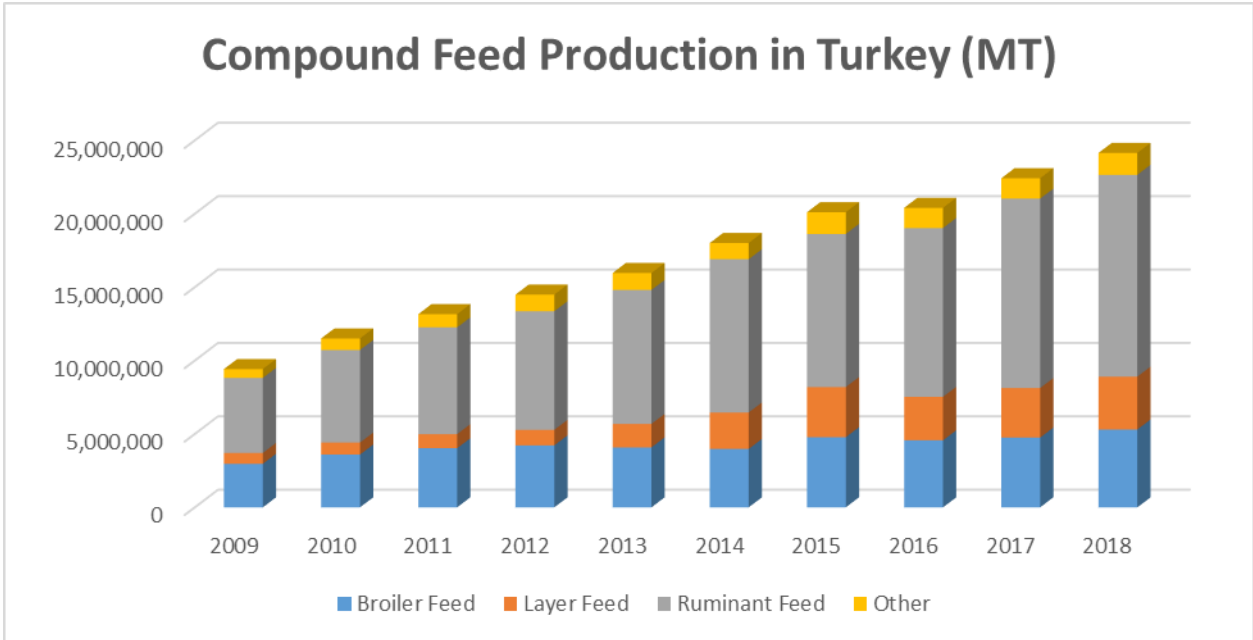
Starting from mid-summer 2018, the Turkish economy has been going through a slow-down period, including a major depreciation of the Turkish Lira. Local annual inflation reached twenty-one percent as of [January 2019](#) and food inflation reached about 30 percent. While the economic situation has impacted the agricultural sector in Turkey in the near term and been difficult for livestock and poultry producers this year, in the medium and long term, the demand for livestock, poultry, and aquaculture products is expected to continue to grow, ensuring continued demand for the raw materials for animal feed. In addition to the movement of people from rural to urban areas at a rapid pace, rising household income

has increased the demand for protein-based food in Turkey for many years. Tourism numbers have also begun to resume in 2017, which also drives the increase in consumption.

The feed industry has been able to quadruple in size over the last 15 years and has doubled in size the last seven years. This growth can be seen in Figure 5.

According to government and industry sources, there were about 500 feed factories active in Turkey with more than 30 MMT/year production capacity in total. The feed sector has grown on average 10 percent annually since 2010, despite a slowdown in 2016. The feed sector continues to grow, though with the economic situation, growth has slowed in 2018.

Figure 5: Composition of Compound Feed Production in Turkey (2009-2018)



Source: Turkish Feedmillers Association (Turkiyembir), www.yem.org.tr

Total compound feed production is 24.1 MMT, up eight percent compared to a year ago due to the increase in poultry and ruminant feed production, as can be seen in the table below. Previously unregistered feed mills are being newly incorporated into the data this year, accounting for some of the

growth in the production numbers in 2018 as well. Both layer and broiler industries are expected to grow moderately in the coming years due to growing domestic and export markets. Presently, the Turkish feed industry is among the world's top twelve producers and in the top five in Europe. According to feed sector representatives, the sector is projected to continue to grow in the coming years and has goals to reach 30 MMT by 2023.

Table 10: Compound Feed Production in Turkey by Sectors (Thousand MT)

Feed Production	2012	2013	2014	2015	2016	2017	2018
Broiler Feed	4,224	4,084	3,980	4,780	4,566	4,754	5,306
Layer Feed	1,059	1,602	2,481	3,417	2,958	3,370	3,600
Other Broiler Feed	671	685	672	912	785	759	859
Poultry Sector Total	5,954	6,371	7,133	9,109	8,309	8,883	9,767
Ruminant Feed	8,079	9,127	10,442	10,427	11,502	12,906	13,751
Other Feed	456	464	429	569	591	630	635
<i>Total</i>	<i>14,489</i>	<i>15,962</i>	<i>18,004</i>	<i>20,105</i>	<i>20,402</i>	<i>22,419</i>	<i>24,144</i>

Source: Turkiyembir, www.yem.org.tr

The Turkish livestock production has fluctuated over the last several years along with local milk and meat price fluctuations. The GOT has introduced many incentive programs to increase domestic livestock production and lower local red meat prices. Feed demand from the livestock sector has been increasing consistently during the last seven years.

Despite the turbulence in the Turkish economy after mid-summer 2018, Turkish poultry meat and layer industries rank among the world's top producers and exporters. According to government sources, the Turkish broiler meat industry continued to grow in CY 2018, up about two percent reaching 2.22 MMT. The industry is exporting about twenty percent of their production, and in calendar year 2018, poultry exports increased 13 percent, reaching 466,010 MT. Turkish chicken meat exports have grown almost five fold in the last decade, as can be seen in Table 11.

Of Turkey's broiler exports, more than half are to neighboring countries with the main destination being Iraq. The layer industry is also exporting about twenty percent of their production. Egg production on modern farms has doubled in the last ten years, because of increases in both domestic egg consumption and exports. The domestic consumption of eggs is estimated at about 230 pieces per person in CY 2018. The industry is continuing promotion programs to reach the European average consumption of 270 pieces. See the most recent [Poultry](#) and [Livestock](#) Reports for additional details.

