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Producer Price Indexes: Product- and Input-Specific

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Introduction: The goal of this document is to help you (1) identify the most specific agricultural index numbers which are available, not only today but also in previous years, and (2) obtain those values.

Motivation: A few of our economists wanted to know which index number would be the most appropriate one to use for a particular crop or a particular input. One economist, for example, was preparing data to assess the Producer Eligibility for a potential limited resource farmer who had produced but not sold his products.

Question: What is the most specific Producer Prices index available and how does one obtain the data? The goal of this document is to answer the question.

Levels of Aggregation: NASS reports prices for specific crops such as apples or oats. Does this mean there is an index number for apples and another one for oats? No. The only commodity-specific index numbers are for tobacco and cotton. All other crops are aggregated first into "sub-components", each of which has an index value; then sub-components are aggregated to "components", each of which has an index value. Finally components are aggregated into an overall index value.

For example, apples are aggregated with other fruits into the sub-component named "Fruits & Nuts" which has an index value. The Fruits & Nuts sub-component is aggregated with other sub-components such as "Food Grains" into a component named "All Crops" which has an index value. The All Crops component is aggregated with the only other component, "Livestock & Products", into an index value named "All Farm Products". Thus, for all products other than tobacco and cotton, the lowest possible level of aggregation is the sub-component.

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Base Years and Indexes: Since 1910, NASS has used several base years (or periods), the year in which the index is set to the value "100". The historical base years are: 1910-1914, 1956, 1964-1968, 1977, and 1990-1992. Some of the NASS indexes date back to 1910, while others date back to only 1975.

1910-1914 is the first NASS base period. The indexes which existed in 1910-1914 period are still, and will always be, calculated. Thus, for some indexes there is a continuous dataset from 1910 to present. For other indexes the datasets start later.

Over the years, the base years/periods have been changed in order to make the index numbers more reasonable for calculations. For the user's convenience, NASS recalculated the index values from 1975 through 1990 using the 1990-1992 = 100 base. These are available in the *Statistical Bulletin 917*. If you need index values for years before 1975, use the 1910-1914 index values. As stated above, NASS will always maintain the 1910-1914 base year for certain indexes. Sub-component indexes are available for the 1990-92=100 base period only and only go back to 1975.

Quick Stats: Quick Stats is a NASS internet data retrieval system available from the NASS home page. NASS is working to populate Quick Stats with the index numbers from 1997 to present in order to produce a more user-friendly data access on its website. Quick Stats will allow the user to download data directly into Excel without having to scroll through monthly, quarterly, and annual reports to find historical data for commodity-specific index values. Until these index values are available from Quick Stats, we need to go to various NASS documents in order to obtain the data. Thus, 1997 + index values will be in QuickStats, whereas pre-1997 data will still only be available in existing publications.

Publications: The index data are released in a publication named *Agricultural Prices*. *Agricultural Prices* is released every month; however, the information released differs depending on which "kind" of month it is.

<i>Agricultural Prices Months</i>	<i>Kind of Month</i>
January	Quarterly (contains tables of recent historical indexes)
February	Monthly
March	Monthly
April	Quarterly (contains tables of recent historical indexes)
May	Monthly
June	Monthly
July	Quarterly and Annual: Note: There are two reports. (contains tables of recent historical indexes)
August	Monthly
September	Monthly
October	Quarterly (contains tables of recent historical indexes)
November	Monthly
December	Monthly

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There are thirteen *Agricultural Prices* published every year. However, four monthly publications are "quarterly", and in one month there is an additional publication, an "annual" report.

Search Rule: When searching for the most recent and most specific index number, first look in the latest, most recent, "monthly" publication of *Agricultural Prices*. If not there, look in the most recent "quarterly" *Agricultural Prices*, and, lastly, look at the "annual" report.

The format and content of NASS documents have changed over time. The availability of the data also differs with respect to time. Thus, the data search discussion is divided into four time intervals: Before 1964, 1964-1974, 1975-1993, and 1994-present.

