Assumed Economic Recovery from COVID-19 in Early 2021

Real GDP, % change

Sources: IFS, IHS Markit
Population Growth Slowing in All Regions

Population, % change

Sources: IFS, IHS Markit
Per Person, Developing Regions Continue to Lag Other Economies Post-COVID-19

Real per capita GDP, % change

Sources: IFS, IHS Markit
Depreciation Climbs for Developing Nominal Currencies

*Exchange rate index, 2015=100*

Sources: IFS, IHS Markit
But, Developing Countries Improve Purchasing Power

Real exchange rate index, 2015=100

Sources: IFS, IHS Markit
Adequate Supplies at Modest Prices After 2021?

WTI price, $/bbl

Sources: EIA, IHS Markit
Ample Supplies Mean Stable Prices

$/metric ton

- Wheat, U.S. Gulf
- Corn, U.S. Gulf
- Barley, Rouen
- Sorghum, U.S. Gulf
- Rice, Bangkok
Increasing Area Required Only for Feed Crops

World crop area, million hectares
Yield Gains Push Supply Growth

*Global average yield, metric tons/hectare*

- Wheat: 1.1%
- Rice: 1.1%
- Corn: 1.4%
- Soybeans: 0.9%
- Cotton: 1.0%
Income and Population Growth Drive Trade

Global Net exports by exporting countries, mmt

Graph showing the global net exports of various crops (Corn, Wheat, Soybeans, Soymeal, Rice, Sorghum, Barley) from 2010/11 to 2030/31.
China Relies on Global Trade to Meet Protein Needs

China net trade, mmt
As Global Soybean Exports Climb, U.S. Share Steady

Net exports by exporting countries, mmt

- Soybeans (L)
- U.S., share (R)
- Brazil, share (R)
As Global Soymeal Exports Climb, U.S. Loses Share

Net exports by exporting countries, mmt
Livestock Drives Protein Demand

*Soymeal Domestic Use, mmt*

- World, total (L)
- U.S., share (R)
- Brazil, share (R)
- China, share (R)
- E.U., share (R)

Data for years 10/11 to 30/31.
U.S. Shares Gain Slightly Against Other Major Exporters

Net exports by exporting countries, mmt

![Graph showing net exports by exporting countries, mmt](Image)
Feed Shares Remain Flat as Corn Feed Grows Globally

Corn Feed Use, mmt

- World, total (L)
- U.S., share (R)
- Brazil, share (R)
- China, share (R)
- E.U., share (R)
Wheat
Prices Recover from COVID by 2021 then Flatten

Wheat price, HRW, U.S. Gulf, $/mt
Yield Gains, More than Area, Will Boost Wheat Production

Wheat area, mil ha (L)
Production, mmt (R )

10/11     15/16     20/21     25/26     30/31

200       205       210       215       220
Wheat Food Demand Driven by Population Growth

Global wheat food and industrial use

[Graph showing the demand for wheat from 2011/12 to 2030/31, with data points for total demand and per capita consumption.]
Feed Use Grows with Increasing Livestock Demand

Global wheat feed use, mmt

![Bar chart showing global wheat feed use over time]
Trade Redistributes Global Wheat Supplies

Wheat net trade
Feed Grains
Prices Adjust to Normal Relationships, but Remain Modest

$/metric ton

- Corn, U.S. Gulf
- Sorghum, U.S. Gulf
- Barley, Rouen
Steady Share of Grains in the Global Diet

Global food, seed & industrial use, kg/capita
Yield Growth, Not Area, Drives Feedgrains Production

- Sorghum area, mil ha (L)
- Barley area, mil ha (L)
- Corn area, mil ha (L)
- Feedgrains production, mmt (R)
Most Increases in Feed Demand Will Be Met By Corn

Global feed use, mmt

- Sorghum
- Barley
- Corn
Corn Is Preferred Grain for Livestock Feed, Ethanol

Net exports by exporting countries, mmt
Domestic Use Drives Ethanol Feedstock Growth

Mil tonnes

China

Brazil
ASF Impacts China’s Production

China corn area, million hectares
Rice
Rice Prices Have Upward Potential

Rice prices, $/mt

- FOB Bangkok
- Adjusted world price
Rice Demand Growth Will Be Met By Productivity

![Graph showing rice area (mil ha) and production (mmt) from 2011 to 2031.](image-url)
Rice Maintains Importance in Diets

Global rice food use

- **Total, mmt (L)**
- **Per capita, kg (R)**
Most Rice Is Consumed in Producing Regions

Rice net exports of exporting countries, mmt
Oilseeds
Flat Prices Return After 2020

$/metric ton

- Soybeans, Central Illinois
- Rapeseed, Hamburg
- Sunflowerseed, Rotterdam
Low Meal Price Trends Continue After 2020

$/metric ton

- Soymeal, Decatur
- Rapeseed meal, Hamburg
- Sunflowerseed meal, Ukraine
Oil Prices Return to Trend Over Projection Period

$/metric ton

- Soyoil, Decatur
- Rapeseed oil, Rotterdam
- Sunflowerseed oil, NW Europe
- Palm oil, Malaysia
- Petroleum, WTI
Area Expansion Is Primarily South American Soybeans

*World oilseed area harvested, mil ha*

- **Sunflowerseed**
- **Rapeseed**
- **Soybean**

Graph showing the percentage of area expansion for sunflowerseed, rapeseed, and soybean from 2010/11 to 2030/31.
Income Growth Pushes Oil and Protein Demand

*World oilseed crush, mmt*

- Sunflowerseed
- Rapeseed
- Soybean
Soybeans Are Most Widely Traded Oilseed

Net exports by exporting countries, mmt

- Sunflowerseed
- Rapeseed
- Soybeans
Protein Meals Pushed By Commercial Livestock

World protein meal use, mmt

- Sunflowerseed meal
- Rapemeal
- Soymeal

Graph shows the increase in protein meal use from 2011 to 2031.
Soymeal Demand Reflects Increasing Feedstock Demand

Net exports by exporting countries, mmt

- Sunflowerseed meal
- Rapeseed meal
- Soybean meal
Income-Driven Food and Mandated Biofuels

*World vegetable oil use, kg/capita*

- Palm oil
- Sunflower seed oil
- Rape oil
- Soy oil

Data for years 10/11 to 30/31.
Cheaper Palm Oil Dominates World Trade

Net exports by exporting countries, mmt

- Palm oil
- Sunflowerseed oil
- Rapeseed oil
- Soybean oil
Cotton
Cotton Price Reflects Slow Population-Driven Demand

*Cotton adjusted world price, cents/lb*
New Varieties Boost Yields, Production
Cotton Demand Will Be Primarily Population Driven

Global cotton mill use
Textile, Clothing Manufacturing Shifting to Bangladesh

Cotton net trade, mil. bales

- World net exports
- China net imports
- Bangladesh net imports