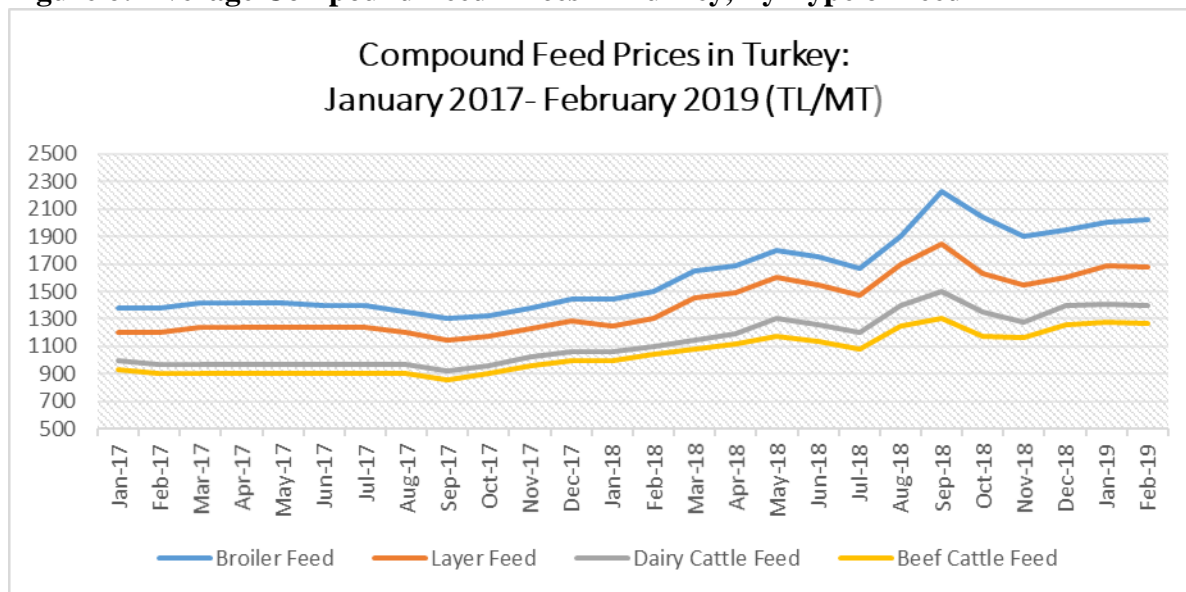
Table 11: Quantity and Destinations of Poultry Meat Exports from Turkey in Last Decade

Turkey Export Statistics										
Commodity: 0207, Meat And Edible Offal Of Poultry (Chickens, Ducks, Geese, Turkeys And Guineaes), Fresh, Chilled Or Frozen										
Year Ending Series: December, 2009 - 2018										
Partner Country	Quantity									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Iraq	50,587	62,081	119,150	165,257	204,640	214,232	167,316	165,379	220,795	242,970
Hong Kong	2,604	18,879	20,258	24,425	40,386	44,458	38,190	30,194	42,391	38,263
Russia	-	41	666	338	747	19,945	21,515	-	39	857
Tajikistan	10,072	9,818	12,512	14,552	16,758	20,186	17,738	15,672	18,054	2,381
Syria	171	113	672	765	23,787	19,386	17,287	12,441	17,648	9,801
Libya	-	-	9,399	12,800	10,314	11,547	15,983	10,953	10,791	44,315
Congo Dem. Rep.	54	1,768	4,349	5,026	7,559	11,766	9,767	7,455	11,233	9,145
Angola	642	716	2,146	4,545	5,879	7,515	8,205	5,319	6,342	10,844
United Arab Emirates	-	86	387	489	1,401	3,210	8,112	10,029	14,732	15,112
Congo	1,983	2,895	6,335	12,624	6,880	9,234	5,827	9,361	19,368	13,544
Other	48,531	42,958	60,430	63,707	45,285	43,033	28,183	52,239	51,159	78,778
Total	114,644	139,355	236,304	304,528	363,636	404,512	338,123	319,042	412,552	466,010

Source: Global Trade Atlas; Note that chicken paw exports are included in this table.

The price changes for feed move in parallel with U.S. Dollar-Lira exchange rates. Since many of the feed materials are imported and are internationally traded products, they became more expensive in Turkish Lira terms, as can be seen in the figure below. For instance, the broiler feed price was 1,440 TL/MT (\$380) in January 2017, and it was 2,000 TL/MT (\$378) in January 2018. Macroeconomic problems began to affect the currency in July 2018, and though the currency has now strengthened, last year's depreciation continues to impact business. Some feed raw materials prices have doubled in the past two years, in Turkish Lira terms.

Figure 6: Average Compound Feed Prices in Turkey, By Type of Feed



Source: Turkiyembir, www.yem.org.tr

Table 12: Recent Feed Prices by Month in Turkey (TL/MT)

Turkey: Feed Price (TL/MT)										
	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19
Broiler Feed	1800	1750	1665	1900	2225	2040	1900	1950	2000	2020
Laver Feed	1600	1550	1475	1700	1845	1630	1545	1600	1690	1675
Dairy Cattle Feed	1300	1260	1200	1400	1500	1350	1280	1400	1410	1400
Beef Cattle Feed	1170	1140	1085	1250	1300	1170	1160	1260	1280	1270

Source: Turkiyembir, www.yem.org.tr

The feed sector in Turkey is dynamic and always seeks new alternatives for better rations. Oilseeds and their byproducts are also widely used in the feed sector. For detailed information, please see [Turkey Oilseeds and Products Annual Report](#). Feed companies change their feed ratios to obtain the protein amounts needed in their feed products, and imported residues are becoming more popular as a substitute. Depending upon the costs of raw materials used in feed, feed prices vary throughout the year. Depending on international price and availability of products to access Turkey, domestic feed raw materials prices are also changing year to year. For instance, the average price of distillers dried grains with solubles (DDGS) in the domestic market was \$224/MT in 2017 and \$291/MT in 2018, which somewhat reduced its use in feed in 2018.

Rice

Rice consumption in Turkey in MY 2019/20 is projected to grow marginally to 800,000 tons. Demand is driven by the growing population and increasing numbers of tourists. The growth will be partly offset by reductions in consumption by the domestic population because of perceptions by some that rice is less healthy and has an inconsistent quality. Rice consumption in Turkey in MY 2018/19 is estimated at 790,000 tons, the same as the MY 2017/18 estimate.

In Turkish cuisine, rice is irreplaceable for making pilaf, one of the most common dishes in Turkey. Turkish consumers prefer the well-known medium grain varieties of Baldo, Osmancik, and Calrose for home consumption. However, other imported varieties are widely used by the food service sector in recent years, due to their competitive prices.

Another factor that influences consumption of rice is Turkey's tourism sector. The sector is optimistic about the upcoming tourism season after a tough two years with a 30 percent decrease in tourist numbers since 2016. According to the Turkish Statistical Institute, the number of foreigners visiting Turkey

increased about 20 percent from 32 million in 2017 to 39 million in 2018. The sector is optimistic for upcoming season, with hopes for 50 million foreign tourists in 2019.

However, these gains in tourist consumption of rice are partly offset by lower demand than usual from the retail and food service sectors due to some ongoing negative perceptions from consumers about rice as an unhealthy food in recent years. The other ongoing issue for consumers is blended imported rice. Some rice companies have been blending lower priced imported rice with domestic varieties to have better retail prices. Another risk for consumption is food inflation. People with moderate incomes may shift from rice pilaf to bulgur pilaf in their daily diets in the future.

TRADE

Wheat

According to the official statistics of Turkey, during the first eight months of MY 2018/19, total wheat imports were about 3 MMT. For MY 2019/20, wheat imports into Turkey are expected to reach 5.5 MMT, due to stable demand from wheat product producers.

