

### **Index Overview**

The WMBA CTDI China Grain Index is a grain focused index comprised of liquid agricultural commodities. The index comprises of three agricultural goods commodities currently traded on the Chinese futures exchanges: #1 soybean, #2 soybean, and corn.

The WMBA CTDI China Grain Index is weighted by relative liquidity based on the 60 days average total dollar value traded (TDVT) of contract size. Here, the total dollar value traded (TDVT) of contract size is defined as the contract size of futures multiplied by its futures price.

### **Index Objective: Benchmarking China's Economy**

The WMBA CTDI China Grain Index is an effective way to track China's rapidly expanding agricultural market. As the Chinese economy shifts away from an export oriented economy to one of domestic consumption, food demand has played a central role in the global agricultural supply chain.

China is now the world's largest importer of soybeans and corn, primarily as feed for livestock, and is expected to maintain this position as a growing middle class consume larger quantities of meat in the future. The Chinese financial market has reflected this rising trend in meat consumption with the recent listing of hog futures contracts on January 8, 2021. These hog contracts were the first livestock futures contracts to be listed, with more livestock contracts expected to be launched in the future as Chinese financial markets develops a more sophisticated traded agricultural products marketplace.

### **A Traders' Market**

The WMBA CTDI China Grain Index serves the interests of traders and market watchers, allowing them to benchmark Chinese agricultural demand in a more sensitive manner. It provides a transparent window for trading Chinese linked equities and commodities futures.

Our indices have value for all users needing an accurate benchmark of China's economic state, with the confidence of utilizing indices created to the standards set by the IOSCO Principles.

**Country of Listing.** All commodities are listed contracts on Chinese futures exchanges.

The exchanges are:



This means all data used in the calculation of WMBA CTDI indices is based upon 'observable transactions'

**Weighting Scheme:**

*Step 1 – Liquidity Weighting*

- The individual commodities in the WMBA CTDI China Energy Index are market cap weighted.
- The liquidity measure used is the Total Dollar Value Traded (TDVT) of contract size.
- A effective TDVT of the TDVTs is used to determine the effective TDVT for each of the futures in the index. The calculation of the effective TDVT is as follows.

$$TDVT_{i,t} = \sum_{j=0}^{239} TV_{i,t-j} * Close_{i,t}$$

where  $TV_{i,t}$  and  $Close_{i,t}$  represent the trading volume and close price for contract  $i$  at date  $t$ , respectively.

- The individual weights of commodity  $i$  within the component  $j$  are computed every trading day and obtained using the calculation:

$$Weight_{i,t} = \frac{TDVT_{i,t}}{\sum_i TDVT_{i,t}}$$

*Step 1. Rate of Return*

After computing the weights of each component futures, we then derive the weighted rate of return of the futures using the formula

$$Return\_Index_t = \sum_i Weight_{i,t} \times Return_{i,t}$$

*Step 2. Index basing*

- The index base is 100
- The base date of the index is Dec. 25, 2018
- Calculation of the daily index is then based on the below formula

$$Index_t = Index_{t-1} \times Return\_Index_t$$

*Step 3. Index Update Frequency*

Indices are calculated and released on a daily basis

## WMBA CTDI CHINA GRAIN INDEX CORRELATION ANALYSIS

### WMBA CTDI China Grain Index as a Key Leading Indicator

The graph below highlights the level of correlation between the WMBA CTDI China Grain Index and S&P GSCI Grain Index correlation calculated as 0.859

