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Middle East and North Africa Region: An Important Driver of World Agricultural Trade

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Abstract

The Middle East and North Africa (MENA) region accounts for a significant and growing portion of worldwide food and feed imports. Despite the violence and political uncertainty hanging over parts of the region, the MENA's growing populations and rising incomes are driving higher demand for major food and feed grains, soybeans, cotton, and meats. This demand cannot be fulfilled by domestic production alone given the region's climatic and geographic constraints, thus creating a large need for food imports. The United States has historically played an important role in meeting this region's food needs, but recently, new exporters from South America, Europe, and Asia have emerged to compete for the MENA region's market share, exploiting various production and transport cost advantages. For certain commodities, the effects of this new competition have translated into fewer U.S. shipments to the MENA and a smaller share of the region's market.

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Approved by USDA's
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Introduction

Over the next 10 years, growth in worldwide demand for crops and animal products is expected to occur primarily in developing and emerging economies. With expanding populations, rapid urbanization, and rising incomes, diets in low- and middle-income countries are gaining calories not only from increased consumption of staple grains and oilseeds, but also from diversification toward beef and poultry (Trostle and Seeley, 2013). Rising consumption in many of these countries, however, is outpacing their ability to produce, with consequences for production and trade by agricultural exporters such as the United States. Among the most important destinations for agricultural exports is the Middle East and North Africa (MENA) region (fig. 1).¹

Figure 1
Map of Middle East and North Africa region¹



¹Note: The disputed territory of Western Sahara is not depicted separately from Morocco, which currently administers the region.
Source: USDA, 2015.

Like other parts of the developing world, the MENA region has experienced strong population and income growth, which has contributed to rising food consumption and shifting dietary preferences. But growing demand, coupled with a climate-constrained production potential, has forced the region to rely increasingly on food imports, raising its trade profile. Figure 2 shows that wheat, rice, corn, and poultry imports into the MENA region account for a sizeable share of total world imports for these commodities.²

Apart from these long-run trends, more recent events have added complexity to the MENA region's food demand and import profile. The food price crises that struck markets around the world in 2007-8 and again in 2010-11 contributed to worldwide political instability, and the MENA region was no exception. (Trostle, 2008; Arezki and Brückner, 2011; USDA, 2011). Rising agricultural commodity prices, occurring in tandem with dramatic changes in governance, stretched the ability

¹For this report, MENA refers to the 14 Middle Eastern and 5 North African countries that appear in USDA's International Long-Term Projections to 2024 (USDA, 2015).

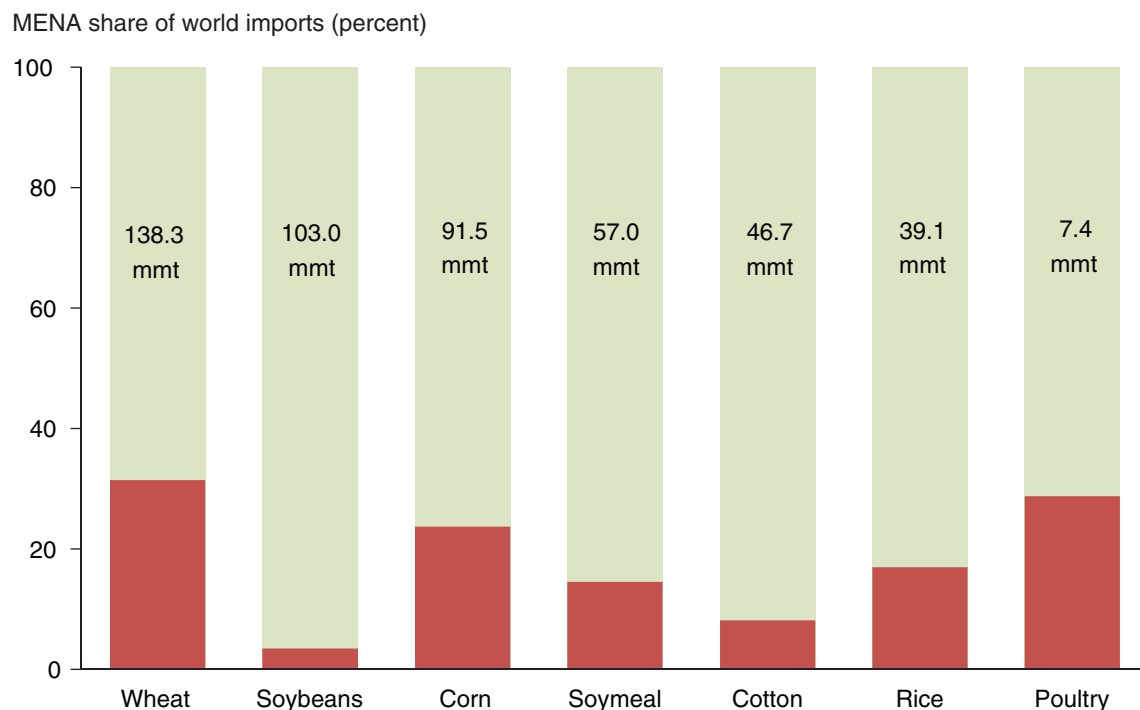
²These shares are 31, 18, 22, and 20 percent, respectively, on average, for 2012-14.

of some MENA governments to subsidize basic staples, jeopardizing the food security of their poorest citizens (Cha, 2011; Ciezadlo, 2011; Hanley, 2011).

The MENA region’s combination of growing demand, weak agricultural production, and, in some cases, unstable governments and civil conflict, increases its vulnerability to economic shocks and volatility in global food markets. As a key food supplier to the MENA region, the United States can play an important role in meeting the region’s food needs, supplying not only traditional crop commodities but also high-value products such as meat and poultry (Westcott and Trostle, 2012). Broader policy initiatives have paralleled these opportunities, including Free Trade Agreements (FTAs) signed with five MENA countries that facilitate more open trade and investment (Freund and Portugal-Perez, 2013).³

This report examines some of the features of the MENA region’s agricultural economy, its contribution to the projected growth of global agricultural trade, and the resulting prospects for U.S. agricultural exports to the region. The report assesses production, consumption, and trade developments for major agricultural commodities and identifies which markets are likely to matter most to U.S. exporters.

Figure 2
MENA share of world imports, average for marketing year 2012-14



As a reference point, total world import volumes in millions of metric tons (mmt) are printed on each commodity’s bar graph
 Source: Authors calculations and USDA (2015).

³These five countries--Bahrain, Morocco, Jordan, Israel, and Oman--accounted for 18 percent of overall value of exports from the United States to the MENA in 2011-13.

Overview of the MENA Region

Although there are many cultural commonalities among the countries that compose the MENA region, considerable variation exists among their populations, agricultural production, incomes, import patterns, and political governance (see Box, “Analyzing a Diverse Region”). To illustrate this diversity, the overview will highlight some individual countries. Other parts of the analysis, however, follow the regional aggregations used in the USDA’s International Long-Term Projections (USDA, 2015). The individual countries, chosen primarily for their market size and their influence on trade, are Egypt, Morocco, Iran, Iraq, Saudi Arabia, and Turkey. The remaining countries are aggregated into two broad groups: Other Middle East (OME) and Other North Africa (ONA).

Population and Economy

The MENA region is economically diverse, encompassing the oil-rich states of the Persian Gulf as well as relatively resource-scarce countries such as Egypt, Morocco, and Yemen (World Bank, 2014a). The region’s population, now nearly 500 million, grew an average 2.1 percent annually from 2004 to 2013, faster than the world average of 1.2 percent per year and one of the fastest rates in the world. The three most populous countries, Egypt, Turkey, and Iran, are home to more than 50 percent of the region’s people. The population is 73-percent urbanized, a share that is projected to exceed 75 percent by 2023 (World Bank, 2014c).

The MENA region’s income is rising, reaching a per capita average of over \$7,600 in 2013, with around 2.6 percent annual growth over the past 10 years.⁴ But this average growth rate obscures considerable variation within the region. In 2013, the United Arab Emirates (UAE) reported the highest per capita income at \$59,885, while the lowest was in Yemen, at \$1,135. In 2013, the region’s total GDP accounted for about 5.2 percent of the world’s economy, with Turkey occupying the top spot, followed by Saudi Arabia and Iran (Table 1).

In general, the MENA’s most significant sources of foreign currency income are mineral exports (including oil), tourism, foreign direct investment, remittances, and foreign aid, with the largest economic actors in the region being governments and state-owned enterprises (Malik and Awadallah, 2013). While poverty in the region is not as acute as in other parts of the developing world, around 40 million people there still survive on less than \$2 per day. In Egypt, poverty according to this measure afflicts 15 percent of the population, and for Yemen, it is nearly 50 percent (World Bank, 2014b).

With a growing population and limited economic diversification, unemployment in the region remains problematic (Akhtar, Bolle, and Nelsen, 2008). Like per capita incomes, unemployment rates in the region vary widely (Appendix Table 1). In Yemen and Tunisia, unemployment is nearly 18 percent, while in Kuwait and the UAE, the rate is less than 5 percent (ILO, 2013a). But these rates mask a burgeoning youth cohort of the population, which is projected to experience between 25 and 30 percent unemployment over the next 5 years (ILO, 2013b).

⁴Values are reported in year 2010 \$US unless otherwise stated.

Table 1

Economic and population profile of the MENA

Region/ country	GDP in 2013 (billions of \$US)	Average annual GDP change, % (2004-2013)	Projected annual average GDP growth, % (2015-2024)	Population in 2013 (millions)	Average annual population growth, % (2004-2013)	Projected annual population growth, % (2015-2024)
Turkey	845	4.9	4.2	80.7	1.4	1.0
Saudi Arabia	628	6.3	4.5	26.9	1.7	1.4
Iran	422	3.4	3.2	79.9	1.2	1.1
UAE	328	4.1	4.2	5.5	3.9	2.2
Israel	259	4.5	3.6	7.7	1.7	1.3
Iraq	177	11.2	6.8	31.9	2.6	2.0
Kuwait	142	4.5	2.8	2.7	2.3	1.3
Oman	68	5.4	4.4	3.2	2.0	2.0
Lebanon	40	5.4	3.0	4.1	0.7	0.4
Syria	31	-1.1	4.7	22.5	2.4	1.5
Yemen	29	1.9	3.7	25.3	3.0	2.2
Bahrain	29	5.3	3.4	1.3	5.1	1.8
Jordan	29	5.6	4.1	6.5	2.6	1.8
West Bank & Gaza	10	4.2	4.6	4.4	2.7	2.1
Egypt	232	4.6	4.4	85.3	2.1	1.6
Algeria	177	3.1	3.9	38.1	1.8	1.6
Morocco	102	4.4	4.0	32.6	1.1	0.9
Libya	53	7.0	8.4	6.0	1.2	1.6
Tunisia	47	4.0	4.6	10.8	1.0	0.8
MENA	3,647	4.7	4.3	475.4	2.1	1.5
United States	15,902	1.7	2.7	316.5	0.9	0.7
World	69,656	2.9	3.5	7,044.7	1.2	1.0

Notes: GDP values are reported in constant 2010 \$US.

Source: USDA (2015).

Analyzing a Diverse Region

Any analysis of the MENA region must acknowledge the large variation of incomes, political conditions, and economic activities among the different countries (Appendix Table 1). Each of these factors carries significant implications for food demand and imports.

