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### Grain and Feed Update

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Grain and Feed

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**Report Highlights:**

Ghana is a net importer of both rice and wheat. Post estimates Ghana's rice imports in 2017/18 at 550,000 MT, down slightly year-to-year due to growing domestic production. The Government of Ghana (GOG) in 2017 introduced a 50 percent subsidy on rice and corn seed, as well as fertilizer to spur domestic rice and corn production. The GOG has signaled its intent to reduce rice imports by 10 percent by 2020. U.S. rice exports to Ghana, due to the competitiveness of Asian rice, have dipped considerably from 120,000 MT in 2012 to near zero in 2016. Wheat consumption in Ghana will continue rising slowly due to the relatively high cost of hard wheat flour. U.S. wheat exports to Ghana in CY 2017 rebounded to their highest level at 89,000MT since 2012, but other origins continue to dominate the market.

## Executive Summary

Post estimates 2017/18 domestic rice production at 450,000 MT, less than half of the country's rice requirement. Post estimates rice imports in MY 2017/18 at 550,000 MT, down from 580,000 in MY 2016/17. While major area increases have not occurred as a result of government policies, higher yields are expected as a result of favorable conditions and improving inputs. In 2017, the GOG introduced a 50 percent subsidy on rice and corn seeds as well as fertilizer to increase affordability and ultimately domestic production. U.S. rice exports to Ghana have suffered in recent years. Traders perceive the United States as a reliable supplier of premium quality rice but they have increasingly turned to Asian rice, particularly Thai jasmine rice, whose quality image has improved substantially and is highly prized by consumers. Rice has become one of the major staples in Ghana, being the second largest cereal consumed after corn.

Wheat consumption in Ghana will rise only marginally due to the relatively high cost of hard wheat flour. As a result, a moderate year-to-year increase for wheat imports is estimated, up 5% to 700,000 MT.

Corn accounts for 62% of total grain output, (rice 16%, sorghum 14% and millet 8%). It is the largest staple crop in Ghana and the mainstay of the diet for the majority of Ghanaians. Corn is also an increasingly important component of poultry feed, and to a lesser extent the livestock feed sector and brewing industry. Average annual corn production is 1.75 million MT since MY 2015/16.

During the Akufo-Addo administration's first year in office, the 'Planting for Food and Jobs' (PFJ) campaign was introduced to "address the declining growth of Ghana's agricultural sector." This five-year policy seeks to substantially increase domestic agricultural production, particularly in maize, rice, soybeans, sorghum, and vegetables, to improve Ghana's food security and reduce the country's imported food expenses. The campaign intends to target these selected commodities by providing subsidized seed and fertilizer, free extension services, increased marketing opportunities for harvested commodities, and an increased emphasis on technology in agriculture. The campaign is in the early phases of implementation, and it remains to be seen if it will measurably improve domestic production of the selected commodities.

**Currency Note: USD 1 = GHC 4.5**

## RICE

Rice, Milled	2015/2016	2016/2017	2017/2018
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Market Begin Year Ghana	Oct 2015		Oct 2016		Oct 2017	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	250	230	280	230	285	230
Beginning Stocks	61	61	114	164	173	159
Milled Production	443	443	519	390	519	450
Rough Production	738	738	865	650	865	750
Milling Rate (.9999)	6000	6000	6000	6000	6000	6000
MY Imports	610	610	590	580	600	550
TY Imports	700	700	600	600	600	550
TY Imp. from U.S.	16	16	0	0	0	0
Total Supply	1114	1114	1223	1134	1292	1159
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Consumption and Residual	1000	950	1050	975	1100	1000
Ending Stocks	114	164	173	159	192	159
Total Distribution	1114	1114	1223	1134	1292	1159
Yield (Rough)	2.952	3.2087	3.0893	2.8261	3.0351	3.2609

(1000 HA) ,(1000 MT) ,(MT/HA)

## Production

Post's estimate for Ghana's domestic rice production in MY 2017/18 is 450,000 MT, up from 390,000 MT in MY 2016/17. This is due to favorable conditions, GOG commitments to increase rice production through the introduction of improved high yielding and disease resistant rice varieties, and the adoption of low cost water management practices. However, domestic rice production is still faced with challenges such as availability and cost of rice seeds and fertilizer, leading to low fertilizer use and poor agronomic practices. Lack of farm mechanization and proper processing facilities also contributes to a poor quality domestic crop. The average yield of paddy rice has been between 2-3 tons per hectare and could increase to 4-5 tons per hectare if improved practices and resources are available to producers (GOG sources).