Russia (4,393,791 MT), Ukraine (382,213 MT) and Lithuania (376,006 MT) were the largest wheat suppliers for Turkey in MY 2017/18. Russia is the main supplier of milling wheat to Turkey with 2.6 MMT in MY 2018/19 so far, followed by Ukraine with 139,020 MT of milling wheat during the same period. Turkey imported 255,000 MT of durum wheat during the first eight months of MY 2018/19.

Table 13: Turkish Wheat Imports (Origin)

Countries	MY 2016/17	MY 2017/18	MY 2018/19*
Russia	2,259,892	4,393,791	2,667,513
Ukraine	169,464	382,213	139,208
Kazakhstan	87,424	302,920	119,569
Canada	144,499	117,485	10,999
Lithuania	493,681	376,006	30,112
Greece	106,449	2,785	11,513
Italy	115	27,496	72
Latvia	89,209	149,036	-
Other	1,013,575	197,166	11,046
<i>Total</i>	<i>4,364,308</i>	<i>5,948,898</i>	<i>2,990,032</i>

* June 2018-December 2018

Source: Turkish Statistics Institute, does not include transshipments

For MY 2018/19, wheat exports (including wheat products, such as flour) from Turkey are expected to be 6.3 MMT, due to strong sales into neighboring countries and African countries in the first seven months of the marketing year.

For MY 2019/20, total wheat exports from Turkey, including wheat products, are forecast at 6.5 MMT, up 300,000 MT from 2019/20, assuming exporters will keep their market share in key markets and demand for pasta and bulgur will increase.

Table 14: Wheat foreign trade data in MY 2017/18 and MY 2018/19

TURKEY: WHEAT FOREIGN TRADE (excluding wheat products)				
MONTH	IMPORT MY 2017/18	IMPORT MY 2018/19	EXPORT MY 2017/18	EXPORT MY 2018/19
	(MT)	(MT)	(MT)	(MT)
June	255,674	141,760	140	400
July	165,762	261,611	3,009	200
August	276,090	414,283	11,237	9,850
September	597,354	480,853	1,600	2,464
October	421,397	552,138	3,405	9,922
November	546,485	654,311	19,501	20,294
December	894,457	485,076	1,342	13,158
<i>Subtotal (June-Dec.)</i>	<i>3,157,219</i>	<i>2,990,032</i>	<i>40,234</i>	<i>56,288</i>
January	822,727		7,304	
February	614,157		786	
March	551,262		202	
April	501,129		220	
May	302,404		5,200	
MY TOTAL	5,948,898	5,500,000*	53,946	75,000*

*forecast, does not include wheat products

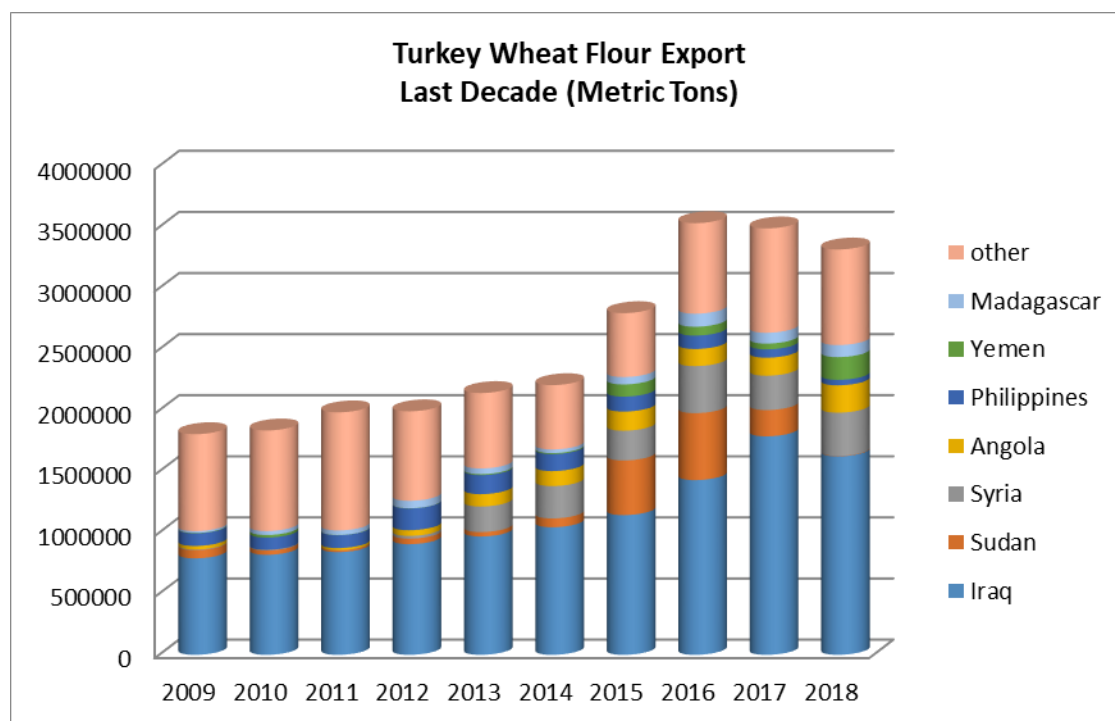
Source: Turkish Statistics Institute, does not include transshipments

According to exporter reports, transshipments from Black Sea Countries to Middle East and North African countries are estimated at about 250,000 MT in MY 2017/18. Transshipments typically go through the Mersin region and the bonded warehouses there.

With access to comparably cheap wheat from the Black Sea region and a strategic location, Turkey acts as a hub for trade with neighboring countries. As a result, Turkish flour exports have surged, reaching almost \$1 billion in 2014 and surpassing two million metric tons, making Turkey the world's largest exporter of flour with more than 100 destinations in the world with the help of Turkey's inward processing regime (IPR) policy.

A number of Turkish agricultural exports benefit from Turkey's IPR policy, which allows duty free imports of wheat when used for exporting wheat products, such as wheat flour, pasta and biscuits. Outside of this inward processing regime, the applied custom rate for wheat is now 45 percent. Almost all wheat imports in MY 2018/19 have been done with zero tariffs under the scope of the IPR by wheat product exporters, though TMO's imports are not done through the IPR.

Figure 7: Turkey Wheat Flour Exports over the Last Decade, Calendar Year



Source: Global Trade Atlas (GTA); Calendar year data: January – December

The Turkish lira has lost more than 40 percent of its value against the U.S. dollar over the past year. As a response to the currency depreciation and ongoing domestic food price inflation problems, Turkey has put some new policies in place, including limiting exports of some wheat flour and some feed materials, such as broken grains. In order to stabilize domestic prices, Turkey blocked exports of flour made from domestically-grown wheat starting the first week of September 2018. In the scope of a new amendment to the IPR, Turkish millers are only able to export flour made from imported wheat. After this amendment, it took almost two months for millers to adjust to the new system. This was particularly difficult for those millers located in Southeast Turkey, who generally utilize domestic wheat for flour exports. Flour exporters are compensating for these losses with sales in the last quarter of 2018. The growth in Turkish flour exports over time and the recent slowdown can be seen in can be seen in Figure 7.

