

# 2020 U.S. Grain Production & Yield Forecast Recap

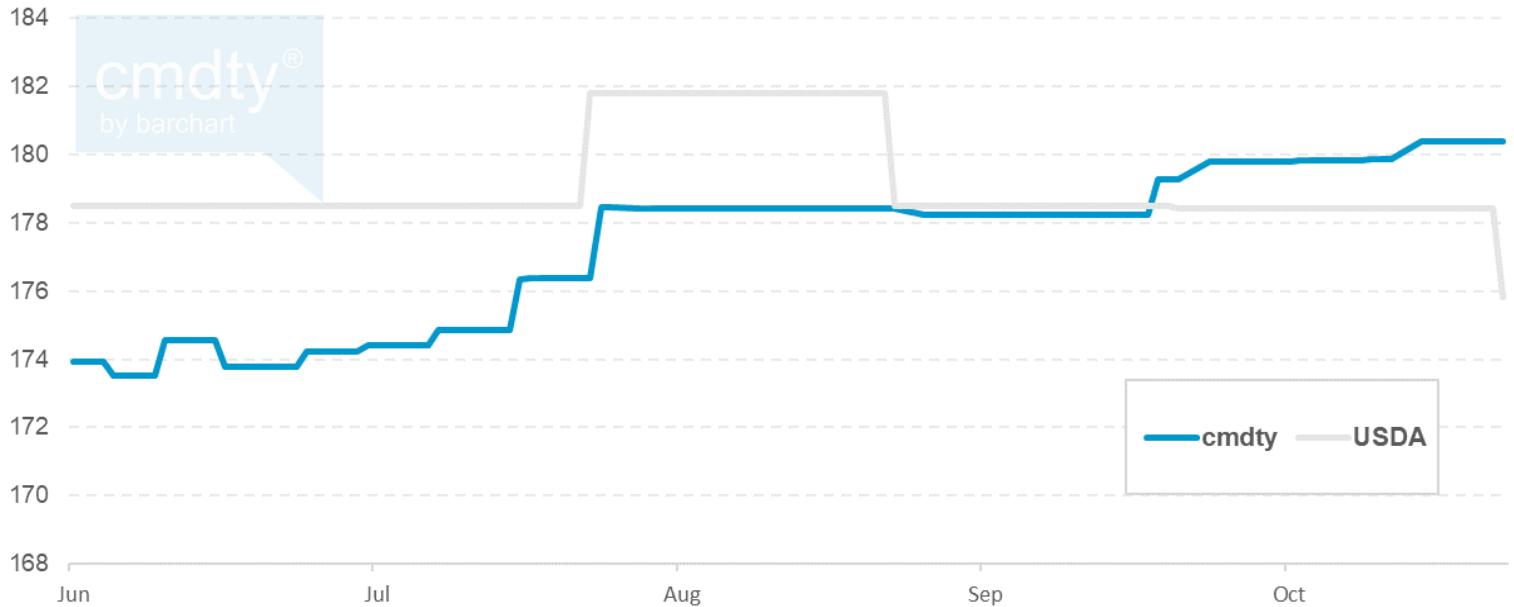
Throughout the 2020 growing season, our U.S. production and yield forecasts have been essential to grain professionals who are looking to spot opportunities before each month's USDA report. With the release of the November WASDE report we can provide a summary of our results compared to the most recent USDA forecasts



