Feedgrains
• Global corn production is estimated to be 24 mmt higher in 2018/19 than last year, exceeding one billion metric tons, and is surpassed only by the record crop of 2016/17. Despite large supplies, prices are expected to move modestly higher and ending stocks are expected to decline, due in part to a drawdown in China. Corn prices are expected to move higher again in 2019/20, then stabilize thereafter.

• Barley prices are exhibiting that grain’s two distinct markets. The price at Rouen, France, will increase reflecting the decline in wheat feeding as that commodity’s prices increase. The feed barley price is much lower than the premium price for malting-grade barley. The U.S. price more reflects that higher-priced market, which has risen relative to wheat in recent years.

• Though sorghum feed use by China will be below the peak reached several years ago demand will remain above that prior to 2013/14 because of the overall increase in livestock feed demand. Sorghum prices are expected to stall this year, as corn remain somewhat subdued. In the long run, grain prices will regain typical relationships throughout the remainder of the baseline period.

• Several years of subdued prices have resulted in a marginal drop in global corn area, that was distributed among many producers. Nevertheless, small of expansions were also scattered around the world. Total area declines amounted to one million hectares, or about 0.5 %. Corn area is projected to increase modestly over the next decade.

• Sorghum and barley area both partially recovered in 2018/19 from declines a year ago. Modest feedgrains prices will limit expansion in coming years and sorghum and barley area will remain stable. Wheat and oilseeds competition will constrain barley area in nearly all producing regions.

• The permanent grain export tax elimination led to an increase in Argentine corn area in 2018/19 but those effects will be dampened next year by the imposition of the temporary export tax in 2019 and 2020. Because the permanent soybean taxes were not eliminated corn revenues will increase compared to soybeans in the medium term and corn area will remain relatively stable.

• Corn-based ethanol is no longer the demand growth factor in the U.S. that it was just a few years ago as the mandate for conventional ethanol blending has been met. There is still some growth in corn ethanol production in Argentina, but it will not be as large a factor as it has been in the U.S. China has adopted a new ethanol policy that will be the largest driver of corn fuel use in the next few years.

• Feedgrains are important as dietary staples in many parts of the world, particularly in developing regions. Corn is a traditional food in Latin America, as it is in parts of Africa. More than half of global sorghum consumption has traditionally been for food use, especially in least developed regions of Africa. Population growth in those areas will push food demand upward over time.

• In developing countries with higher incomes demand for processed foods is boosting corn use. Many items include corn and products such as cornstarch, corn oil, and HFCS. Nevertheless, there has been pushback on HFCS and other sweeteners with the obesity issue in developed countries.
• Rising incomes are boosting meat and dairy consumption, especially in developing and emerging regions. Poultry production is increasing faster than other meat animals because of efficient conversion of feed to meat and the short production cycle. Where grazing land is limited or where rapid urbanization is occurring, beef and dairy are moving more to grain feeding.

• Corn is the predominant grain utilized for livestock and poultry feed with nearly 700 mmt expected to be fed worldwide in 2018/19. Feed use will rise by around 17% from this year’s levels by the end of the projection period, much faster than the rate of population growth as diets improve. Consistently moderate grain prices will further boost livestock production.

• Barley feed use is expected to decline this year, mostly from a pullback in the EU. However, it will expand going forward with feed increases in traditional Former Soviet and European producing regions and in the Middle East.

• Sorghum is fed primarily in producing regions. With little increase in sorghum area expected, production will increase primarily with yield growth and sorghum feed use will remain less than the 2014/15 levels which were at the height of Chinese sorghum feed demand.

• Global feedgrain trade will increase at a rapid pace in the next ten years as demand in production deficit areas outpaces their production increases. Corn trade is projected to increase more than one-quarter, as corn captures most of the growing international feed grains market.

