Chapter Three. Prices Paid Program

IN THIS CHAPTER

This chapter presents program history, background information, and the current methodology used in NASS's Prices Paid program. Since the program's inception, many changes have been necessary to address the changing environment in agriculture. Since the USDA began collecting prices paid by producers' data, agriculture has undergone many dramatic changes. The need for timely and accurate farm input price data is more demanding than ever. Currently, NASS collects data for over 450 items from dealers and agribusinesses in 48 States. The prices paid surveys are conducted annually in March for agricultural chemicals, farm machinery, feed, fertilizers, fuel, and retail seed. The prices from these surveys are used to compute a March index published in April each year. A benchmark process revises the monthly indexes for the previous 11 months where administrative data were used.

The index series has maintained the 1910-1914 base period for parity price purposes as prescribed in permanent legislation. A more recent base reference period is provided and has undergone a number of updates through the years. The current program survey methodology includes universe development and maintenance; survey sample design and selection; survey instrument design; data collection means; use of administrative data; data review, analysis, and summarization; estimate construction; estimate revisions; and public availability of the farm input price estimates. To provide as much transparency in this document as possible, some discussion is repeated. This chapter also provides a presentation of data needs and uses for the data as well as limitations with the data series.

History / Background

The U.S. Department of Agriculture (USDA) first surveyed merchants in 1911 to obtain information on prices paid by producers for family living and production. At that time, 86 commodities were included in the annual survey. By 1923, the survey was being conducted quarterly. The number of items surveyed continued to expand until, in 1927, 174 commodities were included. "To strengthen the commodity coverage in the Prices Paid Index, Bureau of Agricultural Engineering (BAE), beginning in 1935, expanded the collection of price series of commodities bought by farmers until, at the end of 1949, prices were collected for nearly 500 commodities…"(USDA, 1957). In addition, BAE expanded the historical data in 1936, particularly 1910-1914, by conducting a historical survey in 19 States and compiling price data from mail-order catalogs and other sources. Beginning in 1937, the surveys were semiannual, quarterly, or monthly, depending on the item (USDA, 1990). By 1962, the USDA's Statistical Reporting Service (SRS), NASS's predecessor, collected more than 650 items of prices paid by producers (USDA, 1964).

In 1970, SRS surveyed independent stores in 49 States. Feed dealers and hatcheries were surveyed monthly, while food stores, clothing stores, household furnishings and appliance stores, hardware and farm supply stores, service stations and auto supply stores, building and fence dealers, fuel dealers, marketing container handlers, and farm implement and machinery dealers were surveyed quarterly. Fertilizer dealers and car and truck dealers were surveyed semiannually (USDA, 1990). These surveys covered about 450 items that were used in the compilation of the index.

Since prices paid items were first surveyed, data collection has undergone several time frame changes ranging from monthly, quarterly, semiannual, and yearly due to market basket changes and updates. The current program, last revised to survey annually in 1995, now collects data for over 450 items from dealers and agribusinesses in 48 States. Although the number of items remains basically the same as in the 70's, the mix has changed due to purchasing pattern changes and items becoming obsolete. The prices paid surveys are conducted annually in March for farm machinery, feed, fertilizers, agricultural chemicals, fuel, and retail seed. The prices from these surveys are used to compute a March index. A benchmark process revises the monthly indexes for the previous 11 months where administrative data were used.

Survey Methodology

List Sampling Frame Development

The objective for the frame is to be representative of retail establishments where producers purchase products and services for production operations. Agribusinesses are geographically distributed such that all areas of the State are represented. The focus is on businesses that have sales of inputs to agricultural producers. Retail outlets and establishments that sell agricultural products are not part of the regular NASS list frame building process. In 2010, a screener operation survey was conducted to enhance the frame for agribusinesses selling farm input commodities. All operations that were on the list were contacted to determine items of interest being sold. Table 3.1 shows the total screener target sample count. Those operations currently sampled for the prices paid surveys also completed the screening form. Tables 3.2a - 3.2e show, broken down by survey, the number of retail establishments contacted and added to the list frame from the screener.

The farm machinery, feed, fertilizer, agricultural chemical, fuel, and retail seed prices paid survey categories each follow the same frame development and updating process. For each category a separate survey is conducted in March. Agricultural chemical and fertilizer price data are collected from the same survey. Seed surveys for cotton, peanuts, potatoes, rice, and sunflowers are conducted in major commodity states. The number of contacts varies in these states. In some cases, a State may collect and provide data to other states for use in setting state estimates.

Target Population and Frame Development. The target population for the each survey group includes all retail outlets or establishments where producers purchase input items, for their operations. A retail outlet or establishment can be identified for selling items across any of the five survey categories. So, it is possible for a retail outlet or establishment to be identified in all five target populations.

If a business operates at multiple locations, or if it is part of a franchise (chain), each individual location is treated as a separate operation eligible for sampling. The list sampling frame (LSF) operations have procedures for handling agribusinesses with multiple locations. The list of agribusinesses is comprised of current establishments used by producers to purchase the targeted survey items.

The LSF is reviewed annually in advance to ensure that the list of businesses targeted for the prices paid surveys is complete, accurate, and up-to-date. Table 3.1 shows the target sample for each survey group. The State field offices maintain each universe to cover the minimum number of operations required to meet the target sample. Samples are refreshed by 20 percent each year, meaning 20 percent of the sample is replaced. This reduces respondent burden while maintaining sufficient overlap.

Listings of these operations to build and maintain the list frame are obtained from telephone directories and business directories, on regulatory lists, and through industry wholesalers and trade associations. The National Association of State Departments of Agriculture (NASDA) enumerators, county extension personnel, and other individuals associated with the farming industry also provide sources of information about retailers and other agribusinesses.

Frame Maintenance. Each year for a targeted survey category, Headquarters staff provides transac-

tion reports of out-of-business operations, name and address changes, and business type changes to each State field office. The transaction reports are generated from data collection. Operations are screened thoroughly for other agricultural activities before dropping or coding as inactive. If the operation is also associated with an active farm and only the agribusiness is out of operation, list frame control data for the appropriate prices paid survey samples are removed, with the record left active. See Table 3.3 for a list of frame status codes.

Sample Design and Selection

Samples are drawn for the five prices paid surveys. The sample design for the Prices Paid program follows a quota sampling scheme. A quota sample is used because NASS does not maintain populations of agribusinesses that sell these commodities. There is an effort to target samples at the state level for each survey group. The sample becomes a non-probability stratified sample with the strata defined as States within a survey group.

Each State field office is given a sample size requirement for each of the five surveys. Historically, there has been 100 percent overlap from year-to-year for establishments that are still in business and responding. Out of business operations and nonrespondents are removed from the sample. State field offices add retail outlets or establishments to replace the dropped sample units based on the case disposition codes. If the target sample size is greater than the carryover from the previous year, the State field offices search for other establishments to replace the sample units removed from sample. Table 3.4 lists the case disposition codes.

Since retail outlets and establishments that sell agricultural products are not part of the NASS list frame building process for producers, a complete list of the agribusinesses population is unknown. There are no target coefficients of variation or CVs for the sample process. In addition, sample weights are not generated from the sampling process. The state level estimates from the prices paid surveys are averages of the data reported from usable reports.

Questionnaire and Data Collection

Each year the data collection timeframe is a three-week period around March 15th for the five prices paid commodity groups. Data may be collected by mail, phone, field enumeration, or via electronic data reporting. The reference date for each survey is March 15th. Other seeds data are also collected in March while poultry prices paid data are collected monthly and in December. Target response rate is 80 percent for the prices paid surveys. Agribusinesses are requested to report the prices for the item most commonly sold that meets the general specification on the questionnaire. Quantity sold data are not collected for any commodity except for poultry.

Farm Machinery. NASS asks questions for 86 types of farm machinery implements on the "Prices Paid for New Tractors and Farm Machinery" questionnaire. The standard classification for farm machinery included in the survey is as defined by the Association of Equipment Manufacturers. Table 3.5 shows the specific types of farm machinery. NASS collects the average price for the most commonly sold farm machinery items which are not specific to manufacturer or make but do meet item specifications. Price data are collected to the nearest dollar. The following pricing factors are applied when collecting the price of the farm machinery:

- An average price, not a range of prices, is collected for farm machinery by different manufacturers.

- The reported price is the purchaser's net price paid after receiving any discount or rebate with no trade-in. Cash discounts and rebates offered by the dealer or manufacturer are reflected in the reported price.
- The reported price is not adjusted for the value of any trade-in.
- Prices are for new farm machinery.
- Prices are for "the most commonly sold."
- Accessories usually purchased with the farm machinery are included.
- Sales tax is excluded.

The NASDA enumerators and State field office staff verify the make and model of the farm machinery, like tractors and combines, with the dealer or manufacturer to ensure that prices are reported in the proper category.

Feed. Data for 35 feed items are collected on the "Prices Paid for Feed" questionnaire. Table 3.6 lists the specific feeds. NASS collects the price for each feed to the nearest cent. Pricing factors applied when collecting feed prices are to exclude sales tax; to include discounts for quantity purchases, cash payments, and delivery arrangements; and to report items "most commonly sold." The dealer reports a price for bagged, bulk, or both types sold. The units of measure for reporting includes ounces, pounds, 50 pound block, 50 pound bag, 100 pound bag, hundredweight, or ton. The most common units for reporting feed item prices are bags (100 pounds) and tons (2000 pounds). These prices are combined using relative weights proportionate to each unit's contribution to historic total quantities sold. The bag and bulk weights are applied at the state level. The NASDA enumerators and State field office staff use data from feed manufacturers and marketing firms to validate reported data.

Poultry Feeds. The four poultry feeds surveyed are chick starter, broiler grower, turkey feed, and laying feed (commonly referred to as laying mash). Prices for poultry feeds are for a complete ration feed which will usually contain antibiotics. The NASDA enumerators and State field office staff review extremely high or low prices since some respondents may report a price for a different item or reporting unit. Prices are reported in tons or bags of 50 or 100 pounds.

Dairy Feeds. Four complete feeds and one concentrate are collected for dairy feeds. Complete feed data is captured for 14, 16, 18, and 20 percent protein. The concentrate is 32-38 percent protein. The NASDA enumerators and State field office staff review prices for outlier reports. Additionally, the NASDA interviewers review the price relationships for the units of measure and for consistency.

Hog, Beef Cattle Feeds, and Concentrates. Data for hog complete feed 14-18 percent protein and hog 38-42 percent protein concentrate are collected. Beef cattle concentrate is reported for 32-36 percent protein only. Higher protein feeds are not necessarily higher in price since urea can be used as a protein source in cattle feed. Concentrate prices are collected for 100 pound bags. The NASDA enumerators verify the protein percentage and correct if erroneously reported. Follow up contacts are made to verify high or low reported prices.

Supplements. Salt is commonly sold in blocks or bags, and is often purchased by the ton. Price data is collected for bags or blocks (50 pounds). Trace mineral is sold in blocks of either 40 or 50 pounds. The weight of the block depends on the composition of the filler used by the manufacturer. The mineral content remains the same at 94.5 percent to 97.5 percent regardless of the block weight. The weight of the block is important for salt and trace minerals in converting to a common price per ton. Reported price data are converted to a ton price to establish a common consistent publication unit.

The questionnaire collects the weight for liquid molasses by the hundredweight. Dry molasses price data are not collected. NASDA enumerators verify prices for liquid molasses from the respondents when reported data seems questionable.

Corn meal does not include prices for distiller's grade cornmeal. NASDA enumerators and State field office staff verify prices which vary considerably from the state average price.

Fertilizers and Agricultural Chemicals. The questionnaire for "Prices Paid for Fertilizers and Agricultural Chemicals" collects data for fertilizers, fungicides, herbicides, and other chemicals. Table 3.7 shows the specific types of fertilizers and agricultural chemicals. Prices collected for each type are to the nearest cent. The questionnaires are specific for each State.

Fertilizer and agricultural chemical prices reflect the cost at the farm gate. In other words, the prices include the delivery costs. Fertilizer and agricultural chemical prices exclude the cost of application. Lime, however, includes the cost of application as lime is priced on an applied basis.

The NASDA enumerators verify inconsistent and extreme prices. Prices reported by the same respondent should show a relationship of higher prices for higher concentrations. Price variation may occur for the following reasons:

- Volume discounts
- Fees for transportation or custom blending
- Point of transaction - Whether prices are dealer FOB (Free on Board) or delivery on the farm. FOB dealer indicates the responsibility/ownership of goods transfers from the wholesaler to the dealer. Delivery on the farm indicates the responsibility/ownership of goods transfers from the dealer to the producer.

There has been a shift towards custom blending of fertilizer as producers are tailoring fertilizer purchases to meet specific nutrient requirements based on soil analysis. Consequently, some items on the fertilizer questionnaire may no longer be sold by the respondent. However, it is important that the formulation indicated on the questionnaire match the prices of "write-in" mixtures. A "write-in" mixture is a blend being sold which is not listed on the survey instrument. These mixtures while not included in the current survey can be evaluated for inclusion in future surveys. The dealer reports either bagged or bulk prices. Table 3.8 shows the units of measure. Selected fertilizer items are used in the computation of the prices paid index.

Fuel. Price data for four fuel items are collected on the "Prices Paid for Fuels" questionnaire. Table 3.9 shows the fuel categories. The price collected for each type of fuel is to the nearest tenth of a cent.

Businesses that sell gasoline, diesel, or L.P. gas may not know specifically if their customers are producers. Even if it is unknown whether producers purchase fuel at a particular location or not, the enumerators collect the price data, as the price quoted is considered the price that a producer would pay for fuel purchased from the business. The data collected are for the most commonly used service of pumped gasoline. The four types of service include card lock, key lock, self service, and full service.

If the operation sells ethanol as well as unleaded gasoline, the price of the most commonly

sold fuel is obtained for unleaded gasoline. If the most commonly sold fuel is ethanol, it is noted on the questionnaire. The NASDA enumerators also verify the following:

- Unleaded gasoline may be priced at the service station pump and/or as bulk delivery.
- Diesel fuel and L.P. gas are priced at bulk delivery.
- The price includes all taxes for gasoline.
- The price excludes all taxes for diesel fuel and L.P. gas.
- The reference date for the retail price is March 15.
- Prices are to three decimal places. For example

  $2.499/gallon = 2 . 4 9 9

  $2.50/gallon = 2 . 5 0 0
- Prices exclude any discounts.

Retail Seed. Seventy-two questions for various seeds are collected with the "Prices Paid for Retail Seed" Questionnaire. Table 3.10 shows the specific seeds included in the survey. The price for each type of seed is to the nearest cent.

Manufacturers are producing specialized seed for some agricultural crops, including biotech varieties and proprietary (patented) varieties. Prices for biotech and proprietary varieties are generally higher. The term biotech refers to genetically modified seed varieties that have been developed to possess particular traits that are resistant to insects, chemicals, and fungicides.

The NASDA enumerators verify the following for seed prices:

- Prices exclude sales tax.
- Prices exclude any discounts.
- Prices include technology fees.
- Prices include cost of seed treatment.
- Prices are to nearest cent.
- The reference date is March 15 for all commodities except for fall wheat, which is from the fall of the previous year.

The dealer reports seed prices in any of the following units of measure:

- Gram
- Dry ounce
- Pound
- 50 lb bag
- 100 lb bag
- Hundredweight
- Bushel
- 80,000 kernels
- 140,000 seeds
- Ton

Other Seeds. Other seed data get collected by contacting dealers in the universe and other knowledgeable industry contacts. The specific types of other seeds include cotton, potato, rice, peanut, and sunflower.

Seed cotton data are collected on the "Prices Paid by Farmers for Seed Cotton" questionnaire. The questionnaire asks for quantity sold to producers and average price per hundredweight. NASS collects the price for each type of seed including biotech, non-biotech, and all seed cotton to the nearest cent. Genetically Modified Organism or GMO technology fees are included in the price while future rebates are excluded.

Potato seed data are collected with the Potato Prices questionnaire. NASS collects the average

price for potato seed to the nearest cent for all varieties of potatoes sold. The total quantity sold is also collected and reported to the nearest hundredweight. Potatoes data includes contract and open market sales.

Rice, peanut, and sunflower seeds are collected by the State field offices either through paper questionnaire or administrative data. The source and availability of price data varies by state and the number of suppliers is generally limited to a few establishments. It is, then, the discretion of each state how the data are collected. Guidance on standardization and estimation procedures is provided by Headquarters.

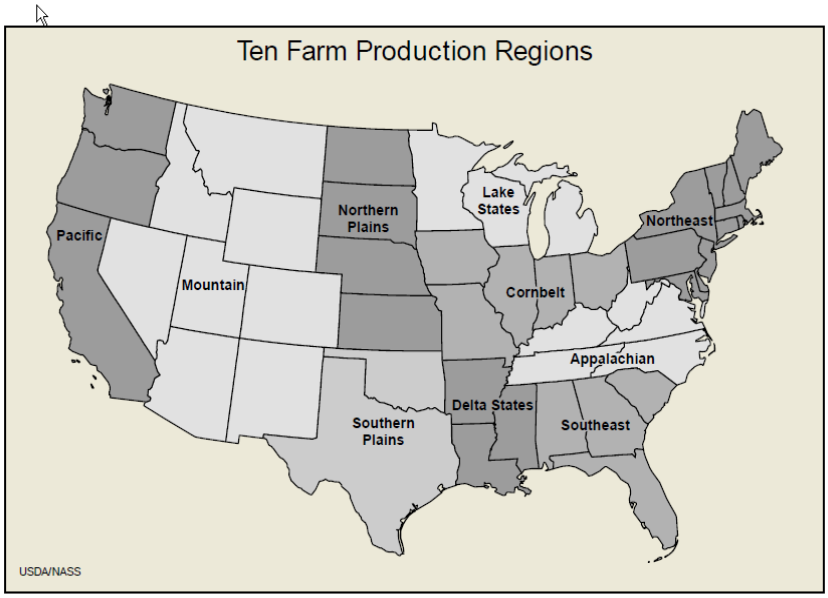
Poultry. Price data for broiler and egg type chicks are included in the replacement livestock subcomponent index. Broiler type chick and egg type chick data are reported on the weekly as well as the monthly hatchery reports and on the December chicken questionnaire. Turkey poult prices are collected from hatchery production data sources on an annual basis. The estimation of poult price is similar to chick prices except the poult price is estimated on a per bird basis while chick prices are estimated per 100 chicks. The price data for each item is to the nearest cent.

Edit / Analysis / Summary

Prices are collected on an annual basis for the U.S. for the five prices paid commodity groups. Alaska and Hawaii are not included in the prices paid program. Price data for the five prices paid commodity groups surveyed are machine edited and analyzed and summarized using NASS developed tools.

The setting of official prices for items in each of the five prices paid commodity groups follows a similar process. After the State field offices complete the data collection process, headquarters (HQ) staff reviews each item for records with outliers to create a final dataset. If an outlier is found, HQ directs the State field offices to either provide details to validate the record or correct the data. HQ summarizes the finalized dataset at the geographic level specified for the commodity. The output is reviewed by subject matter experts for reasonableness and each State's data are compared to surrounding States' data. If the data are sound, the U.S. and regional-level estimates are prepared for publication. Regional level estimates are set for feed, fertilizer, and fuel. U.S. estimates are set for agricultural chemicals, farm machinery, and seed. No seasonal adjustments are made to the annual survey price data. The published annual prices for the prices paid commodities are weighted averages. All surveys and administrative data are edited, analyzed, and summarized using NASS developed tools.

Figure 1: Ten Farm Production Regions



The U.S. is divided into ten farm production regions with individual States grouped based on similar production practices and resource characteristics. The States are contiguous in each region. Figure 1 shows a map with the ten farm production regions in the U.S. Commodities summarized and estimated using the farm production regions include farm machinery, retail seeds, and fuel.

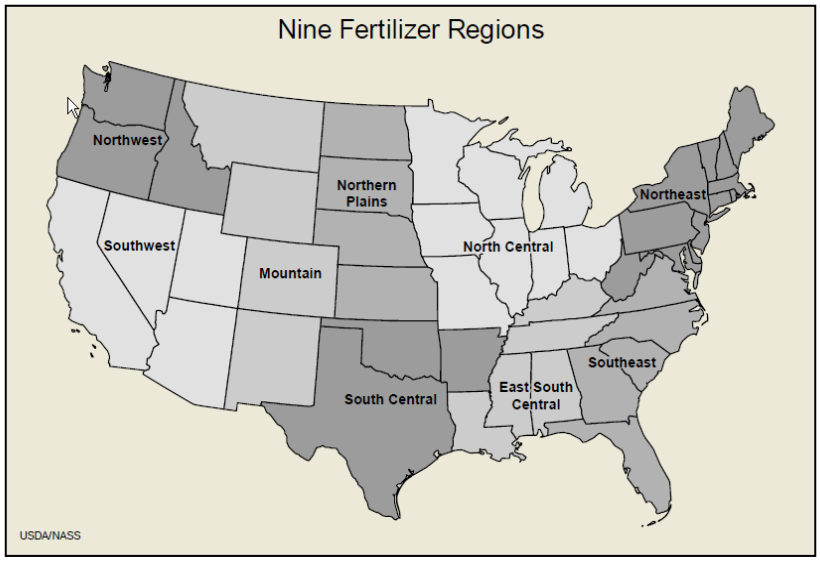
Farm Machinery. Summarization of farm machinery prices occurs at the State and farm production region levels for analytical purposes only, but is aggregated to the U.S. total for publication. For the estimation months other than March, data from the Bureau of Labor Statistics (BLS) are used for construction of the prices paid for farm machinery index. See Table 3.5 for the farm machinery items. See Table 3.14 for the BLS series in the index.

Feed. Feed price data are summarized at the State level for analysis purposes and published at the farm production region and the U.S. levels. Table 3.11 lists the States within each farm production region. For months other than March, data from the BLS data are used in the construction of the prices paid feed index. Prices increase for feeds as the percent protein increases. However, this may not hold true when the percent protein is close, as in 14 percent and 16 percent dairy feeds or seasonal animal nutrient requirements change. Prices can also vary as the result of shifts in demand. See Table 3.6 for the feed items. See Table 3.14 for the BLS series in the index.

Fertilizers and Agricultural Chemicals. Fertilizers are summarized at the State level for analysis and published at the U.S. and fertilizer region level. There are nine fertilizer regions. Fertilizer regions include States grouped according to those with similar purchasing patterns of fertilizers and agricultural chemicals (USDA, 1970). The States are contiguous in each region. Figure 2 shows a map of the U.S. with the nine fertilizer regions. Table 3.12 shows the States within each fertilizer region. Data from the BLS are used to construct the fertilizer indexes in months other than March. See Table 3.7 for the fertilizer and agricultural chemical items. See Table 3.14 for the BLS series in the index.

Agricultural chemicals are summarized at the State level for analysis and published at the U.S. level. In months other than March, chemical data from the Bureau of Labor Statistics are used in the construction of the agricultural chemical index.

Figure 2: Nine Fertilizer Regions



Fuel. Fuel prices are summarized at the State level for analysis and published at the U.S. and farm production region level. For months other than March, data from the Energy Information Agency in the Department of Energy are used for construction of the fuel index. See Table 3.9 for the fuel items.

Retail Seed. Retail seed prices are summarized at the State and farm production region levels for analysis and published at the U.S. level. Seed price data is reviewed for outliers, reporting unit, and consistency. See Table 3.10 for the retail seed items.

Other Seeds. Other seed prices are published at the U.S. level. NASS does not publish any seed prices at a lower geographic level. For the estimation process, NASS does not supplement the other seed data with data from sources outside the USDA.

Poultry. Poultry prices paid are published at the U.S. level. NASS does not publish the poultry prices paid at a lower geographic level. For the estimation process, NASS does not supplement the poultry prices paid data from sources outside the USDA.

Weighting

There are no sample weights generated from the sampling process. So, there is no weighting process to adjust the sample to represent the population frame. Without sample weights, variance estimation cannot be performed.

Since there are no sample weights, regional and U.S. item prices are weighted using State level weights. State prices generally represent the simple average of reported prices for a particular item. The NASS developed tool for setting official estimates weights state simple average prices to a regional level item prices based on percentage weights from 1990-1992 farm expenditure data. State weights are aggregated to a regional level for weighting regional prices to the U.S. level. See Table 3.13 for the relative weights in the Prices Paid index.

