



مركز الإحصاء  
STATISTICS CENTRE

# Agricultural Producer Price Index

## Methodology

[www.scad.gov.ae](http://www.scad.gov.ae)

    | adstatistics

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## Overview

Prices considered are regarded as important economic indicators in all countries, regardless of their different economic and social systems. Prices are used in a wide variety of fields in the national economy, such as internal and external trade transactions, the distribution of economic resources between different sectors, the development of long-term economic policies, as well as to the analysis of the existing economic reality. In addition, prices trends in general also play an essential role in the pattern and trends of international trade and are used by the majority of developing as well as industrialized countries determining the economic distribution of their different investments .

The Agricultural Product Price Index is one of the statistical indicators that constitute an important input to planning and research, especially in the agricultural fields. From this standpoint, the statistical bureau pay particular attention to the compilation of these indices, which depend on the quantities of agricultural crops produced supplied to agricultural marketing centers and their supply prices to these markets .

Statistics Centre – Abu Dhabi (SCAD) is the official body responsible for calculation of Agricultural Producer Price Index. The Centre receives the data of Agricultural Producer Price Index from Abu Dhabi Agriculture and Food Safety Authority (ADAFSA) on a monthly basis and disseminates the information derived therefrom, in accordance with internationally adopted methodologies in this field .

ADAFSA is the local authority concerned with agriculture and, food safety, food security and biosecurity in the Emirate of Abu Dhabi. ADAFSA aims to develop a sustainable agriculture and food sector and protect the health of animals and plants to enhance the biosecurity and achieve food security in the Emirate.

## Importance

The importance of studying and providing data for agricultural price statistics lies in their data direct impact on the decisions of investors in the agriculture filed.

The prices of agricultural products are key indicators in economic and social life of the farmer, given their impact on several economic activities that directly affect Farmers' income and standard of living. Agricultural prices data also help to provide important indicators to specialized entities, thereby enabling them to maintain the required balance between the production costs and the sale prices in the markets down the supply chain to the consumer, which preserves the interest of both producers and consumers. In addition, these indicators also provide farmers with such useful information for their production and development planning, in order secure for them the highest possible returns and avoid expected damage and material losses.

## Objectives

The Agricultural Producer Price Index aims to monitor the prices of commodities in the index basket on monthly basis, as well as to record changes in those.

Consequently, it contributes to taking correct decisions by the decision-makers, as well as the agricultural product to know commodity variables during the year. In summary, the objectives as hereunder:

- Monitoring the prices of agricultural products
- Monitoring changes in the prices of agricultural crops on a monthly and annual basis
- Determining the weights and relative importance of each agricultural product

## Concepts and Definitions

**The Index:** A "number by which we compare the relative change that affects any phenomenon (or number of phenomena) due to different time or place.

**Price Index:** Statistical tool for measuring the relative change in the prices of a good/ service or group of goods and services between two time periods or between two different places.

**Agricultural Producer Price Index:** A monthly statistical tool for measuring the relative change in the prices of the basket of goods produced in the Emirate of Abu Dhabi.

**Base Price:** The amount received by the producer (farmer) from the purchaser for a unit of goods or service produced as output. It includes production subsidies and other taxes on agricultural production. It excludes taxes on agricultural products, other production subsidies, supplier's retail and wholesale margins, and separately invoiced transport and insurance charges.

**Comparison Period:** the "current" or most recent period for which the index was calculated. However, the term is used to refer to any period that is being compared with the base period.

**Base period:** the year in which the agricultural producer price index equals 100. The base period serves as a benchmark for future periods, allowing economists to judge rates of increase and decrease in prices compared to that year.

**Weight (relative importance):** the percentage resulting from dividing the value of sales of a product by the total sales of all products in the base period.

**The equation used:** Laspeyre equation and Jevon's method (to calculate the geometric mean of the prices).

**Relative/ percentage Change:** The percentage resulting from dividing the change in the current APPI compared with the previous APPI divided by the previous index and multiplied by 100%.

**Percentage contribution:** The percentage that the commodity contributed to the overall change. The total contribution for all commodities is 100.

**Symbols used:** ' \_ ' means the price is not available.

## **Geographical Coverage**

The Price Index of Agricultural Producers is considered representative of agricultural corps for the APPI basket of in the Emirate.

## **Frequency**

The (SCAD) issues the Bulletin of Agricultural Producer Price Index on monthly basis.

## **Classifications**

The Agriculture Producer Price Index relies on the classifications adopted by the Agriculture and Food Safety Authority (ADAFSA), where agricultural products are classified in accordance with approved standards.

## **Main Data Sources**

Data used for calculation of this index are administrative data obtained from Agriculture and Food Safety Authority (ADAFSA).

## **Data Collection Forms**

Data is received monthly via the link with the Agriculture and Food Safety Authority (ADAFSA), pursuant to the Cooperation Agreement between the ADAFSA) and (SCAD).

## **Sample Design**

All the statistical data used in the calculation of the Agricultural Producer Price Index is received from the Agriculture and Food Safety Authority (ADAFSA). Therefore, no sample is required, since the administrative data available fully covers the statistical population under study.

## **Data Collection**

Data are collected via a link with Agriculture and Food Safety Authority (ADAFSA).

## **Data Editing**

Data received from ADAFSA is edited by verifying that totals tally, and comparing them with previous months. In the event of any inquiry or comment about the received data, ADAFSA is contacted directly.

## Indicators Calculation

### Equation for Calculating the Agriculture Producer Price Index

The Agricultural Producer Price Index is calculated according to (**Laspeyres Equation**), where the index number depends on the Base Year weights (2018).

The index is calculated using (**Laspeyres Equation**)

$$APPI = \sum \frac{P_1}{P_0} * W_0$$

**APPI** : Agricultural Producer Price Index.

**P<sub>1</sub>** : Current Price.

**P<sub>0</sub>** : Base Year Price.

**W<sub>0</sub>** : Base Year Weight.

The Price index is calculated on the elementary aggregates level by using (**Jevon's Method**), according the following equation:

$$P_j = \prod_{i=1}^n \left( \frac{P_t^i}{P_0^i} \right)^{\frac{1}{n}} = \frac{\prod_{i=1}^n (P_t^i)^{\frac{1}{n}}}{\prod_{i=1}^n (P_0^i)^{\frac{1}{n}}}$$

Where: **P<sub>j</sub>** : Jevon's index

**P<sub>t</sub>** : Comparison Period Price.

**P<sub>0</sub>** : Base Year Price.

**n** : Number of commodities in the elementary aggregates

To aggregate upwards in the calculation of the Agriculture Producer Price Index, **Jevon's** is multiplied by the commodity weigh. The weights are then aggregated first at the level of sub-groups, then at and the level of the main groups. The index is then calculated by dividing the new weight by the Base Period Weigh multiple by hundred.

### Calculation of Percentage Change

Percentage change in the price index for the current month compared with the previous month is calculated using the following equation:

$$RC = \frac{APPI_c}{APPI_p} * 100 - 100$$

**RC** = rate of bi-annual or annual change.

$APPI_c$  = price index for the current month

$APPI_p$  = price index for the previous month

**Outputs:**

- Price indices by agricultural products.
- Percentage in change prices by agricultural products.
- Percentage contributions to agricultural products.
- Weights and relative importance of agricultural products.

## **Timeliness**

The report is issued sixty (60) days from expiry of Reference Month.

## **Dissemination**

The Agriculture Produced Price Index is published monthly on the website of (Statistics Center – Abu Dhabi).



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Our Vision: Leadership and Innovation in Statistics



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