



**United States Department of Agriculture
National Agricultural Statistics Service**

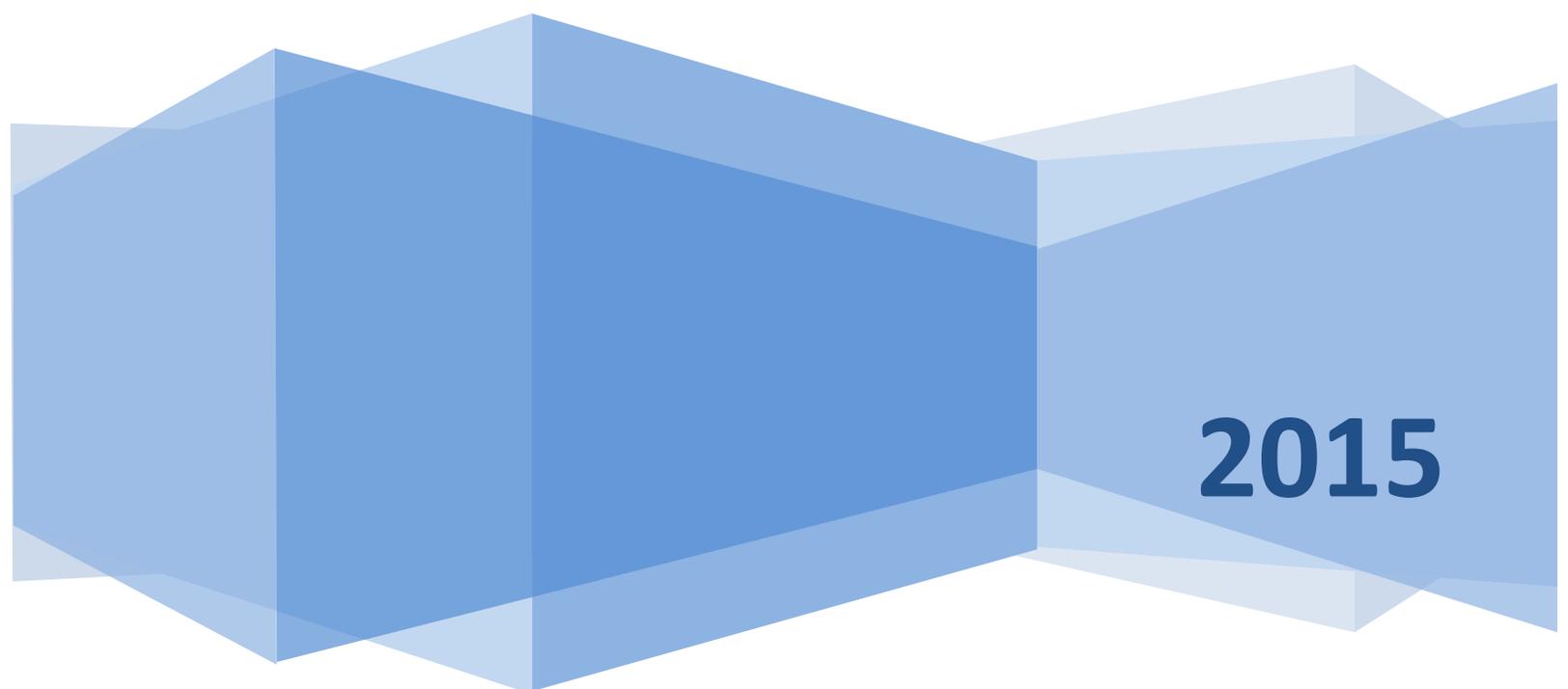


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www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Prices/index.asp

Agricultural Price Program Update

January 2015

A large, abstract graphic composed of overlapping, semi-transparent blue polygons of various shades, creating a sense of depth and movement. The graphic is positioned in the lower half of the page, behind the year "2015".

2015

NASS Price Program Mission, Vision, and Goal

Mission Statement: *The National Agricultural Statistics Service (NASS) price program provides **relevant, timely, accurate and useful statistics** for use in evaluating the economic condition of the United States agricultural economy.*

Vision Statement: *NASS strives to be a premier provider of **relevant, high quality, and useful agricultural price data**, consistent with other United States Federal and international statistical programs.*

Goal: *The objective of the price program for indexes is to measure the general level of price change farmers pay for agricultural inputs and the general level of price change farmers receive for commodities sold.*

Overview of Program Modifications

The United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) Price Program Team (PPT), with NASS's Senior Executive Team approval, completed a comprehensive review of the Council on Food, Agricultural and Resource Economics (C-FARE) recommendations. In addition, the PPT team considered the impact of modern technological advances occurring in agricultural production and developed plans to implement necessary program improvements. The January 2014 price program modifications included updating the base reference period, revising the group structure, increasing commodity coverage, updating monthly market share weights, and normalizing weights. Based on the review of the C-FARE recommendations and the price program the following modifications will be implemented in January 2015.