The GOG believes that subsidy will make fertilizers and seeds more affordable, thereby increasing application rates which will ultimately increase yields. Thus in 2017, the GOG introduced a 50 percent subsidy on rice seed and fertilizer under the PFJ campaign to make it affordable for producers to increase rice production. Under the program, about 10 percent of the rice seeds were imported by licensed agrochemical companies and the rest supplied by local seed growers. The subsidized price of a 20kg bag of rice seed is GH¢ 50; the cost of 50kg fertilizers such as NPK 15:15:15, Sulphate of Ammonia and Urea are GH¢ 57.50, GH¢ 60 and 47.50 respectively. Additionally, the GOG intends to improve the quality of locally produced rice in order to stimulate demand for it. During a field visit it was apparent that the PFJ campaign has been embraced by rice farmers (see Policy section). Although some growth in rice production is expected it may not be significant because rice continues to be grown at the subsistence level under primarily rain fed conditions in valley bottoms/low lying areas, and employs traditional methods with limited irrigation and mechanization.

Rice is grown throughout all regions of the country. However, the primary production zones are found in Volta, Ashanti, Eastern, Upper East, and Northern regions, with Volta the largest producer. In most cases, rice is grown once per year, but in rare instances that irrigation is available, producers may plant two crops per year. The primary growing seasons are April/May planting and July/August harvest for Volta, Ashanti and Eastern regions. In the Northern and Upper East, producers will typically plant in July/August and harvest in October/November.

## **Consumption**

Rice is the second most important cereal after corn and has become a major staple food in Ghana. The per capita rice consumption in 2016/17 is estimated at about 35kg/year, with Ghana's population at 28.2 million, rice consumption in 2017/18 is estimated at 1.0 million MT. GOG sources indicate that annual per capita rice consumption is expected to reach 40kg by 2020. Rice consumption in Ghana has increased along with population growth, and rice is increasingly a main part of the diet in many Ghanaian homes due to its relative convenience in preparation and palatable recipes. Anecdotally, rice was once a grain eaten only during holidays in Ghana, but has now become a weekly, if not daily staple for many. Increasing urbanization, a large and growing expatriate community, a growing entrepreneurial middle class, a rapidly growing tourism sector, and an increase in women working outside the home are boosting demand.

Additionally, the increasing number of fast food restaurants and vendors in major cities has increased the demand for rice. Urban consumers, who represent 55 percent of Ghana's population, account for 76 percent of total imported rice consumption. Ghanaian urban consumers prefer imported rice due to its higher quality. There is increasing demand for high quality rice and consumer preferences are changing towards fragrant and long-grain white rice. Only 20 percent of domestically produced rice is consumed in urban areas due to its perceived poor quality and higher concentration of debris and stones.

Although U.S. long grain rice is preferred by Ghanaians due to its high quality and better taste, it has lost market share to Asian sources due to reduction in quality and pricing of U.S. rice available on the Ghanaian market. As such, fragrant long-grain, white rice from Asia (Thailand, Vietnam) has displaced U.S. rice. Overall, rice imports primarily from Thailand, Vietnam, and India have risen considerably to fulfill Ghana's increasing demand. Currently the retail price of a 25 kg bag of U.S. rice is GH¢160; Thai rice GH¢180-225; Vietnam is GH¢150-160. Imported rice as a whole provides greater variety at more affordable prices than domestically produced varieties. The local rice (parboiled, white and brown) is perceived to have higher nutritional qualities, but reportedly has a peculiar flavor and is considered a poor quality substitute for imported rice.

## **Trade**

Post estimates Ghana's 2017/18 rice imports at 550,000 MT, down from 580,000 MT in 2016/17. Domestic rice production in Ghana is expected to increase in the coming years, and the current year's crop has been reported as better than average. Despite the year-to-year decline in imports, longer term demand for rice is increasing. The countries that supply the bulk of the rice to Ghana are Thailand, Vietnam, and India. Different grades of rice are imported into Ghana ranging from the fragrant Thai rice and Vietnamese rice, U.S. long grain rice, to cheaper 70 percent broken rice from other sources such as Cote d'Ivoire. Currently, the United States has only one percent market share.