The 1990-1992 farm expenditure data provided the subcomponent weights for the feed component of the production index. The item weights selected for constructing the feed index were derived from the most current available shipment data from the annual Survey of Manufacturers and the Census of Manufacturers.

Livestock & Poultry. Replacement livestock weights were derived from the 1990-1992 FCRS data for both the item and subcomponent levels. See Table 3.13 for the relative weights of livestock and poultry in the Prices Paid index.

Farm Machinery. Farm machinery subcomponent weights were derived from the 1990-1992 FCRS survey data. Item weights within the subcomponent were established from Census of Manufacturers data. See Table 3.13 for the relative weights of farm machinery in the Prices Paid index.

Fertilizers. Fertilizer subcomponent and item weights are based on the annual commercial fertilizer manufacturers' data. Currently, these data are published in collaboration by the Association of American Plant Food Control Officials (AAPFCO) and The Fertilizer Institute (TFI). See http://www.aapfco.org/ and http://www.tfi.org/ for information about these two organizations, respectively. As a single nutrient, phosphate fertilizer makes up only two percent of fertilizers consumed and soil conditioners comprise one percent. Phosphate fertilizer was combined with potassium fertilizer as a result. Soil conditioners are combined with the mixed fertilizer (N-P-K) group for weighting into the fertilizer index. See Table 3.13 for the relative weights of fertilizers in the Prices Paid index.

Commercial fertilizer data from AAPFCO and TFI are based on fertilizer consumption information submitted by state fertilizer control offices. The data includes total fertilizer sales or shipments for farm and non-farm use. Liming materials, peat, potting soils, soil amendments, soil additives, and soil conditioners are excluded. Materials used for the manufacture or blending of reported fertilizer grades or for use in other fertilizers are excluded to avoid duplicate reporting. Some states do not report final sales; therefore, basic materials including both single-nutrient and multiple-nutrient are reported.

Agricultural Chemicals. Agricultural chemicals subcomponent weights were established using the Census of Manufacturers, Annual Survey of Manufacturers, Agricultural Census, Environmental Protection Agency (EPA) information on expenditures, and the FCRS survey data. Items weights for subcomponent herbicide and insecticide subcomponents use reports from Resources for the Future, "Herbicide Use in the United States" and "Insecticide Use in U.S. Crop Production". Item weights for fungicides and other agricultural chemicals subcomponents used Chemical Use Survey for Vegetables data. The agricultural chemicals selected to represent each subcomponent (herbicides, insecticides, and fungicides/other) account for 25-30 percent of all active ingredients used with each subcomponent. See Table 3.13 for the relative weights of agricultural chemicals in the Prices Paid index.

Retail Seeds. Retail seed subcomponents weights were established from the 1990-1992 FCRS data. Items selected for use in the construction of the seed index are derived annually using seeding rate, prices paid for seed, and acres planted parameters. See Table 3.13 for the relative weights of retail seeds in the Prices Paid index.

Other Subcomponent Weights. Weights for fuels, farm supplies & repairs, autos & trucks, building materials, farm services, rent, and taxes were established using FCRS survey data for 1990-1992. See Table 3.13 for the relative weights for the subcomponents in the Prices Paid index.

Estimation

The prices paid program includes five commodity groups for which annual survey data provide indications for establishing official NASS estimates. Administrative sources provide data for the months following the annual March survey month. The five annual prices paid commodity groups surveyed are farm machinery, feed, fertilizers and agricultural chemicals, fuels, and retail seeds.

Estimation for the five surveyed commodity groups occurs in headquarters after the summary has been finalized. Price estimates at the State, regional, and U.S. level are finalized in headquarters by using NASS developed analysis and estimation tools. This provides a standard basis for establishing State, regional, and U.S. prices from year to year.

The six commodity areas using administrative data for monthly index construction are rent, custom rates, veterinary services, taxes, insurance, wage rates, real estate and non real estate interest, feeder cattle, and feeder pigs. No annual data are collected for these commodity areas. These commodity groups use the Agricultural Resource Management Survey and the June Agricultural Survey as indications for prices paid estimates.

Agricultural Resource Management Survey (ARMS). ARMS is an annual survey of farm and ranch operators administered by NASS in cooperation with USDA Economic Research Service (ERS). The annual sample is over 35,000 agricultural producers. ERS uses the data to establish net farm income. NASS uses the data in establishing component level weights for the prices paid index. The ARMS data are weighted using survey strata sampling rates. Total yearly operation expenditure data provides the control data for classifying and sample selection. The data are also used in the prices paid estimates program as indications for cash rent, share rent, veterinary services, taxes, insurance, and real estate and non real estate debt.. Survey data on field-level production practices, farm business accounts, and farm households are summarized, synthesized, and used in analyses by ERS in estimating net farm income. ARMS is a multiple-phase survey. In the fall, interviews of producers are conducted to collect information about production practices and land use for a selected field on their operation for major commodities, such as feed grains, food grains, and cotton. In the spring, producers that completed the fall survey are re-interviewed. Spring data collection focuses on the structural and economic characteristics of the farm business and farm operator households. This approach helps link commodity production activities and conservation practices with the farm business and operator household. Information about the ARMS program is at http //www.ers.usda.gov/Briefing/ARMS/.

June Agricultural Survey. Data collected from the June Agricultural survey and the ARMS survey are utilized in the prices paid program. The number of farm estimates and annual expenditure data are used to derive annual average expenditures per farm for veterinary services, taxes, and insurance. NASS estimates the number of farms from the June Agricultural Survey. A multiple sampling frame approach is used. An area sampling frame that divides all land into segments is built for every State. The list sampling frame is developed from other NASS surveys. The States check the overlap between the two frames and supplement the frame data for the June Agricultural survey with the non-overlap records. Sample segments are selected in each State for enumeration in early June. Sampling procedures to ensure every farm and ranch has a chance of being selected. The NASDA enumerators survey each sampled segment to identify every farm and ranch operating land in

the segment and the number of acres in each operation.

These data are used to compute summary indications of farm numbers and acres of land in farms. Additionally, all farms found in the segments are overlapped with the NASS list frame to determine if the farm is on the list. Operations found in the area frame sample that are not on the list provide a measure of incompleteness of the list. Area frame data for operations overlapping the list frame are not used in summary to avoid duplication. The summarized totals for these non-overlap (or not-on-list) operations are combined with summarized totals collected from a sample selected from the list to calculate additional indications of farms and land in farms. Information about land in farm can be found at http//usda.mannlib.cornell.edu/usda/current/FarmLandIn/FarmLandIn-02-12-2010_new_format.pdf.

Cash Rent. Two indications for the price per rented acre are created. One indication is from the ARMS survey and a second indication is produced from the cash rents survey along with the Census of Agriculture acreage. The indications, the expenditure per acre, are calculated by dividing the total cash rent expenditure by the number of rented acres. There is a comparison of the percentage of the year to year change in expenditures between the two indications. Subject matter experts then determine the most appropriate change between the two indications. The cash rent indication is approximately equal to the expenditure per acre, rounded to the nearest dollar.

The cash rents survey is conducted on an annual basis from March through the end of June. During June, NASS also collects basic cash rent data from producers from the June agriculture survey. States set cash rent estimates at a county level to aggregate to the official state level using the data from the two sources. Information is at http//usda.mannlib.cornell.edu/usda/current/AgriLandVa/AgriLandVa-08-04-2010.pdf about the cash rents.

Public and Private Rent. Prices paid data for private grazing land rates are collected annually from the June Agricultural Survey. Under the Public Rangelands Improvement Act, prices paid data for public grazing land rates are also collected. The Bureau of Land Management (BLM) and the Forest Service publish the data annually in February and use the data to set their annual grazing land fee rates. Public grazing fees are managed by BLM and the Forest Service in the 16 contiguous Western States where there is domestic livestock grazing or where the Secretary of Interior determines the land may be suitable for domestic livestock grazing. The sixteen contiguous Western States include Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming. The public and private grazing fee rents are established under the Public Rangeland Improvement Act. Information about the rangelands is at http//www.fs.fed.us/rangelands/whoweare/lawsregs.shtml.

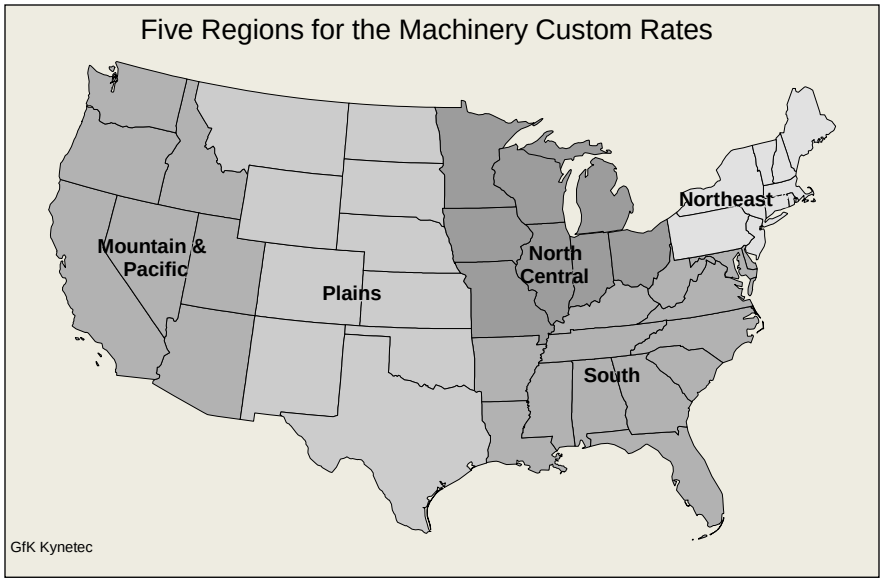
Share Rent. Share rent prices paid estimate is set using ARMS total expenditure data and rented acres as indications. Expenditures per acre are calculated by dividing the total share rent expenditures by the number of rented acres. The share rent estimate for prices paid is set equal to the expenditure per acre, rounded to the nearest dollar.

Custom Rates. The custom rates group covers the producer farm machinery rent costs for earth moving, plowing, cultivating, planting, drilling, chemical application, silage and hay mowing, hauling, and harvesting. The custom rates rental costs are aggre-

gated to the national level. Custom rates are not altered for the prices paid program.

GfK Kynetec is a provider of marketing research and consulting services within agricultural and animal health areas. Information about GfK Kynetec is at http //www.gfk.com/gfk-kynetec/.

Figure 3: Five Regions for Machinery Custom Rates



Veterinary Services. Veterinary services prices paid estimates are set using NASS official number of farms data and total veterinary services expenditure data from the ARMS survey. The expenditure per farm is calculated by dividing total veterinary services expenditure by the number of farms. The veterinary services are approximately equal to the expenditures per farm, rounded to the nearest dollar.

The custom rate data are collected annually by GfK Kynetec. To collect the custom rates, GfK Kynetec surveys over 12,000 producers. The producers represent five regions in the U.S., excluding Alaska and Hawaii. Figure 3 shows the map of the five regions.

Taxes. Prices paid estimates for taxes are set using NASS official land in farms data and total taxes expenditure data from ARMS survey. The expenditure per acre for taxes is calculated by dividing the total taxes expenditure by the land in farms. The taxes estimate is set equal to the expenditure per acre rounded to the nearest dollar.

Agricultural producers are contacted via e-mail prior to conducting the survey to provide advance notice of the upcoming survey. Producers complete the survey either electronically via the web or by returning a paper questionnaire by mail. Those without an e-mail address receive a notification letter at same time as the questionnaire. The majority of the completed surveys are paper questionnaires.

Insurance. Insurance prices paid estimates are set using NASS official land in farms data and total insurance expenditure data from ARMS. The expenditure per acre for insurance is calculated by dividing the total insurance expenditure by the land in farms. The insurance estimate is set equal to the expenditure per acre rounded to the nearest dollar.

Wage Rates. The estimates are from the NASS farm labor survey which is conducted quarterly. The farm labor surveys runs during the last two weeks of every quarter (January, April, July, October) using sampling procedures to ensure every employer of agricultural workers has a chance of being selected. The

reference period is the week including the 12th of the month for four survey months.

Two samples of farm operators are selected from a list of farms that hire farm workers. Farms on this list are classified by number of workers and type of farm. Those expected to employ large numbers of workers are selected with greater frequency than those hiring few or no workers. A second sample consists of segments of land scientifically selected from an area sampling frame. Each June, the NASDA enumerators survey each selected land segment to identify every farm operating land within the sample segment's boundaries. The names of farms found in these area segments are matched against the NASS farm labor list frame; those not found on the list are included in the farm labor survey sample to represent all farms. This methodology is known as multiple frame sampling. Additionally, NASS samples a list of agricultural service firms in California and Florida. Information about the farm wage rates is available at http //usda.mannlib.cornell .edu/usda/current/FarmLabo/FarmLabo-11-18-2010.pdf.

Real Estate and Non Real Estate Debt and Interest. Legislation prescribes that interest data used to construct the parity index include that secured by real estate. Annually, NASS obtains secured real estate and non real estate (secured or non-secured) debt and interest data from the Economic Research Service (ERS). Estimate of interest paid by producers is weighted by real estate and non real estate debt.

Real Estate and Non Real Estate Debt. ERS collects the real estate and non real estate debt from five sources, Farm Credit System, Farm Service Agency, commercial banks, insurance companies, and from the ARMS survey. ARMS survey data are the source for taxes and the amount of debt owed for operator dwellings owned by farm businesses for the prices paid program.

The Farm Credit System provides quarterly information about the farm credit system. The quarterly statement provides important information in the debt securities jointly issued by the five Farm Credit System Banks: AgFirst Farm Credit Bank; AgriBank, FCB; CoBank, ACB; Farm Credit Bank of Texas; and U.S. AgBank, FCB. These debt securities, include

- Federal Farm Credit Banks Consolidated Systemwide Bonds,
- Federal Farm Credit Banks Consolidated Systemwide Discount Notes,
- Federal Farm Credit Banks Consolidated Systemwide Master Notes,
- Federal Farm Credit Banks Consolidated Systemwide Medium-Term Notes, and
- Any other debt securities that the Farm Credit System Banks may jointly issue.

Farm Credit System quarterly information statements relating to financial results or other developments issued by the Federal Farm Credit Banks Funding Corporation for the current fiscal year and the two preceding fiscal years are available on the Funding Corporation's website located at www.farmcredit-ffcb.com.

The Farm Service Agency (FSA) provides ERS a report of debt information in the FSA 616 report. The FSA 616 report is an internal FSA report containing debt information for producers.

The debt information from the commercial banks is collected through the Federal Reserve from the Agricultural Financial Databook. The Board of Governors surveys a sample of commercial banks about amounts and purpose of farm loans. The loans

are primarily for feeder livestock, other livestock, operating expenses, farm machinery and equipment. These are non-real-estate farm loans of $1,000 or more. They are derived from quarterly sample surveys conducted by the Federal Reserve System during the first full week of the second month of each quarter. Data obtained from the sample are expanded into national estimates for all commercial banks. The report is at http://www.federalreserve.gov/releases/e15/. The Agricultural Financial Databook is at http//www.kansascityfed.org /research/ indicatorsdata/agfinance/index.cfm.

The debt information from the insurance companies is collected from the American Council of Life Insurers (ACLI). The ACLI collects data annually from insurance companies to create the life insurers fact book. The fact book provides statistics and information on trends in the life insurance industry. Specific topics covered include assets, liabilities, income, expenditures, reinsurance, life insurance, and annuities. Go to http //www.acli.com/ACLI/Tools/Industry+Facts/Life+Insurers+Fact+Book/ for information about the life insurers fact book.

Interest. ERS collects interest rate data from the Federal Reserve Bank of Chicago. The Federal Reserve Bank of Chicago provides the interest rates on a quarterly basis for operating loans, feeder cattle loans, and farm real estate loans. The series are at the following location: http//www.chicagofed.org/digital_assets/publications/agletter/credit_conditions_7th_district.xls.

The Federal Reserve Bank represents the seventh district. The States in the seventh district are Iowa, Illinois, Indiana, Wisconsin, and Michigan. The Federal Reserve Bank of Chicago collects data about farmland values and credit conditions from the agricultural banks in the seventh district on a quarterly basis. Information about the Federal Reserve Bank of Chicago can be found at http//www.chicagofed.org/ webpages/index.cfm.

Feeder Cattle. Livestock reporters are responsible for compiling a comprehensive record covering all facets of the feeder cattle trade, including direct trading, livestock auctions, video and internet auctions, and board sales. It is at the discretion of the reporter whether to include data that do not accurately reflect actual market conditions. Premium animals are always included, but sick, dwarf, or crippled cattle are not included. As the reporter collects the price data, they are placed in categories based on class. These class level data are then passed on to NASS via a secure FTP connection on a monthly basis.

NASS converts the daily weighted average price into a monthly weighted average price per 100 pounds, using "Head Count" as the weight to produce the feeder cattle estimates. The preliminary, mid-month price for the current month follows the same calculation method as the previous full month price. The calculations exclude feeder cattle weighing 900 pounds or over.

Feeder Pigs. NASS uses data collected by the Agricultural Marketing Service (AMS). AMS collects the feeder pig data in a similar manner as the feeder cattle data. Feeder pigs 10 pounds or less are excluded. There are five weight categories for feeder pigs. See Figure four for the weight categories as well as other information provided by AMS regarding feeder pig prices.

After the middle of each month, NASS retrieves feeder pig data from AMS Market News through the AMS web site, http //marketnews.usda.gov/portal/lg.

Figure 4: Input Information to Produce Feeder Pig Report

Type of Information	Input Information
Report Type	Weighted Average (National Report)
Publication	Weekly
Location	Des Moines, IA
Quality/Grade	U.S. 1 2
Weight	40-, 45-, 50-, 55-, 60-.
Dates	Previous Month to Current Week (typically the week before the last week of the month)

NASS converts the weekly weighted average prices into a monthly weighted average price per 100 pound, using the head count as the weight to produce the feeder pig prices paid estimates. The preliminary mid-month price for the current month follows the same calculation method as the previous full month price. The calculations exclude ten pound pigs.

Agricultural Statistics Board Review

A Board review is held a day before the *Agricultural Prices* report is issued. The board members include the Agricultural Statistics Board Chairperson; Statistics Division Director; Crops Branch Chief; Livestock Branch Chief; Environmental, Economics, and Demographics Branch Chief; and the Economics Section Head.

Prices Paid Index

The Prices Paid Index is a monthly series that measures the change of average prices in commodities purchased by producers for agricultural production and family living. "It measures changes in price only. The index does not measure changes in production expenses or living expenditure, which are a product of prices and quantities consumed. " (USDA, 1990) The primary purpose of the prices paid index is to meet the need for a better measure of price changes in items purchased by producers for use in agricultural production and family living. With passage of the Agricultural Adjustment Act of 1933, the index acquired legal status. That act required that the prices paid index be used for the computation of parity prices.

The prices paid index contains the following indexes

- Prices paid by producers for commodities and services, interest, taxes, and wages (PPITW);
- Prices paid by producers for production, interest, taxes, and wage rates (PITW);
- Component indexes: Production, Interest, Texas, Wage Rates, Family Living (CPI);
- Subcomponent indexes include Feed, Livestock & Poultry, Seeds, Fertilizer, Chemicals, Fuels, Supplies & Repairs, Autos & Trucks, Farm Machinery, Building Materials, Services, and Rents.

The prices paid indexes include approximately 132 items which producers purchase for production. Thirty-one subcomponent indexes are constructed from the item price relatives which are directly related to production. Twelve component indexes are then calculated from the subcomponent indexes. These twelve component indexes are ag-

gregated together into one measure, referred to as the Prices Paid production index.

The top level index, prices paid index for commodities, services, interest, taxes, and wage rates (PPITW) is constructed from the component indexes of Production, Interests, Taxes, Wage rates and Family living. This index is parity index. Another top index, prices paid index for commodities, services, interests, taxes, and wage rates (PITW) is calculated by aggregating Production, Interests, Taxes, and Wage rates indexes. The family living (CPI) component is not included in this top-level index.

History / Background

The Bureau of Agricultural Economics in 1928 first published an index of prices paid by farmers. It had constructed this index to meet the need of a better measure of price changes in commodities bought by farmers for use in the family living and for production. The weights used for the index had been determined largely from data collected by USDA and the Bureau of Census reports. The weights were based mainly on the available data for the period 1920-1925. The several subgroups of this index were combined into major groups representing prices paid for family living goods and prices paid for production goods. The aggregative method (price time quantity weight = item extension) was used in the construction of the subgroup indexes, but the subgroup indexes are combined, using percentage weights.

The 1933 revision revised the initial prices paid index, at which time budget weights were shifted to average for the period 1924-1929. Interest and tax components were added to the index in August 1935 in response to an amendment to the Agricultural Act of 1933. The 1950 index revision further expanded the commodity coverage (USDA, 1990).

A 1959 index revision retained the same major and minor commodity groups and subgroup indexes as included for the 1950 revision. A farm expenditure survey was conducted in 1956 jointly by the Agricultural Marketing Service and Bureau of Census. Data from this survey were combined with those from the survey of Food Consumption made in 1955 by the Agricultural Research Service and the Agricultural Marketing Service. This provided the most comprehensive set of basic source data available for developing index group and commodity item weights (USDA, 1990).

Commodity content of the index groups was reviewed and, where appropriate, revised in line with currently available price series and expenditure patterns. The revision added another link to the index series. The 1950 revision used weights from 1925-1929 for computing indexes for 1910-1934, and weights representing the period 1937-41 were used from March 1935 forward. The weight period of 1955 was used for September 1952 through December 1964. The index series was linked again in January 1965 using 1971-1973 weights (USDA, 1990).

Several changes have been made to the index construction with the most recent occurring in 1995. The latest index revisions included (1) The five-year moving average weights being substituted for the fixed base-year weights to reflect the change of farmer’s purchasing pattern; (2) The new reference and base price period is 1990-1992 which coincides with the price received index and maintains comparability for purpose of computing parity prices; and (3) Prices paid sector indexes for Crop and

Livestock farms were established separately for the first time.

Reference period selection

In developing the indexes, a crucial choice was the initial base period. The period desired was one in which prices were stable and the general economy was healthy. Because prices were unstable following World War I, USDA undertook an extensive analysis of the dispersion of wholesale prices from 1891 through 1926. The period 1905-1915 exhibited relative stability. Because it was the most stable period, 1910-1914 was selected as the base period for the index. The Agricultural Adjustment Act of 1938 adopted the 1910-1914 period as the basic reference period for agricultural indexes used for Government farm programs (USDA, 1990).

The period 1990-1992 as a new reference date was selected for the same reasoning. The current reference and base price period is 1990-1992 which coincides with the prices received indexes and maintains comparability for purpose of computing parity prices. Overall prices paid by producers for commodities and services, interest, taxes and wage rates (PPITW) for the 1990-1992 period were close to being on the trend of the last fifteen years, a period of relatively stable inflation following a period of high inflation (Milton, 1995).

Commodity Selection

The prices paid index includes 132 items that cover areas such as feed, livestock and poultry, seed, fertilizer, chemicals, fuels, farm machinery, building materials, rent, interest and taxes (see Tables 3.13-3.16). The coverage of the prices paid index has no major change since 1970s.

Prior to 1977, NASS conducted prices paid surveys for food, clothing, and household items to measure the changes in prices producers paid for family living expenditures. Based on the similarities in prices paid and comparable spending patterns between producers and urban consumers, NASS replaced the family living index with the Consumer Price Index for all Urban Consumers (CPI-U) starting in January 1977.

The overall weight for the family living component of the prices paid index is derived from household expenditures from the ARMS survey, similar to other expenditure groups. In fact, the relative weight of the family living component in the index has declined from 30.4 percent for the 1971-1973 period to the current value of 17 percent. The decline is a result of the total number of farm households declining and the proportion of production expenditures per farm increasing.