Looking at the monthly export figures below, the impact of the government's policy amendment in September 2018 can be seen by the reduction in Turkish flour exports that month.

Table 15: Turkish Wheat Flour Exports

Quantity of Wheat Flour Exports MT by Month				
MONTH	MY 2016/17	MY 2017/18	MY 2018/19*	% Change 2017/18-2018/19
June	243,801	238,698	254,172	6%
July	240,754	286,931	353,592	23%
August	387,423	349,872	321,597	-8%
September	304,075	298,474	203,216	-32%
October	336,916	296,261	312,536	5%
November	289,703	270,855	280,239	3%

December	292,015	263,088	251,962	-4%
<i>June-Dec Total</i>	<i>2,094,687</i>	<i>2,004,179</i>	<i>1,977,314</i>	<i>-1%</i>
January	288,466	251,024		
February	289,332	273,267		
March	344,204	290,207		
April	260,391	267,340		
May	303,052	259,078		
<i>Total</i>	<i>3,580,132</i>	<i>3,345,095</i>	<i>3,250,000**</i>	<i>-3%</i>

* June 2018-December 2018; **Forecast

In MY 2017/18, Iraq (1,718,764 MT), Syria (321,069 MT) and Angola (161,565 MT) were the main consumers of Turkish wheat flour (See Table 16). Neighboring countries are still the largest markets, making up over 50 percent of exports. In the first seven months of MY 2018/19, Turkey exported about two MMT of flour, slightly under the amount from the same period last year (Table 15). However, ongoing financial issues with neighboring countries, especially the largest customer, Iraq, are provoking anxiety in the current and next marketing year. Additionally, there are new flour mill investments in competing countries that have their own raw material, such as Ukraine, and new mills in prominent markets like Sudan. These trends are a concern for Turkish flour exporters.

Table 16: Wheat Flour Export Markets

Major Wheat Flour Markets of Turkey					
Partner Country	Quantity (MT flour)			% Share	Quantity MT*
	MY 2015/16	MY 2016/17	MY 2017/18	MY 2017/18	MY 2018/19*
Iraq	1,313,700	1,591,469	1,718,765	51%	955,562
Syria	281	365	321,069	10%	218,318
Yemen	103,527	88,463	57,516	2%	145,026
Angola	142	164	161,565	5%	154,728
Sudan	593	425	5,846	0%	1,975
Other	929	1,035,346	1,080,334	32%	501,705
TOTAL	3,258,373	3,580,132	3,345,095	100%	1,977,314

*June 2017-December 2017; **Source: Global Trade Atlas (GTA)**

After flour, pasta production is an important industry in Turkey's wheat products sector. Turkey's pasta exports doubled over the past five years. Pasta exporters have been expanding their markets in Africa with the help of a 2015 amendment to the IPR. The amendment allows tariff-free imports of milling wheat up to 30 percent, if producers blend milling wheat and durum wheat in order to produce pasta for

the African market. They can only sell 100 percent durum wheat pasta in Turkey. Turkey did not put any limitation for pasta producers' exports in September 2018 as they did for flour exporters.

Table 17: Quantity of Pasta Exports from Turkey (MT of Pasta)

Quantity of Pasta Exports			
Month	MY 2016/17	MY 2017/18	MY 2018/19
June	83,943	87,250	87,235
July	61,896	80,258	103,853
August	83,091	96,094	86,014
September	70,984	87,707	105,232
October	69,145	92,050	103,193
November	68,877	97,654	109,314
December	63,813	102,344	112,509
<i>Sub, Total Jun-Dec</i>	<i>501,749</i>	<i>643,357</i>	<i>707,350</i>
January	74,650	95,508	
February	71,630	84,659	
March	83,355	101,846	
April	85,455	101,415	
May	96,809	116,822	
MY TOTAL	913,648	1,143,607	1,250,000*

*forecast; **Source: Global Trade Atlas (GTA)**

In MY 2018/19, Benin (85,908 MT), Angola (101,149 MT) and Somalia (63,852 MT) are the main buyers of Turkish pasta in first seven months of MY 2018/19. The total pasta exports are up ten percent compared to the same period in 2017/18. The pasta exporters are continuing to increase exports to markets in Africa.

Table 18: Quantity of Pasta Exported in 2016/17, 2017/18 and 2018/19*

Quantity of Turkish Pasta Exported by Destination Countries (MT)			
Countries	MY 2016/17	MY 2017/18	MY 2018/19*
Benin	99,572	150,167	85,908
Angola	113,142	131,930	101,149
Somalia	86,903	110,373	63,852
Togo	39,481	78,422	54,507
Venezuela	8,261	38,577	41,896
Libya	23,808	17,041	6,614
Japan	50,773	49,972	28,725
Ghana	35,857	57,729	35,695
Other	455,509	508,138	269,824
Total	913,648	1,143,607	707,350

*June 2018-December 2018; **Source: Global Trade Atlas (GTA)**

According to official figures, Turkish pasta exports increased to 1,143,607 MT in MY 2017/18, up about 25 percent compared to MY 2016/17. Turkey is expected to export 1,250,000 MT of pasta in MY 2018/19 due to expanded markets in African countries.

Another growing export sector is bulgur. According to official figures, although Turkish bulgur exports were 163,371 MT in first seven month of MY 2017/18, they increased to 178,402 MT from June 2018 to December 2018 in MY 2018/19. Turkey is forecast to export 270,000 MT of bulgur in MY 2018/19 due to strong demand from neighboring countries and it is projected to continue in MY 2019/20.

Table 19: Quantity of Bulgur Exported in 2016/17, 2017/18 and 2018/19*

Quantity of Turkish Bulgur Exported by Destination Countries (MT)			
Countries	MY 2016/17	MY 2017/18	MY 2018/19*
Iraq	75,996	75,935	53,792
Syria	68,821	48,980	43,548
Saudi Arabia	9,985	8,628	7,185
Germany	14,533	13,180	10,577
Other	106,421	88,006	63,300
Total	278,541	247,909	178,402