Traders perceive the United States as a reliable supplier of premium quality rice but they have increasingly turned to Asian rice, particularly Thai jasmine rice, whose quality image has improved substantially and is highly prized by consumers. Although the United States introduced two fragrant jasmine rice brands in the last few years to counteract the growing market share of Thai jasmine rice, it suffered a severe decline in 2014, as a result of the increased price sensitivity of the market. There is also increased promotional activity of Thai origin brands of rice on Radio, TV and billboards. Thai aromatic rice is becoming the preferred rice of those shopping in the "quality" segment of the market, chosen for

its special taste (60 percent of consumers buy aromatic rice because of its taste). High-end restaurants and eateries rely heavily on Thai aromatic rice to deliver quality and taste to their customers.

In Ghana, both imported and domestic rice are sold on the same market in the urban centers, but local supply can be irregular. About 70% of rice sold through retail outlets in Ghana is imported. Importers prefer to buy rice in bulk and re-bag locally into 25kg, and 5kg, to accommodate consumer preferences and to maximize their profits. Rice importers sell to wholesalers, retailers, and directly to consumers. The traders then retail the rice on the open market. The imported rice sold in 5kg bags is the most commonly preferred by consumers and is convenient to carry. Several smaller-sized private companies, however, actively import packaged rice of 2kg, and 1kg bags of various types, brands and qualities.

### Policy

Despite Post's minor reduction in estimated imports for 2017/18, development in the domestic sector would need to occur quite rapidly to measurably reduce Ghana's long term reliance on imported rice. Rice remains a very political topic in Ghana. The government continues to actively use the media to draw consumer attention to the availability of local rice and encourage its use. The GOG is determined to cut rice imports by 10 percent through the PFJ campaign. However, it is unlikely that imports will be reduced if rice continues to be grown at the subsistence level under rain fed conditions in valley bottoms/low lying areas, employing only traditional methods with limited irrigation and mechanization.

Rice imports attract 37 percent in taxes and levies and the details are: import Duty of 20%, VAT 12.5%, ECOWAS levy 0.5%, EDIF levy 0.5%, Inspection fee 1.0% and GCNET 0.4% of CIF value, and National Health Insurance Levy (NHIL) of 2.5%.

### CORN

Corn Market Begin Year	2015/2016		2016/2017		2017/2018	
	Jul 2015		Jul 2016		Jul 2017	
Ghana	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	1000	1000	1000	1000	1000	1000
Beginning Stocks	215	215	193	189	119	81
Production	1692	1692	1800	1750	1800	1800
MY Imports	91	92	31	52	100	100
TY Imports	67	92	40	52	100	100

<b>TY Imp. from U.S.</b>	0	26	0	0	0	0
<b>Total Supply</b>	1998	1999	2024	1991	2019	1981
<b>MY Exports</b>	5	10	5	10	5	10
<b>TY Exports</b>	5	10	5	10	5	10
<b>Feed and Residual</b>	250	250	300	300	300	325
<b>FSI Consumption</b>	1550	1550	1600	1600	1600	1600
<b>Total Consumption</b>	1800	1800	1900	1900	1900	1925
<b>Ending Stocks</b>	193	189	119	81	114	46
<b>Total Distribution</b>	1998	1999	2024	1991	2019	1981
<b>Yield</b>	1.692	1.692	1.8	1.75	1.8	1.8
(1000 HA) ,(1000 MT) ,(MT/HA)						

## Production

Corn is planted primarily in April/May and harvested in August/September in Ghana. It is grown throughout the country, but the leading producing areas are mainly in the middle-southern part (Ashanti and Brong-Ahafo regions), with an estimated 15% grown in the northern regions of the country. Presently both white and yellow varieties are grown. Post estimates corn production in MY 2017/18 at 1.8 million MT, up from 1.75 million MT in MY 2016/17. Assuming normal conditions, Post expects this increase to be realized. Much like rice, the GOG is committed to increasing corn yields through the introduction of improved high yielding, disease resistant corn varieties to producers and assisting them to adopt improved agronomic practices under the PFJ campaign.