## U.S Corn Yield Forecasts – cmdty vs. USDA



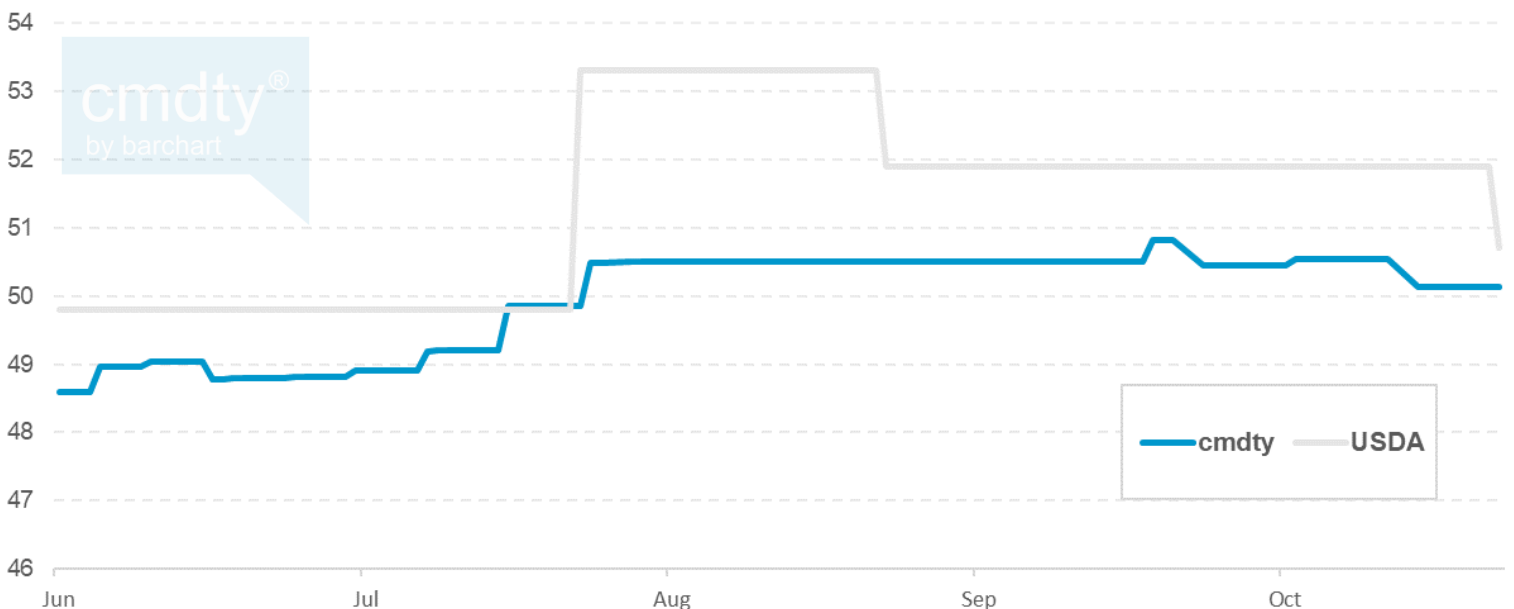
Our corn yield forecasts throughout the 2020 growing season have been less volatile than forecasts from the USDA and have historically been demonstrated to be leading indicators of USDA forecast revisions<sup>1</sup>. Barchart's end of season model ended 4.6 bushels per acre above the USDA's November forecast despite sitting lower than the forecasts released throughout the growing season.



## U.S Soybean Yield Forecasts – cmdty vs. USDA



Barchart's soybean yield forecasts have consistently been below the forecasts provided by the USDA and like corn were less volatile throughout the growing season. Note that the impact to both Corn and Soybean yield from this summer's midwestern derecho was muted relative to USDA expectations – suggesting the ground truth from geospatial intelligence has potentially been more reflective of crop health than traditional surveys<sup>1</sup>.



1) Using Grain Yield Estimates to Forecast Commodity Prices – [download link](#)

## Resources

### About

The cmdty Production and Yield Forecasts are a series of crop forecasts generated by our proprietary machine learning models that leverage satellite imagery and other geospatial intelligence.

Our forecasts are recalculated every day from June to the end of harvest based on new information from remote sensing devices and observations from recent weather conditions for each growing area. Thousands of individual estimates for production, yield, and harvested area are updated each day.

### Access

Users can access our forecasts through the following channels.

Subscribers to [cmdtyView Pro](#) have access to daily forecast updates on their desktop or streamed into Excel with the included cmdtyView Excel Add-in

Free semi-monthly crop production and yield estimates for the U.S. and major production areas are available through our [Crop Production Report](#) with more limited information [on our website](#).

Enterprise data subscribers access daily updates as they are published to power their apps or enterprise solutions.

### Whitepaper

Download our free whitepaper to learn how agribusinesses, grain marketers, lenders, and crop insurers can use production and yield forecasts to make better business decisions

[Download Today!](#)



### A Closer Look



#### Key Variables Used in Yield Modeling

##### Normalized Difference Vegetation Index (NDVI)

is an indicator that can be used to analyze remote sensing measurements and assess whether the target being observed contains live green vegetation or not. Studies have shown that the NDVI is directly related to the photosynthetic capacity and energy absorption of plants.

##### Normalized Difference Water Index (NDWI)

is strongly related to plant water content. It is therefore a proxy for plant water stress. Its usefulness for drought monitoring and early warning has been demonstrated in studies<sup>13</sup>

**Land Surface Temperature** - Land surface temperature is how hot the “surface” of the Earth would feel to the touch in a particular location.

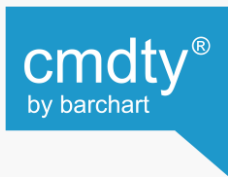
**Air Temperature** – This is what you’re familiar with day-to-day. The weather for better or worse.

**Soil Moisture** - Soil moisture is the water that is held in the spaces between soil particles. It’s how wet the soil is.

**Precipitation** – Pretty simple, how much has it rained in the past day, week, month? You can’t grow crops without water, but it’s not the only factor.

**Cropland Mask** – A binary map separating annual cropland areas and other areas. These models are available from government bureaus and proprietary sources.





## **cmdty by Barchart**

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