- Discontinue estimation and publication of preliminary monthly prices.
- Construct annual commodity weighted group indexes.

Preliminary Prices

Historically NASS's price program has published preliminary monthly commodity prices based on data referencing the 15th of the month or available data for

the first two weeks of the month. Preliminary price data were useful for analysts to foresee monthly prices but many factors which affect price movement and volatility are difficult, if not impossible, to predict. For many commodities, preliminary price data do not represent current producer marketing strategies or actual sales. In times when prices are quite volatile, preliminary prices become less reliable and useful in projecting the monthly price which is based on data for the entire month and reflect prices actually received by producers.

Departmental and Agency standardization initiatives impacting the price program continue to address survey inconsistencies in collecting agricultural commodity price data. Additional review of the price program included seeking data user applications and needs of price data. Data users cited the challenges and lack of reliability in the value of preliminary prices in extrapolating monthly prices.

Based on the results of the price program review, the PPT team is evaluating and making changes to better serve NASS' mission of providing relevant, timely, and useful statistics. NASS will estimate and publish only monthly commodity prices. Previous month price data will be the latest available in the monthly price report. These program changes will be implemented with the January 2015 *Agricultural Price* report. Table 1 below provides an example of monthly data published beginning with the January 2015 *Agricultural Price* report.

Annual Commodity Group Indexes

The historical annual average index included in NASS' prices received and paid series was based on a 12-month simple average of published monthly data. Prior to the NASS 1995 price index revision, monthly price indexes were constructed using annual market weights. Annual market weights represent a five year moving average of cash receipts. NASS evaluates and selects commodities to represent a commodity group. This selected group of commodities is generally referred to as the market basket. An annual price index using annual market basket weights is basically equal to an annual average index. The 1995 index revision altered NASS' monthly index construction to methodology using monthly commodity weights rather than annual weights. As a result, an annual price index and an annual average index are no longer equivalent.

The monthly commodity market shares for many farm products vary greatly. For some commodities sales occur only during certain months of the year. Monthly movement for other commodities with sales throughout the year can change drastically. Monthly price indexes constructed using monthly market weights better represent a true level of monthly price change. However, construction of an annual price index based on a simple average of these monthly weighted indexes does not represent a true level of annual price change.

The current simple average annual Prices Received Index is constructed with both price and weight (quantity) changes. To obtain an annual index which better represents commodity sales during the year, a yearly index constructed using the same methodology used in constructing the monthly commodity group indexes weighted by annual market weights results in a truer annual price change. Annual market weights are the latest five year moving average cash receipt data. The yearly change in these weights has a smaller impact on the annual index than including monthly market shares.

The Prices Paid Indexes use annual market weights. The Prices Paid weights, as a result, do not incur the month to month changes as in the Prices Received Indexes.

Annual Prices Received Indexes will be constructed incorporating annual market weights beginning with the January 2015 *Agricultural Price* report. The revised indexes using the new methodology will be constructed back to 2011. The new annual Price Received Index is defined as:

$$P_{(y,b)}^i = \sum_j^{n_i} w_y^j \frac{p_y^j}{p_b^j}$$

where $P_{(y,b)}^i$ denotes the commodity group i annual price index in year y , (the subscript b denotes the base reference period), n_i is the number of commodities in commodity group i , p_y^j is the average price of the commodity j in year y , p_b^j is the average price of commodity j in the base reference period and the w_y^j is the five-year moving average annual weights for commodity j in year y . As discussed in the NASS January 2014 Price Program Update, the weight used represents the latest five year moving average cash receipt data valued at the latest year cash receipt price.

The new annual Prices Received Indexes represent a yearly price relative of the current year to the base reference period. The yearly prices ratios are directly aggregated by the annual market weights eliminating the need for monthly market weights in the new formula. Annual weights result in annual indexes equaling 100 for the base reference period eliminating the need to adjust for the month to month variation in weights.

To assist data users in maintaining comparability with historical data series, NASS' online searchable data base, Quick Stats, will be updated with the revised annual indexes back to the current base reference period of 2011.

Table 2 below illustrates the impact of monthly market weights (current method) versus annual market weights (revised method) in the construction of the annual Prices Received Index. The annual indexes are constructed each month to provide a year-to-date statistic.