However, the high cost of certified improved corn seeds and fertilizer have resulted in producers using inferior seeds without fertilizer, resulting in low yields. In addition, the lack of farm mechanization, poor agronomic practices, and lack of processing/drying facilities have also contributed to low corn production. Under the PFJ campaign, the GOG introduced a 50 percent subsidy on fertilizer and seed starting in 2017, to make it affordable and increase fertilizer use. As part of the program, improved seed varieties for both yellow and white corn were introduced to farmers. About 20 percent of the certified corn seed supplied to producers was imported and other certified seeds were obtained from domestic seed growers. The subsidized price of a 10kg bag of corn seed are: open pollinated corn seed is GH¢ 144, hybrid corn seed is GH¢ 563. For fertilizer subsidy, a 50kg bag of NPK 15:15:15, and Urea and Sulfate of Ammonia, sell at GH¢57.50, GH¢47.50 and GH¢60 respectively. According to the GOG, this direct intervention is expected to increase corn yields from 2.5 MT/ha to 4.5 MT/ha.

In early 2016, there was an infestation of Fall Army Worm (FAW) in one district in the greater Accra region which was brought under control. Then in early 2017, a major FAW infestation occurred in almost all the grain growing areas in Ghana in which the pest attacked mostly corn and in some cases vegetables. The GOG intervened by educating and assisting producers to apply chemicals, train farmers to identify the pest and to report any infestation to the nearest agricultural office, and developing early detection and management capabilities. There are reports of some localized price increases, but on a national scale there has been no indication of major losses.

## Consumption

Corn is a major staple food crop in Ghana; especially white corn. The dried shelled corn kernel is usually processed into dry flour or wet corn dough which is used in various food preparations. More recently, yellow corn has become popular in many food preparations throughout the country. According to the industry and consumers, yellow corn is in high demand because it tastes better, flour yield is high,

and is more nutritious due to improved protein quality. Yellow corn is also the main component for poultry and livestock feed. Corn processed into grits is also becoming a substitute in the malt drink brewing industry.

The corn supply in Ghana has steadily increased over the past few years. In northern Ghana, millet and sorghum are the main cereals produced and consumed, but in recent times corn has become one of the main food staples. While there is no reliable data for corn used in animal feed, the GOG estimates that 15 percent of all corn grown in Ghana is used in the animal feed sector (mainly poultry). Post forecasts corn consumption at 1.9 million MT in MY 2017/18. The average wholesale prices of 100kg bag of white corn in MY2016/17 ranged from GH¢60.00 to GH¢120.00.

Corn is the most important cereal crop on the domestic market in Ghana. Dried shelled corn kernel is packaged in large 100kg maxi bags. The producer usually stays outside the marketing chain but sells to traders, mainly women, who come from city markets such as Accra Techiman, Cape Coast, Kumasi, Takoradi, Ho, and Tamale to collect the produce from the farms. The corn is then sold in urban wholesale and retail traditional markets. In some wholesale markets the corn is re-dried to reduce molding and then repackaged.

### Trade

In the last three years, Ghana has imported small amounts of both white and yellow corn from Argentina and South Africa due to scarcity and its attendant high cost that occurred in those years. Corn imports in 2014/15 through 2016/17 were 2,356MT, 98,880MT, 52,000MT respectively. Post estimates imports of 100,000MT in 2017/18, to account for increasing purchases of seed as well as growing demand from the domestic poultry industry.

## WHEAT

Wheat	2015/2016		2016/2017		2017/2018	
	Jul 2015		Jul 2016		Jul 2017	
Market Begin Year	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Ghana						
Area Harvested	0	0	0	0	0	0
Beginning Stocks	93	93	220	4	177	38
Production	0	0	0	0	0	0
MY Imports	788	572	641	664	800	700
TY Imports	788	572	641	664	800	700
TY Imp. from U.S.	10	21	62	62	0	0

<b>Total Supply</b>	881	665	861	668	977	738
<b>MY Exports</b>	91	91	94	50	100	100
<b>TY Exports</b>	91	91	94	50	100	100
<b>Feed and Residual</b>	10	10	10	10	10	10
<b>FSI Consumption</b>	560	560	580	570	640	580
<b>Total Consumption</b>	570	570	590	580	650	590
<b>Ending Stocks</b>	220	4	177	38	227	48
<b>Total Distribution</b>	881	665	861	668	977	738
<b>Yield</b>	0	0	0	0	0	0
(1000 HA) ,(1000 MT) ,(MT/HA)						

## Production

Ghana imports all its wheat needs since it does not grow it locally. The imported wheat is purchased by wheat milling firms who transform the wheat to flour in-country.