*June 2018-December 2018; **Source: Global Trade Atlas (GTA)**

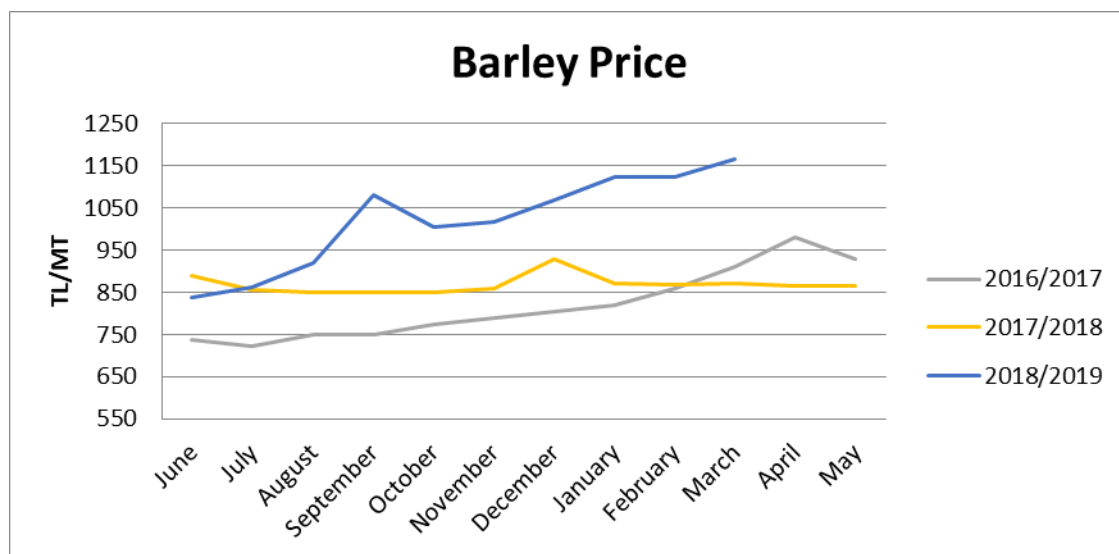
In MY 2017/18, Turkey exported about 6.2 MMT of wheat products. It is expected that wheat product exports will be higher in MY 2018/19, compared to the previous year, mainly due to growth in pasta exports and other non-flour wheat products exports, despite a decrease in flour exports. However, all wheat product exporters are concerned about decreasing unit prices as well decreasing profits due to high competition in the sector, and they worry that it may cause consolidations and acquisitions in the short run.

Barley

For MY 2019/20, barley imports into Turkey are forecast at 100,000 MT, due to stable demand from the feed sector despite large domestic supplies. In parallel with the Turkish Lira's depreciation in August 2018, domestic barley prices increased rapidly in TL terms, and remained stable with the help of TMO's imported barley after October 2018.

The barley price at the Polatli CME in February 2019 was 1100 TL/MT (~\$208/MT) compared to around 872 TL/MT (~\$242/MT) a year before. As of February 2019, the price of imported barley was CIF Marmara \$208/MT, compared with \$218/MT a year ago. The price of imported barley reached \$260/MT in fall 2018, and as seen in the figure below, barley prices have been increasing in recent months due to decreasing stocks.

Figure 8: Average Barley Price at Commodity Exchanges in Turkey (TL/MT)



Source: Price average from multiple commodity exchanges in Turkey

Through a governmental authorization, TMO imported 217,000 MT of barley through tenders during MY 2018/19 in order to meet sectoral demand and regulate domestic prices.

Table 20: Turkish Barley Imports (Origin)

TURKEY: BARLEY IMPORTS (ORIGIN)			
Countries	MY 2016/17	MY 2017/18	MY 2018/19*
Russia	1,476	446,126	142,369
Lithuania	0	0	23,475
France	8,404	10,603	10,380
Ukraine	61,373	157,582	6,325
Spain	0	0	29,969
Hungary	25,507	35,659	11
Other	43,699	103,089	9,013
<i>Total</i>	<i>140,459</i>	<i>753,059</i>	<i>221,542</i>

* June 2018-December 2018 (partial year)

Source: Turkish Statistics Institute, does not include transshipments

For MY 2018/19, barley imports into Turkey are expected to reach 300,000 MT due to TMO's imports. Russia is the main supplier of barley to Turkey with 142,369 MT in MY 2018/19 so far, followed by Spain with about 30,000 MT of barley during the same period.

Table 21: Turkey Barley Trade

TURKEY: BARLEY FOREIGN TRADE				
MONTH	IMPORT MY 2017/18	IMPORT MY 2018/19	EXPORT MY 2017/18	EXPORT MY 2018/19
June	445	0	0	0
July	107,154	0	0	2,000
August	47,161	0	0	6,100
September	96	11	56	2,603
October	56,821	3,102	116	131
November	24,138	90,699	52	760
December	12,179	57,112	0	3,991
<i>Sub, Total Jun-Dec</i>	<i>247,994</i>	<i>150,924</i>	<i>224</i>	<i>15,585</i>
January	156,096	70,618	0	3,300
February	155,491		0	
March	140,336		25	
April	48,628		0	
May	4,514		0	
MY TOTAL	753,059	300,000*	249	20,000*

* Forecast

Source: Turkish Statistics Institute, does not reflect transshipments

Turkey limited barley exports in September 2018 as a measure against food inflation. However, it is expected to export about 20,000 MT of barley to neighboring countries, including Iraq, Syria and the Turkish Republic of Northern Cyprus. For MY 2019/20, Post forecasts barley exports at 100,000 MT because of a bumper crop, assuming demand from neighboring countries.

Corn

For MY 2019/20, corn imports into Turkey are expected to remain high and are forecast at 2.4 MMT, due to insufficient domestic supply and stable demand from the feed sector.

Due to food inflation related issues, TMO received authorization through a presidential decree published in the [Official Gazette](#) on January 16, 2019 to import up to 2.6 MMT of wheat, barley, corn, pulses and rice at zero customs duty, in order to stabilize domestic prices during the year. This authorization is valid until December 31, 2019.

Table 22: TMO's zero duty quotas (January 16, 2019)

HS code	Product	Tariff Quotas (MT)	Tariff (%)

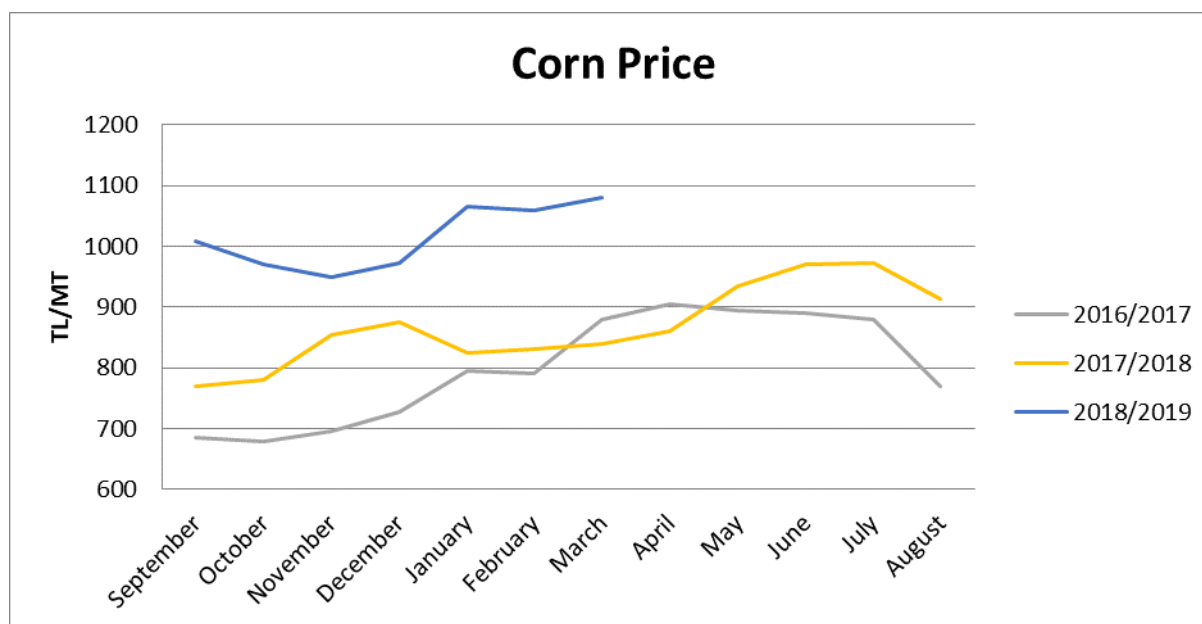
07.13	Pulses	100,000	0
10.01	Wheat	1,000,000	0
10.03	Barley	700,000	0
10.05	Corn	700,000	0
10.06	Rice	100,000	0