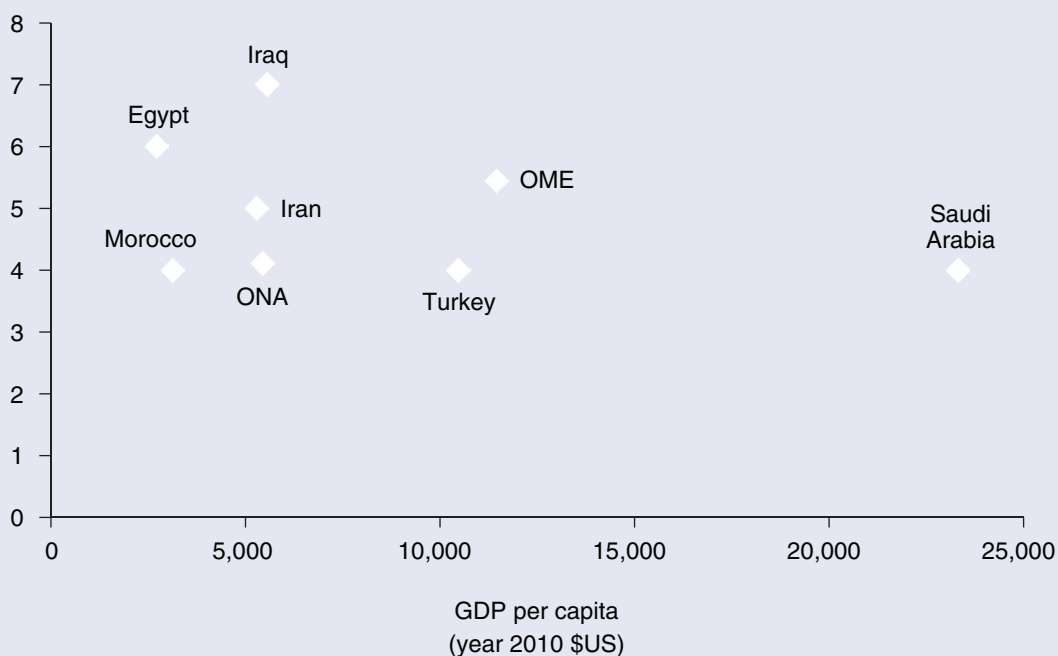
Per capita incomes in the region span a large range. Among the individual countries included in the USDA projections, Morocco and Egypt have the lowest income levels, although poorer countries such as Yemen are counted within the OME aggregation. Similarly, while Turkey is the richest of the group, other, even wealthier, Gulf Arab states appear in OME. In short, incomes in the region vary widely, and much of the region's demand for food imports can be traced to those countries with the ability to pay for it.

Sources of economic revenue in the region span a wide variety of activities. The MENA is home to eight members of the Organization of Petroleum Exporting Countries (OPEC). Saudi Arabia leads the region (and the world) in oil exporting, with about 8.7 million barrels per day in 2012/14 (EIA, 2015). Other OPEC members in the region are the UAE, Kuwait, Iraq, Qatar, Iran, Libya, and Algeria. Due in part to these exports, all the MENA's OPEC members, with the exception of Iran, run current account surpluses (World Bank, 2015).

Figure 3

Political stability and income of MENA, ONA, and OME countries

Fragility Index



Note: Values for OME (Other Middle East) and ONA (Other North Africa) are weight-averaged by individual country populations.

Source: USDA (2015); FFP (2014).

(...continued)

MENA attracted about 8 percent of global tourism revenue, approximately \$103 billion, in 2010/12, with Turkey leading with almost \$30 billion and Libya the lowest with less than \$0.2 billion. In addition, remittances to MENA countries reached around \$45 billion in 2011/13, with Egypt, the largest recipient, accounting for about 38 percent of the region's share (World Bank, 2015). The region received nearly \$65 billion (5 percent) of global foreign direct investment in 2011/13, ranging from \$15 billion in Saudi Arabia to less than \$100 million in the West Bank and Gaza.

Adding complexity to any overview of the MENA is the uncertainty and volatility of governance and civil conflict across the region. Figure 3 shows that countries across the region, regardless of income level, appear in the upper half of the Fragile States Index of values (FFP, 2014).¹ Iraq's recent experience with conflict and violence pushes its index value to the highest among the individual countries, though the present civil war in neighboring Syria, included within the OME aggregation, earns it a similar score. In the MENA region's most populous country, Egypt, conditions remain uncertain following a period of protests, revolution, elections, and military control. Faced with such conditions, these countries suffer possibly lower incomes, reduced agricultural production, and diminished abilities to import food from overseas.

Rated lower on the Fragile States Index are relatively stable countries like Saudi Arabia, Morocco, and Turkey, as well as the remainder of the countries grouped within OME and ONA, where the primary drivers of agricultural imports continue to be incomes and domestic production.

Additional information and data about this diverse region can be found in Appendix Table 1.

¹The Fragile States Index, according to its authors, captures a country's "loss of physical control of its territory or a monopoly on physical force," the "erosion of legitimate authority to make collective decisions," an "inability to provide reasonable public services," and the "inability to interact with other states as a full member of the international community." It is a quantitative measure that reflects 12 different social, economic, and political/military indicators covering 178 countries (FFP, 2014).

International Trade and MENA Policies

The MENA region exported about \$1.4 trillion worth of goods and services and imported about \$936 billion in 2012 (measured in 2012 f.o.b. and c.i.f. \$US, respectively), accounting for just under 10 percent of total global trade that year (Table 2). Imports are comprised mainly of manufactured goods, while fuels and mining products account for the bulk of the region's exports. Agriculture's share of the region's total imports was around 15 percent, and its share of the exports was about 3 percent.

The European Union (EU-28) is by far the leading trading partner for MENA countries, particularly dominating the export and import markets of North African countries (Table 2). The United States, China, Japan, South Africa, Canada, and India are also major trading partners, while Eastern Europe and South Asia are becoming important competitors. In 2012, U.S. goods and services accounted for 8.3 percent of all the region's imports. Meanwhile, U.S. purchases of MENA goods and services added up to 9.6 percent of total U.S. imports. Trade among MENA countries is relatively low, accounting for less than 10 percent of all the region's exports (Malik and Awadallah, 2013).

Table 2

MENA trade profile, year 2012

Region/country	Mer- chandise exports (FOB)	Ag. exports (FOB)	Share of exports in ag. (%)	Mer- chandise imports (CIF)	Ag. imports (CIF)	Share imports in ag (%)	Ag. imports from US	Avg. annual growth (%)#	Major trading partner exports, imports (% of trade volume)
Iran	104	6	5.7	57	14	24.5	0.14	25	Chinese Taipei 46.8, UAE 22.2
Iraq	94	0	0.1	57	13	23.4	0.15	84	Syria 0.2, NA import
Saudi Arabia	388	5	1.3	156	29	18.8	1.19	12	Japan 26.8 , EU-28 31.9
Turkey	17	2	11.4	24	3	14	1.99	11	EU-28 76.4 , EU-28 57.5
Bahrain*	3	0	2.3	14	1	8.1	0.06	8	Saudi Arabia 23.2, EU-28 20
Israel*	63	2	3.9	75	6	7.8	0.63	3	EU-28 27.1 , EU-28 34.4
Jordan*	8	1	13.1	21	4	17.4	0.22	9	Iraq 15.2 , Saudi Arabia 22.8
Kuwait	119	0	0.3	26	4	14.9	0.19	13	China 2.2, NA import
Lebanon	6	1	11.2	22	3	15.7	0.1	5	South Africa 19.4, EU-28 37.8
Oman*	52	1	2.2	26	3	10.7	0.07	14	UAE 23 import
Syria	4	1	22.7	7	2	23.4	0.02	-20	EU-28 40.5, EU-28 25.3
UAE	350	7	1.9	230	16	7.1	1.02	13	India 11, EU-28 15.7
Yemen United	9	0	0	12	4	33.5	0.15	3	China 41 , EU-28 14.8
Egypt	29	5	16.1	69	18	25.5	1.87	8	EU-28 26.8, EU-28 29.2
Morocco*	21	4	18.3	45	6	14.3	0.66	17	EU-28 56.8, EU-28 47.4
Algeria	72	0	0.5	47	11	22.6	0.22	-2	EU-28 55.3, EU-28 52.3
Libya	62	2	2.5	23	1	5.3	0.13	19	EU-28 81.7, EU-28 31.4
Tunisia	17	2	11.4	24	3	14	0.23	9	EU-28 76.4, EU-28 57.5
MENA	1418	39	2.8	936	142	15.2	9.03	9	
United States	1546	172	11.1	2336	142	6.1	-	-	Canada 18.8, China 19.1
EU-28	2167	163	7.5	2301	173	7.5	10	5	China 8.2, China 16.2
World	18401	1656	9	18601	1748	9.4	141.3	10	EU-28 11.8, China 9.8

Notes: All trade values are in billions of 2012 \$US. *Countries with free trade agreement with the United States. # Average annual growth from 2002-2012, based on GATS (2014) data.

Source: WTO (2014), GATS (2014).

Within the agriculture sector, the value of U.S. exports to the MENA region has increased substantially since 2007. In 2011/13, the average trade surplus with this region reached more than \$8.7 billion, accounting for about 23 percent of the total U.S. agricultural trade surplus. The MENA is an important destination for a variety of U.S. agricultural products. The main U.S.-grown commodities include wheat, corn, soybeans, almonds and walnuts, and poultry. Major destinations include Egypt, Turkey, Saudi Arabia, Israel, Morocco, and Tunisia. In turn, the United States imports commodities from the MENA, including horticulture products, sugar, oilseeds and tobacco products, from Turkey, Israel, Morocco, Tunisia, and Egypt.

Trade policy in the MENA region varies from country to country. High import tariffs on agricultural commodities are levied in Egypt, Morocco, and Turkey, while Gulf Arab countries impose relatively small duties on imports. Several factors may explain these differences, including a country's ability to produce food domestically and the size of its agricultural sector. Figure 4, as an example,

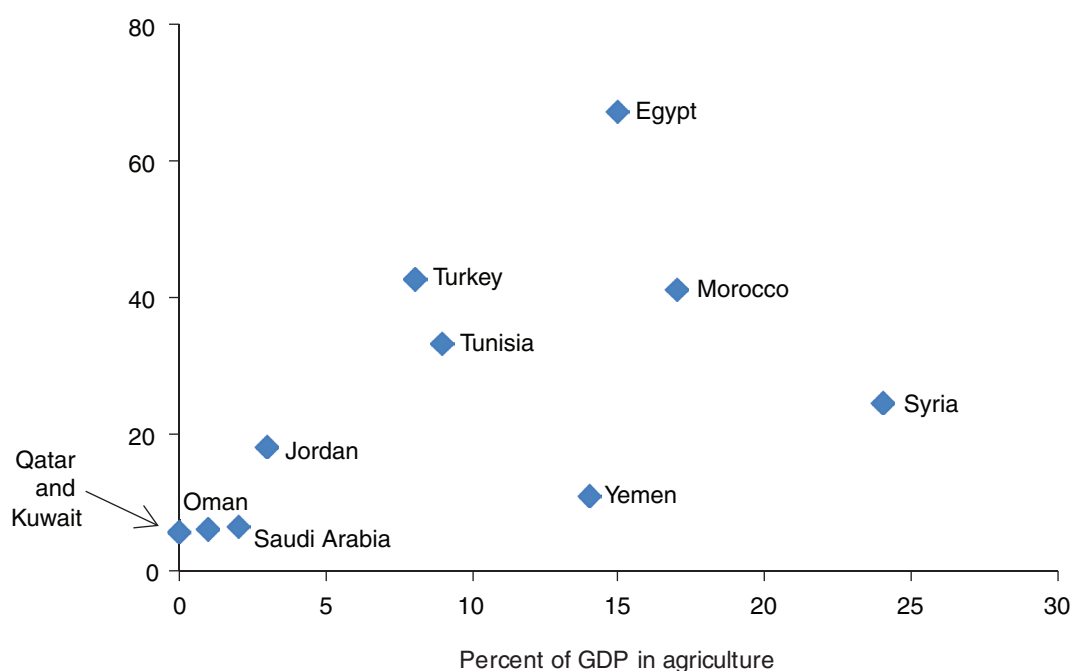
plots average agricultural tariffs for several MENA countries against the agricultural share of each country's GDP. As the graph shows, countries with a larger fraction of economic activity based in agriculture erect higher tariff barriers, likely a result of policymakers' interests in protecting domestic farmers.

Apart from tariff barriers, the MENA also imposes a variety of nontariff measures (NTM), including border controls and technical and sanitary and phytosanitary (SPS) regulations, that effectively limit foreign-produced goods from entering local markets. In an analysis of five MENA countries for which data were available, Augier et al. (2012) report that nontariff measures were applied to 50 percent of all imports, a rate that is not exceptional in comparison with other countries around the world. Within the region, however, Morocco and Egypt stand out for the scope of products covered by NTMs and the tariff equivalents associated with importing them. For example, in Morocco, the ad valorem equivalent of NTMs applied to wheat is 108.5 percent and 375 percent to rice, mostly due to SPS regulations. (Augier et al., 2012).

Despite these impediments to trade, most countries in the region are members of the World Trade Organization (WTO) and are bound by its rules governing certain tariff and nontariff measures. In addition, the United States has signed Free Trade Agreements (FTAs) with Jordan, Israel, Bahrain, Morocco, and Oman, often providing for further reductions in tariffs for U.S. products, including agricultural ones.

Figure 4
Selected MENA tariff rates and agricultural GDP shares

Simple average applied MFN tariff rate (percentage)



Notes: Tariff values are based year 2013 data, taking a simple average of all applied tariffs for Most Favored Nations (MFN) across all agricultural products. Agriculture share of GDP data are also for year 2013, with the exception of Syria and Yemen, which reflect year 2000 data. MENA countries missing from the graph did not appear in either of the WTO and World Bank data sets. Source: Tariff rates from WTO (2015); agricultural share of GDP from World Bank (2015b).