NASS selected Producer Price Index (PPI) data from Bureau of Labor Statistics (BLS) to substitute for quarterly prices paid survey data in the construction of the 1990-1992 = 100 based indexes. Items less than 0.01 percent of total farm expenditures are excluded from the current index. Generally, the PPI index data such as for hand tools, power tools, and construction materials, etc., have been selected that represent groups of these items. The PPI data, therefore, represents a broader coverage of the expenses for relatively small production input items. The twelve production component indexes plus the Family Living, Interest, Taxes, and Wage rates component indexes represent over 90 percent of producers' total expenditures (See Table 3.14).

In using the BLS indexes, several factors were evaluated. First, BLS data lags a month behind NASS's price report. Even with the one month lag, analysis produced significantly similar data trends for major farm input components. For example, in January, the index uses the December BLS indexes to measure price change. Second, the BLS price data based on a different mix and weighting of indexes items still were consistent to NASS data covering similar items. Third, the impact of BLS wholesale versus retail, urban versus rural, and adjustment for quality on price change still produced highly correlated results with NASS data (Milton, 1995). Below are the results from the analysis. The periods of comparison vary due to data availability.

Component	Period	Corr.
Agricultural chemicals	1985 – 1993	0.83
Autos & trucks	1975 – 1993	0.97
Building materials	1975 – 1993	0.95
Farm supplies & repair	1985 – 1993	0.87
Feed	1980 – 1993	0.80
Fuels	1975 – 1993	0.74
Other machinery (mach.)	1975 – 1993	0.98
Tractors & self propelled mach.	1984 – 1993	0.96

In addition to the 12 production component indexes, 31 separate subcomponent production indexes were created (see Table 3.16). These subcomponent indexes were published beginning January 1994 for the 1990-1992=100 base period. The subcomponent indexes are not constructed on a 1910-1914=100 base period as a result of the unavailability of representative data prior to 1990-1992 and resource constraints (Milton, 1995).

Basis of Weights

The prices paid index weights are derived based on expenditure data from the annual Farm Costs and Returns Survey (FCRS), which was replaced by Agricultural Resource Management Study (ARMS) in 1996. One of primary uses of farm production expenditure data is for weighting in the construction of prices paid indexes. To facilitate 1995 price index revision, changes in component items were made. Oils and lubricants were moved from fuels to farm supplies and repairs; repairs and maintenance expenditures were moved from other farm machinery to farm supplies and repairs; and the category building and fencing was combined with farm and land improvements to make the building materials category. Estimates for these levels were revised back to 1975 at the U.S. level to provide a more useful series for prices paid index construction and other data users.

Production and consumption habits change over time with respect to commodities included in the prices paid index. For example, since the period 1970-1973, the relative weight of the family living component has declined over 13 percent while weights increased for the overall production component 12 percent, and wage rate 2.3 percent. The organizations of agricultural operation also change as markets shift or expand, such as, the dramatic increase in contractual sales, vertical integration, and pervasive effect of technology and intellectual property on the concentration of input industries. On the whole such changes come rather gradually except for current fluctuations arising from changes in supply, buying power, technology innovation, etc. The five-year moving average weights as implemented in the 1995 revision to somewhat represent these market pattern shifts. The farm expenditure weights used for computing prices paid index are similar to the method used in the price received index. It is updated every year. It also has the two-year lag because of data availability. Therefore, the data used are from the most recent five years available. The five-year moving average weights are also decomposed into crop and livestock sector weights for calculating PPITW index for crop and livestock sector farms.

While the weights of component are updated annually from the ARMS data, the weights of sub-component and items remained at base year values (1990-1992) because of reduced funding, respondent burden, and resource concerns. Though the relative weights (relative importance) of subcomponent items are published every year with new values. It should be not confused that the values of relative weights are calculated based on the five-year moving weight of component items multiplied by the fixed weights of subcomponent items which were derived at the base year (1990-1992) ARMS data. Thus the actual weights of subcomponent items used to compile component indexes are the fixed base weights. The following example provides an illustration.

		Relative Weights	
	Base Weight	2009	2010
Seeds		3.84	3.92
Field Crop	0.906	3.48	3.55
Grass/Legumes	0.094	0.36	0.37

A subcomponent item, field crop seeds has a relative weight of 3.48 for year 2009 and 3.55 for 2010. However, the base weight 0.906 remains the same and is used to compile the component index seeds. The same follows for grass/legumes seeds.

All subcomponent items and commodities are not fixed at the base weights. A few of them, like diesels, gasoline, LP gas, real estate interest and non-real estate interest, etc. are updated periodically when data is available. These weights are calculated based on the most current available year's ARMS data instead of five-year average. Table 3.17 shows relative weights of the component indexes for Prices Paid for selected years.

Component & Sub-component indexes

The indexes of prices paid by producers contain individual component indexes and high level indexes such as Prices Paid by Producers for Commodities, Services, Interest, Taxes, and Wage Rates ("PPITW"); and an index of Production, Interest, Taxes and Wage Rates ("PITW"). The PPITW index consists of a production group and a non-production group of component indexes. The production group includes feed, livestock and poultry, seeds, fertilizer, agricultural chemicals, fuels, supplies & repairs, autos & trucks, farm machinery, building materials, services, and rent indexes. This group is also used for constructing the production index. The non-production group contains interest, taxes, wage rates, and family living (CPI) component indexes. The PITW index is the PPITW index reweighted excluding the family living index. The other high level indexes include the crop sector (PPITW), livestock sector (PPITW), farm sector (Production) and non-farm sector (Production). These indexes and component indexes are published monthly. See Table 3.15 for the relative weights of the component indexes.

The component indexes are broken-down further to sub-component indexes and items. The prices paid indexes contain 31 sub-components, such as complete feeds, feed grains, hay/forages, concentrates, and supplements for the feed component index. The field crops and grasses/legumes subcomponent indexes make up the seed component index. Table 3.13 provides a complete list of the relative weights of subcomponents as well as items for indexes of prices paid by producers. The monthly and annual average subcomponent indexes are published in the January *Agricultural Prices* release.

Link Date Selection and Link Process

NASS has constructed the 1990-1992=100 prices paid indexes back to 1975 using the 5-year moving average weights established from the FCRS. Starting in 1990, the indexes reflect the new items and BLS data within the component indexes. For 1975 through 1990, the 1990-1992=100 indexes reflect changes in the revised 1910-1914=100 indexes and the weight change from fixed to moving average weights, but price movements are still measured by the items in the prior indexes. Price and weight data are not available for the new items to reconstruct the 1990-1992=100 indexes back to 1975. Price movements for items within major expense groups or component indexes tend to be similar so capturing the changes in weights among component indexes, or expenditure groups, is more important than changes in weights among items within a component index.

For example, if the price base reference is 1977 (1977 = 100), the Fertilizer average price index is 141 for 1990-1992. If the price base reference changes to 1990-1992 (1990-1992 = 100), then the Fertilizer price index for 1977 becomes 71. To convert the 1977 base index to 1990-1992, divide 100 by 141 to equal 71.

The 1910-1914=100 indexes required for parity purposes have been revised to reflect the changes in the newly constructed 1990-1992=100 indexes. The 1910-1914 indexes were linked forward starting in January 1975 based on changes in the 1990-1992 indexes. January 1975 was chosen as the link data since it corresponds to the prices received link date and the date where use of the prior 1971-1973 fixed weights was current (Milton, 1995).

Index Computation & Benchmark Process

Indexes of prices paid by producers are five-year-moving-weight price indexes computed with a modified form of the Young formula. It is a modified form of the Young formula instead of the Laspeyres formula because the weights used in constructing price index are in between the base period, 1990-1992 = 100, and the current period. The modification permits the weights to take the form of the five-year average to reflect any shift in the producers' purchasing patterns among the component items.

Unlike the price received indexes no seasonal adjustment is made in construction of the prices paid indexes. Therefore, directly comparing the prices paid indexes among the different months within a year is appropriate because they are constructed with the same basket. Another difference between the prices received and prices paid indexes is that the prices paid index is benchmarked. Six components, agricultural chemicals, fertilizer, seeds, fuels, feeds and farm machinery, are benchmarked annually. The linked indexes from BLS and EIA for these components are used to compile the monthly prices paid indexes when survey data are not available. A survey for all items in these components is conducted in March. In April, the prices paid indexes for the months between last March and current March are adjusted based on survey prices to account for differences between the linked indexes and the indexes calculated with actual NASS survey data.

In consequence, three types of index or price relative for the prices paid indexes at the item level are specified. The first type is the estimation type which is based on survey data and prices produced in the NASS estimation process. The second type is a linked one in which price index calculations are linked to outside sources. The last type is the linked

and benchmarked type which means an item is linked to another indication mainly from BLS when survey data is not available. It then will be benchmarked when the survey data is available.

The formula for the first two types is essential the same, the price relative or index equals the current price or linked index divided by base price or linked index correspondingly. That is

$$P_c^j = \frac{p_c^j}{p_b^j} * 100$$

Where P_c^j is the index or price relative of j[th] commodity for the current month, p_c^j is the item price or linked index of j[th] commodity for the current month, and p_b^j represents the item price or linked index of j[th] commodity for the base period.

The third type is complex. It is for the items in components of chemicals, fertilizers, fuels, and farm machinery. The form of formula is determined by the availability of survey data. When price data are available the formula is

$$P_c^j = \left(\frac{p_0^j}{p_b^j} * \frac{L_c^j}{L_0^j} \right) * \left\{ 1 + \left(\frac{T_c - T_0}{T_1 - T_0} \right) * \left(\frac{p_1^j}{p_0^j} * \frac{L_0^j}{L_1^j} - 1 \right) \right\}$$

When price data are not available the formula becomes

$$P_c^j = \left(\frac{p_0^j}{p_b^j} * \frac{L_c^j}{L_0^j} \right)$$

Where P_c^j is the index or price relative of j[th] commodity for the current month, T_0 indicates the previous date a price survey has conducted for j[th] commodity, T_1 represents the current date price (survey) data are available for j[th] commodity, $T_c$is a date for the current reference period (month here) which is in reference date between T_0 and T_1, p_o^j and L_0^j represent the price and linked index of j[th] commodity for period T_0 respectively, p_1^j and L_1^j correspond to the price and linked index of j[th] commodity for period T_1 respectively, p_b^j stands for the item price of j[th] commodity for the base period.

For example, a tractor with 2 wheel drive and 50-59 hours power (HP) base price is $18,333, NASS survey prices are $25,000 for March 2010 and $25,700 for March 2011, BLS index are 121.7 for March 2010 and 122.8 for March 2011. Using the above equation, the price index of Tractor with 2 wheels and 50-59 HP becomes 136 for March 2010 and 137 for April 2010.

In the literature of index numbers, it is generally agreed that the price relatives should be "weighted" by "value," since the importance of a price change in a given context is usually at least roughly proportional to the value of the commodity of the price change which is measured by the relative. The farm production expenditure is measured in terms of value which contains the quantity farmers purchased for their production and the price paid for the purchase. The prices paid indexes, subcomponent, component, and the up-level indexes, are all computed as weighted price relatives (at U.S. level). The formula then is defined as a modified Young index

$$I_c = \sum_j w_y^j p_c^j$$

Where I_c is an index of the current month; P_c^j is a price relative or an index of j[th] commodity for the current month; w_y^j is a weight of j[th] commodity for year y. However, the weights may be different when compiling sub-component level indexes. The weight is fixed at the base period when compiling a subcomponent and a component index. The weight will be updated every year when constructing all up-level indexes.

The prices paid up-level indexes include the PPITW which is the all components index; PITW which consists of all components except Family Living; PPITW for the Crop and Livestock sectors which are indexes constructed using weights derived from Crop farm expenditures and Livestock farm expenditures respectively; Production index which excludes the component of Interest, Taxes, Wage Rates and Family Living; Production index which is also decomposed into farm and non-farm production index accordingly, the former consists of Feed, Livestock & Poultry and Seeds components, the later constructed by the rest of components (see Table 3.15).

Uses and Limitations

NASS uses the prices paid index (PPITW) to compute Parity Prices under the Agricultural Adjustment Act of 1938 as amended, Title III, Subtitle A, Section 301a. Agricultural Marketing Service uses state milk marketing orders, prices paid indexes, and import prices to determine support prices.

Price indexes are widely used but are often misunderstood. To use indexes effectively, the analyst should know the components of the index and the items priced. A price index measures the change in prices from some reference point (base period) to another point in time. Items in the index are weighted by their importance. The current base price period is 1990-1992. The base price is derived for each item's average price for the period 1990-1992. The quantity weights of items and subcomponents are based on farm production expenditures for period 1990-1992 except for a few exemptions such as diesel, gasoline, LP gas, real estate interest, non-real estate interest, etc. which are updated periodically. The base prices and majority of the item weights and subcomponents remain fixed from month to month and from year to year. However, quantity weights of components are based on five-year moving average of ARMS data with a two year lag and are updated every year by adding a most recent year and removing the earliest year (USDA, 1990).

Index users should be aware of the items being priced for computation of an index. Producers use thousands of items and services in agricultural production and it is not feasible to price every item. For complex price indexes, expenditures are grouped into major index components, such as feed, fertilizer, agricultural chemicals, farm machinery, fuels, and farm supplies. Within each of the component indexes, items must be selected for pricing. Because it is not feasible to price all items, selected individual items must represent groups of expenditures. The production component of the Prices Paid Index consists of fewer than 140 items. Questions considered in selecting items for the index and price series include:

- Is the item specification well defined?
- Is the volume of sales adequate to obtain reliable prices?
- Does the item have widespread or limited geographic use?
- Is the item subject to rapid changes in design or function, and if so, how does this affect price?
- Are reported prices based on transactions or list prices? What adjustments are made for discounts, rebates, credit, delivery, sale tax, and other conditions of sale?
- Are reported prices based on transactions or list prices?
- How reliable are the available data? How large is the sample, and what is the magnitude of sampling and non-sampling errors?
- How frequently are prices surveyed, how volatile are the prices?

Users of the prices paid indexes may wish to check the items used to compute the index for adequate coverage and to determine whether the combination of items may have some type of bias.

Numerous uses are made of the prices published for individual items. The actual price level is secondary to measuring price changes. A biased price level can provide good measures of price change for index use. To have all prices at the proper level would require large increases in sample sizes. The data collection costs would far exceed currently available resources. The Prices Paid Index is designed to measure price changes for production and family living expenditures from a base period. Not all expenditures, however, are represented because of the cost of data collection. Sometimes purchases are infrequent or the item is custom designed for each application, as is often true for farm buildings. A large number of items can make up a small percentage of the index, and a few priced items must represent many functionally different items such as farm supplies. Sometimes proxy items can be substituted. In other cases, these purchases are represented by one of the component indexes or the overall index. Indexes are computed for individual component indexes of the prices paid index, using an aggregative approach (Laspeyres formula). Component indexes are weighted by percentage weights based on expenditure categories for the base-weight period. For the current prices paid index, the items priced represent 80 to 90 percent of total U.S. expenditures for that item.

The Prices Paid indexes does not adjusted for changes in quality or other enhancements of items purchased, especially when the item priced have changed significantly over time. With farm machinery, for example, the basic functions have not changed, but current models are much different from those 30 or 40 years ago.

Publication and Dissemination

Prices paid item prices are published in the April *Agricultural Prices* report. NASS publishes prices paid estimates at the U.S. level for all commodities in the five survey groups. Also, regional prices are available for fuels, fertilizers, and feed. No state level data are published. Price revisions for these five survey groups do not occur as no new or additional price data are available to support revising the already published data.

Publication Process

NASS developed software to structure the prices paid estimates in tabular format. A composed draft copy of the April *Agricultural Prices* report is generated for review for format changes by early April. Final estimates are again reviewed in the published formatted tables prior to release.

A file to populate the NASS QuickStats database is created at the time of final composition of the published report. A final review of QuickStats occurs prior to release. Go to http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp for the Quick Stats database.

Publication Constraints. NASS strives to establish and publish prices paid estimates on all data series. There are situations, however, that require an aggregation of the estimates. Also, estimates may not be published if disclosure of an individual operation is possible. Reported data are protected by Title 7 of the U.S. Code. Title 7 can be found at http://www.law.cornell.edu/uscode/7/.

In the event of a publication constraint, footnotes are used to inform the reader of the reason. The two most common reasons for not publishing data are:

(D) Withheld to avoid disclosing data for individual operations.
(S) Insufficient number of reports to establish an estimate.

Revisions. Prices paid estimates for annual surveyed items are not revised in subsequent years as no new information is available to support a revision.

The monthly items are subject to revision the following month. Monthly items are limited to feeder cattle and feeder hogs. Revisions are supported for these items as additional transactions are available. In order to publish *Agricultural Prices*, only data for the first half of the month is processed.

Dissemination

Agricultural Prices estimates are disseminated to the public through monthly reports at the end of each month. The April *Agricultural Prices* report with the prices paid estimates is released on the last business day of April. The monthly report is issued at 3:00 p.m. Eastern time. The 3:00 p.m. embargo and simultaneous access applies to all forms of dissemination. Electronic data and hard copy publications are made available simultaneously. Prior disclosure of data is unlawful, with penalties of fine and imprisonment. The April report can be found at the following website http //usda.mannlib. cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1002 by clicking on the appropriate year and month.

The main method of dissemination for reports is from the USDA-NASS website. The reports are available at www.nass.usda.gov. The reports and data are in the following formats:

- in a text format,
- in a pdf format,
- in a downloadable format for spreadsheets or databases via a comma separated value (csv) format, and
- QuickStats searchable database.

QuickStats is an on-line searchable database. Customers can obtain the specific data items of interest. These data items of interest are also available historically and can be downloaded. Feed price ratios are populated into the QuickStats database monthly. The QuickStats database can be found at the bottom of http://www.nass.usda.gov/ or at http//www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Historic Data. The last five years of prices paid indexes are published quarterly (January, April, July, and October) in *Agricultural Prices*. However, revised indexes are calculated monthly and posted to the Quick Stats database. These monthly revisions are meant to improve the timeliness of the data series. These revised estimates are official NASS estimates. Electronic versions (pdf files) are also available for *Agricultural Prices* reports dating back to 1964. These files contained "scanned" copies of the original hard copy reports.

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Appendix of Tables

Table 3.1. Target Sample by State for Prices Paid Survey Groups

State	Machinery	Feed	Chemicals	Fuels	Seed	Screener
United States...	1,700	2,100	2,440	2,150	1,600	19,431
Alabama.....	55	75	50	55	30	489
Arizona	0	50	30	0	10	13
Arkansas	50	75	50	55	30	337
California.....	60	75	125	70	25	830
Colorado	55	65	60	65	25	50
Connecticut.....	0	10	0	15	5	33
Delaware.....	0	15	0	0	5	1
Florida	0	70	90	55	10	186
Georgia	50	75	90	55	15	635
Idaho.....	55	75	50	65	30	153
Illinois.....	65	80	115	65	115	823
Indiana	65	75	55	65	60	367
Iowa	55	80	65	65	55	2,019
Kansas	55	75	50	65	45	500
Kentucky.....	50	65	45	65	20	297
Louisiana	45	0	45	55	20	49
Maine.....	0	15	0	25	5	75
Maryland.....	0	50	0	0	20	31
Massachusetts .	0	10	0	20	5	39
Michigan.....	55	65	100	55	20	481
Minnesota	60	65	100	65	45	962
Mississippi.....	0	75	45	55	30	443
Missouri.....	60	80	65	65	140	1,123
Montana.....	50	0	45	65	20	26
Nebraska.....	60	75	55	65	110	886
Nevada.....	0	0	0	0	10	1
New Hampshire	0	15	0	15	5	42
New Jersey.....	0	0	40	0	5	42
New Mexico ...	0	0	0	0	5	1
New York	55	75	95	70	20	283
North Carolina	55	75	100	65	75	1,184
North Dakota ..	50	0	45	50	40	435
Ohio	60	80	55	65	65	264
Oklahoma	50	80	50	65	70	238
Oregon	55	70	90	70	25	222
Pennsylvania...	55	75	100	70	35	668
Rhode Island...	0	0	0	0	5	12
South Carolina	45	0	90	55	15	208
South Dakota ..	55	0	45	50	35	382
Tennessee	55	0	45	65	35	227
Texas	65	80	100	65	55	762
Utah	0	0	0	0	10	1
Vermont.....	0	15	0	25	40	53
Virginia.....	50	0	50	65	10	228
Washington.....	55	75	90	70	45	3,038
West Virginia..	0	0	0	0	25	1
Wisconsin	50	65	115	55	55	290
Wyoming	0	0	0	0	20	1

Table 3.2a. Sample and Screening Counts for Farm Machinery

State	Sample		Screening Operation	
	Target	Actual	Pre	Post
United States...	1,700	2,040	3,588	3,825
Alabama.....	55	66	56	123
Arizona	0	0	1	1
Arkansas	50	60	76	112
California	60	72	139	141
Colorado	55	66	53	62
Connecticut	0	0	1	2
Delaware	0	0	1	0
Florida.....	0	0	1	16
Georgia	50	60	111	92
Idaho	55	66	70	87
Illinois.....	65	78	78	174
Indiana	65	78	88	78
Iowa	55	66	322	259
Kansas.....	55	66	119	124
Kentucky.....	50	60	122	153
Louisiana.....	45	54	48	55
Maine	0	0	1	18
Maryland.....	0	0	6	9
Massachusetts .	0	0	1	4
Michigan	55	66	75	99
Minnesota	60	72	89	93
Mississippi	0	0	49	74
Missouri	60	72	101	132
Montana	50	60	55	59
Nebraska	60	72	223	177
Nevada	0	0	1	2
New Hampshire	0	0	1	3
New Jersey.....	0	0	1	6
New Mexico....	0	0	1	1
New York.....	55	66	109	81
North Carolina	55	66	290	193
North Dakota...	50	60	104	121
Ohio	60	72	96	101
Oklahoma.....	50	60	102	105
Oregon	55	66	52	67
Pennsylvania ...	55	66	200	180
Rhode Island ...	0	0	1	1
South Carolina	45	54	76	88
South Dakota...	55	66	113	106
Tennessee.....	55	66	85	131
Texas.....	65	78	166	151
Utah.....	0	0	1	1
Vermont	0	0	1	2
Virginia	50	60	88	73
Washington	55	66	68	91
West Virginia..	0	0	1	3
Wisconsin	50	60	144	173
Wyoming	0	0	1	1

Table 3.2b. Sample and Screening Counts for Feed

State	Sample		Screening Operation	
	Target	Actual	Pre	Post
United States...	2.100	2.520	6.263	6.855
Alabama.....	75	90	341	256
Arizona	50	60	59	37
Arkansas	75	90	131	144
California.....	75	90	156	115
Colorado	65	78	73	75
Connecticut.....	10	12	32	34
Delaware.....	15	18	1	37
Florida	70	84	111	103
Georgia	75	90	219	207
Idaho.....	75	90	87	90
Illinois.....	80	96	407	390
Indiana	75	90	158	154
Iowa	80	96	563	484
Kansas	75	90	196	252
Kentucky.....	65	78	180	206
Louisiana	0	0	1	49
Maine.....	15	18	69	85
Maryland.....	50	60	73	45
Massachusetts.	10	12	48	44
Michigan.....	65	78	150	192
Minnesota	65	78	378	327
Mississippi.....	75	90	193	145
Missouri.....	80	96	474	428
Montana.....	0	0	1	66
Nebraska.....	75	90	309	325
Nevada.....	0	0	1	3
New Hampshire	15	18	44	38
New Jersey.....	0	0	1	12
New Mexico ...	0	0	1	0
New York	75	90	135	125
North Carolina	75	90	163	184
North Dakota ..	0	0	1	143
Ohio	80	96	133	221
Oklahoma	80	96	167	186
Oregon	70	84	210	151
Pennsylvania...	75	90	318	302
Rhode Island...	0	0	5	6
South Carolina	0	0	1	49
South Dakota ..	0	0	11	175
Tennessee	0	0	1	120
Texas	80	96	255	275
Utah	0	0	1	4
Vermont.....	15	18	50	44
Virginia.....	0	0	61	114
Washington.....	75	90	175	170
West Virginia..	0	0	1	20
Wisconsin	65	78	117	214
Wyoming	0	0	1	9