In this regard, TMO issued two tenders for 342,000 MT of corn on January 18, 2019 and 300,000 MT of corn on March 12, 2019. Corn imports are forecast at 2.2 MMT in MY 2018/19 assuming a stable demand from poultry sector.

TMO announced the MY 2018/19 corn procurement price on October 14, 2018 at 950 TL/MT (~\$158/MT), compared to 760 TL/MT in MY 2017/18 (which was \$215/MT, when \$1 = 3.5 TL as of the announcement date in September 2017). Domestic corn prices had been fluctuating between 850 TL/MT to 1300 TL/MT before TMO's announcement. Farmers complained about TMO's late procurement price announcement, which in the past they used to announce earlier in the harvest season, such as in August.

The Adana CME is the main commodity market exchange for corn in Turkey. As with other commodities, corn prices also increased compared to the previous year (in Turkish Lira terms). The corn price on the Adana CME is about 1100 TL/MT (~\$207/MT) in February, 2019 which was 830 TL/MT (~\$218/MT) a year ago.

Figure 9: Average Corn Price in Turkey at Commodity Exchanges



Source: Price average from multiple commodity exchanges in Turkey

According to official statistics, total corn imports during the first months of MY 2018/19 were just about 100,000 MT, which is quite a bit lower compared to the previous years. TMO's early imports and expectations for next harvest impacted import decisions.

Table 23: Corn foreign trade of Turkey by Month (MT)

MONTH	IMPORT MY 2017/18	IMPORT MY 2018/19	EXPORT MY 2017/18	EXPORT MY 2018/19
September	30,847	26,840	13,367	7,489
October	87,571	20,982	14,177	2,870
November	161,289	21,113	6,434	6,564
December	413,532	27,903	8,977	3,834
January	404,179		16,494	
February	278,782		2,982	
March	358,145		4,128	
April	137,692		3,561	
May	275,140		3,359	
June	337,201		3,833	
July	207,847		3,406	
August	26,908		7,282	
MY TOTAL	2,719,133	2,000,000*	88,000	50,000*

*Forecast

Source: Turkish Statistical Institute; *Note this chart does not include transshipments through Turkey. It includes corn for seed.*

Russia (1,585,198 MT), Ukraine (743,924 MT) and Romania (315,193 MT) were the largest corn suppliers for Turkey in MY 2017/18. As of December 2018, Turkey had imported 96,838 MT of corn in MY 2018/19. According to market sources, at least 300,000 MT of corn is also on its way to Turkey.

Transshipments were moderate in MY 2018/19. According to market sources, 300,000 MT of corn was transferred to neighboring countries from bonded warehouses in Mersin and Iskenderun in the first four months of MY 2018/19.

Table 24: Turkey Corn Imports by Country (MT)

Turkey: Corn Imports, Year Ending: August				
Partner Country	Quantity MT			
	MY 2015/16	MY 2016/17	MY 2017/18	MY 2018/19*
Russia	402,190	450,267	1,585,198	44,001
Romania	93,506	219,835	315,193	12,850
Ukraine	10,050	112,439	743,924	26,865
Other	57,465	204,146	74,818	13,122
Total	567,233	1,389,940	2,719,133	96,838

*September 2018-December 2018 (partial year)

Source: Turkish Statistical Institute, Note this chart does not include transshipments through Turkey.

Turkey exported 88,000 MT of corn in MY 2017/18, including seeds. According to the Turkish Statistical Institute, from September 2018 to December 2018, Turkey exported 20,757 MT of corn, of which 6,328 MT was seed. The main destinations were Iraq (8,072 MT), Syria (1,648 MT) and Jordan (1,058 MT). For MY 2019/20, corn exports forecast is 50,000 MT, similar to MY 2018/19, due to stable demand from neighboring countries.

Rice

For MY 2019/20, the forecast for rice imports to Turkey is 210,000 MT, milled equivalent, up 30,000 MT compared to the previous year, in parallel with growth in consumption and a limited amount of domestic rice exports.

In the first four months of MY 2018/19 (September-December 2018), Turkey imported about 10,134 MT of rice, milled equivalent. It is expected that for MY 2018/19, total rice imports to Turkey will be 180,000 tons, milled equivalent, assuming Turkey's economic situation in 2019 will not have a large impact on consumers' preferences.

According to Turkish statistics, Turkey imported about 19,708 MT of rice, milled equivalent, during the first four months of MY 2018/19, of which about 4,798 MT was milled rice, 15,968 MT was paddy rice and 1,179 MT was brown rice (See Table 25).

Table 25: Rice import; classified by process

MY 2017/18					MY 2018/19			
	100610 Paddy	100620 Brown	100630 Milled Rice	Milled Equivalent	100610 Paddy	100620 Brown	100630 Milled Rice	Milled Equivalent
September	5,460	-	8,871	13,676	-	-	700	700
October	3,086	2,710	14,024	18,297	-	244	1,334	1,505
November	20,801	5,732	16,175	36,204	7,285	750	1,235	7,369
December	19,600	4,502	17,650	35,893	10,861	346	1,529	10,134
January	6,429	4,256	16,699	24,629				
February	2,485	5,476	18,487	24,234				
March	5,335	2,073	16,865	22,424				
April	1,568	2,555	20,977	23,973				
May	9,140	7,671	20,013	32,421				
June	9,663	2,178	42,638	51,603				
July	3,943	1,262	50,439	54,359				
August	2,915	-	146	2,391				
Total	90,425	38,415	242,984	340,102	18,146	1,340	4,798	19,708

Source for import data: Turkish Statistical Institute

Turkey imported 340,102 MT of rice in MY 2017/18, milled equivalent. China (72,214 MT), Greece (44,139 MT), Italy (32,381 MT), India (31,618 MT), Russia (28,881 MT) and the United States (23,421 MT) continue to be the main rice suppliers for Turkey. The most imported rice varieties were medium grain ones. Also some lower-priced long grain varieties were imported for lower price-point consumers or catering sectors. The quality of imported rice differs dramatically according to origin, and retail prices reflect these differences with some varieties being triple the price of other varieties or origins.