Factors Driving Agricultural Production, Demand, and Imports

Natural Constraints on Production

For most of the MENA region, geography and climate combine to impose severe constraints on agriculture production. Vast deserts stretch across North Africa to the Arabian Peninsula, leaving little arable land for most of the region's population. Growing populations, in fact, have reduced per capita arable land availability to 0.19 hectares, one of the world's lowest rates (FAO, 2014). Exceptions exist, of course, with the area covering the historic Fertile Crescent—which includes Turkey, Lebanon, parts of Syria and Jordan, and the Nile River Delta—offering sufficient moisture to sustain productive agriculture.

Precipitation levels in the region are among the world's lowest (FAO, 2011). North Africa's annual rainfall averages about 96 millimeters, while the Middle East's is about 217 millimeters, values approximately one-sixth and one-third, respectively, of the rainfall levels in North America (FAO, 2011).⁵ Rain-fed agriculture in the MENA is supplemented with irrigation systems on about 30 percent of arable land, though the vast majority of this is concentrated in Iran, Egypt, and Iraq.

While production has grown over the past decade, cereal yields across the MENA region average around 1.9 tons per hectare, well below the 3.7 tons per hectare world average (FAO, 2014). Gaps between world and regional average yields for all crops combined are estimated at 60 percent in North Africa and 49 percent in the Middle East (FAO, 2011), suggesting considerable room for growth through improved inputs. Moreover, highly variable rainfall in areas that rely on rain-fed agriculture contribute to large swings in year-to-year yields. In Morocco, for example, wheat yields have averaged about 1.5 metric tons per hectare (MT/ha) since 2000, though depending on the rainfall in any given year, this value could jump or fall by nearly 50 percent.

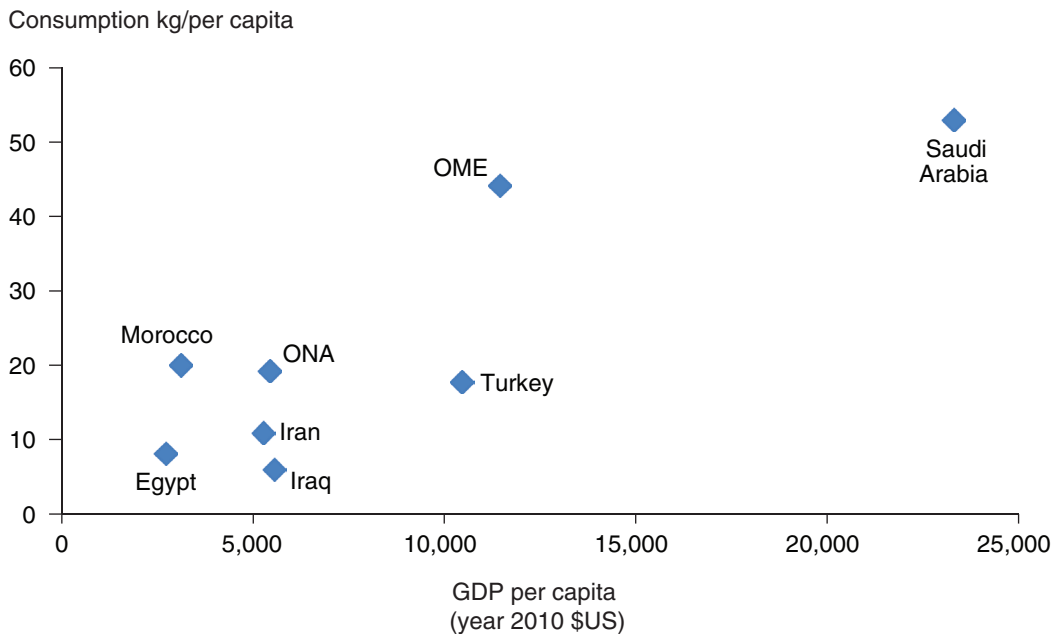
Food Variety Demands Rising with Population and Income

Food demand is increasing in the MENA region for two key reasons: population growth and rising incomes. Growing populations present additional consumption demand for commodities across the board. Rising incomes imply not only greater calorie consumption, but also a greater diversification of diets (FAO, WFP, and IFAD, 2012). Over the past 50 years, the composition of the MENA region's diet has changed significantly. While overall calorie consumption rose from 1961 to 2007 (the most recent year of comprehensive FAO estimates of calorie intake), the percent of calories derived from cereals declined, while the shares derived from meats, dairy, and vegetable oils increased (Golzarand et al., 2012). Despite the relative decline of cereals in the MENA diet, however, wheat remains the dominant staple grain, accounting for up to one-third of the calories consumed in the region (World Bank, 2009).

The most dramatic change in the MENA diet is the increasing consumption of meats, a feature commonly observed as incomes grow. Figure 5 illustrates this feature for poultry, the largest category of meats, showing how the region's different income levels correlate strongly with per capita

⁵In parts of its report, FAO (2011) uses the regional designation "Western Asia" which overlaps with our definition of the "Middle East" but also includes Armenia, Azerbaijan, and Georgia. In the present context, we use the term "Middle East" for the sake of consistency.

Figure 5
MENA poultry consumption and income in 2013



Note: Values derived from USDA (2014); OME=Other Middle East; ONA=Other North Africa.
 Source: Morocco's consumption data are taken from FAO (2014).

consumption. For the MENA region as a whole, average annual per capita meat consumption has more than doubled from around 12 kg in the 1990s to about 24 kg beginning in 2010, with projections showing similar growth into the future (USDA, 2015). Over the 1990-2010 period, protein from animal products increased between 20 and 45 percent across the different countries in the region (FAO, 2014).

While the MENA countries import large volumes of animal products, domestic meat production, particularly poultry, has also grown significantly. Regional poultry production grew by nearly 5 percent annually from 2000 to 2011 (FAO, 2014), leading to a corresponding growth in demand for animal feeds, primarily corn and soybean meal.

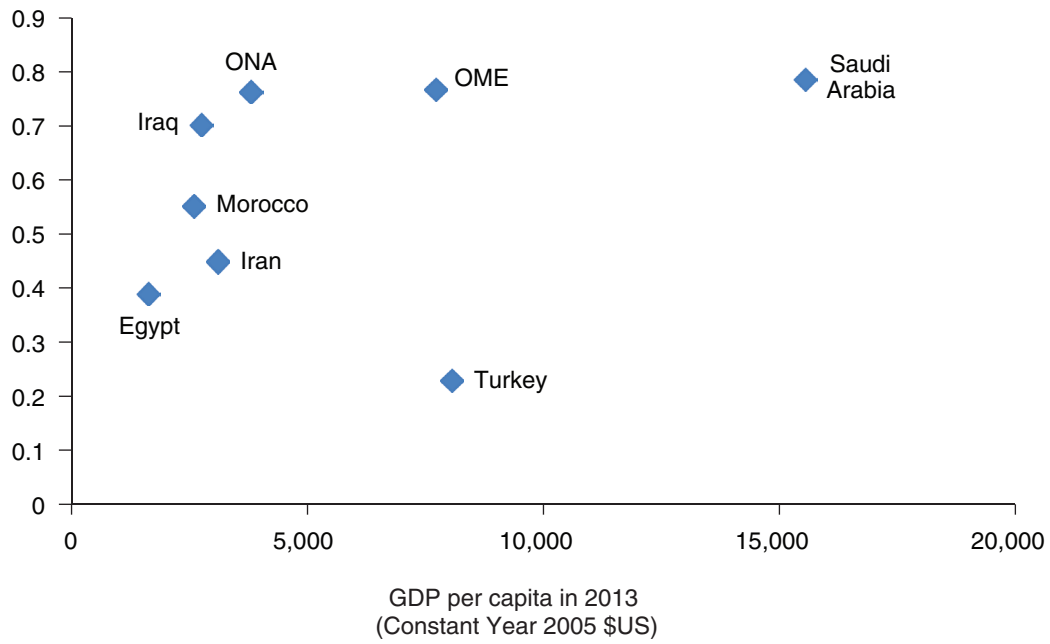
Imports Rising with Income

Growing populations and unfavorable geography drive much of the region's reliance on imports, but incomes also matter. That is, not only do higher incomes cause diets to diversify, they permit a greater fraction of food purchases to originate from overseas. Since incomes within the MENA region vary tremendously, there are large differences in cross-country import demand (fig. 6). Higher incomes appear correlated with greater import shares of grains. Saudi Arabia, a high-income country, imports nearly 80 percent of its corn, wheat, and rice, while a lower middle income country like Egypt imports less than 40 percent. Outliers exist, thanks to the more favorable geography and climate of certain countries—Turkey is a good example—but in general, imports and incomes appear to be positively linked.

Figure 6

Income and grain import reliance across the MENA

Ratio of imports to consumption in 2013



Note: The ratio is the sum of imported wheat, corn, and rice to the sum of consumed wheat, corn, and rice.
OME=Other Middle East; ONA=Other North Africa.
Source: Values derived from USDA (2014).

Profile of MENA Region Agricultural Commodity Markets

While the MENA region's import demand for crop commodities has steadily grown, the role of U.S. exports in satisfying this demand has been mixed. This role can be analyzed in two dimensions: (1) overall volume of U.S. shipments to the region; and (2) the U.S. share of MENA's total imports.

In terms of volume, U.S. shipments of wheat and corn have dropped since the early 2000s (See Box, "Explaining U.S. Declines in Corn and Wheat Shipments.") Soy products have seen only sporadic growth over the same period, hampered by recent volatility in international markets. Meanwhile, U.S.-grown cotton exports have remained fairly steady and the U.S. trade position for meat products, particularly poultry, has strengthened dramatically, with shipments consistently and steeply rising over the past 10 years.

A different pattern has emerged for the market shares held by U.S. commodities in the MENA market. For corn, wheat, rice, and soy products, the shares have declined for almost two decades. The share of U.S. poultry in the MENA market has grown only slightly over the past decade, despite a 10-percent annual growth in shipments. The MENA region's strong and increasing demand for chicken products has led it to source its poultry from a variety of countries, limiting growth in the U.S. share. Meanwhile, despite relatively small shipments and modest growth in beef and veal, the U.S. share of MENA's imports has shown gradual rises over the past 10 years.

Wheat

Although wheat is central in MENA diets, wheat cultivation in the region is significantly constrained by the arid climate and limited water availability. While some production is rain-fed, highly variable annual rainfall, particularly in Morocco and Turkey, contributes to variations in yields, often resulting in large swings in import demand (fig. 8). The MENA region's growing incomes imply a gradual diversification away from wheat into more expensive food products, including meats. However, governments throughout the region tend to ensure supplies of this key food staple through policies that support both wheat producers and bread consumers and prioritize adequate levels of imports. In combination with robust population growth, this important staple is expected to be in steady demand in the years to come.

Given the production conditions and the strong demand in the region, wheat consumption has exceeded production and the region continues to rely heavily on imports. Historically, much of this supply originated in the United States, but the past 20 years have seen a sizeable drop in the U.S. share of wheat imports into the MENA. Limited growth in U.S. wheat output, coupled with growing competition from Black Sea countries and the European Union, have reduced the U.S. share of the region's wheat imports to around 10 percent in recent years, down from around 30 percent in the 1990s.

The largest buyer of U.S. wheat in the region is Egypt, accounting for slightly more than half of all U.S. exports to the MENA, though year-to-year volumes have fluctuated dramatically, most recently due to political turbulence (Ciezahl, 2011; Hanley, 2011). The next largest buyer of U.S. wheat is Yemen. Meanwhile, with recent policy changes in Saudi Arabia to de-emphasize domestic wheat production, the expectation is that Saudi wheat imports will expand and U.S. wheat will play a role in meeting that country's import demand (FAS, 2014c). Turkey, Algeria, Israel, and Morocco are also major importers of U.S. wheat, though the pattern of shipments over time has been volatile, reflecting these rain-dependent producers' own unpredictable harvests.