Table 3.2c. Sample and Screening Counts for Fertilizer & Agricultural Chemicals

State	Sample		Screening Operation	
	Target	Actual	Pre	Post
United States ..	2,440	2,928	8,462	8,027
Alabama	50	60	281	219
Arizona.....	30	36	30	36
Arkansas.....	50	60	156	190
California	125	150	296	212
Colorado.....	60	72	57	65
Connecticut	0	0	1	23
Delaware	0	0	1	9
Florida.....	90	108	101	131
Georgia.....	90	108	347	268
Idaho	50	60	136	127
Illinois	115	138	431	537
Indiana	55	66	247	208
Iowa	65	78	1290	633
Kansas.....	50	60	213	248
Kentucky.....	45	54	183	221
Louisiana.....	45	54	73	74
Maine	0	0	1	48
Maryland.....	0	0	1	28
Massachusetts	0	0	1	25
Michigan	100	120	199	250
Minnesota.....	100	120	456	352
Mississippi	45	54	202	183
Missouri	65	78	332	387
Montana	45	54	53	83
Nebraska	55	66	449	351
Nevada	0	0	1	2
New Hampshire	0	0	1	27
New Jersey.....	40	48	71	49
New Mexico...	0	0	1	0
New York.....	95	114	193	121
North Carolina	100	120	260	243
North Dakota..	45	54	216	241
Ohio	55	66	160	245
Oklahoma.....	50	60	166	178
Oregon	90	108	88	122
Pennsylvania ..	100	120	294	282
Rhode Island ..	0	0	1	1
South Carolina	90	108	140	104
South Dakota..	45	54	244	205
Tennessee.....	45	54	183	148
Texas.....	100	120	403	322
Utah.....	0	0	1	4
Vermont	0	0	1	28
Virginia	50	60	161	118
Washington	90	108	169	177
West Virginia.	0	0	1	18
Wisconsin.....	115	138	169	480
Wyoming.....	0	0	1	4

Table 3.2d. Sample and Screening Counts for Fuel

State	Sample		Screening Operation	
	Target	Actual	Pre	Post
United States.....	2150	2580	12243	6809
Alabama.....	55	66	243	149
Arizona	0	0	1	0
Arkansas	55	66	235	182
California.....	70	84	587	230
Colorado	65	78	103	81
Connecticut.....	15	18	26	15
Delaware.....	0	0	1	2
Florida	55	66	197	92
Georgia	55	66	291	147
Idaho.....	65	78	116	99
Illinois.....	65	78	333	326
Indiana	65	78	236	154
Iowa	65	78	589	406
Kansas	65	78	349	241
Kentucky.....	65	78	177	132
Louisiana	55	66	73	55
Maine.....	25	30	43	31
Maryland.....	0	0	1	6
Massachusetts	20	24	22	29
Michigan.....	55	66	360	204
Minnesota	65	78	608	363
Mississippi.....	55	66	250	77
Missouri.....	65	78	668	256
Montana.....	65	78	78	93
Nebraska.....	65	78	344	294
Nevada.....	0	0	1	0
New Hampshire ..	15	18	28	19
New Jersey.....	0	0	1	7
New Mexico	0	0	1	0
New York	70	84	174	83
North Carolina	65	78	824	295
North Dakota	50	60	320	217
Ohio	65	78	185	154
Oklahoma	65	78	61	106
Oregon	70	84	170	106
Pennsylvania.....	70	84	273	160
Rhode Island.....	0	0	6	6
South Carolina	55	66	193	95
South Dakota	50	60	231	174
Tennessee	65	78	158	122
Texas	65	78	355	178
Utah	0	0	1	1
Vermont.....	25	30	44	27
Virginia.....	65	78	114	74
Washington.....	70	84	2963	1047
West Virginia.....	0	0	1	8
Wisconsin	55	66	207	265
Wyoming	0	0	1	1

Table 3.2e. Sample and Screening Counts for Retail Seed

State	Sample		Screening Operation	
	Target	Actual	Pre	Post
United States ..	1,600	1,920	1,488	7,254
Alabama	30	36	54	169
Arizona.....	10	12	9	35
Arkansas.....	30	36	69	188
California	25	30	21	134
Colorado.....	25	30	18	68
Connecticut	5	6	5	29
Delaware	5	6	1	11
Florida	10	12	8	96
Georgia.....	15	18	12	222
Idaho	30	36	25	107
Illinois	115	138	81	571
Indiana	60	72	57	213
Iowa	55	66	62	536
Kansas.....	45	54	39	232
Kentucky	20	24	24	218
Louisiana.....	20	24	13	59
Maine	5	6	9	57
Maryland.....	20	24	22	34
Massachusetts	5	6	3	23
Michigan	20	24	77	282
Minnesota.....	45	54	40	351
Mississippi	30	36	24	148
Missouri	140	168	114	429
Montana	20	24	17	66
Nebraska	110	132	112	326
Nevada	10	12	6	5
New Hampshire	5	6	3	30
New Jersey.....	5	6	24	22
New Mexico...	5	6	3	3
New York.....	20	24	14	110
North Carolina	75	90	42	215
North Dakota..	40	48	35	227
Ohio	65	78	52	252
Oklahoma.....	70	84	50	179
Oregon	25	30	22	118
Pennsylvania ..	35	42	41	223
Rhode Island ..	5	6	1	2
South Carolina	15	18	13	76
South Dakota..	35	42	35	193
Tennessee.....	35	42	25	140
Texas.....	55	66	38	293
Utah.....	10	12	9	8
Vermont	40	48	6	37
Virginia	10	12	34	110
Washington	45	54	36	158
West Virginia .	25	30	20	18
Wisconsin.....	55	66	50	220
Wyoming.....	20	24	13	11

Table 3.3. List of Business Status Codes for Prices Paid

Business Status Code
Active
Another Name Associated with Operation
Census Split
Duplicate
Farm Management Service
Idle Agribusiness Facility
Idle Land
Major Name Change
Native American Operator
Non-Agriculture Never Farmed
Non-Farm Equine Only
Non-Respondent
Out-of-Business
Potential Farm
Potential Future Sales
Previously Inactive
Refusal

Table 3.4. Case Disposition Codes For Data Collection Activities

Data Collection Activity	Disposition Code	Description
Mode	Mail	Self-administered survey submitted via mail
	Telephone	Telephone interview for follow-up and when requested by operator
	Face-to-Face	Field interview as needed or requested by operator
	CATI	Interview mode used by state offices when requested
	Web	Self-administered survey submitted via Internet
	E-mail	Self-administered survey submitted via e-mail
	FAX	Self-administered survey submitted via FAX
	CAPI	As of 2010, interview mode is being tested
	Other	Another mode of data collection
Type of Respondent	Operator / Manager	The operator or manager of the operation
	Spouse	The spouse of the operator or manager of the operation
	Accountant / Bookkeeper	The accountant or bookkeeper of the operation
	Partner	The partner of the operation
	Other	Other person of the operation
Type of Response	Complete Interview	Operations that purchase one or more items of interest and provide complete data for all items purchased
	Refusal	Operations who refuse to participate and do not provide and data
	Inaccessible	Operations that are inaccessible during the time of the survey and cannot provide any data
	Office Hold	An operation is still in business, but due to arrangements made with the operator cannot report at time of the survey. For example, an operation reported that they can only report quarterly due to their record keeping system.
	Known Zero	An operation is still in business, but for a particular month reports no purchases of any commodities of interest.
		An operation has gone out of business or the operation no longer buys any commodities of interest
Enumerator Evaluation	Not Accepted	Enumerator's survey work not accepted by NASS staff
	Minimal Accepted	Enumerator's survey work is minimally accepted
	Average	Enumerator's survey work is average
	Very Good	Enumerator's survey work is very good
	Excellent	Enumerator's survey work is excellent

Table 3.5. Types of Farm Machinery

Type	Sub-Category	Index Item
Baler	Pick-up, auto tie, power take-off (PTO) 200 lb bale	No
	Round, 1200-1500 lb bale	Yes
	Round, 1900 - 2200 lb bale	No
Combine	Self-propelled with grain head, large	Yes
	Self-propelled with grain head, extra large	No
Cotton Picker	Self-propelled, 6 row	Yes
Chisel Plow	16-20 ft	Yes
Down to 1 ft	21-25 ft	No
	26-40 ft	No
	41-60 ft	No
Corn Head for Combine	6 row	Yes
	8 row	No
	12 row	No
Cultivator	Row Crop, flexible 12 row	No
	Row Crop, mounted, 8 row	No
Disk Harrow Tan-dem	Drawn, 15-17 ft	No
	Drawn, 18-20 ft	Yes
	Drawn, 21-25 ft	No
	Drawn, 26-30 ft	No
	Drawn, 31-35 ft	No
Farm Elevator	Port, auger, 8 in diameter, 60 ft	No
Farm Wagon	Box and gear gravity unload, 200-400 bushel capacity	Yes
	Box and gear gravity unload, 450-650 bushel capacity	No
Farm Wagon Running Gear	8-10 ton	Yes
	12-15 ton	No
Feed Grinder	Feed grinder-mixer, trailer, PTO	Yes
Field Cultivator	17-19 ft	No
	Flexible 20-25 ft	Yes
	Flexible 26-30 ft	No
Forage Harvester	Self-propelled, shear bar, 4 to 6 row	No
	Shear bar, with pick-up attachment	Yes
	Shear bar, with row crop unit, 2 row	No
Front-End Loader	1800-2500 lb. capacity	Yes
Grain Drill	Plain, 15-17 openers	No
	Press, 23-25 openers	No
	With fertilizers 20-24 openers	Yes
	With fertilizers 25-29 openers	No

Table 3.5. Types of Farm Machinery

Type	Sub-Category	Index Item
Grain Drill (cont.)	With fertilizers 30-35 openers	No
	Minimum / no till, With fertilizers, 15 ft	No
	Minimum / no till, With fertilizers, 20 ft	No
Hay rake	Side delivery or wheel, 13-23 ft working width (WW)	No
	Side delivery or wheel, 24-35 ft WW	No
	Side delivery or wheel, 8-12 ft WW	No
Hay tedder	15-18 ft WW	No
Mower-Conditioner	PTO, 14-16 ft sickle	No
	PTO, 8-10 ft sickle	No
Mower Mounted or Drawn	13-14 ft sickle	No
	7-8 ft sickle	No
Manure Spreader 2 Wheel	PTO, 141-190 bushel capacity	Yes
	PTO 225-310 bushel capacity	No
	PTO 370-430 bushel capacity	No
	PTO 560-660 bushel capacity	No
Planter	Conservation/no till, With fertilizers 12 row	Yes
	With fertilizers, 4 row	No
	With fertilizers, 8 row	No
	With fertilizers, 12 row	No
	With fertilizers, 24 row	No
Rotary Cutter	7-8 ft	Yes
	10-14 ft	No
	15-20 ft	No
Rotary Hoe	20-30 ft width	No
Sprayer, Field Crop	Mounted, boom type	No
	Trailer type, including 1000-1600 spray tank	No
	Trailer, boom type	No
Tractor	2 wheel, 30-39 PTO Horsepower (HP)	No
	2 wheel, 50-59 PTO HP	Yes
	2 wheel, 70-89 PTO HP	No
	2 wheel, 110-129 PTO HP	Yes
	2 wheel, 140-159 PTO HP	Yes
	2 wheel, 190-220 PTO HP	No
	4 wheel, 200-280 PTO HP	Yes
	4 wheel, 281-350 Engine HP	No
	4 wheel, 351-500 Engine HP	No
Windrower	Self propelled, 14-16 ft cut	Yes

Table 3.6. Types of Feed

Type	Sub-Category	Published Unit	Index Item
Alfalfa	Meal	Cwt	No
	Pellets	Cwt	No
Beef Cattle Concentrate	32-36% Bagged	Ton	No
	32-36% Bulk	Ton	No
	32-36% Protein Total	Ton	Yes
Corn Meal		Cwt	Yes
Cottonseed Meal	41%	Cwt	Yes
Dairy Feed	14% Protein Bagged	Ton	No
	14% Protein Bulk	Ton	No
	14% Protein Total	Ton	No
	16% Protein Bagged	Ton	No
	16% Protein Bulk	Ton	No
	16% Protein Total	Ton	Yes
	18% Protein Bagged	Ton	No
	18% Protein Bulk	Ton	No
	18% Protein Total	Ton	No
	20% Protein Bagged	Ton	No
	20% Protein Bulk	Ton	No
	20% Protein Total	Ton	No
	32-38% Protein Bagged Concentrate	Ton	No
	32-38% Protein Bulk Concentrate	Ton	No
	32-38% Protein Concentrate Total	Ton	Yes
Hog Feed	14-18% Protein Bagged	Ton	No
	14-18% Protein Bulk	Ton	No
	14-18% Protein Total	Ton	Yes
	38-42% Protein Bagged Concentrate	Ton	No
	38-42% Protein Bulk Concentrate	Ton	No
	38-42% Protein Concentrate Total	Ton	Yes
Molasses	Liquid	Cwt	Yes
Poultry Feed	Chick Starter Bagged	Ton	No
	Chick Starter Bulk	Ton	No
	Chick Starter Total	Ton	Yes
	Broiler Grower Bagged	Ton	No
	Broiler Grower Bulk	Ton	No
	Broiler Grower Total	Ton	Yes
	Turkey Grower Bagged	Ton	No
	Turkey Grower Bulk	Ton	No
	Turkey Grower Total	Ton	Yes

Table 3.6. Types of Feed

Type	Sub-Category	Published Unit	Index Item
Poultry Feed (cont.)			
	Laying Feed Bagged	Ton	No
	Laying Feed Bulk	Ton	No
	Laying Feed Total	Ton	Yes
Stock Salt	Plain or Iodized, Bagged	50 Lb	No
	Plain or Iodized, Block	50 Lb	No
	Plain or Iodized Total	50 Lb	Yes
Soybean Meal	44%	Cwt	Yes
	Over 44%	Cwt	No
Trace Mineral Blocks	94.5-97.5% Salt	50 Lb	No
Wheat Bran		Cwt	Yes

Table 3.7. Fertilizers, Fungicides, Herbicides, and Other Chemicals

Type	Sub-Category	Published Unit	Index Item
Fertilizers			
	0-18-36	Ton	No
	0-26-26	Ton	No
	3-10-30	Ton	No
	4-0-8	Ton	No
	5-10-30	Ton	No
	5-20-20	Ton	No
	6-6-18	Ton	No
	6-15-40	Ton	No
	6-24-24	Ton	No
	7-1-1	Ton	No
	9-23-30	Ton	Yes
	10-10-10	Ton	Yes
	10-20-20	Ton	Yes
	10-34-0	Ton	Yes
	11-37-0	Ton	No
	11-52-0	Ton	Yes
	11-55-0	Ton	No
	13-13-13	Ton	Yes
	14-0-44	Ton	No
	14-7-14	Ton	No
	15-60-0	Ton	No
	16-4-8	Ton	No
	16-6-12	Ton	No
	16-20-0	Ton	Yes
	17-17-17	Ton	Yes
	18-9-9	Ton	No
	18-15-22	Ton	No
	18-46-0 (Diammonium Phosphate)	Ton	Yes
	19-19-19	Ton	Yes
	20-5-10	Ton	No
	20-10-0	Ton	No
	20-10-10	Ton	No
	21-7-14	Ton	No
	21-8-17	Ton	No
	24-8-0	Ton	No
	25-5-0	Ton	No
	25-5-10	Ton	No
	28-0-5	Ton	No
	28-3-3	Ton	No

Table 3.7. Fertilizers, Fungicides, Herbicides, and Other Chemicals

Type	Sub-Category	Published Unit	Index Item
Fertilizers (cont.)			
	Ammonium Nitrate (Approximately 33.5% N)	Ton	No
	Anhydrous Ammonia	Ton	Yes
	Aqua Ammonia 22-25% N	Ton	No
	Limestone, Spread	Ton	No
	Muriate of Potash 60-62% K20	Ton	Yes
	Nitrogen Solution, 28% N	Ton	No
	Nitrogen Solution, 30%	Ton	No
	Nitrogen Solution, 32% N	Ton	Yes
	Sulphate of Ammonia 20.5-21.0% N	Ton	No
	Triple Superphosphate- 44-46% P_2O_5	Ton	Yes
	Urea - 44-46% N Package Size	Ton	Yes
Fungicides			
	Captan 50% WP	Pound	Yes
	Captan 80% WP	Pound	No
	Chlorothalonil 6 lbs / gallon	Gal	Yes
	Copper Hydroxide 54%	Pound	No
	Copper Hydroxide 77%	Pound	Yes
	Fenarimol 1 lb / gallon	Gal	No
	Ferbam 76%	Pound	No
	Fosethyl-Al 80%	Pound	Yes
	Iprodione 4 lbs / gallon	Gal	No
	Mancozeb 75%	Pound	No
	Maneb 4 lbs / gallon	Gal	No
	Maneb 80%	Pound	Yes
	Myclobutanil 40%	Pound	No
	Oxytetracycline 17%	Pound	No
	Sulfur 80%	Pound	No
	Triadimefon 50%	Pound	No
	Ziram 76%	Pound	No
Herbicides			
	2, 4-D 3.8 lbs / gallon	Gallon	Yes
	Acetochlor 6.4 lbs / gallon	Gallon	No
	Acetochlor 7 lbs / gallon	Gallon	No
	Alachlor 4 lbs / gallon	Gallon	No
	Atrazine 4 lbs / gallon	Gallon	Yes
	Butylate 6.7 lbs / gallon	Gallon	Yes
	Chlorimuron Ethyl 25%	Oz	No

Table 3.7. Fertilizers, Fungicides, Herbicides, and Other Chemicals

Type	Sub-Category	Published Unit	Index Item
Herbicides (cont.)			
	Chlorsulfuron 75%	Oz	No
	DCPA 75%	Pound	No
	Dicamba 4 lbs / gallon	Gallon	No
	Diuron 80%	Pound	No
	EPTC 6.7 lbs / gallon	Gallon	No
	EPTC 7 lbs / gallon	Gallon	No
	Glyphosate 4 lbs / gallon Salt Equivalent	Gallon	Yes
	Glyphosate 4.5 lbs / gallon Salt Equivalent	Gallon	No
	Linuron 50%	Pound	No
	MCPA 3.7 to 4.0 lbs / gallon	Gallon	No
	Metribuzin 75%	Pound	No
	Napropamide 50%	Pound	No
	Paraquat 3 lbs / gallon	Gallon	No
	Pendimethalin 3.3 to 3.8 lbs / gallon	Gallon	Yes
	Simazine 4 lbs / gallon	Gallon	No
	Sodium Bentazon 4 lbs / gallon	Gallon	No
	Sethoxydim 1.5 lbs / gallon	Gallon	No
	Terbacil 80%	Pound	No
	Trifluralin 4 lbs / gallon	Gallon	Yes
Insecticide			
	Acephate 75%	Pound	No
	Acephate 90%	Pound	No
	Aldicarb 15%	Pound	No
	Azinphos-Methyl 50%	Pound	No
	BT	Pound	No
	Carbaryl 4 lbs / gallon	Gallon	No
	Carbaryl 80%	Pound	Ye s
	Carbofuran 4 lbs / gallon	Gallon	No
	Chlorpyrifos 4 lbs / gallon	Gallon	No
	Cyfluthrin 2 lbs / gallon	Gallon	No
	Cypermethrin, 2.5 lbs / gallon	Gallon	No
	Diazinon 50%	Gallon	No
	Dicofol 4 lbs / gallon	Gallon	Yes
	Dicrotophos 8 lbs / gallon	Gallon	No
	Dimethoate 2.67 lbs / gallon	Gallon	No
	Disulfoton 8 lbs / gallon	Gallon	No
	Endosulfon 3 lbs / gallon	Gallon	No
	Esfenvalerate 0.66 lbs / gallon	Gallon	No

Table 3.7. Fertilizers, Fungicides, Herbicides, and Other Chemicals

Type	Sub-Category	Published Unit	Index Item
Insecticides (cont.)			
	Imidacloprid, 1.6 lbs / gallon	Gallon	No
	Malathion 5 lbs / gallon	Gallon	No
	Malathion 9.9 lbs / gallon	Gallon	No
	Methidathion 25%	Pound	No
	Methomyl 2.4 lbs / gallon	Gallon	No
	Methyl Parathion 2 lbs / gallon	Gallon	Yes
	MSMA, 6 lbs / gallon - MSMA 6 Plus, MSMA Plus H.C.	Gallon	No
	Oil 7 lbs / gallon	Gallon	No
	Oxamyl 2 lbs / gallon	Gallon	No
	Oxydemetion-Methyl 2 lbs / gallon	Gallon	No
	Permethrin 2.0 lbs / gallon	Gallon	No
	Permethrin 3.2 lbs / gallon	Gallon	No
	Phorate 20%	Pound	Yes
	Phosmet 50%	Pound	No
	Phosmet 70%	Pound	No
	Propargite 32%	Pound	No
	S-Metolachlor, 7.62 or 7.64 lbs / gallon	Gallon	No
	Synthetic Pyrethroids (Ambush & Pounce)	Gallon	Yes
	Terbufos 15%	Pound	Yes
	Zeta- Cypermetyhrin 1.5 lbs / gallon	Gallon	No
	Zeta-Cypermetyhrin 0.8 lbs / gallon	Gallon	No
Other Chemicals			
	Gibberellic Acid 4% L	Gallon	Yes
	Methyl Bromide, 67%	Pound	No
	NAD (Naphthaleneacetamide) 8.4WP	Pound	Yes

Table 3.8. Units of Measure for Fertilizers and Agriculture Chemicals

Liquid	Dry
Liquid Ounce	Gram
Pint	Dry Ounce
Liter	Pound
Quart	50 lb bag
Gallon	100 lb bag
	Hundredweight
	Ton

Table 3.9. Fuels

Type	Sub-Category	Published Unit	Index Item
Diesel	Bulk Delivery	Gallon	Yes
Gasoline, Unleaded	Bulk Delivery	Gallon	No
	Service Station	Gallon	Yes
LP Gaso-line	Bulk Delivery	Gallon	Yes

Table 3.10. Retail Seed

Type	Sub-Category	Published Unit	Index Item
Alfalfa	Alfalfa Certified Seed	Cwt	Yes
	Alfalfa Uncertified Seed	Cwt	No
Barley	Barley Spring Seed	Bushel	No
Bluegrass	Bluegrass Seed Kentucky Proprietary	Pound	Yes
	Bluegrass Seed Kentucky Public	Pound	No
Clover	Clover Seed Red Seed	Cwt	No
	Clover Ladino Seed	Pound	No
Corn Hybrid	Corn Hybrid (BIO) Seed	80,000 Kernels	No
	Corn Hybrid (NBT) Seed	80,000 Kernels	No
	Corn Hybrid All Seed	80,000 Kernels	Yes
Fescue	Fescue Seed Tall Seed	Cwt	Yes
Flax	Flax Seed	Bushel	No
Grain	Grain Sorghum Hybrid Seed	Cwt	No
Lespedeza	Lespedeza Seed Korean	Cwt	No
	Lespedeza Seed Kobe	Cwt	No
Oats Spring	Oats Spring Seed	Bushel	No
Orchard grass	Orchard Grass Seed	Cwt	No
Rye grass	Rye Grass Seed Annual	Cwt	Yes
Soybeans	Soybeans Biotech Seed	Bushel	No
	Soybeans Non-Biotech Seed	Bushel	No
	Soybeans All Seed	Bushel	Yes
Sudan grass	Sudan Grass Seed	Cwt	No
Timothy grass	Timothy Grass Seed	Cwt	No
Wheat	Wheat Winter Seed	Bushel	No
	Wheat Spring Seed	Bushel	Yes

Table 3.11. States Within Farm Production Regions

Region	Number of States Per Region	Farm Production Region
1	5	KY, NC, TN, VA, WV
2	5	IL, IN, IA, MO, OH
3	3	AR, LA, MS
4	3	MI, MN, WI
5	8	AZ, CO, ID, MT, NV, NM, UT, WY
6	11	CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT
7	4	KS, NE, ND, SD
8	3	CA, OR, WA
9	4	AL, FL, GA, SC
10	2	OK, TX