Rice traders use the benefits from free trade zones very actively. Turkish importers store the rice in bonded warehouses for 2-3 months until they find buyers to delay advance payment of the tariff and VAT. Therefore, when comparing importer and exporter data regarding Turkish rice trade, there are some differences due to transshipments and stocks held in free zones.

Some part of paddy rice (rice in the husk) imports are done with zero tariffs under the inward processing regime (IPR) for export purposes. This IPR process for the paddy rice sector is similar to the one used in the wheat sector. Rice exporters gain import certificates when exporting milled rice, which allows them to import paddy rice with zero tariff in order to produce rice for exports. The main target is to support Turkey's millers to become the rice miller for the region. Paddy millers are concentrated in the Mersin region, where they are closer to Middle Eastern countries. They import paddy rice, mill it, and export it to Middle East and North African countries. According to market sources, 25 percent of the paddy rice imports are done under the IPR for export purposes.

Besides traders, another prominent player in the rice market is the Turkish Grain Board (TMO). As indicated before, TMO received two authorizations through a presidential decree to import rice at zero customs duty, in order to stabilize domestic prices during the year.

In the scope of this authorization, through a tender held on December 25, 2018, TMO is trying to buy 35,000 MT of paddy rice (of which about 30,000 MT is Calrose) and 5,000 MT of milled rice. According to market sources, the bidder has not executed the 30,000 MT of US paddy rice yet. In addition, TMO also issued a tender for 30,000 MT of milled rice in March 2019.

Turkey generally imports rice from United States in the form of paddy rice. Importers remain concerned about the risk of possible rejection of rice, which is not genetically engineered, if there is any presence (such as dust) of genetically engineered (GE) corn or soy products in the cargo. Even at unavoidable low levels, any detection of a GE product, even if approved for feed use in Turkey, in a shipment of rice can cause the shipment to be rejected, as there are no GE products approved for food consumption in Turkey. Another issue which has impacted imports of rice from the United States and other origins, and remains a concern for importers, is the white tip nematode on Turkey's pest list. Though this pest exists in Turkey, the GOT rejects consignments if this pest is found.

According to the Turkish Statistical Institute, Turkey imported more than 13,303 MT of paddy rice and 4,118 MT of milled rice from the United States in MY 2017/18, milled equivalent. Paddy rice imported from the United States is generally used in the domestic market as consumers prefer it due to its high quality.

In the first four months of MY 2018/19, exports to Belgium were 4,335 MT (2,894 MT in total for MY 2017/18), Iraq were 2,581 MT (5,270 MT in total for MY 2017/18), and Italy were 1,410 MT (3,945 MT in total for MY 2017/18). According to exporter reports, transshipments to Middle East and North African countries are estimated at about 250,000 MT in MY 2017/18. Transshipments typically go through Mersin region and the bonded warehouses there, as well as Iskenderun Port. Mersin is also a hub for humanitarian aid going to the Middle East. While cheaper Asian-origin rice varieties were preferred by Syria and African countries, higher quality ones were sold to Iraq and the Gulf region.

Paddy rice prices differ by variety in Turkey. Despite the fact that some varieties have better yields and milling rates, prices are set according to consumer preferences. Paddy rice prices increased around 35-40 percent compared to last year.

The Turkish Grain Board (TMO) announced the intervention price for Osmancik paddy rice at 2,600 TL/MT on October 17, 2018. TMO also continues to sell Type A (Baldo, Cammeo, Fortuna, Yerua) milled rice variety at 5.7 TL/Kg, Calrose at 4.5 TL/Kg, and Luna at 4.5 TL/Kg in TMO's retail stores.

Table 26: Bulk Price by Varieties in Domestic Market

Paddy Rice Varieties	February 2018	February 2019
Baldo	2800-2900 TL/Ton	3700-4000 TL/Ton
Cammeo	2400-2500 TL/Ton	3700-3900 TL/Ton
Osmancik (inc; Yarkin, Efe, Gala)	2100-2250 TL/Ton	3200-3300 TL/Ton
Ronaldo	2000-2100 TL/Ton	2700-2900 TL/Ton

Luna	1900-1950 TL/Ton	2500-2700 TL/Ton
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Sources: Industry Sources

In response to U.S. tariffs on Turkish steel and aluminum, Turkey has put additional tariffs on several United States-origin products, including rice in August 2018. For detailed information, please see [Grain and Feed Update October 2018](#).

STOCKS

Wheat

In MY 2019/20, ending stocks are forecast to decrease to 3,159,000 MT, down six percent from the prior year. Due to the uncertain economic environment in Turkey generally, the private sector may be unwilling to tie money up in stocks.

TMO was very active in the wheat market after the harvest in MY 2018/19 and procured about 2.4 MMT of wheat. TMO has also imported 1 MMT of wheat since the harvest. As of February 2019, TMO has more than 1 MMT of wheat in stocks.

Barley

TMO and the private sector have approximately 571,000 MT of barley stocks as they enter the new harvest in MY 2018/19. In MY 2019/20, barley stocks are forecast at 721,000 MT, in parallel with expected increases in production.

Corn

In MY 2019/20, stocks are forecast at 415,000 MT, a bit lower compared to the previous year, assuming the private sector will hesitate to hold more stocks for financial reasons.

Rice

For MY 2019/20, rice stocks are forecast at 63,000 MT, down 5,000 MT compared to the prior year. This is assuming production remains stable and consumption increases as expected.

POLICY

Typically, the Turkish government (GOT) provides production premiums for agricultural products. The Turkish government also provides fuel and fertilizer support. In MY 2018/19 no crop received any additional increases in production support, but fuel support was increased about ten percent.

The GOT has announced that they plan to grant 16.1 billion TL (~\$3 billion) in agricultural subsidies to all agricultural producers in 2019 [as part of their new agricultural budget](#), which was 14.5 billion TL

(~\$3.8 billion) in 2018. The details of the 2019 policy have not been officially announced yet however. These figures include subsidies to all agriculture, including the livestock sector. Note that these estimates in dollar equivalent assume an exchange rate of US\$1=3.8 TL as of February 2018 and exchange rate of US\$1=5.3 TL as of February 2019, although the actual rate is variable during the year.

In the [2019 Presidential Annual Program](#), the estimated breakdown of the payments in 2019 are as follows: area based agricultural support will be 4.3 billion TL (including fuel subsidies which will be 2.09 billion TL), premium subsidies will be 3.7 billion TL (including about 1.5 billion TL for cotton), rural development subsidies will be 1.9 billion TL, and agricultural insurance payments about 1.2 billion TL.

Despite the fact that there has been a major depreciation of the Turkish Lira against the U.S. Dollar and many foreign currencies during the same period, grain production premiums have not increased during the last six years (see Table 32). For example, as of *January 2013*, *\$1 USD = 1.75 TL* and as of *January 2019*, *\$1 USD = 5.3 TL*. According to statements by the Minister of Agriculture and Forestry, the GOT plans to increase wheat and barley premiums from 50 TL to 100 TL for MY 2019/2020.