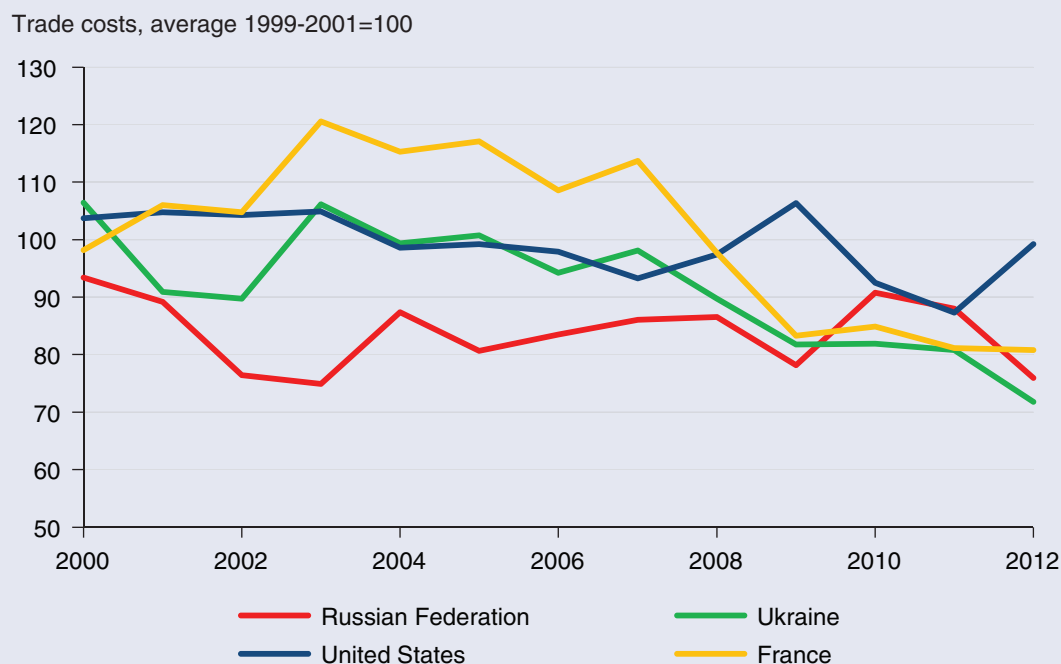
Explaining U.S. Declines in Corn and Wheat Shipments

U.S. wheat and corn shipments to the MENA—and to many other markets around the world—have all fallen for the same reason: that competition from the European Union and the former Soviet Union has increased. Those competitors, owing to their much closer distance to MENA markets, enjoy significantly lower transportation costs and consequently can offer more competitive prices (USDA, 2015).

In addition to this natural advantage, overall trade costs with the MENA—which include logistics, tariffs, and nontariff barriers—have declined faster for these regions than for the United States. To illustrate this, figure 7 presents an index of annual bilateral trade costs between the MENA and a sample of trading partners: France, Russia, Ukraine, and the United States (ESCAP-World Bank, 2015).

Based on figure 7, recent years show that trade costs have fallen significantly for France, Russia, and Ukraine but not the United States, suggesting that additional trade advantages may have accrued to these competitors. Thus, while distance will continue to pose significant competitive obstacles to U.S. shipments, reducing other costs associated with trade could help U.S. producers regain competitiveness.

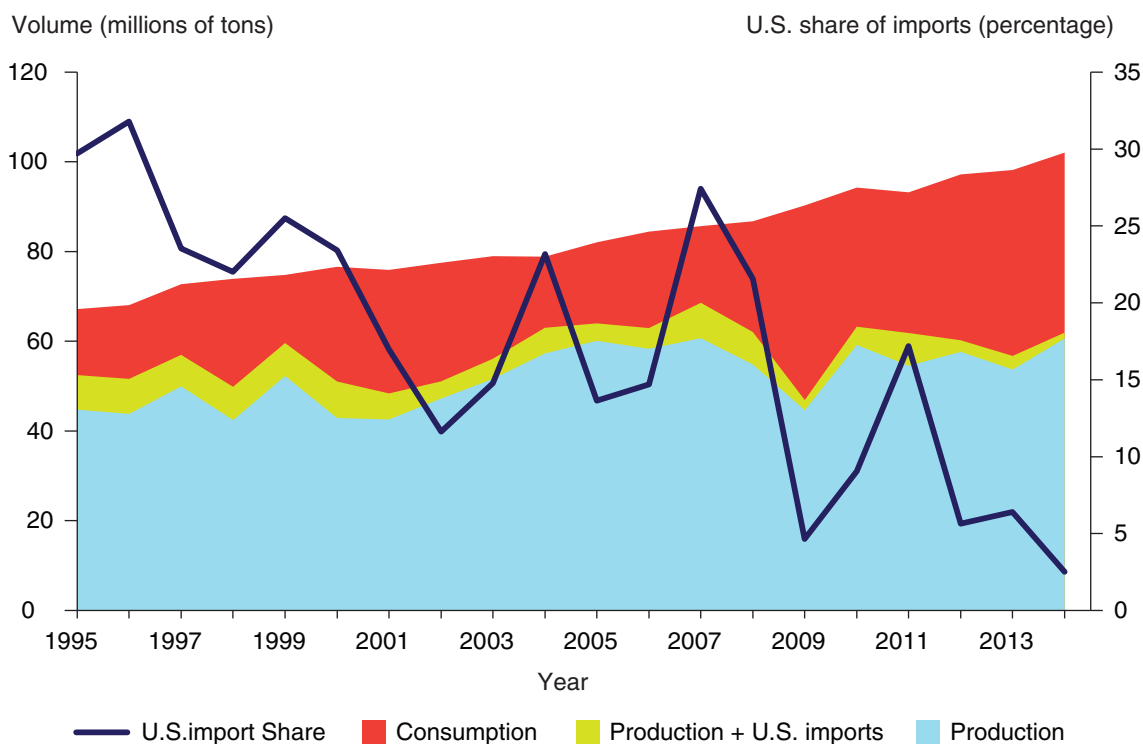
Figure 7
Comparative changes in costs incurred by other regions for trading with the MENA*



*Including logistics, tariffs, and nontariff barriers.
 Source: ESCAP-World Bank (2015).

Figure 8

Wheat Consumption, production, and trade for MENA, and U.S. import share



Source: Data taken from USDA (2015) and USDA-GATS(2014).

Corn

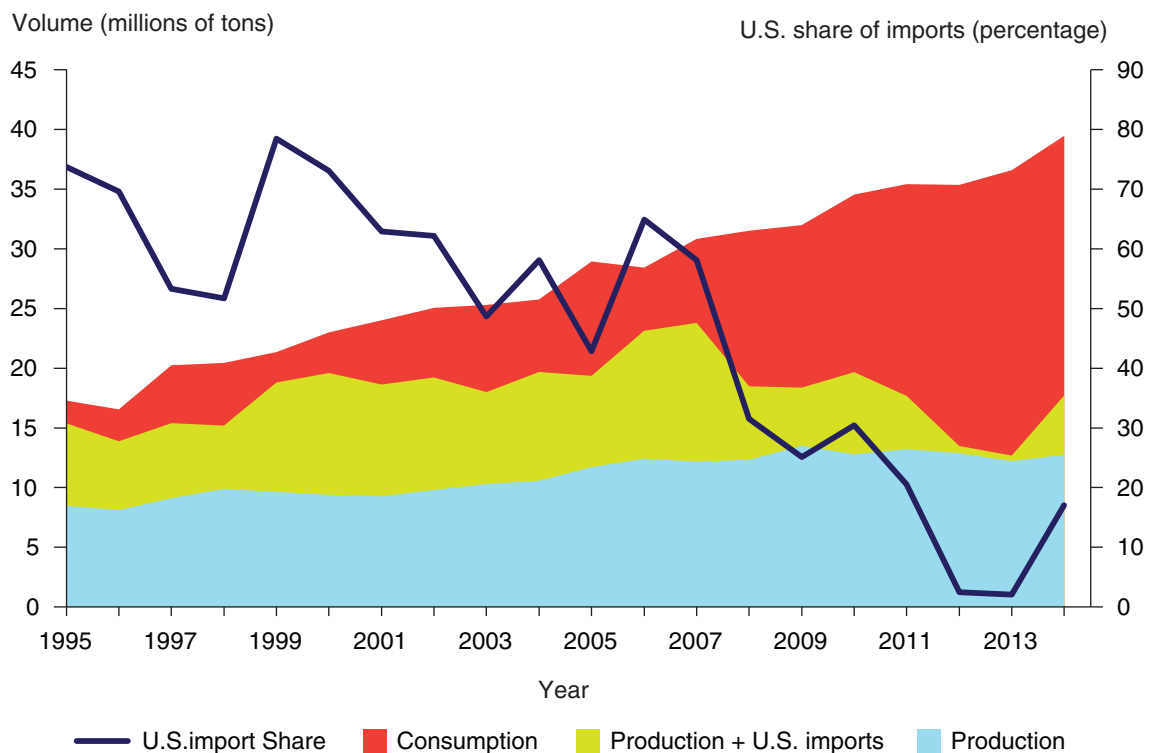
In the MENA region, corn, used mainly as feed for livestock, is grown primarily in Turkey, Egypt, and Iran. While most corn production is irrigated, it remains subject to a different kind of moisture constraint, namely, the limited—and, in some places, declining—underground water supplies. This leaves relatively little room for area expansion or yield growth (fig. 9).

MENA corn consumption has grown steadily over the past 20 years, primarily due to growing demand for feed to support expansion of poultry production and consumption. While rising incomes are fueling poultry demand, it remains to be seen whether the demand for poultry will translate into rising feed imports or higher poultry imports, with the outcome likely to vary within the region.

Given the disparity between the region’s constrained production and its growing demand for poultry and other meats, corn imports into the MENA region have steadily risen, except for a temporary drop in 2009 associated with the spike in global food prices. The U.S. share of the region’s corn imports has declined from about 70 percent during the mid-1990s to around 10 percent in recent years, the result of reduced U.S. exportable surpluses, higher U.S. prices following the 2012 U.S. drought, and more competition from other suppliers. But the expectation is that the MENA’s rising incomes and increasing population will sustain its growing demand for U.S. corn in the future. Major U.S. competitors in the MENA corn market include Ukraine and Russia, who enjoy transport cost advantages to the MENA region but experience frequent weather-induced fluctuations in production. The major destinations of MENA-bound U.S. corn are Saudi Arabia and Egypt.

Figure 9

Corn consumption, production, and trade for MENA, and U.S. import share



Source: Data taken from USDA (2015) and USDA-GATS(2014).

Rice

Major rice producers in the MENA region include Egypt, Turkey, and Iran, but as with other crops, production lags far behind consumption and is not expected to rise appreciably because of climate and land constraints. The region’s population consumed an average of 13 million tons of rice per year over the period 2011-13, of which around 7 million tons were imported (fig. 10). The U.S. share of rice imports to the region has fallen, dipping below 15 percent in recent years, as emerging competitors in South Asia and Thailand have gained market share due to lower prices and geographic proximity.

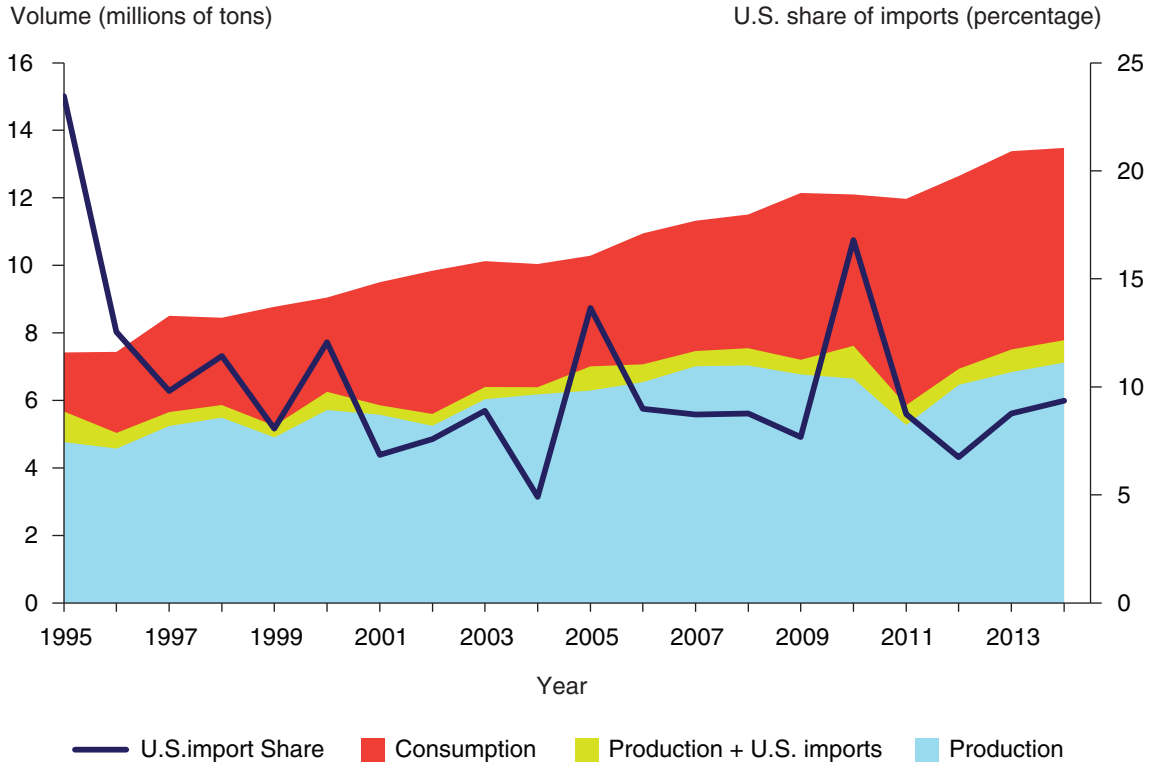
Major MENA region destinations for U.S. rice include Turkey, Libya, Jordan, and Saudi Arabia. Some of these markets emerged in the wake of the 2008 food price crisis when regular suppliers, namely, Egypt and India, imposed export restrictions. Notwithstanding the unpredictable occurrence and effects of such trade policies, rising incomes and populations in the region are expected to sustain rice demand, leaving the door open for a growing U.S. role in this market.