Before 1964:

Your public library is probably the best source for these old paper products. NASS has not scanned the pre-1964 publications, thus they are not available online.

1964-1974:

NASS has scanned these paper reports. You can find them by using the following navigation steps:

<http://www.nass.usda.gov>

Click on the Publications tab at the top of the home page.

Scroll down to "Most Requested Reports"

Choose "Agricultural Prices".

Scroll down to link "Earlier Years". The earliest is 1964.

1975 - 1993

The most efficient access to these data is the NASS *Statistics Bulletin 917*, published in 1996. This bulletin applied the 1990-1992 = 100 base to these data.

There are three ways to obtain this document.

- (1) Call NASS Publications Office at 1-800-999-6779 and order it.
- (2) <http://www.ntis.gov/products/speciality/usda/>, a general publications site and order it.
- (3) Print on-line version from the NASS website. The navigation steps are:

<http://nass.usda.gov>

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On the home page, click on Publications tab at the top.

Scroll down to the bottom of the page to "Historical Publications", choose "Statistical Bulletins: final estimates from 1987 to 2002".

Scroll down to bottom of page, click on "Final Estimates 1987 - 1993".

Look in the table named "Final Estimates 1987 - 1993". Look in the second column for the number "917".

Click on the number "917". Column 1 of the table states that this is Prices Received and Paid Indexes.

Click on "sb917.txt". Statistical Bulletin 917 opens and is ready to print.

1994 - Present

Until the index values are available in Quick Stats, there seems to be no easy way to access the more specific indexes for the 1994-present Producer Prices. One must open separate documents for the desired year(s).

The following navigation steps bring you to the data:

<http://www.nass.usda.gov>

At the home page, Search NASS for "Agricultural Prices", Go.

You will be taken to a page with many links. The top two links are relevant.

The first link is "Agricultural Prices Monthly". These are the "monthly" and "quarterly" reports discussed above.

For previous years, there are twelve releases.

For the current year, there are as many releases as months already passed.

The second link is "Agricultural Prices Annual Summary". These are the "annual" reports discussed above.

These are published in July (sometimes August).

Indexes for the previous 4 years by month and annual average can be found in the latest monthly *Agricultural Prices* release for the quarterly months (Jan, Apr, Jul, and Oct). Indexes for the current year are in the latest monthly *Agricultural Prices* release. Indexes for 5 or more years earlier are available in the *Agricultural Prices Annual Summary* reports generally released in July.

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List of Indexes: Tables 1 and 2 in this paper present the particular indexes which are available. Some are available all the way back to 1910. Some are only available back to 1975.

Table 1 presents the list of Prices Received indexes for the three levels of aggregation (overall, component, and sub-component) introduced above.

Overall Index: In Table 1, "All Farm Products" is the overall, general, index number for Prices Received. It is Line number 1 and is printed in bold blue font. This index value is available from 1910 to present. It is available both in the 1910-1914 and 1990-1992 base periods.

After you decide the year(s) you want for All Farm Products, use the instructions above in the "Search Rule" section to find the data.

Component Indexes: Table 1 shows there are two component indexes for Prices Received. They are presented in Lines 2 and 12 and are printed in bold red font. These index values are available from 1910 to present. They are available in both the 1910-1914 base period and the 1990-1992 base period.

After you decide the year(s) you want for the desired component, use the instructions in the "Search Rule" section to find the data.

Sub-component Indexes: Table 1 shows there are several sub-components for each component. They are on Lines 3 - 11 and 13 - 15 and are printed in normal black font. These are available only for the 1990-1992 base period and go back only as far as 1975. These index values do not exist prior to 1975. And, these do not have values calculated based on the 1910-1914 period. Thus, if you need to update pre-1975 prices, you must use the more aggregated index numbers, either the component or the overall index number.

After you decide which year(s) you want (1975 to present) for the desired sub-component, use the instructions in the "Search Rule" section above to find the data.