Farmers are reportedly not satisfied with the 2018 subsidy amounts and are asking the Turkish government to review and adjust the production premium amounts for next summer's crops. They specifically cite the recent local annual inflation, which runs about twenty-one percent presently, up from eleven percent last year, which has increased production costs.

Table 27: Grain Premiums Turkey (TL/MT)

Grain Premiums Turkey: Grain Premiums (TL/MT)						
Products	2013	2014	2015	2016	2017	2018
Wheat	50	50	50	50	50	50
Barley, Oats, Rye	50	50	50	50	50	50
Paddy Rice	100	100	100	100	100	100
Chick Peas, Lentils, Dry beans	100	100	200	300	300	500
Corn	40	40	40	20	30	30

Source: Official Gazette

Turkey's livestock sector has had a lot of new investment, and each year there are many imports of beef cattle for fattening in Turkey, which has increased the importance of access to forage crops. The feed industry is dependent on soybean and byproduct imports, corn byproducts imports, and bran or byproducts from oilseed mills, wheat mills, and the cotton ginning industry. There is also not enough pasture development and forage crop planting in Turkey, so the government has encouraged forage crop production with additional financial support in recent years, seen in the table below.

Table 28: Turkey Forage Crop Support (TL/ha/year)

Products	2013	2014	2015	2016	2017	2018
Alfalfa (irrigated)	500	500	500	600	600	900
Trefoil	400	400	400	450	600	900
Silage corn	750	750	750	450	900	1000

Source: Official Gazette

New licensed warehouse systems for grain storage are developing in Turkey. The GOT has supported construction of some licensed warehouses since 2005, and they plan to regulate the grain market with the help of licensed warehouses in the near future. For this purpose, the GOT gives some grants and financial support in order to encourage new investments. As of February 2019, there were 67 active licensed warehouse operations (LWO) with a capacity of 3.3 MMT. There were only 19 LWO as recently as two years ago. This year there have been applications for 153 new LWO investments, and the goal is to increase LWO storage capacity to 13 MMT in the coming years. For updated data on LWO, please visit the [webpage](#) of Turkish Ministry of Customs and Trade.

Given recent food inflation concerns, the GOT has intervened to put downward pressure on domestic commodity prices through imports. For example, wheat, barley, rice, corn, onion, and potato were imported in 2018 and 2019. Some items have been sold on the domestic market below cost in order to prevent price increases. Battling a sharp rise in food costs, Turkish municipal authorities opened their own vegetable markets in February 2019 to sell cheap vegetables directly to consumers, cutting out retailers who the government has accused of jacking up prices. Under the initiative, municipalities are selling vegetables at around 50 percent of retail prices recorded by the Turkish Statistical Institute in January. A maximum of three kilos of goods per person is allowed. The Competition Authority of Turkey also opened an investigation into companies regarding price increases in the fertilizer and poultry sectors in recent months.

Market access problems for commodities as result of Turkey's 2010 biosafety law continue to disrupt trade. While some corn and soy varieties are approved for import to Turkey for animal feed, this law does not allow imports of commodities containing genetically engineered varieties (events) that have not yet been approved for use in Turkey, including at an unavoidable low level presence. See [FAS GAIN report on Biotechnology](#) for further information and detail on this policy issue.

Production, Supply, and Distribution

Wheat Market Begin Year	2017/2018		2018/2019		2019/2020	
	June 2017		June 2018		June 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Turkey						
Area Harvested	7800	7800	7615	7615	0	7235
Beginning Stocks	1327	1327	4359	3159	0	3359
Production	21000	19500	19000	19000	0	19000
MY Imports	6226	6226	5500	5500	0	5500
TY Imports	6130	6130	5500	5500	0	5500
Total Supply	28553	27053	28859	27659	0	27859
MY Exports	6194	6194	6300	6300	0	6500
TY Exports	6218	6218	6300	6300	0	6500
Feed and Residual	1300	1000	1200	1200	0	1300
FSI Consumption	16700	16700	16800	16800	0	16900
Total Consumption	18000	17700	18000	18000	0	18200
Ending Stocks	4359	3159	4559	3359	0	3159
Total Distribution	28553	27053	28859	27659	0	27859
Yield	2.6923	2.5	2.4951	2.4951	0	2.6261
(1000 HA) ,(1000 MT) ,(MT/HA)						

Barley Market Begin Year	2017/2018		2018/2019		2019/2020	
	June 2017		June 2018		June 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Turkey						
Area Harvested	3400	3400	3600	3600	0	3800
Beginning Stocks	338	338	791	791	0	571
Production	6400	6400	7400	7000	0	8000
MY Imports	753	753	300	300	0	100
TY Imports	598	598	300	300	0	100
Total Supply	7491	7491	8491	8091	0	8671
MY Exports	0	0	100	20	0	50
TY Exports	11	11	100	20	0	50
Feed and Residual	5800	5800	6600	6600	0	7000

FSI Consumption	900	900	900	900	0	900
Total Consumption	6700	6700	7500	7500	0	7900
Ending Stocks	791	791	891	571	0	721
Total Distribution	7491	7491	8491	8091	0	8671
Yield	1.8824	1.8824	2.0556	1.9444	0	2.1053
(1000 HA) ,(1000 MT) ,(MT/HA)						

Corn Market Begin Year	2017/2018		2018/2019		2019/2020	
	Sep 2017		Sep 2018		Sep 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Turkey						
Area Harvested	530	530	530	530	0	520
Beginning Stocks	804	804	765	765	0	515
Production	5300	5300	5700	5700	0	5500
MY Imports	2719	2719	2200	2200	0	2400
TY Imports	2715	2715	2200	2200	0	2400
Total Supply	8823	8823	8665	8665	0	8415
MY Exports	88	88	50	50	0	50
TY Exports	82	82	50	50	0	50
Feed and Residual	6900	6900	7000	7000	0	6800
FSI Consumption	1070	1070	1100	1100	0	1150
Total Consumption	7970	7970	8100	8100	0	7950
Ending Stocks	765	765	515	515	0	415
Total Distribution	8823	8823	8665	8665	0	8415
Yield	10	10	10.7547	10.7547	0	10.3774
(1000 HA) ,(1000 MT) ,(MT/HA)						

Rice, Milled Market Begin Year	2017/2018		2018/2019		2019/2020	
	Sep 2017		Sep 2018		Sep 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Turkey						
Area Harvested	99	99	100	100	0	100
Beginning Stocks	71	71	93	93	0	68
Milled Production	520	520	610	610	0	610
Rough Production	776	776	910	910	0	910

Milling Rate (.9999)	6700	6700	6700	6700	0	6700
MY Imports	340	340	180	180	0	210
TY Imports	260	260	180	180	0	210
Total Supply	931	931	883	883	0	888
MY Exports	48	48	25	25	0	25
TY Exports	45	45	25	25	0	25
Consumption and Residual	790	790	790	790	0	800
Ending Stocks	93	93	68	68	0	63
Total Distribution	931	931	883	883	0	888
Yield (Rough)	7.8384	7.8384	9.1	9.1	0	9.1
(1000 HA) ,(1000 MT) ,(MT/HA)						