Table 3.12. States Within Fertilizer Regions

Region	Number of States Per Region	Fertilizer Region
1.....	5	AL, KY, LA, MS, TN
2.....	4	CO, MT, NM, WY
3.....	8	IL, IN, IA, MI, MN, MO, OH, WI
4.....	12	CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT, WV
5.....	4	KS, NE, ND, SD
6.....	3	ID, OR, WA
7.....	3	AR, OK, TX
8.....	5	FL, GA, NC, SC, VA
9.....	4	AZ, CA, NV, UT

Table 3.13. Relative Weights of Items for Indexes of Prices Paid by Farmers Including Interest, Taxes, and Wage Rates (Base Price Period 1990-92)

COMPONENT / SUBCOMPONENT	RELATIVE WEIGHT	COMPONENT / SUBCOMPONENT	RELATIVE WEIGHT
	Percent		Percent
CONSUMER PRICE INDEX (C.P.I.)	19.0	FERTILIZER	4.7
PRODUCTION	65.6		
		Mixed Fertilizer	2.0
FEED	11.1	09-23-30	0.05
Complete Feeds	4.9	10-10-10	0.08
Beef Cattle Feed, 32-36%	0.44	10-20-20	0.04
Dairy Feed, 16%	0.83	10-34-00	0.31
Dairy Feed, 32-38%	0.34	11-52-00	0.28
Hog Feed, 38-42%	0.24	13-13-13	0.06
Hog Feed, 14-18%	0.24	16-20-00	0.06
Broiler Grower	1.42	17-17-17	0.04
Chick Starter	0.34	18-46-00 (DAP)	1.05
Laying Feed	0.68	19-19-19	0.07
Turkey Grower	0.34	Nitrogen	2.0
Feed Grains	2.0	Nitrogen Solution, 32%	0.77
Barley	0.06	Urea, 45%	0.51
Corn, Shelled	1.64	Anhydrous Ammonia, 81-82%	0.70
Sorghum, Grain	0.26	Potash and Potassium	0.7
Oats	0.04	Superphosphate, 44-46% P205	0.26
Hay/Forages	1.2	Muriate of Potash, 60% K20	0.40
Hay Baled, Alfalfa	0.76		
Hay Baled, Other	0.46	AGRICULTURAL CHEMICALS	3.4
Concentrates	1.8	Herbicides	2.1
Cottonseed Meal, 41%	0.16	2,4-D	0.56
Soybean Meal, 44%	1.62	Butylate (SUTAN)	0.32
Supplements	1.2	Cyanazine (BLADEX)	0.39
Bran	0.53	Trifluralin (TRELAN)	0.47
Corn Meal	0.29	Pendimenthalin (PROWL)	0.21
Molasses, Liquid	0.29	Glyhposate (ROUNDUP)	0.20
Stock Salt, Plain or Iodized	0.11	Insecticides	0.8
		Carbaryl (SEVEN)	0.15
LIVESTOCK AND POULTRY	8.2	Phorate (THIMET)	0.10
Feeder Cattle	6.39	Terbufos (COUNTER)	0.15
Feeder Pigs	0.66	Synthetic Pyrethroid	0.15
Milk Cow Replacements	0.66	Methyl Parathion	0.16
Poultry	0.54	Fonofos (DYFONATE)	0.09
Broiler-Type Chicks	0.35	Fungicides / Other	0.3
Egg-Type Chicks	0.19	Captan	0.09
		Maneb	0.04
SEED	2.7	Fosethyl-AL (ALIETTE)	0.01
Field Crops	2.5	Copper Hydroxide	0.06
Seed Corn, Hybrid	1.10	Chlorothalonil (BRAVO)	0.09
Rice	0.04	Gibberellic Acid	0.09
Wheat	0.41	Naphthalene Acetamide	0.09
Cottonseed	0.13		
Peanuts	0.10	FUELS	3.0
Soybeans	0.49	Diesel Fuel, Bulk Delivery	1.60
Potatoes	0.17	LP Gas, Bulk Delivery	0.35
Grasses and Legumes	0.3	Gasoline, Unleaded, Service Station	1.05
Ryegrass, Annual	0.10	Tall Fescue	0.06
Bluegrass, Kentucky	0.02		
Alfalfa, Certified	0.07		

Table 3.13. Relative Weights of Items for Indexes of Prices Paid by Farmers Including Interest, Taxes, and Wage Rates (Base Price Period 1990-92 (Cont.))

COMPONENT / SUB-COMPONENT	RELATIVE WEIGHT	COMPONENT / SUB-COMPONENT	RELATIVE WEIGHT
	Percent		Percent
FARM SUPPLIES AND REPAIRS	5.4	BUILDING MATERIALS	2.4
Supplies	1.8		
Hand Tools	1.11	FARM SERVICES	10.9
Power Hand Tools	0.13	Custom Rates	1.2
Lubricants	0.21	Harvesting	1.0
Fruit and Vegetable Containers	0.36	Corn	0.17
Repairs	3.6	Hay	0.45
Farm Machinery Parts	1.80	Small Grains	0.20
Labor Repair Costs	1.80	Soybeans	0.14
AUTOS AND TRUCKS	1.3	Planting	0.1
Autos	0.2	Corn	0.02
Autos, New	0.10	Small Grains	0.02
Autos, Used	0.07	Soybeans	0.02
Trucks	1.1	Legumes and Grasses	0.02
Trucks, New	0.64		
Trucks, Used	0.49	Tillage	0.1
		Chisel Plow	0.02
FARM MACHINERY	4.6	Tandem Disking	0.02
Self-propelled	1.8	Field Cultivation	0.02
Combine, w/ Grain Head, Large	1.51	Row Cultivation	0.02
Cotton Picker, Spindle, 4 Row	0.31		
Windrower, 14-16 Foot	0.03	Other Services	9.7
Tractors	1.0	Insurance	2.43
2 Wheel, 50-59 HP	0.08	Contract Labor	1.18
2 Wheel, 110-129 HP	0.18	Electricity	2.25
2 Wheel, 140-159 HP	0.62	Veterinary Services	1.37
4 Wheel, 200-280 HP	0.14	Office Supplies	1.55
Other Machinery	1.8	Business Computers	0.07
Forage Harvester, PTO, Shear Bar, w/Pickup	0.06	Transportation	0.88
Rotary Cutter, 7-8 Foot	0.05	RENT	8.0
Corn Head for Combine, 6-Row	0.14	Cash	3.6
Baler, Rnd, Man., 1200-1500 lbs.	0.19	Cash	3.43
Feed Grinder-Mixer, Trailer, PTO	0.06	Private Per Head	0.12
Front-End Loader, 1800-2500 lbs.	0.09	Public AUM	0.05
Manure Spreader, 2 Wheel, PTO, 141-190 Bushel	0.12	Share	4.4
Wagon Running Gear, 8-10 Tons	0.12	INTEREST	5.7
Wagon, Gravity, 200-400 Bushels	0.05	Farm Real Estate (per acre)	3.08
Corn Planter, Conservation, 12-Row	0.29	Farm Non-Real Estate	2.62
Grain Drill, w/Fert. Attch. 20-24 Tube	0.15	TAXES	3.0
Disk Harrow, Tandem, Drawn		WAGE RATES	6.7
15-17 Foot	0.12	TOTAL	100.0
18-20 Foot	0.16		
Field Cultivator, Flexible 20-25 Foot	0.15		

Table 3.14. Bureau of Labor Statistics Component Indexes Utilized in NASS Index Construction

Group	NASS Description	BLS Description	BLS Series ID
Feed	Supplements	Wheat mill products, corn mill products, and other grain mill products except flour	wpu02140908
	Concentrates	Soybean cake, meal, and other byproducts	wpu0292
	Complete Feeds	Formula Feeds	wpu0293
Fertilizer	Mixed Fertilizers	Mixed Fertilizers	wpu0651
	Nitrogen	Nitrogenates	wpu065201
	Potash and Phosphate	Phosphates	wpu065202
Agricultural Chemicals (Non-Household)	Chemicals	Agricultural and commercial pesticides and chemicals	wpu06530106
Farm Supplies and Repairs	Hand Tools	Hand and Edge Tools	wpu1042
	Power Equipment	Power-driven Hand Tools	wpu1132
	Oils/Greases	Finished Lubricants	wpu0576
	Fruit and Vegetable Containers	Wood container and pallet manufacturing	pcu32192-32192-
	Repairs/Parts	Parts for farm machinery, for sale separately	wpu111409
	Labor/Service	Installation, maintenance, and repair	ciu2010000430000i
Autos and Trucks	Trucks	New trucks	cuur0000ss45021
	Autos	New cars	cuur0000ss45011
Farm Machinery	Other Machinery	All other farm machinery and equipment, excluding parts, including attachments	wpu111408
	Tractors	Farm-type (power take-off hp) wheel tractors (2/4 wheel drive)(with or without attachments)	wpu111403
	Self-propelled Machinery	Harvesting machinery (except hay and straw) and attachments	wpu111406
Building Materials	Building Materials	Material and components for construction	wpusop2200
Farm Services	Other Services – Computers	Electronic computers	wpu1151
	Other Services – Office Supplies	Office supplies and accessories	wpu091506
	Electricity	Electricity per KWH	apu000072610
	Transportation	General freight trucking, long-distance	pcu48412-48412-
Family Living	Family Living	Consumer Price Index - All Urban Consumers	cuur0000sa0

Table 3.15. Relative Weights of Component Prices Paid Indexes Comparison by Type of Farm

Index	1990-92 Relative Weights (Percent) 1/		
	All Farms	Crop Farms	Livestock Farms
Production	65.6	62.4	68.6
Feed	11.1	1.5	20.1
Livestock & Poultry	8.2	1.6	14.3
Seed	2.7	4.3	1.2
Fertilizer	4.7	6.8	2.7
Agricultural Chemicals	3.4	5.6	1.3
Fuels	3.0	3.6	2.4
Farm Supplies & Repairs	5.4	6.4	4.5
Autos & Trucks	1.3	1.3	1.4
Farm Machinery	4.6	5.0	4.1
Building Materials	2.4	2.0	2.8
Farm Services	10.9	12.3	9.7
Rent	8.0	12.0	4.3
Interest	5.7	6.0	5.4
Taxes	3.0	3.4	2.6
Wage Rates	6.7	9.2	4.4
Family Living	19.0	19.0	19.0

1/ Simple averages of 1990-92 base price period for comparison purposes.

Table 3.16. Prices Paid Component and Subcomponent Production Indexes (1990-92=100) [1]/

Production Index/Subcomponent	1990-92=100 Relative Weight
	Percent
Feed	11.1
Complete Feeds	4.9
Feed Grains	2.0
Hay/Forages	1.2
Concentrates	1.8
Supplements/Other	1.2
Livestock and Poultry	8.2
Feeder Cattle	6.39
Feeder Pigs	.66
Milk Cow Replacements	.66
Poultry	.54
Seed	2.7
Field Crops	2.5
Grasses & Legumes	.3
Fertilizer	4.7
Mixed Fertilizers	2.0
Nitrogen	2.0
Potash and Potassium	.7
Agricultural Chemical	3.4
Herbicides	2.1
Insecticides	.8
Fungicides/Other	.3
Fuels	3.0
Diesel	1.60
Gasoline	1.05
LP Gas	.35
Farm Supplies & Repairs	5.4
Supplies	1.8
Repairs	3.6
Autos & Trucks	1.3
Autos	.2
Trucks	1.1
Farm Machinery	4.6
Self-Propelled	1.8
Tractors	1.0
Other Machinery	1.8
Building Materials	2.4
Farm Services	10.9
Custom Rates	1.2
Other Services	9.7
Rent	8.0
Cash	3.6
Share	4.4

1/ Simple average of 1990-92 for comparison purposes.

Table 3.17. Revised and Prior Prices Paid Indexes Relative Weights of Component Indexes

Commodity Groups	Prior Base Period (1971-73)	Revised Base Period 1/ (1990-92)	5-Year Moving Average Weights: 2/ 1990	1995	2000	2005	2010
	(%)	(%)			(%)		
Production	57.6	65.6	65.0	66.3	67.3	66.4	70.2
Feed	11.8	11.1	11.9	11.5	11.7	10.7	11.9
Livestock & Poultry	11.7	8.2	8.0	8.4	6.8	7.7	8.6
Seed	1.8	2.7	2.6	2.7	2.9	3.5	3.9
Fertilizer	4.2	4.7	5.3	4.7	4.9	4.3	5.2
Agricultural Chemicals	1.7	3.4	2.7	3.4	3.9	3.6	3.2
Fuels	3.5	3.0	4.0	2.9	2.6	2.7	3.9
Farm Supplies & Repairs	2.2	5.4	4.8	5.4	5.6	5.2	4.6
Autos & Trucks	2.5	1.3	1.3	1.4	1.6	1.8	1.5
Farm Machinery	7.2	4.6	3.9	4.5	4.0	4.0	4.5
Building Materials	3.6	2.4	2.4	2.4	2.8	3.6	4.5
Farm Services	7.4	10.9	13.9	11.1	12.4	12.4	12.1
Rent	0	8.0	4.2	7.8	8.1	6.9	6.3
Interest	4.0	5.7	7.3	5.5	4.9	4.5	3.6
Taxes	2.8	3.0	2.0	3.0	3.1	2.9	3.0
Wage Rates	5.2	6.7	6.7	6.8	7.0	7.6	7.5
Family Living	30.4	19.0	18.9	18.4	17.7	18.6	15.7
Total Inputs	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Weights represent simple 3-year averages for 1990-92 base price period for comparison purposes with 1971-73, prior base price and weight period.

2/ Examples of 5-year moving weights for constructing 1990-92=100 index numbers. Weights used for 2010 based upon 2004-2008 production expenditures, weights for 2005 based upon 1999-03 production expenditures.

Glossary of Selected Terms

2, 4-D (3.8 pounds/gallon)

For postemergence use on grasses, wheat, barley, oats, sorghum, corn, sugarcane and non-crop areas for control of weeds such as Canada thistle, dandelion, annual mustards, ragweed, and lambsquarters. Many broadleaf crops are extremely sensitive, such as cotton and grape vines. Leaves no residue carryover to the next year. Absorbed through leaves.

AAtrex

See Atrazine.

Acephate (Orthene)

A contact and systemic insecticide effective against alfalfa looper, aphids, armyworms, bagworms, bean leafbeetle, bean leafroller, blackgrass bugs, bollworm, budworm, cabbage looper, cankerworms, corn earworms,cranberry blossom worm, cutworms, diamond back moth, European corn borer, fireworms, fleahoppers, grasshoppers, green cloverworm, gypsy moth, hornworm, imported cabbage worm, imported fire ants, lace bugs, leafminers, leafhoppers, leafrollers, lygus, Mexican bean beetle, Mormon crickets, oak moth, saltmarsh caterpillars, soybean loopers, spanworms, sparganothis, stinkbugs, tent caterpillars, threecornered alfalfa hopper, thrips, tobacco hornworm, velvetbean caterpillar, webworms, and whiteflies. For use in bell and non-bell peppers, brussel sprouts, cauliflower, celery, cotton, cranberries, dry beans, head lettuce, mint, peanuts, soybeans, and succulent beans. This chemical also used for spot treatment control of cockroaches and for insect control in forests, tobacco, and on ornamentals.

Acetochlor (7 lbs/gallon)

Herbicide used as a pre-emergence application or pre-planting application with soil incorporation to control annual grasses and certain broadleaf weeds. Acetochlor is used on a wide variety of crops including cotton, corn, peanuts, soybeans, sugarcane, vineyards, orchard crops and some vegetables.

Active Ingredients

The ingredients in fertilizer or a pesticide which will chemically react with the soil, plant, animal, or pest give the desired effect.

Actual Nutrients

As related to fertilizer, primary plant nutrients expressed in terms of active ingredients or units of nitrogen, phosphorus, potassium, and sulfur applied. A unit equals one pound.

Additive, Feed

Items added to a diet or ration mixture to increase efficiency or to give it more desirable characteristics.

Aerial Fertilization

The broadcast distribution of fertilizers on the soil surface from aircraft.

Aerial Seeding

Broadcast seeding from aircraft, especially used in wet areas, such as rice fields, and for some small grain crops on upland fields when heavy rain prevents the use of conventional seeding methods.

Adjuvant

Chemical added to a pesticide to increase its effectiveness or safety.

Aflatoxin

A toxic chemical produced by a soil-borne mold that affects seeds, such as corn and peanuts, when certain climatic conditions occur. Aflatoxin is sometimes found in moldy corn.

Aggregative index method

The method in which the sum of prices of all items in the current period multiplied by their quantity in the base period is divided by the sum of all item total values (prices multiplied by quantity) in the base period.

Aggregator

An individual or firm who purchases a commodity from a producer and combines the commodity with other similar purchases in order to make a bulk sale.

Agitation

The process of stirring or mixing in a sprayer.

Agribusiness

Producers and sellers of agricultural food, fiber, and services. Agribusinesses include manufacturers, processors, wholesalers, dealers, transporters, marketers, and retail outlets.

Agricultural Marketing Service (AMS)

A USDA agency that sets standards for grades of cotton, tobacco, meat, dairy products, eggs, fruits, and vegetables; operates grading services; and administers Federal marketing orders.

Agricultural Policy

A broad term used to encompass those government programs most directly affecting the prices and incomes received by producers.

Agricultural Statistics Board (ASB)

A selected panel from the National Agricultural Statistics Service (NASS) staff dedicated to providing effective and efficient review of statistics covering all aspects of U.S. agriculture. The ASB acts on behalf of the Secretary of Agriculture.

Alachlor (4 pounds/gallon)

Used as a preemergence or early postemergence for controlling annual grasses and certain broadleaf seeds in soybeans, corn, peanuts, dry beans, sunflowers, milo and potatoes. Leaves no residue carryover to the next year. Can be broadcast or banded.

Aldicarb (Temik 15%)

A systemic insecticide, acaricide, and nematicide for use only as soil application to control certain insects, mites, and nematodes on citrus (grapefruit, lemon, lime, oranges only), cotton, dry beans, ornamentals, peanuts, sorghum, soybeans, sugar beets, sweet potatoes, pecans (Southeast only), sugarcane (Louisiana only), and tobacco (North Carolina and Virginia only).

Aliette

See Fosetyl-AL.

ALS Herbicides

Herbicides that bind to the acetolactate synthase (ALS) enzyme in the plant.

ALS Resistance

Resistance is caused by a modified ALS enzyme that no longer allows herbicide binding at the site of action. When a modified ALS enzyme has been identified, the enzyme is likely to be resistant to other ALS inhibitor herbicides as well.

Alternate Middle Row Spraying

A variable spraying pattern that alternates the middle row to be sprayed. This procedure reduces the amount of pesticides used per application by one half.

Ambush

See Permethrin.

Amino Acids

The biochemicals that serve as the building blocks of proteins; 20 different naturally occurring amino acids are present in plants and animals. Essential amino acids are those which animals cannot produce and must rely upon their feed supply to provide.

Ammonium Nitrate

Common chemical fertilizer having the analysis of 33-0-0.

Ammonium Phosphate

Common chemical fertilizer having the analysis of 16-27-0.

Ammonium Sulfate

Common chemical fertilizer having the analysis of 20-0-0.

Anhydrous Ammonia

Common chemical fertilizer having the analysis of 82-0-0. It occurs in the form of a compressed gas. Special storage, handling, and application equipment is required.

Antibiotic

A chemical compound generally produced by molds that has the ability to inhibit growth of certain bacteria.

Application Rate

The amount of pesticide applied to a site, usually expressed as a liquid or dry measure per unit area.

Aqua Ammonia

Common chemical fertilizer having the analysis of 20-0-0.

Area Sample

A sample of segments selected from an area sampling frame. The area sampling frame is representative of the state's geography and land uses.

Area Sampling Frame

All land area in the State divided into sampling units called segments.

Asana XL

See Esfenvalerate.

Atrazine (4 pounds/gallon Liquid)

Used for season-long postemergent weed control in corn, sorghum and pasture. At highest rates it is used for non-selective weed control in non-cropped areas. Residual weed control; absorbed through leaves and roots; tank mixes with grass herbicides; no residue carryover to the next year.

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)

ABARES is a research bureau within the Department of Agriculture, Fisheries and Forestry that provide research and analysis about Australia's primary industries.

Available

A form of a nutrient which is capable of being used by the growing plant.

Axial Flow Combine

A combine using a rotating mechanism inside a stationary threshing cage to thresh the grain. The increased threshing area compared to a conventional combine results in faster and cleaner harvesting.

Azinphos-methyl (Guthion 50%)

Registered to control many insect pests on a wide variety of fruit, vegetable, nut, melon, and field crops as well as ornamentals, forest and shade trees.

Bagged

Refers to how feed is packaged, in a bag (paper, burlap, or cloth). Bag sizes are usually 25, 50, 80, and 100 pounds (cwt).

Bale Accumulator

A trailing attachment for conventional hay balers that collects and automatically unloads about 8-12 bales.

Bale Chopper

A tractor-powered implement that chops up bales of hay for use as a feed or as bedding for livestock.

Bale Ejector

An attachment for conventional hay balers that throws bales into a trailing wagon to eliminate hand loading.

Bale Mover

A device for mechanically moving large bales of hay; attaches to a tractor 3-point hitch or front-end loader, mounted in a truck bed, or trailed behind a tractor or truck.

Baler

See Hay Baler.

Band Application

An application of herbicide or fertilizer made in a narrow band near plant rows, rather than to the entire soil surface.

Banvel

See Dicamba.

Basagran

See Sodium Bentazon.

Base period

The base period generally is understood to be the period with which other periods are compared and whose value provide the weights for a price index. However, the concept of the "base period" is not a precise one and may be used to mean the different things. Three types of base periods may be distinguished:

- The ***price reference period***, that is, the period whose prices appear in the denominators of the price relatives used to calculate the index, or

- The ***weight reference period***, that is, the period, usually a year, but a month for price received index, whose values serve as weights for the index. However, when a hybrid expenditure weights are used in which the quantities of one period are valued at the prices of some other period, there is no unique weight reference period, or

- The ***index reference period***, that is, the period for which the index is set equal to 100.

Base Unit

The standard manufactured item specified. Excludes product upgrades or optional items that are installed by the factory or dealer.

Bayleton

See Triadimafon.

Baythroid

See Cyfluthrin.

Beneficial Insects

Insects collected and introduced into locations because of their value in biologic control as prey on harmful insects and parasites.

Bidrin

See Dicrotophos.

Biodegradable

A substance that decomposes by microorganisms usually present in the soil.

Biological Control

Control of pests using natural means, e.g. control of aphids by ladybird beetles (ladybugs). The alternative would be application of an agricultural chemical (insecticide).

Biological Pesticide

A naturally occurring substance that controls pests.

Biotechnology

Development of products by a biological process involving the transfer of genes which produce desirable traits. Biotechnology may use microorganisms such as yeasts or bacteria or natural substances such as enzymes to complete the gene transfer process.

Biotechnology Seed Varieties

Genetically modified seed varieties that have been developed to possess particular "input" or "output" traits.

Block Salt

A cube of about 10 inches of compressed salt used for consumption by livestock.

Board Estimate

The official measure of the actual quantity or value of an item as derived from sample data or administrative data and approved by the Agricultural Statistics Board.

Bran

The outer layers of a grain removed in milling. Bran can be used for livestock feed as well as human consumption.

Bravo

See Chlorothalonil.

Broadcast

To sow seeds or fertilizer in all directions by scattering.

Broadcast Application

The uniform application of a pesticide or fertilizer to the entire field or area.

Broad-Spectrum Pesticide

A pesticide that is effective against a wide range of pest species.

Broiler

A young domestic breed chicken grown for meat purposes only.

Broiler Grower

A type of poultry feed which is fed to chickens that are being raised for meat.

Broiler Feed Ratio

Number of pounds of broiler ration equal in value to one pound of live broiler; that is, the price received by producers for one pound of broiler divided by the price of a pound of broiler feed.

Bt

Active ingredient is *Bacillus thuringiensis*, a bacterium which acts as an biological insecticide for most caterpillar larvae, including armyworms, cabbage loopers, imported cabbageworm, gypsy moth, and spruce budworm. For use on alfalfa, cotton, forested areas, fruit trees, ornamentals, shade trees, soybeans, tobacco, and vegetables. Applied pre- or post-harvest and to growing crops.