## Consumption

Post estimates total wheat consumption for 2017/18 at 590,000 MT, a slight year-to-year increase. Wheat consumption has been relatively stable for several years due to the high cost of hard wheat, which is the preference of the Ghanaian consumer. However, consumption remains on a slight upward trajectory due to urbanization and changing dietary habits. The estimated per capita consumption of wheat is nearly 20 kg/year. Almost 80 percent of wheat flour is used for bread making, while the remaining 20 percent is used for cakes and other pastries. The Ghanaian consumer prefers high quality hard wheat flour which produces a desired high-topped loaf and fluffy bread.

Local mills produce hard flour for making bread and soft flour for making pastries. The extension to pastry flour was in response to the growth in domestic demand for the product that came with an expansion in the number and capacity of Ghana's biscuit factories and the entry of a large number of domestic pastry producers. There are five major wheat-milling companies in Ghana with a total installed capacity of about 1,600 tons per day, but they operate at 80 percent due to the stable consumption pattern over the past few years, according to industry sources.

Ghana passed a food fortification law in November 2009 that became effective February 1, 2010, making it mandatory for all wheat flour products to be fortified with micronutrients (Vitamin A, B1, B2 B6, Niacin, Folic Acid, Iron and zinc).

The less common soft wheat class is primarily used for the production of cakes and pastries. For making the desired fluffy and soft bread Ghanaians prefer flour produced from hard wheat. Due to the higher cost of hard wheat, most of the millers blend hard wheat with soft wheat at varying percentages to reduce cost. However, care is taken not to reduce the quality of the flour, which can be rejected by the Ghanaian bread baker. There is increasing demand for soft wheat flour by biscuit factories and pastry makers.

Flour prices have risen in Ghana as a result of higher cost of imported wheat. For example, a 50kg bag of flour in MY 2017/18 is GH¢180, up from GH¢170 in MY 2016/17. As a result, the price of bread has also climbed. The cost of a 0.5 kg loaf of bread in 2017 is GH¢5.00, up from GH¢3 the previous year. Bread has become one of Ghana's staple foods, mainly eaten at breakfast and as a convenience food/snack during the day.



The wheat flour is packaged into 50 kg, 25 kg, 10 kg, 5 kg and 2 kg bags with brand names labeled on the bags. The millers have varying ways of distributing their flour either (i) by contract where the wheat is milled on order by a trader, wholesaler or baker; (ii) by direct sales to traders at factory premises; or (iii) through wholesale outlets. The pricing of flour is determined by the cost of production and type of flour product (hard wheat and soft wheat mixtures) and thus the five millers do not have a uniform price. A 50kg bag of hard wheat flour in CY 2017 ranged from GH¢165-GH¢180, up from GH¢160-GH¢170 in CY 2016. According to industry sources, although sales fluctuate during the year flour consumption has remained relatively stable over several years.

### **Trade**

Post estimates wheat imports in MY 2017/18 at 700,000 MT, a 5% year-to-year increase. U.S. wheat exports in 2016/17 rebounded to their highest level in three years at just over 60,000 MT. Major suppliers of wheat to Ghana include Canada, Russia, the United States, and the European Union, with Canada typically accounting for over half of the market share. Hard wheat classes comprise about 70 percent of Ghana's imports and the remaining 30 percent is soft wheat.

Industry sources indicate that the milling industry faces competition from soft flour imported from Turkey by the biscuit factories. Some imported soft -flour meant for biscuit factories and transit flour (Burkina Faso) also end up in the Ghana local market and has impacted negatively on sales of the millers. It is estimated that over 100,000 MT of soft wheat flour is imported by the biscuit factories.

### **Policy**

Wheat imports attract import Duty of 20%, VAT 12.5%, ECOWAS levy 0.5%, EDIF levy 0.5%, Inspection fee 1.0% and GCNET 0.4% of CIF value. In addition, effective August 1, 2004, GOG has included National Health Insurance Levy (NHIL) of 2.5% to be collected by the VAT Secretariat. Direct flour imports for use by Biscuit factories attract 10% duty and other charges.