• After increasing from low Chinese imports in 2018/19, global trade in sorghum will increase very slowly in the coming ten years. Demand increases will come from human consumption, primarily in subsistence farming areas, and not livestock feeding. Corn will be the imported grain of choice for livestock production.

• The U.S., Brazil, Argentina, and Ukraine will be the major corn exporters. The assumption of permanent export taxes for soybeans and products but not grains from Argentina will support corn production and exports. Egypt, the EU, Japan, Korea, and Mexico will remain the largest importers.

• Like for cotton, wheat, and rice, China’s stock policy has resulted in holding a large percentage of its annual corn requirements in inventories. However, China is now drawing stocks down, and is expected to hold around 45% to 50% of annual corn consumption in the long term. China has an estimated 200 mmt to help it meet its new ethanol policy with imports over most of the outlook.

• At around 13%, to 14%, stocks in the rest of the world are a typical percentage of use, maintaining the market’s ability to absorb production shortfalls, demand spikes, and price jumps. However, if production shortfalls are severe or if they span two or more years, global inventories will be quickly drawn down and an environment of tight supplies and high prices will develop.

• A period of tight supplies and higher prices will likely occur in the next ten years. In that instance, Chinese large stocks are unlikely to be available on the world market.
**Most Increases in Feed Demand Will Be Met By Corn**

*Global feed use, mmt*

**Strong Growth in the Global Market**

*Feedgrains net trade of exporting countries, mmt*

**Reducing Burdensome Chinese Stocks**

*Global Corn ending stocks*
China announced a new ethanol policy at the end of 2017 that will require 10% ethanol in transportation fuels by 2020. Currently, the blend is around 2% to 3%. Questions arise about the ability to implement this plan in such a short period of time, and if there will be adequate investment in ethanol plants to reach the stated goal. In this outlook, FAPRI assumes that a 5% blend rate is reachable and is reflected in the projections.

Corn is a major feedstock utilized in current Chinese ethanol production, but significant quantities of wheat and cassava are used, as well. Because early indications are that investment in plants is focused on the northeast, the main corn producing area in China, much of the grain-based feedstock demand increase will be for corn.

With the FAPRI assumption of attaining 50% of the blending goal, the baseline contains an approximate increase of 10 mmt for corn and three mmt for wheat feedstocks over the next ten years. Because a substantial portion of ethanol is now expected to come from cassava, grain feedstock demand is not as great as earlier expected.

China has already begun to reduce its massive corn stocks, but those reserves will be adequate to meet ethanol production goals for many years. FAPRI estimates that even with steady annual drawdowns, stocks can offset the need for increased imports through the baseline period.

It is assumed that corn inventories will be drawn down to a stocks-to-use ratio of 45 to 50%, well above the levels that existed before the rapid buildup that began in 2011/12. Even, with Chinese corn demand growing rapidly due to livestock and ethanol production, a lower stocks-to-use ratio is possible and still not put the Chinese market in short supply.

Even with declining stocks-to-use ratio little increased risk will be felt on the Chinese market, and the necessity of opening the domestic market to increased dependence on global supplies is unlikely for a number of years. As such, planned, steady stock reductions will not push increased risk onto the free market.

There has been discussion about China’s ability to source the increased corn requirements from domestic supplies. That ability seems to be limited. China formerly increased domestic support prices significantly to induce increases in corn area. However, for the past several years, China has moved away from those high support levels and the result has been a decline in area.

We take the view that without exorbitant support, China will only be able to increase corn area to near the maximum of 2015/16. However, the recent dramatic increase in corn production data from China also implies a higher albeit somewhat steady level of corn area than previously thought.

The implication of higher corn area and increased use of cassava as a feedstock is that the 50% attainment assumed in this outlook will not push Chinese corn exports up from and they will remain around three mmt or less per year over the projection period.
The Chinese Ethanol Story: Increasing Feedstocks

Ethanol Production Will Reduce China's Corn Stocks

How Much Can Area Expand?

*China corn area, million hectares*