Bulk

Refers to feed sold in a loose form – not divided into packages or containers. Feed is often sold in bulk quantities of a ton.

Bulk Fertilizer

Commercial fertilizer delivered to the purchaser in a non-packaged form to which a label cannot be attached.

Bureau of Labor Statistics (BLS)

The principal fact-finding agency for the Federal Government in the broad field of labor, economics, and statistics. The BLS is an independent national statistical agency that collects, processes, analyzes, and disseminates essential statistical data to the American public, the U.S. Congress, other Federal agencies, State and local governments, business, and labor. The BLS also serves as a statistical resource to the Department of Labor. The data produced includes the Consumer Price Index (CPI), the unemployment rate, and the Producer Price Index (PPI).

Bushel (Bu.)

A volume unit of measure, often used as a standard for selling and trading crop commodities. In practice, commodities are traded on a weight basis whereby, a USDA standard weight and moisture content representing a bushel has been established for each commodity.

Butylate (Sutan 6.7 pounds/gallon)

Incorporated as preplant to control most grassy weeds, including nutgrass, in corn; breaks down in soil relatively soon to be harmless to crops following corn. Should not be applied on milo or sorghum.

CAPI

Computer Assisted Personal Interviewing is when an interviewer records the answers from a respondent using a computer during a personal visit.

Captan (**50% and 80% wettable powder**)

For control of scab, black rot, botrytis, sooty blotch, fly speck and summer rots on apples; brown rot and leaf spots on store fruits and almonds; dead arm, down mildew and black rot on grapes. Also for control of a wide variety of fungal diseases on small fruits, berries, vegetables, and ornamental crops. It is also used as a seed treatment. NASS collects prices for two different formulations of this product.

Carbamate

See Ferbam.

Carbaryl (Sevin 80%)

For the control of insect pests on more than 100 different crops including citrus, fruit, forage crops, corn, forests, soybeans, peanuts, tobacco, cotton, rice, peanuts, sorghum, rangeland, other small grains, lawns, nuts, ornamentals, shade trees, poultry, and pets.

Carbofuran (Furadan 4 lbs/gallon)

For use on field corn to control corn rootworm and most soil and foliar pests; alfalfa for alfalfa weevil, aphids and lygus bugs; tobacco for nematodes and soil and foliage feeding insects; peanuts for nematodes and thrips; rice for rice water weevil; on sugarcane for nematodes, wireworms and sugarcane borer; sorghum for greenbug; potatoes for Colorado potato beetle, leafhoppers and flea beetles. Also soybeans, sweet corn, cotton, grapes, small grains, sorghum, and a variety of other crops. In-furrow or banded application.

Carryover - [Pesticides]

Carryover is chemical pesticide residuals remaining in the soil a year or more after being applied. Residual levels are influenced by chemical type, amount of rainfall, and soil type. The carryover from some chemicals may affect the growth of certain crops planted in later years.

Cash Price

The price paid for the item of interest less any discounts, rebates, and sales tax. If a trade-in was involved in the sale, add the value of trade-in to the reported discount price.

CATI

Computer Assisted Telephone Interviewing is when an interviewer records the answers from a respondent over the telephone using a computer.

Certified Applicator

A person certified to use or direct the use of restricted use pesticides.

Certified Seed

Seed that meets rigid standards of purity and germination, which is designated by an authorized agency (for example, State Department of Agriculture).

Chain Index

An index number derived by relating the value at any given period to the value in the previous period rather than to a fixed base.

Chain Weighted Index

The chain weighted CPI incorporates changes in both the quantities and prices of products. For example, let's examine clothing purchases between two years. Last year you bought a sweater for $40 and two t-shirts at $35 each. This year, two sweaters were purchased at $35 each and one t-shirt for $45.

Standard CPI calculations would produce an inflation level of 13.64%
((1 x 35 + 2 x 45)/ (1 x 40 + 2 x 35)) =1.1364.

The chain weighted approach estimates inflation to be 4.55%
((2 x 35 + 1 x 45)/ (1 x 40 + 2 x 35)) =1.0455.

Using the chain weighted approach reveals the impact of a customer purchasing more sweaters than t-shirts. The chain weighted CPI incorporates the average changes in the quantity of goods purchased, along with standard pricing effects. This allows the chain weighted CPI to reflect the expenditures change of customers shifting the weight of their purchases from one area of spending to another.

Check Data

Information derived from inspections, marketings, acreages contracted or certified, assessments, ginnings, and other sources that have some direct relation to a commodity and can be used, with varying degrees of confidence, to supplement survey data in the preparation or revision of estimates.

Chemical Fallow

The application of herbicides to keep cultivated land free of vegetative growth by destroying weeds or to conserve moisture for the next crop.

Chemigation

The application of an agricultural chemical by injecting it into irrigation water.

Chick Starter

A balanced feed for the quick growth of baby chicks, consisting of ground grains, leaf meal, soy-bean meal, dried milk, limestone, iodized salt, vitamins, antibiotics, and other items.

Chisel Plow

A primary tillage machine, either integral or trailing, that consists of three or more ranks or bars upon which either rigid or spring trip standards are attached. The shanks are usually spaced 12 inches apart overall. A variety of ground engaging tools may be used, from narrow points or shovels to 18 inch wide sweeps. Chisel plows may be used to a maximum depth of 18 inches.

Chlorimuron-Ethyl (Classic 25%)

Formulation to be mixed with water and sprayed for selective postemergence weed control in soybeans. Will control many broadleaf weeds and yellow nutsedge.

Chlorothalonil (6 pounds/gallon)

A broad spectrum fungicide. Registered for use on stone fruits, soybeans, dry edible beans, snap beans, cole crops, carrot, celery, sweet corn, cucumber, onion, cantaloupe, muskmelon, honeydew, watermelon, squash, pumpkin, peanut, potato, tomato, passion fruit, papaya, conifers, and ornamentals; grass grown for seed; also used in paints and as a wood preservative.

Chlorpyrifos (4 pounds/gallon)

Used as a soil insecticide for control of corn rootworms and cutworms, as a dormant application for control of peach tree borer, and as a seed treatment for control of seed corn maggot. Also used on cotton, peanuts, alfalfa, soybeans and sorghum. In-furrow or banded application.

Chlorsulfuron (Glean 75%)

Intended for use on land having a soil pH of 7.5 or lower and dedicated primarily to the production of wheat and barley. Controls most broadleaf and some grass weeds at 1/6 and 1/2 ounce product/acre.

Classic

See Chlorimuron.

Combine

Self-propelled or PTO implement for harvesting standing crops or to gather crops from windrows or swaths. Combines separate the crop from the straw, stalks, cobs and husks, cleans and elevates it into a holding tank for immediate or eventual delivery into a truck, wagon or grain cart. Self-propelled units may have 2 wheels, 4 wheels or track drives and can be set up for rice, barley, peanuts, beans, small grains, and soybeans. They may have rigid or flexible cutter bars, bat or pick-up reels or windrow pickups, and may be fitted as hillside, sidehill or level land machines. Special barley and other row crop heads are available.

Commercial Applicator

A person who uses or directs the use of any pesticide, either directly or through an employee, for any purpose or on any property, other than as a private applicator. The term does not apply to a person who applies a pesticide, other than a restricted use pesticide, solely for household purposes in and around the person's residence.

Commodity

An agricultural or agricultural by-product available for sale.

Complete Feed

A feed ration which usually contains additives and is nutritionally balanced for a particular type of livestock.

Concentrate

A highly digestible feed component that is high in energy or protein and low in fiber content. Concentrate can be fed straight or mixed with grain. This term is often used interchangeably with supplement.

Concentration

The amount of active ingredient in a given volume or weight.

Conditioners

Inert anti-caking materials such as peanut hull meal, rice hull meal, vermiculite, and other organic waste materials used as separating agents in fertilizers to keep the particles from clumping together.

Confidentiality

The assurance from NASS to survey respondents, backed by federal law, that individual information collected on authorized USDA surveys will not be released to any person, organization or institution, including court subpoenas. See the "NASDA Employee Handbook" for regulations.

Consumer Price Index

An index to measure the average change in prices over time for a fixed set of goods and services. Starting in 1998, prices are collected in 87 primary sampling units.

Contact Herbicide

See "Herbicide, Contact."

Control Data

Information on file about individual farm or ranch operations which defines the type and size of the operation, i.e. acres of cropland, grain storage capacity, livestock numbers by species, etc.

Conventional Moldboard

A plow equipped with a moldboard which receives the furrow slice and turns it partially or completely over.

Conventional Sprinkler

A less efficient sprinkler irrigation system such as hand move, permanent or high pressure center pivot sprinkler systems.

Conventional Tillage

A tillage system where the entire surface layer of the soil is mixed or inverted by plowing, tillage, or discing.

Copper Hydroxide 77% and 54%

A fungicide for alfalfa, almonds, apricots, avocados, bananas, beans, blackberries, broccoli, celery, cacao, brussel sprouts, cabbage and cauliflower, cantaloupes, honeydews, muskmelons, carrots, cherry, citrus, coffee, cranberry, cucumbers, currants, gooseberry, grapes, filberts, peaches, nectarines, peanuts, pears, peas, peppers, philodendron, potatoes, pumpkin, squash, strawberries, apples, eggplant, hops, sycamore, lettuce, onion, sugar beets, tomatoes, walnut, watermelon, wheat, and barley. NASS collect prices for two different formulations of this product.

Corn-Hog Ratio

Number of bushels of corn equal in value to 100 pounds of live hogs; the price per hundredweight received by producers for hogs divided by the bushel price of corn.

Corn Planter

Any of several different mechanical devices used to plant corn, which differ according to the manner in which the corn seed is dropped.

Cotton Picker

A machine used for mechanically harvesting cotton, which removes only the mature seed cotton. The basic principle on which it operates is a revolving spindle which penetrates the cotton plant, winds the seed cotton from the open boll, and carries it to a dropping zone in the machine. The cotton crop can be picked more than once using this technique.

Cottonseed

Seed of cotton with the lint removed. Cottonseed oil is extracted from the seed by a crushing process. The residue (cottonseed cake or meal) is used as livestock feed.

Cottonseed Cake

The solid residue left after the extraction of oil from cotton seeds. It should contain more than 36% protein and is sold according to its protein content.

Cottonseed Hulls

The outer covering of the cottonseed. It is residue after the extraction of the oil and used extensively as a livestock feed.

Cottonseed Meal

The residue of cottonseed kernels from which oil has been pressed. It is used as livestock feed or fertilizer.

Cotton Stripper

The leaves of the plant are removed with a chemical spray about two weeks before picking. Strippers work faster than pickers and strip the plant of all its growth in a single operation, including not only the open bolls but also the closed bolls and the needless foliage and stem.

Counter

See Terbufos.

Crawler

A self-propelled power unit used in agriculture and construction which has steel or rubber tracks for traction, instead of 2 or 4-wheel drive with tires. Levers are generally used for steering control instead of a steering wheel. Advantages are zero slippage in traction, minimum soil compaction, low center of gravity and cost differential of tracks vs. tires. Disadvantage is lack of maneuverability and speed.

Crop Dusting

Spreading insecticides, fungicides, herbicides in the form of powder or spray from an airplane or helicopter.

Crumbles

Pelleted feed that has been broken into smaller granular pieces.

Cultivators

Field

An implement similar to the chisel plow except of lighter construction and with shanks or s-tines closer together (about 6 inches overall). The shanks are usually of a coil spring, and s-tines are designed to vibrate. Both are designed to break up the soil without getting caught by obstructions. The ground contact tool may be points, shovels or sweeps. Size may range up as high as 70-80 feet in width. Used primarily as a secondary tillage machine.

Row

An implement with shanks arranged in such a manner that rows of the crop can pass through without damage while weeds are removed. The shanks or standards may be fitted with shovels, disks or spider-wheels set at an angle to the direction of travel. Size can vary from 1-24 rows. Most are mounted on tractor either front or rear tool-bar.

CWT (Hundredweight)

A marketing term referring to 100 pounds of a commodity.

Cyfluthrin (Baythroid 2 pounds/gallon)

Foliar insecticide for control of chewing insects on a variety of crops such as corn, cotton, deciduous fruit, peanuts, potatoes, vegetables, and others.

Dacthal

See DCPA.

Data Collection

The process of completing interviews or field counts, or otherwise accounting for (refusal, inaccessible, out-of-business) all selected sample units in a survey.

Date, Due - [Enumerators]

The date assigned materials must be received in the State office.

Date, Reference

The date used as a reference point for asking respondents survey questions. The reference date for the Prices Paid Surveys is March 15.

Date, Release

The date survey results are published and released. See the NASS Webpage for a calendar of report release dates.

DCPA (Dacthal 75%)

A selective herbicide for preemergence application and control of smooth/hairy crabgrass, fall panicum, witchgrass, green/yellow foxtails, other annual grasses. Broadleaf weeds also controlled are carpetweed, dodder, pursland, nodding spurge, prostrate spurge, spotted spurge, and chickweed. It is tolerated by many crop plants. For turf, ornamentals, brasica (cole) crops, collards, cotton, cucumbers, eggplant, field beans, garlic, horseradish, kale, mustard greens, onions, peppers, potatoes, radish, seeded melons, strawberries, squash, sweet potatoes, tomatoes, and turnips. Postemergence application for Veronica filiformis.

Dealer

A person or firm buying commodities for speculative purposes. The commodities are for immediate resale and usually held for only a short time. Dealer takes title to the commodity.

Defoliant

A chemical agent that causes leaves to drop from a plant. Defoliants are often used with some crops to facilitate harvest.

Degradable

A substance that will gradually break down in the environment.

Desiccant

A preparation intended for artificially speeding the drying (loss of moisture) of crop plant parts such as cotton leaves and potato vines.

Devrinol

See Napropamide.

Diammonium Phosphate

Common chemical fertilizer having the analysis of 18-46-0.

Diazinon 50%

An insecticide and nematicide for soil insects and pests of fruits, vegetables, tobacco, forage, field crops, pasture, grasslands, and ornamentals. Also for control of cockroaches and other household insects, nematodes in turf, and seed treatment and fly control.

Dicamba (Banvel 4 pounds/gallon)

For control of both annual and perennial broadleaf weeds in field and silage corn, grain sorghum, small grains (not underseeded to legumes), sugarcane, asparagus, grass seed crops, turf, pasture, rangeland and noncropland areas such as fence rows, roadways and wasteland. For control of brush and vines in noncropland, pasture, and rangeland areas. Also registered for spot treatment of perennial broadleaf weeds in cropland to be rotated to wheat. For control of annual and perennial broadleaf weeds after harvest of one crop but before planting the next crop (between cropping application).

Dicofol (**4lbs/gallon**)

An acaricide for use on many fruit, vegetable, ornamental, and field crops to control various mite species.

Dicrotophos (Bidrin 8 pounds/gallon)

Used to control certain pests of cotton and coffee borer control. Available for control of elm bark beetles (tree injection system). Enters plant tissue rapidly, thus enabling many beneficial insects to survive.

Dilute

To make less concentrated by adding another liquid or solid.

Dimethoate (2.67 lbs/gallon)

A systemic insecticide-acaricide for a wide range of insects. It is used to control aphids, planthoppers, thrips, white flies, mites on ornamentals plants, alfalfa, apples, corn cotton, grapefruit, grapes, lemons, melons, oranges, pears, pecans, safflower, sorghum, soybeans, tangerines, tobacco, tomatoes, wheat, watermelons, and other vegetables. Residual wall spray in farm buildings for houseflies.

Discount

[Buyer] A deduction from an original price or debt, allowed for paying promptly or in cash.

[Seller] A deduction from the market price for poor quality or less than market standard commodities.

Disk

A farm implement composed of circular plates arranged at an angle with the soil used to prepare soil for seeding.

Disk Harrow

Also known as Tandem-Disk. Two gangs of disc blades are hitched in tandem; the front set throws the soil outward, and the rear set throws it inward. Width of cut may vary from 5-35 feet or more. Blade diameter size may vary from 16-26 inches with different spacing between blades (7, 9, 11 inches most common).

Dispersing Agent

An additive that reduces the chemical attraction between particles to prevent materials from clumping.

Disulfoton (Di-syston) 8 pounds/gallon

A systemic insecticide for side dressing, broadcast, in the seed furrow or foliar spray to control many insects and mite species. Seed treatment to control sucking insects.

Di-Syston

See Disulfoton.

Dithane

See Mancozeb.

Diurex

See Diuron.

Diuron (80%)

Effective against emerging broadleaf and grass weeds as well as mosses, suitable for both selective and total weed control. For use on alfalfa, asparagus, cotton, citrus, fruit orchards, sugarcane, wheat, and vineyards.

Dolomitic Lime

See “Lime, Dolomitic.”

Drench

[Crops] Saturating the soil with a pesticide.

[Fruit] Application of a chemical by wetting the fruit usually before entering the packinghouse; usually applied with a coarse spray of water with or without an added chemical.

[Livestock] Oral administration of a pesticide to an animal.

Drift

Pesticides which have been carried by the wind from the intended area when spraying.

Drilled

Seeds which have been planted below the soil surface in rows by means of a drill or seeder.

Drill, Grain

Equipment used for seeding with or without fertilizer attachment. Has a seed box which meters seed through tubes to single or double disk openers. There are generally three types of grain drills: plain, press, and no-till.

Drill, No-till, Minimum-till

An implement with a disk to cut through the untilled soil and create a seed trench. The seed is placed in the furrow and covered by a harrow or closing wheel.

Drill, Plain

Seeder with seed box, metered seed fed through tubes to single or double disc openers; spaced at 7, 9, 10 inch widths; without fertilizer attachment.

Drill, Press

A drill with either discs or lister bottoms plus press wheels to firm soil around seed.

Dry Distillers Grain

A by-product of processing bio-fuels from grain. It may be sold for a variety of purposes, often as fodder for livestock.

Dry Flowable (Dry Concentrate)

A dry, relatively free-flowing powder containing the maximum possible amount of active ingredient. A wetting agent may be included so that the mixture is ready to be dispersed in water for spray application, in which case it is termed a dry wettable. Without a wetting agent, but suitable for further dilution to form a dust, it is called a dust base.

Due Date

[Enumerators] The date assigned materials must be received in the State office.

[State office] The date assigned materials must be received in Headquarters.

Economic Research Service (ERS)

A USDA agency that is an important user of NASS data. ERS studies various topics related to agriculture and issues research publications and commodity outlook and situation reports.

Editing

Reviewing completed questionnaires for reasonableness and validity. Responses which appear unusual or unreasonable should be verified with the respondent and updated if incorrectly reported. Unusual but correct responses should be flagged and explained with notes indicating they were verified.

Egg-Feed Ratio

Number of pounds of poultry ration equal in value to one dozen eggs; that is, the price of one dozen eggs divided by the price of a pound of poultry feed.

EIA

See “U.S. Energy Information Administration (EIA)”.

Elevator

A device to move grain, hay bales, feed or other commodities by belt, chain, bucket, or auger in a vertical or horizontal direction or other variation.

Emulsifiable Concentrate

Liquid formulation produced by dissolving the toxicant and an emulsifying agent in an organic solvent. Strength usually stated in pounds of toxicant per gallon of concentrate.

Endosulfan (Thiodan 3 pounds/gallon)

An insecticide and acaricide to control aphids, thrips, foliar feeding larvae, tarsonemid mites, cutworms, borers, cutworms, bugs, whiteflies, and leafhoppers on citrus, deciduous, small fruits, forage crops, forest, coffee, tea, fiber crops, grains (cereals and rice), nuts, oil crops, ornamentals, tobacco, and vegetables. Also controls tsetse fly.

Enhanced Seed

Term for seed products that have been improved by traditional breeding or genetic engineering to improve yields, resist pests and diseases, or tolerate herbicides.

Enumerator

A person trained to conduct interviews or make field counts and record the information gathered in the interviews or counts.

Eptam

See EPTC.

EPTC (Eptam/Eradicane 7.0 pounds/gallon)

Particularly effective for control of annual grassy weeds and nutgrass and perennial weeds such as johnsongrass seedlings and quackgrass. Effective on a number of broadleaf weed species. For use in potatoes, beans, forage, legumes, and in some areas sweet potatoes and corn.

Eradicane

See EPTC.

Esfenvalerate (Asana XL .0.66 pounds/gallon)

A broad spectrum insecticide for almond, apple, artichoke, bean (dry and snap), broccoli, cabbage, carrot, cauliflower, collard, corn (field, sweet, seed, and popcorn), cotton, cucumber, dry pea, eggplant, filbert, green pea, lentil, melon, peanut, pear, pecan, pepper, potato, pumpkin, radish, soybean, squash (summer and winter), sugarcane, sunflower, stone fruit, tomato and walnut crops.

Estimate

An approximate measure of the value of an item, usually derived from sample data or administrative data.

Ethanol

The alcohol product of grain fermentation used in alcoholic beverages and for industrial purposes, including gasoline.

Eurostat

Eurostat is the statistical office of the European Union situated in Luxembourg. Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.

Family Living Index

An index to measure price changes for food, clothing, health and medical care, entertainment, and household furnishings, relative to a base period.

Farm Wagon

A four-wheel, tractor-drawn vehicle used to transport produce, fertilizer, seeds, hay, and other materials.

Farmer

See "Operator."

Feed

The diet provided to livestock or poultry.

Feed Additive

See “Additive, Feed.”

Feed Concentrate

See “Concentrate”.

Feed Grain

Any of several grains most commonly used for livestock or poultry feed, such as corn, sorghum, oats and barley.

Feed Grinder/ Hammer Mill

A feed grinding device or mill in which hammer-like projections are mounted on the surface of a cylinder which revolves at a high speed within a heavy perforated metal enclosure and shatters the grain material by beating it to pieces. When the grain pieces become small enough from the hammering action to pass through a perforated screen, they are used as feed. The fineness of the feed is controlled by the size of the perforations in the screen.

Feed Mixer

A device for mixing various feeds consisting of an inverted cone of sheet metal within which are paddles or augers.

Feed Supplement

See “Supplement”.

Feeder Cattle

Young livestock on grass and/or a warm-up or maintenance ration until being put on feed for slaughter market or being selected as replacement stock.

Feeder Pig

A young pig, usually recently weaned and at least 8 weeks old or 40-100 pounds, to be fed for slaughter.

Feedlot

The confined area where animals are fed.

Fenarimol (1 pound/gallon)

A foliar fungicide for use on turfgrasses, ornamentals, and various tree crops. This product is used to control scab, powdery mildew, and rusts of apple; scab, powdery mildew of pecan; powdery mildew of grapes, roses, ornamentals.

Ferbam (76%)

A fungicide for control of apple scab, cedar apple rust, peachleaf curl, tobacco blue mold, and cranberry diseases. A protective fungicide to other crops.

Fertigation

Application of fertilizer to a crop through irrigation.

Fertilization

As used in this chapter, the practice of adding nutrients to soil or plants for use by plants.

Fertilizer

Any material put on or in the soil or on plant leaves to improve the quality or quantity of plant growth. See "Nitrogen," "Phosphate," "Potash," and "Sulfur."

Fertilizer Analysis

The percentage of nitrogen, phosphate, potash, and sulfur (N, P_2O_5, K_2O,S), specified in that order, contained in a blend of fertilizer. Fertilizer may be blended with various micronutrients or trace elements.

Finish

In reference to livestock, fatness in animals; highly finished means very fat. This term is also used to describe the feeding of stock in preparation for market. For example, stock may be "finished" by feeding them a diet based on grain, or may be "finished" based on a pasture-based system.

Flowable

A liquid formulation of a pesticide consisting of a finely ground active ingredient suspended in a liquid. Mixed with water for application.

FOB (Free on Board)

A transportation term that indicates that the price for goods includes delivery at the seller's expense to a specified point (and no further). The FOB term is used with an identified physical location to determine payment of freight charges and the point at which title for the shipment passes from seller to buyer.

FOB Destination

A business agreement where the seller retains title of the goods until they are delivered. The seller selects the carrier and is responsible for the risk of transportation.

FOB Origin

A business agreement where the seller is responsible for assembling and loading the purchased goods for transport on a carrier of the buyer's choice. The buyer takes title to the goods when they are loaded for transport and pays for shipment.

Foliar Application

Application of a material to the aerial portions of either a crop or weed.