Soybeans and Soy Products

Despite recent volatility, consumption of MENA region soy products has risen over the past 20 years (fig. 11). As with corn, this growth has been driven primarily by rising demand for poultry and other meat. The proportion of soybeans and soybean meal imports varies across the region, depending on each country’s domestic soybean-crushing capacity. In some countries, such as Egypt, crushing capacity remains controlled by government-favored monopolies that enjoy tariff protection from soymeal imports. In other countries, however, economic constraints have limited

Figure 10

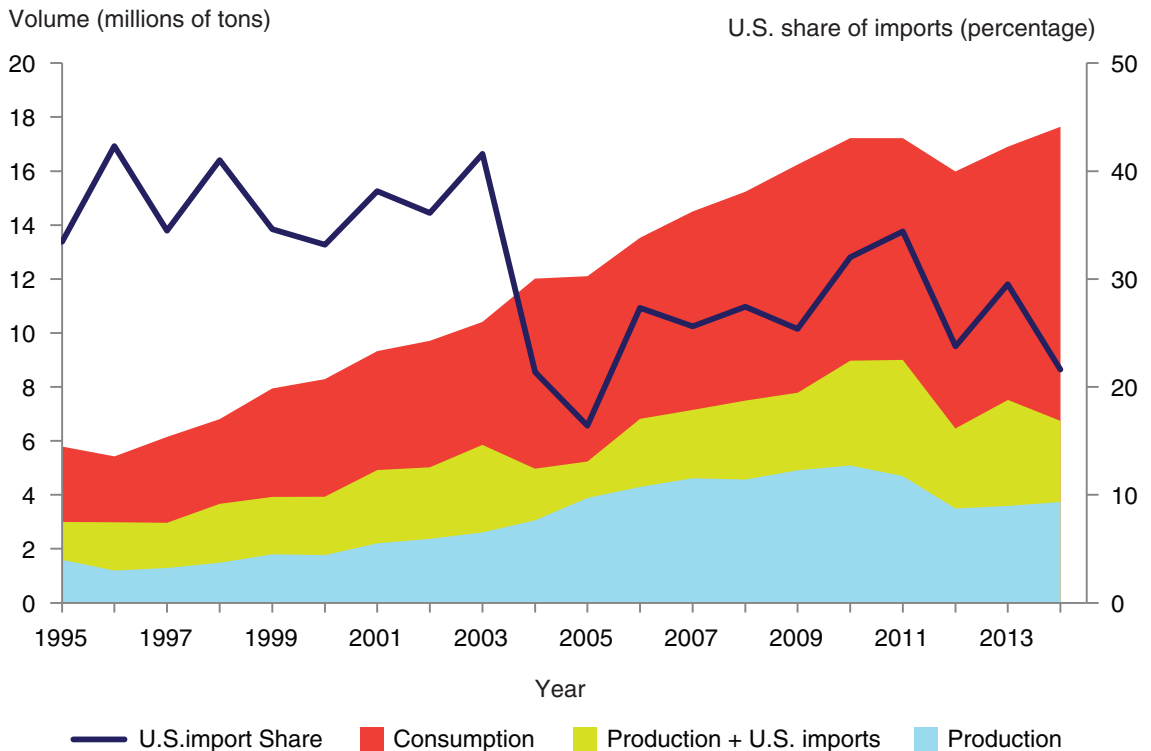
Rice consumption, production, and trade for MENA, and U.S. import share



Source: Data taken from USDA (2015) and USDA-GATS(2014).

Figure 11

MENA soybean and soy products consumption, production, and imports from the United States



Source: Data taken from USDA (2015) and USDA-GATS(2014).

the expansion of crushing capacity, leaving markets open to U.S. soy meal products despite a declining trend in the share of U.S. soy products exported to the region (fig. 11).

While U.S. shipments of soybeans to the MENA region have varied like those of other crop commodities, the trend over the past 10 years has generally tracked upward with consumption. Among the MENA importers of U.S. soy are Egypt and Turkey, along with Tunisia, Morocco, and Israel. However, the U.S. share of the MENA region soy product market has steadily shrunk as price-competitive producers, such as Brazil and Argentina, have claimed a greater portion of these markets.

Soy oil, an edible byproduct of soy meal production, has witnessed similar growth in consumption over the past 20 years, primarily in Egypt and ONA. As with other soy products, however, soy oil production has witnessed little growth over the past two decades. Consequently, imports into the region have risen significantly to make up the difference, averaging about 1.8 million tons over the period 2011/13 and accounting for more than 20 percent of the world's total soy oil imports.

Cotton

For cotton, the MENA's consumption levels have regularly exceeded production, but by a consistent amount, keeping imports relatively constant for the past 15 years (fig. 12). While Egypt is known for its high-value, long-fiber cotton, which directly competes with the U.S.-grown Pima variety, its production volume is relatively small. The region's largest cotton grower is Turkey, accounting for much of the region's production, with around 630,000 metric tons in 2014 (FAS, 2014a).

Despite being the top MENA producer of cotton, Turkey's demand for fiber from its expanding textile sector has outpaced domestic supply. Turkey is the largest market for U.S. cotton in the region, with U.S. shipments accounting for nearly one-third of the country's total use (FAS, 2014a). In 2013, Turkey surpassed China as the biggest global buyer of U.S. cotton (Prentice, 2013). In addition, Israel, UAE, and Saudi Arabia are major U.S. cotton destinations figure 12 shows, both market share and volumes of U.S. cotton exports to the MENA have increased over the past 15 years, though year-to-year fluctuations occur.

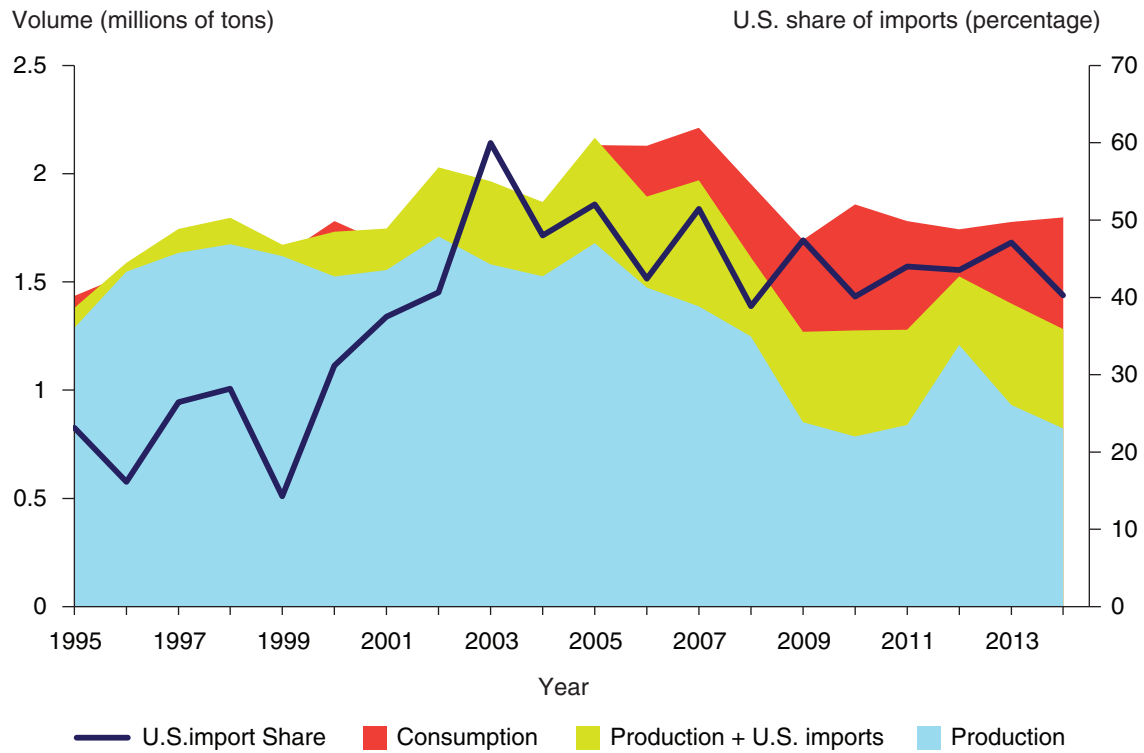
Poultry

The MENA region's poultry consumption and production have risen consistently over the past 15 years (fig. 13). As with other commodities, the growth of poultry consumption has been exceeding gains in domestic production, leading to rising imports, and MENA is now the largest regional importer of poultry products in the world (FAS, 2014b). Saudi Arabia remains the region's largest buyer, with total imports over the last decade rising about 4 percent annually, reaching 700,000 metric tons in 2013 (Davis et al., 2013). Close behind is Iraq, with total imports expanding by over 400 percent over the same period. U.S. poultry shipments, which consist mainly of broilers, saw rapid growth over the past 10 years, with quantities reaching around 350,000 metric tons in 2013, accounting for about 15 percent of the region's poultry imports. Destinations within the region for U.S. poultry are different than for other commodities, with the biggest customers, Iraq and the UAE, accounting for 30 percent and 20 percent, respectively, of total U.S. shipments to the MENA.

Over the last decade, MENA imports from the United States have grown more than 10 percent per year. The largest U.S. competitor for this market is Brazil, the world's largest poultry exporter, but Turkey has emerged as an important local supplier within the region (FAS, 2014b).

Figure 12

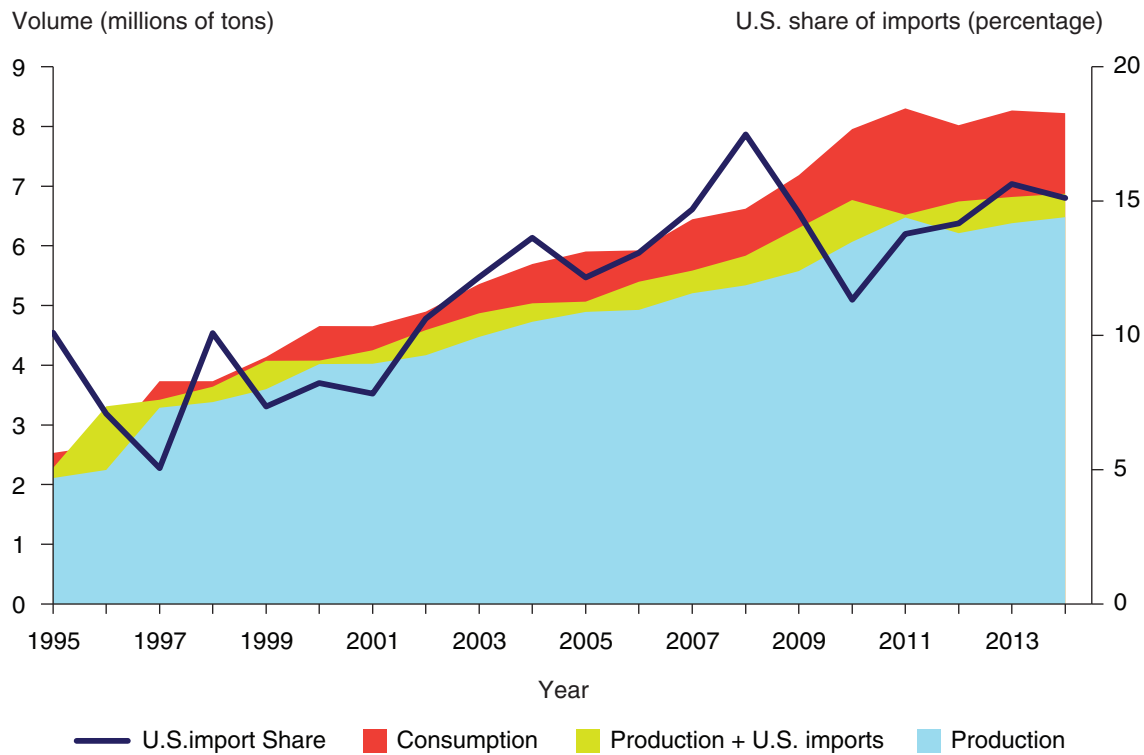
Cotton consumption, production, and trade for MENA, and U.S. import share



Source: Data taken from USDA (2015) and USDA-GATS(2014).