Table 1: Example of a January 2015 Table Without Price Data.

Prices Received for Field Crops and Fruits – United States: January 2015 with Comparisons

Commodity	Average 2011	December 2013	November 2014	December 2014
Field crops				
Austrian winter peas	dollars/cwt			
Barley, all	dollars/bushel			
Feed	dollars/bushel			
Malting	dollars/bushel			
Beans, dry edible	dollars/cwt			
Canola	dollars/cwt			
Chickpeas, all	dollars/cwt			
Large	dollars/cwt			
Small	dollars/cwt			
Corn	dollars/bushel			
Cotton, Upland	dollars/pound			
Cottonseed ¹	dollars/ton			
Flaxseed	dollars/bushel			
Hay, all, baled	dollars/ton			
Alfalfa	dollars/ton			
Other	dollars/ton			
Lentils	dollars/cwt			
Oats	dollars/bushel			
Peanuts, in-shell	dollars/pound			
Peas, dry edible	dollars/cwt			
Potatoes	dollars/cwt			
Rice, all	dollars/cwt			
Long	dollars/cwt			
Medium and short	dollars/cwt			
Sorghum grain	dollars/cwt			
Soybeans	dollars/bushel			
Sunflowers, all	dollars/cwt			
Wheat, all	dollars/bushel			
Winter	dollars/bushel			
Durum	dollars/bushel			
Other spring	dollars/bushel			
Hard red winter ¹	dollars/bushel			
Soft red winter ¹	dollars/bushel			
Hard red spring ¹	dollars/bushel			
White ¹	dollars/bushel			
Fruits				
Citrus, equivalent on-tree				
Grapefruit	dollars/box			
Lemons	dollars/box			
Oranges	dollars/box			
Tangelos	dollars/box			
Tangerines and mandarins	dollars/box			
Noncitrus, fresh				
Apples ²	dollars/pound			
Grapes ²	dollars/ton			
Peaches ²	dollars/ton			
Pears ²	dollars/ton			
Strawberries	dollars/cwt			

(D) Withheld to avoid disclosing data for individual operations.

(NA) Not available.

(S) Insufficient number of reports to establish an estimate.

¹ Preliminary estimates not set for this item.

² Equivalent packinghouse-door returns for California, Michigan, New York (apples only), and Washington (apples, peaches, and pears). Prices as sold for other states.

Table 2: Impact of Weighting the Annual Prices Received Indexes with Annual Market Weights (Revised Method) Compared to the Un-weighted Average of Monthly Prices Received Indexes (Current Method), 2012 - 2014

Index Group	Year	Revised Method	Current Method	Difference
Agricultural Production	2012	105	105	0
Crop Production	2012	107	106	1
Oilseed & Grain	2012	110	110	0
Oilseed	2012	112	112	0
Feed Grain	2012	111	111	0
Food Grain	2012	104	104	0
Vegetable & Melon	2012	92	91	1
Fruit & Tree Nut	2012	113	110	3
Livestock Production	2012	103	103	0
Meat Animal	2012	105	105	0
Cattle	2012	107	107	0
Hog	2012	97	96	1
Dairy	2012	92	92	0
Poultry & Egg	2012	109	109	0
Food Commodity	2012	104	104	0
Agricultural Production	2013	107	106	1
Crop Production	2013	105	104	1
Oilseed & Grain	2013	105	104	1
Oilseed	2013	112	111	1
Feed Grain	2013	102	102	0
Food Grain	2013	101	102	-1
Vegetable & Melon	2013	105	103	2
Fruit & Tree Nut	2013	114	107	7
Livestock Production	2013	109	109	0
Meat Animal	2013	108	107	1
Cattle	2013	109	110	-1
Hog	2013	101	101	0
Dairy	2013	100	100	0
Poultry & Egg	2013	123	124	-1
Food Commodity	2013	109	108	1
Agricultural Production	2014	109	108	1
Crop Production	2014	95	94	1
Oilseed & Grain	2014	88	88	0
Oilseed	2014	108	107	1
Feed Grain	2014	74	76	-2
Food Grain	2014	94	98	-4
Vegetable & Melon	2014	104	96	8
Fruit & Tree Nut	2014	126	115	11
Livestock Production	2014	128	125	3
Meat Animal	2014	129	124	5
Cattle	2014	131	128	3
Hog	2014	122	113	9
Dairy	2014	120	123	-3
Poultry & Egg	2014	133	129	4
Food Commodity	2014	120	118	2