Forage Harvester (Field Forage Harvester, Field Chopper, Field Ensilage Harvester)

A harvesting machine, tractor drawn or self-propelled, which is used for field chopping of corn, legumes, and grasses into suitable lengths for either silo or mow storage. Forage Harvesters can have either a pick-up or row-crop head.

Fosethyl-AL (80%)

A systemic fungicide used to prevent and cure activity against many Oomycetes on avocado, cacao, hops, citrus, ornamentals, pineapple, rubber, strawberries, fruit crops, tobacco, vegetable crops, and vines.

Foundation Seed

Seed stock handled to maintain specific genetic identity and purity as closely as possible under supervised or approved methods of production.

Front-End Loader

A mechanical implement mounted on a tractor for front-end operation to load manure, hay, or other loose type materials. It has three basic parts a) the loader bucket, with flat bottom and vertical sides or fork with 7-12 tines; b) the support structure (framework) for mounting and maneuvering; and c) hydraulic fluid cylinders, valves, and hoses.

Fumigant

A substance or mixture of substances which produce gas, vapor, fume or smoke intended to destroy insects, bacteria or rodents.

Fumigation

The use of poisonous gases for destruction of pests, mainly rodents and insects. Fumigation can destroy microorganisms, but may be less effective since not all gases which kill animals, such as rats, are toxic to bacteria or other microorganisms.

Fungi

A form of plant life which may be parasitic on crops and other plants, resulting in reduced production and quality of the crop.

Fungicide

A chemical used to kill fungi. The fungi are parasitic to the host plant and cause an economic loss (reduced production and/or lower quality).

Furadan

See Carbofuran.

Furrow Application

Placement of a material in a narrow line in the soil directly over the seed at planting time.

Gene stacking

Combining multiple desirable traits such as resistance to herbicides, diseases, insects, etc. into a single hybrid variety.

Genetic Engineering

A biotechnology method which uses enzymes to move DNA from one organism to another, by-passing the sexual reproduction process. The organisms may or may not be related to each other.

Genetically Modified Organism (GMO)

An organism whose genetic material has been altered using genetic engineering techniques. These techniques use DNA molecules from different sources, which are combined into one molecule to create a new set of genes. This DNA is then transferred into an organism, giving it modified genes.

Germination

The sequence of events occurring in a viable seed, starting with the absorption of water, that leads to the growth and development of a young plant.

Gibberellic Acid (Pro-Gibb 1.8-2.0%)

A hormone found in plants which is available commercially to apply to crops to act as a plant growth regulator. For example, gibberellic acid may be applied to grapes to elongate cluster, increase berry size, and reduce bunch rot. It may be applied to lemons to maintain green color, delay yellowing, and reduce the percentage of small tree-ripe fruit. It reduces rind staining, water spot and tacky rind in Navel oranges. This chemical can help produce taller, thicker stalks of celery harvested in cool seasons; prevent head formation, induce production of seed stalk in lettuce; increase fruit set; accelerate maturity of artichokes to shift harvest to an earlier date; stimulate uniform sprouting of seed potatoes that do not have a full rest period; delay harvesting, produce a brighter colored, firmer fruit, and to increase size of sweet cherries; reduce internal browning and watery pits of the Italian prune and increase yields; increase yield of marketable forced rhubarb; and to break dormancy on plants receiving insufficient chilling.

Gilt

Female pig that has never farrowed.

Glyphosate (4 - 5.5 lbs/gallon)

Controls many annual and perennial grasses and broadleaf weeds plus many tree and woody brush species in cropland and noncrop sites. A foliar-applied, translocated herbicide, it may be applied in spring, summer, or fall to undesirable vegetation by boom equipment, hand-held and high volume equipment and selective equipment throughout the U.S. and, in some states, by aerial application equipment. May be tank mixed with Lasso, Atrazine, and Princep for use in minimum tillage systems for corn. In combination with Lasso, Lorox, Lezone, and Sencor for use in minimum tillage systems for soybeans. NASS collects prices for two different formulations of this product.

GR

Corn hybrids that are resistant to glufosinate-ammonium (Liberty).

Grain Storage Capacity

Storage capacity of all structures normally used (bins, cribs, sheds, etc.) to store whole grains or oilseeds usually reported in bushels. Excluded are ground storage and structures not normally used to store whole grains or oilseeds.

Granular

A dry formulation of pesticide which is mixed with or coated onto an inert carrier material and other components in small particles. The carrier materials may be clays, sand, carbon, or ground corn cobs.

Grazing Fee

The charge on an AUM, cow-calf, or fee per head basis, levied on a farmer or rancher to graze livestock on land in accordance with the terms of a grazing allotment or association.

Grazing Period

A specified time when a farmer or rancher may graze on specific grazing land.

Grazing Permit

A document authorizing the use of public or other lands for grazing purposes under specified conditions which is issued to the livestock operator.

Grazing Land, Public or Industrial

Lands administered through permits or licenses allowing one or more ranchers to graze a specified number of animal units in a specified area during a certain period of time, from seasonal to year-round. Payment for use of this land is on an AUM or fee per head basis. Land may be controlled by Federal, State, or local agencies or owned by corporations, such as paper mills, railroads, or energy companies.

Grazing Land Association, Public or Industrial (PIGA)

Associations established to administer and enforce the rules and regulations for a specific area of Public or Industrial Grazing Land.

Green Chop

Forage that is chopped in the field while succulent and green and fed directly to livestock. If allowed to ferment, it will turn to silage.

Guthion

See Azinphons-Methyl

Gypsum

Calcium sulfate often applied to the soil surface to supply calcium and to correct the alkaline content of soils.

Harmonized index of consumer prices

The harmonized index of consumer prices (HICP) is an economic indicator constructed to measure the changes over time in the prices of consumer goods and services acquired by households. The HICP gives comparable measures of inflation in the euro-zone, the EU, the European Economic Area and for other countries including accession and candidate countries. The HICP is calculated according to a harmonized approach and a single set of definitions. The HICP provides the official measure of consumer price inflation in the euro-zone for the purposes of monetary policy in the euro area and assessing inflation convergence as required under the euro convergence criteria (also known as Maastricht criteria).

Hammer Mill

See Feed Grinder.

Hay

A crop which has been cut and cured by drying for storage; principally legumes, grasses, or grain crops.

Hay Baler

A machine used for compressing loose grass into compact bales. The pick-up baler picks up grass from a windrow and the bale is made while the machine is in motion. Three principle bales are formed square bales up to 200 pounds each, square bales up to 2 tons each, and round bales averaging 1400 pounds each.

Hay Conditioner (Hay Crusher)

A mechanical device consisting of two closely spaced, parallel, smooth surface rollers which crush the fresh cut stems of hay to facilitate drying and curing. Or a mechanical device consisting of two closely spaced, parallel rollers with corrugations resembling gear teeth paralleling the axle that kinks the stems of hay to break them open. Both methods result in a more even and rapid drying of the hay and less loss than conventional swath curing methods.

Hay Mower-and-Conditioner (Hay-Mower-and-Crusher)

A power drawn machine, combining the cutting mechanism of the mowing machine with a set of rollers which crimp or crush stems and heavy parts of the hay as it is cut, which facilitates drying and curing and reduces the loss of valuable leaves.

Hay Rake (Wheel Rake, Side Delivery Rake, Hay Rake, Cylinder Side Delivery Rake)

A farm implement that rakes hay into loose, continuous windrows for convenience in bunching or gathering by hay balers.

Hay Tedder

A device consisting of a wheel-mounted frame which has a series of small forks attached to a crankshaft. It is used to stir and loosen hay in the swath for more even and quicker drying.

Headquarters (HQ)

The National Agricultural Statistics Service (NASS) HQ is located in Washington D.C. NASS HQ coordinates the operations for collecting data and publishing estimates for agriculture.

Herbicide

Any chemical used to control, suppress, or kill plants, or to severely interrupt their normal growth processes. Some herbicides kill a broad range of plants while other herbicides are selective.

Herbicide, ALS

Herbicide that binds to the acetolactate synthase (ALS) enzyme in the plant.

Herbicide, Contact

A herbicide that kills a plant by simply coming in contact with the plants' leaves.

Herbicide, Selective

A herbicide which kills only certain groups of plants, e.g., 2,4-D kills broadleaf plants but not grasses.

Hundredweight (CWT)

A marketing term referring to 100 pounds of a commodity. Abbreviated “cwt.”

Herbicide Resistant (HR)

A plant variety that is resistant to the effects of a particular herbicide.

Hog-Corn Ratio

See "Corn-Hog Ratio."

Hybrid

A plant resulting from a cross between parent plants that are not genetically identical.

Hydraulic

A system where fluids, usually oil, under pressure are used as a mechanism to transfer power.

IMI Corn

Corn hybrids that are tolerant or resistant to imidazolinone herbicides.

Implement

Any farm machine used to perform operations when raising crops or livestock.

Inaccessible

A sample unit which cannot be contacted, interviewed, etc. during the survey period.

Index Formulas

Elementary price index Formula

Specially, an elementary price index is a price index for an elementary aggregate. As such, it is calculated from individual price observations and usually without using weights. Three examples of elementary index number formulas are the Carli, the Dutot, and the Jevons.

Carli (1804) suggested price index as an arithmetic mean of the price relative

$$P_{CA}(p_0, p_t) = \frac{1}{n}\sum_{i}^{n}\frac{p_{i,t}}{p_{i,0}}$$

Dutot (1738) suggested price index as a ratio of average prices

$$P_{DU}(p_0, p_t) = \frac{\sum_i p_{i,t}/n}{\sum_i p_{i,0}/n}$$

Jevons (1865) proposed a simple geometric mean index

$$P_{JE}(p_0, p_t) = \prod_{i}^{n}\left(\frac{p_{i,t}}{p_{i,0}}\right)^{1/n}$$

Laspeyres price index

A price index defined as a fixed-weight, or fixed-basket, index that uses a basket of goods and services for the base period. The base period serves as both the weight reference period and the price reference period. It is identical with a weighted arithmetic average of the current to base period price relatives using the value shares of the base period as weights, also called a "base-weighted index." It is defined as

$$P_L(p_t, p_0) = \frac{\sum_i p_t^i q_0^i}{\sum_i p_0^i q_0^i} = \sum_i\left(\frac{p_t^i}{p_0^i}\right)w_0^i, \text{ where } w_0^i = \frac{p_0^i q_0^i}{\sum_i p_0^i q_0^i}$$

Lowe price index

A basket-type family of price indices that compares the prices of period *t* with those an earlier period 0, using a certain specified quantity basket q_n, where q_n is between period *t* and period 0.

$$P_{LO} = \frac{\sum p^t q_n}{\sum p^0 q_n}$$

The family of Lowe indices includes, for example, the Laspeyres index ($q_n = q^0$) and Paasche index ($q_n = q^t$).

Paasche price index

A price index defined as a fixed-weight, or fixed-basket, index that uses a basket of goods and services for the current period. The current period serves as the weight reference period and the base period as the price reference period. It is identical with a weighted harmonic average of the current to base period price relatives using the value shares of the current period as weights, also called a "current weighted index." It is defined as

$$P_P(p_t, p_0) = \frac{\sum_i p_t^i q_t^i}{\sum_i p_0^i q_t^i} = \left[\sum_i \left(\frac{p_t^i}{p_0^i} \right)^{-1} w_t^i \right]^{-1}, \text{where } w_t^i = \frac{p_t^i q_t^i}{\sum_i p_t^i q_t^i}.$$

Young price index

A weighted average of price index ratio between the current year *t* and the price reference year *0* where the weights are value shares s_n that sum to 1. The Young price index thus is defined as

$$P_{YO} = \sum s_n \left(\frac{p^t}{p^0} \right), \text{ where } s_n = \frac{p^b q^b}{\sum p^b q^b}.$$

If $b = 0$, Young price index becomes Laspeyres index. If $p^b = p^0$ and $q^b = q^t$ Young index equals to Paasche index.

Index Numbers

A computed number measuring the relative change in the price of items included in the specific index from a base period. A price index for feed items of 250 (based on 1967=100) implies the current aggregated price for the items included in this feed index cost 2.5 times as much than comparable items in 1967.

Inert Material

Inactive filler material used in fertilizers and chemicals as a carrier for the desired active materials to facilitate preparation, shipment, storage, or use.

Input

Items such as seed, fertilizer, chemicals, feed, farm machinery, fuel, labor, and land used in the production of an agricultural product.

Input Provider

The company or individual that sells or contributes products used in the production of agricultural commodities.

Insecticide

A chemical killer of insect pests.

Insecticide, Systemic

A substance which, when absorbed by plants, renders them toxic to insects feeding on them.

Integrated Pest Management

The control of one or more pests by a broad spectrum of techniques ranging from biological means to pesticides. The goal is to keep damage below economic levels without eliminating the pest completely (production gains justify the additional cost for control).

Irrigation

Artificial watering of land by surface flooding, sprinkling, or subirrigation methods to stimulate plant production in place of, or in addition to, natural precipitation.

Karmex

See Diuron.

Kernel

The whole grain of corn, wheat, etc.

Kilogram

A measure of weight equal to 1,000 grams or about 2.2 pounds.

Kocide 101

See Copper Hydroxide.

Lannate

See Methomyl.

Lasso

See Alachlor.

Laying Feed.

A type of poultry feed that is fed to hens or pullets producing eggs.

Lexone

See Metribuzin.

Lime

Ground limestone, calcium carbonate, added to the soil to help correct an acidic soil condition, to raise the pH Level.

Lime, Burned

Also known as "Quicklime". Liming compound formed when limestone is heated to drive off carbon dioxide, leaving the oxide form.

Lime, Dolomitic

Calcium carbonate lime which also contains levels of natural magnesium.

Linuron (Lorox) 50%

A selective weed control chemical in field corn, sweet corn, grain sorghum, soybeans, asparagus, carrots, celery (post transplant), parsnips, potatoes, cotton, and wheat (Pacific Northwest). It is used for short-term control of annual weeds in noncrop areas such as roadsides and fence rows.

List Sample

A sample of potential farm operators or agribusinesses selected from a LSF.

List Sampling Frame (LSF)

A list of agricultural operators in a State. Each classified operation name becomes a sampling unit. The name may be an individual, manager, farm or ranch, corporation, institution, etc.

Live Weight

The gross weight of a live animal as compared to the slaughtered dressed weight.

Livestock

Any domestic animal produced or kept primarily for farm, ranch, or market purposes, including beef and dairy cattle, hogs, sheep, goats, and horses.

Lorox

See Linuron.

LP Gas

Liquefied petroleum gas such as butane, propane, or any mixture of the two, which is kept under pressure in a metal container. Farm use is mainly for pumping engines and farm tractors.

Malathion 5 pounds/gallon and 9.9 pounds/gallon

Controls a wide variety of insects including aphid, spider mites, scale insects, house fly, mosquitoes and a large number of sucking and chewing insects attacking fruits, vegetables, ornamentals and stored products; sorghum, rice, barley, corn, cotton, oats, hay and wheat. NASS collects prices for two different formulations of this product.

Mancozeb 75% DF or 80% WP

Protects many fruit, vegetable, nut, and field crops against a wide spectrum of plant diseases. It is cleared for use as a seed treatment for cotton, potatoes, corn, safflower, sorghum, peanuts, tomatoes, flax and cereal grains.

Maneb 75% DF, 80% WP and 4 lbs/gal

NASS collects prices for different formulations of this product. Used for the control of early and late blights on potatoes and tomatoes and may other diseases of fruits, vegetables and field crops (tobacco, wheat), also as a turf fungicide.

Manure Spreader

A 2-wheel or 4-wheel implement designed for hauling and scattering manure in a broken-to-pulverized form with a high degree of uniformity of spread at the destination point. The manure is conveyed to a point where it is passed through higher speed shredders before it is pitched by blades mounted on a rapidly rotating horizontal bar or cylinder.

Market News Service (MNS)

A branch of Agricultural Marketing Service. Its function is to provide market reports depicting current conditions on supply, demand, prices, trends, movement, and other pertinent information affecting the trade in livestock, meat, and wool.

Mash

A complete poultry ration composed of ground grains and soybean meal scraps, dried skimmed milk, alfalfa meal, salt, limestone, and fish oil, vitamins or other fortifying materials.

MCPA (4 pounds/gallon)

For postemergent control of many annual and perennial broadleaf weeds. For use on small grains, rice, peas, grassland and turf. Application rate 0.5 -1.0 pint per acre.

Metasystox-R

See Oxydemeton-methyl.

Methidathion (Supracide 25%)

An insecticide and acaricide to control alfalfa weevils and certain other insects in alfalfa, scales in citrus, spider mites, bollworm, budworm, lygus bug, pink bollworm, and whitefly in cotton. For use in apples, sunflower, artichokes, almonds, cherries, apricots, pears, nectarines, plums, prunes, walnuts, peaches, and pecans.

Methomyl (Lannate 2.4 pounds/gallon)

An insecticide with broad spectrum control of insects in vegetables, soybeans, cotton, other field crops, certain fruit crops, and ornamentals (commercial plantings).

Methyl Parathion (2 pounds/gallon)

Used for control of boll weevil in cotton; sorghum; corn; soybeans; rice; wheat and other small grains.

Metribuzin (Sencor) 75%

Effective for control of a large number of grass and broadleaf weeds. For use on soybeans, wheat, barley, peas, lentils, potatoes, sugarcane, alfalfa, other hay, asparagus, tomatoes and fallow land.

Micronutrient

A mineral required in a relatively small amount for plant growth. Micronutrients required for plant growth are Boron, Chloride, Copper, Iron, Manganese, Molybdenum, and Zinc.

Middlings

A by-product of flour milling, from whole grains, comprising several grades of granular particles. Used as animal feed.

Milk-Feed Ratio

Number of pounds of dairy concentrate ration that are equal in value to one pound of milk; that is, the price received by producers for one pound of milk divided by the price of a pound of dairy concentrate feed.

Minerals

See "Trace Mineral".

Minimum Tillage

An energy-saving and erosion-control soil management system where cropland preparation methods involve no plowing and limited cultivation.

Molasses

Thick syrup obtainable as sugar cane, beet, citrus, or wood molasses. All are low in protein but high in carbohydrates, vitamins, and minerals, such as calcium, magnesium, potassium, and iron. The lowest grade, called blackstrap, is mainly used as a feed supplement.

Moldboard Plow

A primary tillage machine with 1-18 curved metal plates (bottom or moldboards) that engage the soil to a depth up to 12 inches. The curvature of the moldboard causes the soil or furrow slice to be completely inverted. This action pulverizes the soil and buries almost all of the crop residue or stubble.

Most Commonly Sold

Most commonly sold is the determining factor for pricing a specific item. This refers to the item purchased most frequently or generally bought by producers. Pricing on the basis of the most commonly sold items within defined commodity limits will accurately reflect the changes in price levels paid by the farmer. Defined commodity limits may include brand, make, model, a specific size, etc.

Mower (Sickle Bar Mower)

A machine with a mowing sickle cutting bar which is designed to cut forage for hay, weed, etc.

Mower - Conditioner

See Hay Mower-Conditioner.

MSMA 8 pounds/gallon

Postemergent applications for johnsongrass, other grassy weeds and cocklebur in noncropland. Preplant applications in cotton, bearing citrus (except Florida), non-bearing orchards. This chemical is also used to control crabgrass, broadleaf weeds in turf and as a tree killer.

Mulch-Till

A conservation tillage system in which the soil surface is worked with tillage tools such as a chisel, disk, or field cultivator prior to planting. Mulch-till incorporates part of the crop residue into the top few inches of the soil, helping increase roughness and moisture retention where it is needed.

Multi-Frame Sample

Involves using an area and list frame together. An area sample measures list incompleteness. Each area tract operator is matched against the list of agricultural operators on the list frame to determine if it is overlap or nonoverlap.

Mycoshield

See Oxytetracycline.

Myclobutanil 40%

Fungicide used to control anthracnose, scab, powdery mildew, rhizoctonia, rust, septoria, and other similar diseases on a variety of fruit crops, berries, cucurbits, hops, tomatoes, beans, asparagus, and pine and poplar trees.

N-P-K and S

Chemical symbols for nitrogen, phosphorus, potassium, and sulfur.

NAD (Naphthaleneacetamide) (Amid-Thin W 8.4% wettable powder)

A plant growth regulator used to thin apple and pear blossoms. It is used to prevent premature fruit fall in apples and cherries. This product stimulates root formation in cuttings and transplants.

Napropamide (Devrinol) 50%

A selective herbicide to control several grass and broadleaf weeds in orchards, vineyard, direct-seeded tomatoes, strawberries, tobacco, peppers, ornamentals, and other crops.

Nematocide

Any substance used to kill parasitic nematodes.

Nematode

Microscopic, worm-shaped parasitic animals. Nematode damage can be severe in some crops.

Nitrogen (N)

A chemical element essential to life and one of the primary plant nutrients. Animals get nitrogen from protein feeds, plants get it from soil, and some bacteria get it directly from air. Nitrogen is one of the three primary ingredients in complete fertilizers. Nitrogen content is the XX in a fertilizer's analysis of XX-0-0.

Non-Probability Sample

Does not meet the criteria of a randomized sample where every unit in the sampling frame has a chance of being included in the sample. Members of the sampling frame are chosen based on the appropriateness for the study since there are a limited number of them with the characteristic in the area being studied.

Non-response

Failure of a respondent to reply to a survey questionnaire; may be item nonresponse (refuse to answer one or more questions), survey non-response (refuse to answer any or most of the questions), or inability of enumerator to locate respondent during the survey period (inaccessible).

No-Till

Method of planting crops that involves no seedbed preparation other than opening small slits in the soil so that seed can be placed at the intended depth. There is generally no cultivation during crop production, but chemicals are often used for weed control.

Off Feed

Refers to an animal that has stopped eating or eats very little (usually the result of having eaten too highly concentrated feed or too great a quantity). Most often occurs with fattening animals.

Oil, 7 pounds/gallon (Oil, Super oil, Supreme)

Used as dormant sprays to control scale insects, aphid eggs, spider mite eggs, summer oils against aphids, mites, and scale crawlers, parasiticides for application to livestock, carriers for other pesticides, herbicides by themselves, and adjuvants to increase efficiency of fungicides.

Oilseed Meal

The product obtained by grinding the cakes, chips, or flakes that remain after most of the oil is removed from oilseeds. Oilseed meals are mainly used as a feedstuff for livestock or poultry. They are also used as a raw material in processing edible vegetable-protein products.

Omite

See Propargite.

Operator

The person responsible for all or most of the day-to-day decisions for the retail operation. The operator could be the owner, hired manager, or a partner.

Organic

A production system that is managed in accordance with regulations governing organics to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Note that no genetically modified seed or synthetic pesticides can be used in an organic production system.

Other Hay

The Other Hay category should only be used if the harvested hay does not fit the other categories like alfalfa and alfalfa mixtures, wild hay, or small grain hay) that may be identified on a questionnaire. Examples of Other Hay crops include bluegrass, timothy, fescue, bermuda, and sudan grasses and clover (if it is not part of an alfalfa mixture).

Outlier

A very unusual survey value when compared with most other responses to same question.

Out-of-business

A retail operation that is no longer in business.

Oxamyl (Vydate) 2 pounds/gallon

An insecticide, nematicide, and acaricide to control certain insects, mites, and/or nematodes on many field crops, vegetables, fruits, and ornamentals.

Oxydemeton-Methyl (Metasystox-R) 2 pounds/gallon

A systemic insecticide and acaricide with contact and systemic action on many destructive pests that attack certain vegetable, fruit, and field crops. Primary use is to control aphids, mites, thrips, leafhoppers, and other sucking pests.

Oxytetracycline 17%

An antibacterial and antibiotic chemical used to control bacterial spot on peaches, fire blight on pears, and bacterial wilt of bentgrass.

Palatability

The appeal and acceptability of feedstuffs, including the taste, odor, texture and temperature of the feed.

Paraquat (Parazon) 3 pounds/gallon

For desiccation of seed crops; for noncrop and industrial weed control in bearing and non-bearing fruit orchards, shade trees and ornamentals; for defoliation and desiccation of cotton; for harvest aid in guar, soybeans, sugarcane, and sunflowers; for pasture renovation; for use in "No-Till" or before planting or crop emergence, dormant alfalfa and clover, directed spray and for killing potato vines.