Figure 13

Poultry consumption, production, and trade for MENA, and U.S. import share



Source: Data taken from USDA (2015) and USDA-GATS(2014).

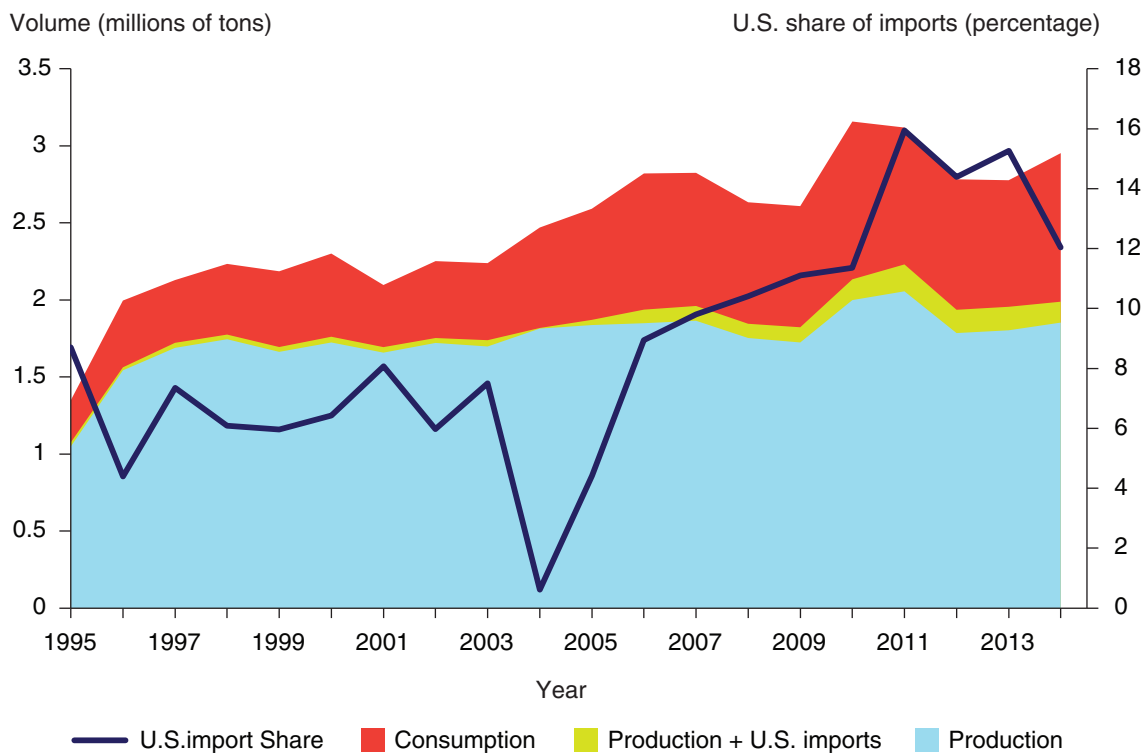
Beef and Veal

Beef and veal consumption, in contrast to poultry, showed relatively little growth over the past decade (fig. 14). Production generally tracked consumption with a consistent supply gap, leaving a sizeable role for imports. However, unlike other products, U.S. beef and veal shipments not only grew modestly, but their share of the MENA region’s total beef and veal imports climbed over the past 10 years, from nearly nothing to about 10 percent in 2010.

For U.S. beef, major MENA markets include Egypt, Kuwait, and Qatar. The region’s dominant supplier is India, one of the world’s leading exporters, which provides relatively low-cost “cara-beef” (water buffalo meat) processed according to Islamic requirements. Due to its geographic proximity, India also enjoys transportation cost advantages with the MENA market (FAS, 2014b).

Figure 14

Beef and veal consumption, production, and trade for MENA, and U.S. import share



Source: Data taken from USDA (2015) and USDA-GATS(2014).

Other Crops

Apart from the major crop commodities and meat products, other U.S. products appear among the top exports to the MENA region. Tree nuts—mainly almonds and walnuts—actually claimed the number one spot, in value, in exports to the MENA region, surpassing wheat in 2013.⁶ U.S. tree nut exports, almost entirely grown in California, have surged in markets around the world, those in the MENA region included. U.S. tree nut exports to the MENA totaled \$967 million in 2013, with the largest percentages of these shipments going to the UAE (38 percent) and Turkey (29 percent). Turkey’s own tree nut production and exports represent a distant second supplier for MENA markets.

⁶According to Global Agricultural Trade System (GATS, 2014) data, shipments in 2013 of U.S. wheat, cotton, and soybean exports to MENA region were around \$955 million, \$822 million, and \$814 million, respectively.

Projections of MENA Production and Trade

The MENA region's rising incomes and above-average population growth are projected to drive its consumption growth across a variety of agricultural commodities over the next 10 years. Given the region's natural constraints on production, the USDA projections point to a correspondingly large rise in total imports. This section highlights some of the results reported in the USDA Agricultural Projections to 2024 to provide an overview of the production and net imports of important commodities in this region (USDA, 2015). Along with the discussion, the projections are detailed in the following tables:

- Table 3 presents the MENA region's projected production for each of the main crop commodities.
- Table 4 provides a more detailed, country-specific presentation of each commodity's projected consumption for food and feed use, as well as projected imports.
- Table 5 reports projections for production, consumption, and import values for meat products, for each country, the country aggregations, and the overall region.
- Table 6 reports the region's projections for cotton.

Certain assumptions underlie the USDA long-term projections (see Box, "USDA Agricultural Projections to 2024"). One of the key assumptions is the continuation of current government policies. Given uncertainty about the stability of several governments in the MENA region, such an assumption is likely to prove tenuous. Projections for Iraq and Egypt must be treated with particular caution as these countries continue to experience political tensions. Similarly, projections for the OME category, which includes Syria and Yemen, must be interpreted with caution due to the persistence of civil conflict and political turmoil.

Food Grains

By far the largest field crop by area in the MENA, wheat is currently cultivated on about 26 million hectares. This area is projected to rise about 0.4 percent annually through 2024. Combined with somewhat slow growth in yields, production is expected to grow at a relatively low 1.3 percent annually over the projection period. (See Tables 3 and 4 for summaries of the region's food grain production and consumption.)

Over 90 percent of MENA's wheat is destined for direct human consumption, primarily in the form of bread. The most populated countries in the region, Egypt, Turkey, and Iran, will remain the top wheat consumers over the next 10 years. But the region's fastest consumption growth is projected to occur in Iraq, assuming current political conditions there do not deteriorate. As described above, rising populations and production constraints imply a growing role for imports across the MENA. Egypt is projected to remain the region's largest wheat buyer, with imports accounting for nearly 60 percent of its own consumption. Recently, imports into Egypt have shown large swings due to the country's recent political turmoil. Forecasts of Egypt's wheat imports, therefore, must make strong assumptions of stability and unchanging policies toward producers and consumer subsidies.

Saudi Arabia's import dependence, meanwhile, is even greater than Egypt's and is projected to approach 100 percent by the end of 2024. The aggregate regions of ONA and OME are also

USDA Agricultural Projections to 2024

USDA agricultural projections are based on a simulation of global production and trade that assumes the continuation of current government policies and existing bilateral and multilateral trade agreements. Most important, critical long-term assumptions are made for U.S. and international macroeconomic conditions.¹ The projections are a representative scenario that assumes normal weather conditions throughout the projection period and the extension of historical trends in the expected performance of some economic variables. In addition, there are no domestic or external shocks in the assumptions that affect the global supply and demand balance. Change in any of the stated assumptions could significantly alter the outcomes of the projections.

As described in the long-term projections to 2024, the main assumptions for the MENA region's projections are rising per capita income and a rapidly growing middle-income class. GDP is projected to grow at an annual rate of 4.3 percent, with the highest growth rate at 8.4 percent in Libya and the lowest rate at 2.8 percent in Kuwait (Table 1). The region's population is expected to grow at 1.5 percent annually, 50 percent higher than the world average. The region's agriculture will be constrained by scarce arable land and water resources and limited infrastructure. In addition, the MENA will experience a smaller increase in area expansion and yield growth in comparison with other regions.

The USDA's baseline projections for the MENA region are based on individual country models for Egypt, Morocco, Iran, Iraq, Saudi Arabia, and Turkey. A regional model for the Other Middle East (labeled OME) aggregates Bahrain, West Bank & Gaza, Israel, Jordan, Kuwait, Lebanon, Oman, Syria, United Arab Emirates, and Yemen. Similarly, Tunisia, Libya, and Algeria are aggregated into an Other North Africa (ONA) model.

For additional information for USDA Long-Term projections, refer to:

The Agricultural Baseline Projections topic page on ERS website: <http://www.ers.usda.gov/topics/farm-economy/agricultural-baseline-projections.aspx#.Uh5qxbzjZHY>

USDA Agricultural Projections to 2024: <http://www.ers.usda.gov/publications/oce-usda-agricultural-projections/oce151.aspx>

¹Given the ongoing political and economic instability within certain parts of the MENA, greater uncertainty surrounds the macroeconomic assumptions for this region.

projected to become among the largest importers by 2024. The OME group includes Yemen, where recent political upheavals, combined with the country's heavy dependence on imported wheat, inject additional uncertainty into the region's overall wheat profile.

For rice, MENA production is expected to grow only 0.5 percent over the 10-year projection period. As noted, constraints on available arable land and underground water supplies combine to limit the area and yield growth of the region overall. Egypt remains the largest rice consumer in the region, and its domestic production adequately covers demand, positioning it to sell excess quantities on the world market. Rice imports play a less important role than wheat in satisfying the country's consumer demand, and uncertainties about Egypt's political stability may have less effect on rice import projections.

The MENA region's number two rice consumer, Iran, relies on imports to meet over half of its demand and is expected to continue importing high levels as its population grows over the projection period. Other significant rice consumers are Iraq and Saudi Arabia, both of which rely even more heavily than Iran on imports as a percentage of consumption and whose imports are expected to grow over the next 10 years. Again, projections concerning Iraq's rice imports are tempered by uncertainties surrounding its recent history of civil conflict.

Table 3

Projected MENA grains and oilseeds area, yields, and production

	Average 2012/14	Projected 2024	Growth rate 2013/24
Area (1,000 hectares)			
Wheat	25,844	26,993	0.4
Barley	10,244	11,498	1.1
Rice	1,480	1,510	0.2
Corn	1,960	2,016	0.3
Soybean	116	133	1.2
Yield (MT/ha)			
Wheat	2.14	2.36	0.9
Barley	1.41	1.66	1.4
Rice	4.69	4.86	0.3
Corn	6.34	6.79	0.6
Soybean	2.72	3.03	1.0
Production (1,000 MT)			
Wheat	55,390	63,746	1.3
Barley	14,516	19,025	2.5
Rice	6,943	7,333	0.5
Corn	12,425	13,677	0.9
Soybean	317	402	2.2
Soy oil	672	783	1.4
Soymeal	2,942	3,514	1.6
Soymeal equivalent	4,681	5,529	1.5

Note: The figures for the growth rate 2013/24 column present the 11-year average annual growth rate beginning from the 2012-2014 average value (effectively representing the year 2013) to the projected value in 2024. MT is metric ton and ha is hectare. Source: USDA (2015).