Special Tabulation: "Food Commodities" is an index which is separate from the others. Special tabulations use information from a selection of the index numbers and/or other data such as Ag Census. Contact NASS database folks for information about any special tabulation which might be available to you. Jim Burt at 202-690-0380.

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Table 1: Indexes of Prices <u>Received</u> by Farmers	
1-	All Farm Products
2-	All Crops
3-	Food Grains
4-	Feed Grains and Hay
5-	Cotton
6-	Tobacco
7-	Oil-Bearing Crops
8-	Fruits & Nuts
9-	All Commercial Vegetables
10-	Potatoes and Dry Edible Beans
11-	All Other Crops
12-	All Livestock and Products
13-	Meat Animals
14-	Dairy Products
15-	Poultry and Eggs
Special Tabulation	
Food Commodities: This is a special index of food grains, oil crops, fruits & nuts, vegetables, potatoes & beans, meat animals, poultry & eggs, and dairy. It is separate from the other Prices Received Indexes.	
Legend:	
Blue font is the most aggregated index.	
Red font is a Component.	
Normal black font is a Sub-Component.	

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Table 2 presents the list of Prices Paid indexes. It is a more complex table, with more and sometimes different types of components and sub-components, than Table 1. However, similar to Prices Received, data availability varies.

Line 1: In Table 2, the first index in Line 1 is the overall index named PPITW (prices paid, production, interest, taxes, and wage rate) and is printed in bold blue font. This index value is available from 1910 to present. It is available both in the 1910-1914 and 1990-1992 base periods. The PPITW index is also referred to as the PARITY Index.

After you decide the year(s) you want for PPITW, use the instructions above in the "Search Rule" section to find the data.

Lines 2 - 7: The Producer Prices Paid indexes do not always fall neatly within the component and sub-component hierarchy as did the Producer Prices Received. The first seven lines in Table 2 show the situation

Line 2 presents the Family Living Index. This is a component of the overall index PPITW (Line 1).

Line 3 presents the PITW which is the PPITW (Line 1) excluding Family Living (Line 2). PITW includes Interest, Taxes, and Wage Rates.

Thus, aggregating Lines 3 and 2, one obtains the PPITW (Line 1).

Lines 4 - 6 present three sub-components of PITW (Line 3).

Line 7 presents the "Items Used for Production" index which is the PPITW (Line 1) excluding the following: Family Living Index (Line 2), the Interest Index (Line 4), the Taxes Index (Line 5), and the Wage Rates Index (Line 6).

Thus, aggregating Lines 7, 6, 5, 4, and 2, one obtains the PPITW (Line 1).

The lines below 7 are similar to the hierarchy presented in Table 1.

The index values in Lines 2 - 7 are available from 1910 to present in the 1910-1914 base period only. If you want the 1990-1992 base period for these index values, then only 1975 to present is available. Thus, for Lines 2 - 7 the most recent base period (1990-1992) data start at 1975.

After you decide the year(s) you want for index values on Lines 2 - 7, use the instructions in the "Search Rule" section to find the data.

Lines 8, 14, 19, 22, 26, 30, 34, 37, 40, 44, & 45: These are the component indexes and are printed in red font. These 11 components all belong to the index on Line 7, "Items Used for Production". The component index values are available from 1910 to present in the 1910-1914 base period. However, if you want the 1990-1992 base period index values, then the values start in 1975 to present. Thus, for the components, the most recent base period data start at 1975.

Other Lines: Table 2 shows the sub-components are below the components and are printed in blue italic font. The sub-components are available only for the 1990-1992 base period and go back only as far as 1975. Thus, these index values do not exist prior to 1975. And, these indexes do not have values calculated from the 1910-1914 base period. Thus, if you need to update pre-1975 prices, you cannot use the sub-components and must use the more aggregated index numbers, either the component (if available) or the overall index number.