Table 4

Projected MENA consumption and imports for major crop commodities

	Consumption						Imports		
	Food use			Feed use			Average 2012/14	Projected 2024	Growth rate (%) 2013/24
	Average 2012/14	Projected 2024	Growth rate (%) 2013/24	Average 2012/14	Projected 2024	Growth rate (%) 2013/24	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Wheat									
Egypt	16,300	18,292	1	1,933	1,791	-0.7	9,323	10,545	1.1
Morocco	8,400	9,646	1.3	333	342	0.2	3,575	3,842	0.7
ONA	14,723	17,671	1.7	75	87	1.3	10,618	11,509	0.7
Saudi Arabia	3,133	3,900	2	150	181	1.7	2,867	3,904	2.8
Turkey	16,933	18,052	0.6	617	308	-6.3	4,486	4,868	0.7
Iraq	5,695	7,212	2.1	692	927	2.7	3,398	4,924	3.4
Iran	15,833	16,803	0.5	1,700	1,515	-1	5,633	3,550	-4.2
OME	12,328	14,711	1.6	1,658	1,847	1	10,575	12,426	1.5
Total MENA	93,347	106,287	1.2	7,158	6,998	-0.2	50,475	55,568	0.9
Rice									
Egypt	4,017	4,515	1.1	0	0	0	22	46	6.7
Morocco	56	76	2.7	0	0	0	21	34	4.6
ONA	461	522	1.1	0	0	0	461	522	1.1
Saudi Arabia	1,326	1,602	1.7	0	0	0	1,325	1,600	1.7
Turkey	770	916	1.6	0	0	0	292	383	2.5
Iraq	1,483	1,948	2.5	0	0	0	1,404	1,765	2.1
Iran	3,400	3,880	1.2	0	0	0	1,817	2,112	1.4
OME	1,992	2,357	1.5	0	0	0	1,971	2,360	1.6
Total MENA	13,505	15,815	1.4	0	0	0	7,312	8,821	1.7
Barley									
Egypt	50	67	2.6	88	94	0.6	35	55	4.2
Morocco	833	1,110	2.6	1,500	2,162	3.3	300	291	-0.3
ONA	483	588	1.8	3,083	3,705	1.7	1,426	1,655	1.4
Saudi Arabia	25	37	3.5	8,333	7,101	-1.5	8,500	7,141	-1.6
Turkey	900	842	-0.6	5,500	6,582	1.6	615	253	-8.1
Iraq	183	209	1.2	650	905	3	23	41	5.2
Iran	300	337	1.1	4,167	4,405	0.5	1,167	1,095	-0.6
OME	296	343	1.3	2,930	3,373	1.3	2,381	2,765	1.4
Total MENA	3,071	3,533	1.3	26,251	28,327	0.7	14,447	13,296	-0.8

(...continued)

Table 4

Projected MENA consumption and imports for major crop commodities—continued

	Consumption						Imports		
	Food use			Feed use			Average 2012/14	Projected 2024	Growth rate (%) 2013/24
	Average 2012/14	Projected 2024	Growth rate (%) 2013/24	Average 2012/14	Projected 2024	Growth rate (%) 2013/24			
Corn									
Egypt	2,167	2,837	2.5	10,833	12,953	1.6	7,020	9,713	3
Morocco	200	210	0.4	1,983	2,661	2.7	2,057	2,738	2.6
ONA	0	0	-	5,000	5,923	1.5	5,029	5,930	1.5
Saudi Arabia	167	242	3.4	2,433	3,147	2.3	2,521	3,301	2.5
Turkey	1,000	987	-0.1	5,383	7,362	2.8	1,808	2,932	4.4
Iraq	50	57	1.2	300	422	3.1	133	227	4.8
Iran	150	157	0.4	6,100	7,604	2	4,900	6,364	2.4
OME	518	619	1.6	3,374	3,679	0.8	3,688	4,088	0.9
Total MENA	4,252	5,108	1.7	35,407	43,751	1.9	27,156	35,293	2.4
Soymeal									
Egypt	0	0	0	2,377	2,917	1.9	1,002	1,375	2.9
Morocco	0	0	0	0	0	-	-	-	-
ONA	0	0	0	2,602	3,631	3	2,174	2,992	2.9
Saudi Arabia	0	0	0	634	782	1.9	634	782	1.9
Turkey	0	0	0	1,371	1,600	1.4	973	1,212	2
Iraq	0	0	0	-	-	-	-	-	-
Iran	0	0	0	2,843	3,518	1.9	2,527	3,095	1.8
OME	0	0	0	1,582	1,878	1.6	1,240	1,465	1.5
Total MENA	0	0	0	11,408	14,326	2.1	8,550	10,921	2.2
Soymeal equivalent									
Egypt	0	0	0	2,553	3,139	1.9	1,085	1,499	2.9
Morocco	0	0	0	-	-	-	-	-	-
ONA	0	0	0	2,767	3,825	2.9	2,310	3,154	2.8
Saudi Arabia	0	0	0	639	789	1.9	638	789	1.9
Turkey	0	0	0	2,553	3,139	1.9	1,085	1,499	2.9
Iraq	0	0	0	-	-	-	-	-	-
Iran	0	0	0	3,014	3,738	2	2,609	3,229	1.9
OME	0	0	0	2,139	2,482	1.4	1,485	1,692	1.2
Total MENA	0	0	0	13,665	17,112	2	9,212	11,862	2.3

Source: USDA (2015).

Animal Feeds

Corn consumption in the MENA region is projected to rise by 1.4 percent over the next 10 years, thanks to growing demand for livestock feeds. Nearly 90 percent of MENA's corn consumption is fed to livestock, although human consumption figures significantly in Egypt and Turkey. Again, the

largest corn consumer is Egypt, where imports—which account for over half of total usage—are projected to grow by 3 percent annually through the end of 2024. Egypt’s recent political turmoil, however, casts some doubt on its prospects for import growth. Morocco will continue to rely almost entirely on imports to supply its growing livestock sector, as will ONA, and Saudi Arabia, Iran, and OME. Turkey currently imports less corn than its neighbors, but USDA projections suggest that its rate of import growth will be among the region’s highest over the next 10 years.

Saudi Arabia, Turkey, and Iran are the largest consumers of barley in the MENA region, using it largely for animal feed. And while Saudi Arabia currently imports nearly all the barley it consumes, projections indicate declining usage as the government encourages livestock producers to use more efficient mixes, including processed feeds. Raw barley imports over the next 10 years are consequently projected to decline (FSA, 2014c). In contrast, Turkey and Iran are projected to raise their barley demand. Turkey’s own barley production covers most of its domestic demand, however, so its import profile for barley is small. Similarly, owing to robust domestic production, projections indicate declining import demand for barley in Iran as well.

The MENA’s imports of soy products (soymeal and soymeal equivalents) are also expected to continue their strong growth, given the region’s near-stagnant production and rising demand for animal feed. Over the projection period, the MENA region is expected to account for 13 percent of the world’s overall import growth in soymeal. Major consumers Egypt, ONA, and Turkey are projected to have the fastest growth in consumption, with imports into each of these countries and regions satisfying nearly all the additional consumption. (Tables 3 and 4 include summaries of the region’s animal feed production and consumption.)

Meats

Much of the growth in meat consumption in the MENA region is due to rising incomes, and as countries in the region ascend the income ladder over the next 10 years, meat consumption will correspondingly rise. Table 5 presents a summary of current and projected poultry and beef production, consumption, and net imports. The MENA region is projected to import a quarter of the world’s traded poultry and 12 percent of its beef over the period 2015-24. By 2024, the region’s poultry and beef net imports are projected to reach around 2.8 and 1.6 million tons, respectively, reflecting almost a 4-percent increase per year.

For poultry, the most dramatic changes are projected to appear in Egypt. With consumption growing at almost twice the rate of production, Egypt is expected to rely more heavily on imports, with import volumes rising about 11 percent annually over the projection period. Again, Egypt’s recent political turmoil suggests that import growth for poultry may be fragile. Projections for the OME region also exhibit rapid poultry import growth. Only one country, Turkey, produces enough chicken to meet its own increasing needs (and to also supply its neighbors), with exports expected to rise 2.3 percent over the projection period.

The outlook for beef and veal products largely mirrors that of poultry. Growth in consumption in the region vastly outpaces production, with demand growing fastest in Egypt, ONA, and Saudi Arabia. Corresponding to the growing gap between production and consumption is the rapid growth in imports, observed across nearly all the countries in the region for which data are available. One exception is Turkey, for which rising consumption is projected to be almost entirely matched by domestic production, keeping its import profile relatively small.

Table 5

Projected MENA production, consumption, and net imports of meat products

	Production			Consumption			Net Imports		
	Average 2012/14	Projected 2024	Growth rate (%) 2013/24	Average 2012/14	Projected 2024	Growth rate (%) 2013/24	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Poultry									
Egypt	676	820	1.7	703	1,071	3.8	27	251	20.4
ONA	1052	1,279	2.0	1,054	1,288	2.0	2.3	11	16.9
Saudi Arabia	653	857	2.5	1,430	1,840	2.3	776	984	2.2
Turkey	1,780	1,979	1	1,410	1,501	0.6	-370	-478	2.3
OME	2,289	2,546	1.1	3,622	4,513	2.2	1,333	1,967	4.0
Total MENA	6,510	7,504	1.3	8,324	10,303	1.9	1,814	2,800	3.9
Beef and Veal									
Egypt	302	333	0.9	533	700	2.5	232	367	4.2
ONA	385	409	0.6	528	713	3.0	144	305	7.8
Saudi Arabia	51	54	0.6	221	294	2.6	170	240	3.1
Turkey	479	498	0.3	499	523	0.4	20	25	2.0
OME	614	640	0.4	1,089	1,319	1.9	485	682	3.5
Total MENA	1,835	1,938	0.5	2,912	3,583	1.9	1,077	1,644	3.8

Note: All values are in 1,000 MT. The figures for the growth-rate column present the 11-year average annual growth rate from the 2012-2014 average value (effectively representing the year 2013) through the projected value in 2024.

The baseline projections do not contain estimates for Morocco, Iran, and Iraq.

Source: USDA (2015).

Cotton

For cotton, the region is projected to continue its net import position, but at a decreasing growth rate over the projection period. Area under cultivation is expected to expand less than 1 percent, but yield will increase around 1.3 percent (Table 6). Cotton consumption in the MENA region is projected to grow about 1 percent annually over the next 10 years. Almost 50 percent of cotton consumption is projected to be met through imports, with Turkey remaining the top regional importer and the United States the major foreign supplier. Egypt is projected to decrease its dependency on imported cotton. The country's cotton net imports will substantially decrease from 25,000 metric tons in 2012/14 to less than 1,000 metric tons at the end of the projection period.

Table 6

Projected MENA cotton/fiber economy

	Average 2012/14	Projected 2024	Growth rate (%) 2015/24
Area (1,000 hectares)			
Egypt	143	154	0.7
Turkey	390	498	2.2
Other MENA	253	213	-1.6
MENA	786	865	0.9
Yield (MT/ha)			
Egypt	737	815	0.9
Turkey	1,506	1,687	1.0
Other MENA	840	884	0.5
MENA	1,152	1,335	1.3
Production (1,000 MT)			
Egypt	105	126	1.6
Turkey	588	840	3.2
Other MENA	213	188	-1.1
MENA	906	1,154	2.2
Consumption (1,000 MT)			
Egypt	131	126	-0.3
Turkey	1,368	1,617	1.5
Other MENA	299	238	-2.1
MENA	1,798	1,981	0.9
Net import (1,000 MT)			
Egypt	25	0.6	-34.1
Turkey	807	777	-0.3
Other MENA	80	49	-4.5
MENA	912	827	-0.9

Source: USDA (2015).

Conclusions

Strong population growth and rising incomes in the MENA region are likely to continue to drive consumption demand, with implications for continued robust growth in import demand. While these trends present opportunities to U.S. producers, U.S. market share in the region has recently been declining for several major commodities. Further, recent political instability in the MENA region may affect income growth, purchasing power, and import demand more than is reflected in the current USDA projections.

The MENA region's most populous country, Egypt, encapsulates many of these conditions. Egypt's economic growth is combining with its sizeable consumer base to create a market with new middle-class tastes. This promises not only greater consumption of staple grains, but also a significant dietary transition into more high-value foods, including poultry, as well as more animal feeds such as corn and soy products. But as these changes are evolving in the background, political events in the foreground raise questions about the country's ability to provide stable conditions for these markets to operate. Egypt's volatile import profile in the past several years, as well as its willingness to enforce trade restrictions, is evidence of this instability.

The MENA region defies generalization, however. For example, the rising middle class in Morocco, a country with notably less instability than in Egypt, Iraq, or Syria, has created new markets for agricultural trade. Large countries Turkey and Iran exhibit some of these same demographic and economic traits, but their agricultural economies are more self-subsistent. Iran's economy remains further out of reach to U.S. producers due to longstanding sanctions. Meanwhile, high-income, stable importers such as Saudi Arabia remain attractive destinations for U.S. shippers, but compared with their less-developed neighbors, these markets are relatively mature and offer fewer growth opportunities.

In addition to the complexities of the MENA region, producers in other countries have placed new pressures on the competitive environment. U.S. shipments of corn and wheat to the region have experienced sharp declines in recent years due to increased competition from low-cost suppliers in the Black Sea region. U.S. suppliers also face stiff competition from low-cost suppliers like Brazil and Argentina in soy product markets, India in the cotton and beef market, and Brazil in the MENA region's rapidly expanding poultry market. Some of the loss of U.S. exports to MENA through this competition could be offset, however, if tariffs and nontariff barriers could be reduced.

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Appendix

Appendix Table 1

General overview of the MENA region

Region/ country	GDP per capita 2013	Current account balance 2012	OPEC	Stability status 2014	Un-employment rate 2013	Urban-ization rate 2013	Tourism revenue average 2010/12	Net Foreign direct investment average 2011/13	Personal remittances received average 2011/13
	2010 \$US	Billion current \$US	Mem-ber	Fragile States Index	%	%	Billion current \$US	Billion current \$US	Billion current \$US
UAE	59,885	52.7	Yes	Stable	3.8	85	8.6	8	0
Kuwait	52,549	79.2	Yes	Less Stable	3.1	98	0.7	0.8	0
Israel	33,562	0.8	No	High Warning	6.7	92	6	6.8	0.7
Saudi Arabia	23,318	164.8	Yes	High Warning	5.5	83	8.4	15.1	0.3
Bahrain	22,349	2.9	No	Warning	7.4	89	1.9	0.9	0
Oman	21,493	8.3	No	Less Stable	8	77	1.5	1.2	0
Turkey	10,473	-48.5	No	High Warning	9.9	72	29.6	10.8	1
Lebanon	9,665	-1.7	No	Very High Warning	6.6	88	7	3.2	7.2
Iraq	5,567	29.5	Yes	High Alert	16.1	69	1.6	1.2	0.2
Iran	5,288	-8.7	Yes	Very High Warning	13.2	72	2.6	2.9	1.3
Jordan	4,413	-5.7	No	High Warning	12.6	83	4.2	1.7	3.5
West Bank & Gaza	2,233	-2.3	No	High Warning	NA	75	0.7	0.1	1.8
Syria	1,396	-0.4	No	High Alert	8.4	57	6.3	0.9	0
Yemen	1,135	-1	No	High Alert	17.2	33	1	0.3	2.7
Tunisia	8,753	-3.7	No	High Warning	17.5	66	3	1.3	2.2
Algeria	4,641	12.2	Yes	High Warning	9.8	70	0.3	1.7	0.2
Libya	4,341	23.8	Yes	Very High Warning	9	78	0.2	1.5	0
Morocco	3,126	-9.6	No	High Warning	9.2	59	8.6	1.9	6.9
Egypt	2,725	-7	No	Alert	12.7	43	11.3	4.6	16.8
MENA	7,672	15	-	High Warning	10.4**	73	103.5	64.9	44.9
United States	50,249	-400.3	No	Very Stable	7.5	81	183.1	211.5	6.4
World	9,888	0	-	High Warning	6	53	1,221.4	1,437.8	478.4

Sources: GDP per capita, USDA, 2015; OPEC, OPEC, 2015; Stability status, FFP, 2015; Current account balance, Unemployment rate, Urbanization rate, Tourism revenue, Net foreign direct investment, and Personal remittances received, World Bank, 2015.

Projected grains and oilseeds economy: Egypt

	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Area (1,000 hectares)			
Total Grain and oilseed	3,231	3,341	0.3
Wheat	1,333	1,457	0.8
Barley	83	82	-0.1
Rice	730	713	-0.2
Corn	725	718	-0.1
Soybean	9	8	-0.6
Yield (MT/ha)			
Total Grain and oilseed	6.19	6.57	0.5
Wheat	6.24	6.66	0.6
Barley	1.30	1.34	0.3
Rice	6.39	6.71	0.4
Corn	7.99	8.47	0.5
Soybean	2.50	2.53	0.1
Production (1,000s MT)			
Total Grain and oilseed	19,980	21,950	0.9
Wheat	8,317	9,708	1.4
Barley	108	110	0.2
Rice	4,642	4,781	0.3
Corn	5,783	6,083	0.5
Soybean	22	21	-0.5
Soy oil	1,473	1,644	1.0
Soymeal	1,378	1,546	1.0
Soymeal equivalent	1,473	1,644	1.0
Consumption for food use (1,000 MT)			
Total Grain and oilseed	23,129	26,375	1.2
Wheat	16,300	18,292	1.0
Barley	50	67	2.6
Rice	4,017	4,515	1.1
Corn	2,167	2,837	2.5
Soybean	17	18	0.6
Net Import (1,000 MT)			
Total Grain and oilseed	17,376	21,846	2.1
Wheat	9,121	10,345	1.1
Barley	30	50	4.7
Rice	-578	-275	-6.8
Corn	7,010	9,703	3.0
Soybean	1,758	1,986	1.1
Soy oil	1,082	1,494	2.9
Soymeal	999	1,370	2.9
Soymeal equivalent	1,082	1,494	2.9

Source: USDA (2015).

Appendix Table 3

Projected grains economy: Morocco

	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Area (1,000 hectares)			
Total Grain	5,013	5,578	1.0
Wheat	3,161	3,446	0.8
Barley	1,674	1,956	1.4
Rice	7	8	1.2
Corn	118	114	-0.3
Yield (MT/ha)			
Total Grain	1.49	1.73	1.4
Wheat	1.68	1.86	0.9
Barley	1.14	1.52	2.7
Rice	4.86	4.98	0.2
Corn	1.38	1.43	0.3
Production (1000 MT)			
Total Grain	7,451	9,657	2.4
Wheat	5,323	6,407	1.7
Barley	1,867	2,979	4.2
Rice	36	42	1.5
Corn	163	163	0.0
Consumption for food use (1,000 MT)			
Total Grain	9,506	11,061	1.4
Wheat	8,400	9,646	1.3
Barley	833	1,110	2.6
Rice	56	76	2.7
Corn	200	210	0.4
Net Import (1,000 MT)			
Total Grain	5,724	6,624	1.3
Wheat	3,341	3,571	0.6
Barley	300	291	-0.3
Rice	21	34	4.6
Corn	2,049	2,714	2.6

Source: USDA (2015).

Projected grains and oilseeds economy: Saudi Arabia

	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Area (1,000 hectares)			
Total Grain and oilseed	203	120	-4.8
Wheat	100	29	-11.3
Barley	2	2	1.3
Sorghum	675	671	-0.1
Corn	21	17	-1.6
Yield (MT/ha)			
Total Grain and oilseed	4.75	4.53	-0.4
Wheat	6.00	6.33	0.5
Barley	7.83	5.52	-3.2
Sorghum	2.30	2.44	0.5
Corn	4.22	5.41	2.2
Production (1,000 MT)			
Total Grain and oilseed	961	543	-5.2
Wheat	600	184	-10.7
Barley	16	13	-1.7
Sorghum	1555	1636	0.5
Corn	80	93	1.4
Consumption for food use (1,000 MT)			
Total Grain and oilseed	4,901	6,054	1.9
Wheat	3,133	3,900	2.0
Barley	25	37	3.5
Sorghum	970	1,081	1.0
Corn	167	242	3.4
Soy oil	8	10	2.5
Net import (1,000 MT)			
Total Grain and oilseed	15,384	16,171	0.5
Wheat	2,867	3,904	2.8
Rice	1,325	1,600	1.7
Barley	8,500	7141	-1.6
Sorghum	163	243	3.7
Corn	2,521	3,301	2.5
Soybean	3	3	1.0
Soy oil	8	10	2.5
Soymeal	634	782	1.9
Soymeal equivalent	638	789	1.9

Source: USDA (2015).

Projected grains and oilseeds economy: Turkey

	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Area (1000s hectares)			
Total Grain and oilseed	13,126	13,775	0.4
Wheat	7737	7,898	0.2
Barley	3,343	3,706	0.9
Rice	99	109	0.9
Corn	552	600	0.8
Soybean	30	48	4.3
Yield (MT/ha)			
Total Grain and oilseed	2.28	2.57	1.1
Wheat	2.09	2.33	1.0
Barley	1.68	2.04	1.8
Rice	4.95	5.18	0.4
Corn	8.51	9.06	0.6
Soybean	3.60	4.02	1.0
Production (1000s MT)			
Total Grain and oilseed	29,986	35,337	1.5
Wheat	16,167	18,432	1.2
Barley	5,600	7,575	2.7
Rice	488	566	1.3
Corn	4,700	5,431	1.3
Soybean	108	194	5.3
Soy oil	1,486	1,698	1.2
Soymeal	377	420	1.0
Soymeal equivalent	1,473	1,644	1.0
Consumption for food use (1000s MT)			
Total Grain and oilseed	20,093	21,317	0.5
Wheat	16,933	18,052	0.6
Barley	900	842	-0.6
Rice	770	916	1.6
Corn	1,000	987	-0.1
Net Import (1000s MT)			
Total Grain and oilseed	5,545	5,782	0.4
Wheat	692	-37	NA
Barley	611	-122	NA
Rice	264	353	2.6
Corn	1,702	2,922	4.9
Soybean	1,440	1,467	0.2
Soy oil	1,635	2,011	1.9
Soymeal	944	1,182	2.0
Soymeal equivalent	1,082	1,494	2.9

Source: USDA (2015).

Appendix Table 6

Projected grains and oilseeds economy: Iran

	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Area (1000s hectares)			
Total Grain and oilseed	9,724	9,905	0.2
Wheat	6,933	7,058	0.2
Barley	1608	1,618	0.1
Rice	572	598	0.4
Corn	350	369	0.5
Soybean	77	76	-0.1
Yield (MT/ha)			
Total Grain and oilseed	2.09	2.24	0.6
Wheat	1.98	2.12	0.6
Barley	2.03	2.26	0.9
Rice	2.84	2.95	0.3
Corn	3.57	3.79	0.5
Soybean	2.41	2.46	0.2
Production (1000s MT)			
Total Grain and oilseed	20,303	22,168	0.8
Wheat	13,767	14,965	0.8
Barley	3,267	3,649	1.0
Rice	1,623	1,762	0.7
Corn	1,250	1,398	1.0
Soybean	185	186	0.1
Soy oil	74	95	2.3
Soymeal	329	423	2.3
Soymeal equivalent	415	509	1.8
Consumption for food use (1000s MT)			
Total Grain and oilseed	19,701	21196	0.7
Wheat	15,833	16803	0.5
Barley	300	337	1.1
Rice	3400	3880	1.2
Corn	150	157	0.4
Soy oil	650	700	0.7
Net Import (1000s MT)			
Total Grain and oilseed	13,647	13,308	-0.2
Wheat	5,465	3,329	-4.5
Barley	1,167	1,095	-0.6
Rice	1,817	2,112	1.4
Corn	4,900	6,364	2.4
Soybean	259	367	3.2
Soy oil	560	608	0.7
Soymeal	2,527	3,095	1.8
Soymeal equivalent	2,609	3,229	1.9

Source: USDA (2015).

Appendix Table 7

Projected grains economy: Iraq

	Average 2012/14	Projected 2024	Growth rate (%) 2013/24
Area (1,000 hectares)			
Total Grain	3,311	3,360	0.1
Wheat	2,188	2,034	-0.7
Barley	940	1,118	1.6
Rice	72	82	1.2
Corn	85	99	1.4
Yield (MT/ha)			
Total Grain	1.28	1.43	1.0
Wheat	1.36	1.59	1.4
Barley	0.86	0.96	1.0
Rice	2.15	2.23	0.4
Corn	2.57	2.55	-0.1
Production (1,000 MT)			
Total Grain	4,223	4,813	1.2
Wheat	2,967	3,228	0.8
Barley	815	1,074	2.5
Rice	156	183	1.5
Corn	217	252	1.4
Consumption for food use (1,000 MT)			
Total Grain	7,415	9,430	2.2
Wheat	5,695	7,212	2.1
Barley	183	209	1.2
Rice	1,483	1,948	2.5
Corn	50	57	1.2
Net Import (1,000 MT)			
Total Grain	4,958	6,950	3.1
Wheat	3,398	4,924	3.4
Barley	23	41	5.2
Rice	1,404	1,765	2.1
Corn	133	227	4.8

Source: USDA (2015).