Notice that Lines 47, 48, 50, and 51 are categories within sub-components. For example, the Farm Services (Line 46) sub-component is disaggregated to Custom Rates and Other Services (Lines 47 and 48). One might call Custom Rates and Other Services "sub-sub-components". They are printed in italic black font in Table 2. The sub-sub-components are available only for the 1990-1992 base period and go back only as far as 1975. These index values do not exist prior to 1975. And, these do not have values calculated from the 1910-1914 base period. Thus, if you need to update pre-1975 prices, you must use the more aggregated index numbers, either the component or the overall index number.

As before, after you decide which year(s) you want (1975 to present), use the instructions in the "Search Rule" section above to find the data.

Special Tabulations: Table 2 shows five special tabulations. Each was constructed as a special data request for an additional charge. Once made, the special tabulations are available to others. As stated above, special tabulations use information from a selection of the index numbers and/or other data such as Ag Census. Contact NASS database folks for information about any special tabulation which might be available to you. Jim Burt at 202-690-0380.

Concluding Note to User: If you find errors or improvements, please contact Madalene Ransom who will update this document. As NASS changes its website and data tools, these instructions will have to change. We appreciate your future contributions to communication and accuracy.

Table 2: Indexes of Prices Paid by Farmers	
1-	PPITW: Commodities and Services, Interest, Taxes, Wage Rates, and Family Living Index
2-	Family Living Index
3-	PITW: Items Used for Production, Interest, Taxes, and Wage Rates Index (excludes Family Living)
4-	Interest Index
5-	Taxes Index
6-	Wage Rates Index
7-	Items Used for Production (excludes Interest, Taxes, Wage Rates, Family Living)
8-	Feed
9-	<i>Complete Feeds</i>
10-	<i>Feed Grains</i>
11-	<i>Hay/Forages</i>
12-	<i>Concentrates</i>
13-	<i>Supplements</i>
14-	Livestock and Poultry
15-	<i>Feeder Cattle</i>
16-	<i>Milk Cow Replacements</i>
17-	<i>Feeder Pigs</i>
18-	<i>Poultry</i>
19-	Seeds
20-	<i>Field Crops</i>
21-	<i>Grasses/Legumes</i>
22-	Fertilizer
23-	<i>Mixed Fertilizer</i>
24-	<i>Nitrogen</i>
25-	<i>Potash & Phosphate</i>
26-	Agricultural Chemicals
27-	<i>Herbicides</i>
28-	<i>Insecticides</i>
29-	<i>Fungicides/Other</i>
30-	Fuels
31-	<i>Diesel</i>
32-	<i>LP Gas</i>
33-	<i>Gasoline</i>

Table 2 (con't): Indexes of Prices <u>Paid</u> by Farmers	
34-	Farm Supplies and Repairs
35-	<i>Supplies</i>
36-	<i>Repairs</i>
37-	Autos and Trucks
38-	<i>Autos</i>
39-	<i>Trucks</i>
40-	Farm Machinery
41-	<i>Self-Propelled</i>
42-	<i>Tractors</i>
43-	<i>Other Machinery</i>
44-	Building Materials
45-	Farm Services and Rent
46-	<i>Farm Services</i>
47-	<i>Custom Rates</i>
48-	<i>Other Services</i>
49-	<i>Rent</i>
50-	<i>Cash</i>
51-	<i>Share</i>
Special Tabulations:	
The following are special index numbers which use various mixes of the above listed index values.	
Crop Sector Index is the weighting of PPITW to reflect farms primarily engaged in crop production.	
Livestock Sector Index is the weighting of PPITW to reflect farms primarily engaged in livestock production.	
Farm Sector Index represents production items from the farm (such as feed) to reflect farm-produced input items.	
Non-Farm Sector Index represents production items from off the farm (such as fuel) to reflect purchased input items.	
Beef Cattle Production, 1979 to current (1964-68=100 base period). Special index generated for use in Federal grazing fee computations for public lands Administered by Forest Service – USDA and Bureau of Land Management – Dept of Interior as prescribed by the PRIA Act of 1978.	
Legend:	
Blue font is the most aggregated index.	
Red font is a Component.	
Blue italic font is a Sub-Component.	
Black italic font is a Sub-Sub-Component.	