Parity

A relationship which defines a level of purchasing power for producers equal to an earlier base period.

Parity Index

See Prices Paid Index.

Parity Price

The price giving a unit of a farm commodity the same purchasing power or exchange value in terms of goods and services as farm commodities had in the base period 1910-14.

Parity Ratio

The ratio of the prices received index over the prices paid index, using 1910-14 as the base period. It measures the relative purchasing power of products sold by producers.

Partner

An individual within a partnership.

Pendimethalin (Prowl 3.3 pounds/gallon)

For preemergence or postemergence use in field corn; preemergence or preemergence incorporated use in potatoes; early postemergence use in rice; postemergence incorporated use in sorghum; and preplant incorporated use in cotton, soybeans, tobacco, peanuts, and sunflowers. Controls most annual grasses and certain broadleaf weeds.

Permethrin (Synthetic Pyrethroids 2-3.2 pounds/gallon)

For use on cotton, soybeans, vegetables and fruit. Used to control beet army worm, bollworm, cabbage looper, cotton fleahopper, cotton leafperforator, lygus bugs, pink bollworm, tarnished plant bug, and tobacco budworm. Effective broad spectrum insecticide.

Pesticide

A substance or mixture of substances to control insects, rodents, fungi, weeds, and other forms of animal or plant life considered as pests. Pesticides include insecticides, fungicides, herbicides, and nematocides.

Pesticide Product Formulation

The concentration of a pesticide and other ingredients that make up the product.

pH Number

Number that indicates acidity or alkalinity of a solution. Number seven indicates a neutral solution; numbers above seven indicate an alkaline solution; and numbers below seven indicate an acidic solution.

Phorate (Thimet) 20%

A soil and systemic insecticide used to control a wide range of insects on a variety of crops such as alfalfa, barley, beans, corn, cotton, peanuts, potatoes, sorghum, sugar beets, soybeans, sugarcane, and wheat.

Phosmet 50%

An insecticide used in a wide variety of crops including alfalfa, almonds, apples, apricots, cherries (tart), citrus, corn, cotton, cranberries, pecans, blueberries, grapes, nectarines, peaches, pears, peas, potatoes, plums/prunes. This chemical controls alfalfa weevil, boll weevil, codding moth, leafrollers, oriental fruit moth, plum curculio, grape berrymoth, and many others.

Phosphate (P2O5)

A term indicating a fertilizer which supplies phosphorus, one of the three primary ingredients in a complete fertilizer. The phosphate content in a fertilizer's analysis is indicated as the XX's in 0-XX-0.

Photodegradation

A process of breaking down a substance through reaction to light.

Phytotoxic

Injurious or lethal to plants.

Planter

An implement that uses seed plate metering devices (mechanical or air activated) to drop seed through a boot or shank into a seed bed opened by a shoe or disc.

Plow

Any of various implements designed to perform primary deep tillage operations on the soil, usually in preparation for planting.

Plow Down

To bury material lying on the surface of a field, such as fertilizer or a cover-crop (green manure), by plowing.

Poast

See Sethoxydim.

Point of First Sale

The point in the marketing channel where the firm selling the product gives up ownership of the product.

Potash (K2O)

A term used to indicate fertilizers which supply high levels of potassium. The potash content is a fertilizer's analysis is indicated as the XX's in 0-0-XX.

Potassium (K)

A major element required by plants and animals. Potassium content (XX) in a fertilizer analysis is indicated as 0-0-XX.

Potassium Chloride

Common chemical fertilizer having the analysis of 0-0-60.

Potassium Nitrate

Common chemical fertilizer having the analysis of 13-0-44.

Potassium Sodium Nitrate

Common chemical fertilizer having the analysis of 15-0-14.

Potassium Sulfate

Common chemical fertilizer having the analysis of 0-0-49.

Power-Take-Off (PTO)

System of shafts used to transmit power from a tractor's engine to an attached implement. Standard PTO speeds are 540 rpm and 1000 rpm.

Preemergence

Before the emergence of a specified weed or crop.

Premix

A mixture of one or more microingredients and a carrier (to facilitate uniform dispersion of micronutrients into a larger mixture). A mineral premix contains more trace minerals and vitamins than a mineral supplement.

Price Relative

A price relative is the ratio of the price of a specific commodity, such as Corn, in one period to the price of the same commodity in some other period. The prices NASS uses to compute price relatives are the commodity average prices at US level. The base period is 1990-1992.

Prices Paid

The price producers pay for goods and services necessary for them to produce and market commodities.

Prices Paid Index (Parity Index)

The Index of Prices Paid is a measure of the change in average prices paid for goods and services used in family living, production, interest, taxes, and farm wage rates relative to a base period. The index of prices paid is called the parity index when using the base period 1910-1914=100.

Primary Nutrients

The three major plant nutrients which are nitrogen (N), phosphorus (P), and potassium (K). Phosphorus may also be referred to as phosphate and potassium may be referred to as potash.

Probability Sample

A method of sampling that utilizes some form of random selection. A random selection method uses a process that assures that the members in the population have a probability of being chosen.

Production Index

An index of 12 subgroup indices to measure changes from a base period in prices paid for most of the items farmers buy in producing their crops and livestock.

Propargite (Omite) 32%

A miticide with residual killing action, used to control many mites, including brown almond, citrus red, citrus rust, clover European red, McDaniel, Pacific spider, peach silver, strawberry spider, two-spotted spider, Willamette mite, Banks, grass mite, Texas citrus mite, and six-spotted mite. For use on almonds, apples, apricots, beans, carnations, chrysanthemums, cranberries, corn (field), cotton, figs, grapefruit, grapes, hops, lemons, mint, nectarines, ornamentals, oranges, peaches, peanuts, pears, plums, potatoes, prunes, roses, sorghum (grain), strawberries, and walnuts. Postharvest and nonbearing use on apricots, sweet cherries, and citrus.

Protein supplement

A feed or mixture of feeds containing 20% or more protein or protein equivalent (e.g., soybean meal, canola meal).

Prowl

See Pendimethalin.

Public or Industrial Grazing Land

See "Grazing Land, Public or Industrial."

Public or Industrial Grazing Land Association (PIGA)

See "Grazing Land Association, Public or Industrial."

Public Variety

A variety developed by a public university, public research lab or with public funds making the seed stock available to anyone.

Questionnaire

A form used to ask specific questions and to record the responses given to the survey questions by selected sample units. The questionnaire may be on paper or on a computer screen using Computer Assisted Telephone Interview (CATI) or Computer Assisted Personal Interview (CAPI).

Quota Sampling Scheme

The selection of sample unites from an incomplete frame that meets predetermined target sample sizes. Quota sampling is used when it is difficult or too costly to create a complete listing of the population from which to sample. Instead target sample sizes are defined for subgroups (regions or states) of the population and sample units are identified in the population until those targets, or quotas, are met. The resulting sample is non-probability based and no attempt is made to estimate sampling weights or likewise variances or reliability statistics.

Ration

The amount of feed an animal receives in a 24 hour period.

Ration, Balanced

A daily allowance of livestock or poultry feed; mixed to contain suitable proportions of nutrients required to promote normal development.

Reference Date

The date used as a reference point for asking respondents survey questions. The reference date for the Prices Paid Surveys is March 15.

Relative Importance

The relative importance (relative weight) of an item represents its basic value weight, including any imputations, multiplied by the relative price change from the weight date to the date of the relative importance calculation, expressed as a percentage of the total value weight for all commodity categories. When the total value is fixed, the relative importance remains constant. However, NASS uses a five-year moving average method to compute the weights for price indexes. Thus, the relative importance changes each year. The relative importance of Feed, for example, changes from 11.4 for 2009 to11.9 for 2010.

Release Date

The date the survey results are published and released.

Refusal

A person representing a sample unit who will not cooperate in the survey and who refuses to provide sufficient information to satisfactorily complete the questionnaire.

Residue

The quantity of pesticide remaining on or in the soil, plant parts, or animal tissue.

Respondent

The person who provides the information necessary to complete a survey interview.

Restricted Use Chemical

A pesticide which is felt to cause unreasonable adverse effects on the environment. A restricted use pesticide may be used only by a certified applicator on designated crops and under specified conditions.

Ridge-Till

Method of planting crops that leaves the soil undisturbed from harvest to planting. Ridges formed while cultivating serve as the next year's seedbed. Herbicides and cultivation control weeds. Ridge-till is good for poorly drained areas.

Rotary Cutter (Rotary Weed Cutter)

A large, power-driven blade rotating in a horizontal plane mounted on a tractor, used for cutting various types of vegetation.

Rotary Hoe

A series of curved spider wheels attached either to a solid shaft or in segments of two to four wheels for flexibility. Usually used to kill small weeds in summer fallow or row crops and sometimes as a wind erosion stop-gap.

Rotary Mower

A machine that uses a rotary cutting mechanism for mowing forage, grain, weeds, lawns, and other vegetation. Two common types are (a) the rotary knife blade which rotates rapidly in a horizontal plane having a vertical shaft; (b) the cylinder type, in which knives attached to a horizontal shaft cut off the vegetation when passing over a horizontal shear plate.

Roughage

Course livestock feed such as hay and silage, high in fiber and low in total digestible nutrients.

Roundup

See Glyphosate.

Row Space

For crops planted in rows, the distance from the center of one row to the center of the next row.

Rubigan

See Fenarimol.

Sample

A group of farm operators or agribusinesses selected from a sampling frame to participate in a survey at a particular time. See "Area Sample"; "List Sample"; and "Multi-Frame Sample."

Sampling Unit

An identifiable unit (for example, a name, farm, or business) of a sampling frame that may be selected when drawing a sample. For an area frame sample it may be a segment, tract or field and for a list frame sample it is a name.

Secondary Nutrients

Essential plant nutrients needed in less quantity than primary nutrients. These nutrients are Calcium (Ca), Magnesium (Mg), and Sulfur (S).

Seed

An embryonic plant with sufficient nutrients required during germination and early growth until the plant is able to produce its own food.

Seedbed

The upper portion of the soil prepared to receive seed and promote germination and growth.

Seed, Biotechnology (Biotech) Varieties

The term biotechnology refers to genetically modified seed varieties that have been developed to possess particular traits. Examples include Round-Up Ready soybeans, which provide the soybean resistance to the effects of Round-Up (which would otherwise kill it), and YieldGard corn, which contains an insecticidal protein which kills caterpillar larvae, including the corn borer.

Seed Corn

Corn raised to produce seed stock. It may involve complicated pollination programs designed to retain desirable hereditary traits.

Seed Cotton

The raw product which has been harvested but not ginned, containing the lint, seed, and foreign matter.

Seed Potatoes

Pieces of potato planted to produce a crop.

Seed, Proprietary Varieties

Seeds developed by commercial plant breeders which are protected by patent. By law, proprietary seed must be purchased from seed vendors each year – that is, seed cannot be collected from the current year's harvest and planted for the next crop season. Proprietary varieties include all biotech varieties and some non-biotech varieties.

Seed, Public or Common Varieties

Seed which is not protected by patent and which may be collected and saved from one year's harvest and used to produce a crop the next year. Common varieties may be used repeatedly by a single individual and may also be shared between growers. Public varieties are most often developed by universities, public research labs, or non-profits.

Seed Treatment

Is an application of a pesticide or having the seed subjected to a process designed to reduce, control, or repel disease organisms, insects, or other pests that attack seed or seedlings.

Selective Herbicide

A herbicide which kills only certain groups of plants, e.g., 2,4-D kills broadleaf plants but not grasses.

Selective Pesticide

A chemical that is more toxic to some species than others.

Sencor

See Metribuzin.

Sethoxydim (Poast 1.5 pounds/gallon)

A systemic postemergence herbicide for selective controls of annual and perennial grasses in sugar beets, soybeans, cotton, peanuts, flax, rapeseed, alfalfa, tomatoes, phaseolus beans, broadleaved ornamentals, dry peas, onions, nonbearing fruit, and many other dicotyledoneous crops.

Sevin

See Carbaryl.

Side Dress

To apply at the side or a row of plants.

Silage

Feed for livestock, kept juicy and succulent by fermenting chopped green corn, legumes or grasses. The chief crops stored this way are corn, sorghum, and various legumes and grasses. The main use of silage is for cattle feed.

Simazine (Princep) 4 pounds/gallon

A selective herbicide which controls most annual grasses and broadleaf weeds in corn, established alfalfa, established bermudagrass, cherries, peaches, citrus, caneberries, cranberries, grapes, apples, pears, certain nut, asparagus, certain ornamental and tree nursery stock, in turf grass sod production and lawns. At higher rates, it is used for non-selective weed control in industrial areas, lawns, and similar areas.

Sinbar

See Terbacil.

Sodium Bentazon (Basagran) 4 pounds/gallon

For selective postemergence control of many troublesome broadleaf weeds in soybeans, rice, corn, peanuts, dry beans, dry peas, snap beans for seed, green (succulent) lima beans, and mint.

Sodium Nitrate

Common chemical fertilizer having the analysis of 16-0-0.

Soil Application

Application of a pesticide to the soil rather than to a growing crop or weed.

Soil Compaction

A constricting condition in any soil which causes impervious layers to form which limit plant root development and water penetration. Some soil types and lack of organic material will increase rate of compaction.

Soil Fertility

Conditions in the soil which are favorable for sustaining plant growth.

Soil Tilth

The overall physical condition of the soil, frequently regarding its suitability as a seedbed.

Soluble Powder

A finely ground dry powder formulation which will dissolve in water or other liquid.

Soybean Meal

The material left after the extraction of oil from dried soybeans. The extract is "toasted" and ground.

Spot Treatment

Application of a pesticide to a small, discrete area.

Sprayer, Power Hydraulic

There are two types (1) A sprayer with hydraulic pump (piston, gear, roller, etc.) driven by gasoline engine, electric motor, PTO. Comprises a tank or other container for spray material. (2) A power-driven pump which draws spray material into the discharge system. Tank capacity ranges from 25-1600 gallons. Sprayer types can be mounted, skid, trailer, or self-propelled and are either boom, boomless or gun.

Stacked Gene Variety

Genetically modified seed variety that includes both insect resistance and herbicide resistance.

State Field Office

Coordinate all the field activities for the National Agricultural Statistics Service (NASS). NASS maintains a network of 46 State field offices, serving all 50 States and Puerto Rico through cooperative agreements with State departments of agriculture and universities.

Statistically Defensible Survey

A survey whose procedures and specifications can with stand court challenge or other investigation. The survey should have an adequate sample size, randomly selected respondents, carefully worded questions, professional interviewing, reasonable editing, correct summarization, and appropriate publication.

Statistics

Totals, averages, percentages, and other numbers computed from population or sample data.

Statistics Canada

Statistics Canada (French: *Statistique Canada*) is the Canadian Federal government agency commissioned with producing statistics. Its headquarters is in Ottawa.

Strata or Stratification

The classification of sampling units in a population into homogeneous groups. An area frame is stratified based on land use, such as intensity of cropland, rangeland, wasteland, urban areas, etc. A list frame is stratified based on operation control data, such as number of livestock, grain storage capacity, cropland, and total acres operated.

Strip-Till

A conservation tillage method where the soil is left undisturbed prior to planting. Tillage in the row is done at planting using tools such as a rototiller. Weeds are controlled with herbicides and cultivation.

STS Soybeans

Soybeans that are resistant to Synchrony STS herbicide.

Subsampling

A general term for selecting a sample from a sample.

Sulfur (S)

Sulfur is a macronutrient which can be found in commercially produced fertilizers.

Sulfur 80%

Effective for control of a variety of plant diseases – brown rot of peaches, apple scab, peanut leafspot, mildew on roses, powdery mildew on ornamentals, grapes, peaches, and other crops; rusts; fleahoppers, and mites on tomatoes, carrots, alfalfa, melons, and beans.

Super Oil

See Oil.

Supplement

Feed or feed mixtures used to improve the nutritional value of basal feeds. A supplement is rich in protein, energy, vitamins, minerals and/or antibiotics, and is combined with other feeds to produce a more complete feed.

Supracide

See Methidathion.

Supreme

See Oil.

Surfactant

A chemical added to a pesticide which improves the emulsifying, dispersing, spending, and/or wetting properties of the pesticide.

Survey

The collection of data from specific sample units. Data reported by the selected sampling units, when summarized, provides an indication of what the total would be if all the sample units within the population of interest had reported.

Survey Period

The time period during which survey data collection can occur. Primarily determined by the survey's reference date and due date. See "Date, Reference."

Tank Mix

Any pesticide spray which is prepared immediately before use by mixing the chemical powder(s) and the water in the spray tank and emulsifying by agitation and pumping.

Technology fees

Fixed sum charges by an institution for their technology or agricultural service, primarily associated with seeds.

Temik

See Aldicarb.

Terbacil (Sinbar) 80%

Controls many annual and some perennial weeds in such crops as sugarcane, alfalfa, apples, peaches, blueberries, strawberries, citrus, pecans, and mint.

Terbufos (Counter) 15%

Control of corn rootworm and other soil insects infesting field corn. Control of sugar beet maggots on sugar beets; greenbug on grain sorghum.

Thimet

See Phorate.

Thiodan

See Endosulfan.

Tillage

The practice of working the soil to bring about more favorable conditions for seed germination, root growth, and weed control to improve plant growth.

Tolerance

The amount of pesticide residue that is permitted to federal regulation to remain on or in a crop.

Tolerance, zero

No amount of the pesticide chemical may remain on the raw agricultural commodity when it is offered for shipment.

Top-Dress

To apply fertilizer or manure on top of the ground without working it into the soil.

Topsoil

The naturally forming upper layer of soil, normally rich in organic matter.

Toxicity

The capacity of a substance to produce illness or adverse effect. The measure of damage resulting from exposure to a substance.

Trace Element

A chemical substance which is essential in very small amounts by both plants and animals.

Trace minerals

Dietary supplement provided to livestock which contains nutrients needed in small amounts (such as manganese (Mn), copper (Cu), zinc (Zn), selenium (Se), iron (Fe), cobalt (Co), iodine (I) and fluorine (Fl)). Trace mineral is sold in blocks of either 40 or 50 pounds. The weight of the block depends on the type and amount of filler, but the mineral content is the same (94.5% – 97.5%).

Tractor

A self propelled vehicle with 2 or 4-wheel drive or traction driven using treads, with a gasoline or diesel engine used to supply power to other machines in one or more of 3 ways; pulling at the drawbar or hitch point; rotary power from the power-take-off (PTO); hydraulic fluid power.

Transgenic plant

A plant whose genetic composition has been altered to include selected genes from other plants or species, using methods other that those used in traditional plant breeding.

Treflan

See Trifluralin.

Triadimefon 50%

A systematic fungicide to control powdery mildew on cereals, deciduous fruit, grapes, and vegetables. It is also used to treat rust diseases of cereals, coffee, seed grasses, pine and diseases on sugarcane, pineapple, turf, and ornamentals.

Trifluralin (Treflan) 4 pounds/gallon

Pre-emergent herbicide that is incorporated into the soil to provide control of broadleaf weeds and annual grasses. This herbicide controls susceptible weeds by killing seedlings as they germinate; however, it does not control established weeds. For use in many crops including cotton, peanuts, sugar beets, grain crops, forage (alfalfa, kale, and rape), most vegetables, horticultural crops (woody nursery stock and many perennials), vineyards, fruit and nut trees, and cottonwood trees grown for pulp.

Turkey-Feed Ratio

Number of pounds of turkey ration equal in value to one pound of live turkey; or, the price per pound farmers receive for turkey divided by the price per pound of feed.

Turkey grower

Specialized type of feed fed to turkeys that are being raised for meat.

United States Department of Agriculture (USDA)

A Department within the Federal government having a cabinet level Secretary reporting to the President. It functions to propose legislation and establish regulations in the best interest of agriculture.

Unleaded Gasoline

Unleaded gasoline is usually sold as a blend of gasoline and ethanol, most commonly composed of 90 percent gasoline and 10 percent ethanol by volume.

Urea

A non-protein, organic compound of nitrogen made synthetically by a combination of ammonia and carbon dioxide and used in fertilizers and as a livestock feed supplement.

U.S. Energy Information Administration (EIA)

The statistical and analytical agency within the U.S. Department of Energy. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. EIA is the Nation's premier source of energy information and, by law, its data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government.

Value / Expenditure Weights

Value weights are the measures of the relative importance of commodities in the price index. The weights reference period values of the various components covered by the price index. Being commensurate and additive across different commodities, value weights can be used at aggregation levels above the detailed commodity level. NASS uses farm expenditures and cash receipts to compute the value weights for prices paid and prices received indexes respectively.

Vapor Drift

The movement of vapors created when applying pesticides from the area of application to adjacent areas.

Vitamin

An organic substance which performs specific and necessary functions for normal growth and maintenance and is required in relatively small concentrations by livestock.

Weed

Any plant growing where it is not wanted.

Weed, Noxious

Any harmful or destructive weed. Usually, they are perennials and especially difficult to eradicate. They spread by their roots (rhizomes) and/or runners (stolons) or pieces of the plant, may have a hard seed coat (20-40 years germination), may be poisonous to livestock or parasitic to plants. Each State specifies which weeds are noxious and mandates control requirements. Canada thistle, Russian thistle, field bindweed, chickpea, Johnson grass and morning glory are some weeds recognized as noxious.

Weights

A set of numbers between zero and one that sum to unity are used when calculating price indexes. Value shares sum to unity by definition are used to weight price relatives, or elementary price indexes, to obtain higher-level index. Although quantities are frequently described as weights, they cannot serve as weights for the prices of different types of commodities whose quantity are not commensurate and use different units of quantity that are not additive. The term "quantity weights" generally is used loosely to refer to the quantities that make up the basket of goods and services covered by an index and included in the value weights.

Wettable Powder

A powder which mixes with water to form a suspension but does not dissolve; continuous agitation is required to maintain suspension.

Wholesale

The selling or buying of goods or commodities in large quantities, usually at a lower price per item.

Windrow

The gathering of grains or forage in a row to facilitate mechanical harvesting.

Windrower

A mechanical device used for taking the cut hay or grain from the swath and turning it into a windrow ready for further handling with the hay loader, field chopper, hay baler, or combine.

Zero Tolerance

No amount of pesticide may remain on or in the raw commodity when it is offered for sale.

Zeta-Cypermethrin 0.8 – 1.5 pounds/gallon

NASS collects prices for two different formulations of this product. Pyrethroid insecticide used to control various caterpillar pests, weevils, leafhoppers, aphids, and other insects on a variety of vegetable, fruit and forage crops, corn, wheat, cotton, oilseeds, rice, sugarcane, and tree nuts.

Ziram 76%

A fungicide used extensively on almond and peaches to control shot hole, brown rot, and peachleaf curl. It is also used to treat vegetable diseases. The most stable of the metallic dithiocarbamates, nonphytotoxic except for zinc-sensitive plants. This product does not build up in the soil and is rapidly decomposed by weathering. Sometimes used on pecans, apples, and pears to control scab and bull's-eye rot.

Common Abbreviations

AF	Aqueous flowable
AG	Agricultural formulation
AMS	Agricultural Marketing Service
ARMS	Agricultural Resource Management Survey
AS	Aqueous suspension
ASB	Agricultural Statistics Board
BAE	Bureau of Agricultural Engineering
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
CAPI	Computer Assisted Personal Interviewing
CATI	Computer Assisted Telephone Interviewing
CPI	Consumer Price Index
CV	Coefficient of Variation
CWT	Hundredweight
D	Dust
DF	Dry flowable
E	Emulsifiable concentrate
EC	Emulsifiable concentrate
EDR	Electronic Data Reporting
EIA	Energy Information Administration
EPA	Environmental Protection Agency
ERS	Economic Research Service
ES	Emulsifiable solution
F	Flowable
FCRS	Farm Costs and Returns Survey
FL	Flowable
FC	Fertilizer compatible
FO	Field Office
FOB	Free On Board
FSA	Farm Service Agency
G	Granular
GMO	Genetically Modified Organism
HT	Herbicide tolerant
HQ	Headquarters
IR	Insect resistant
L	Liquid
LO	Low odor
LMPR	Livestock Mandatory Price Reporting
LSF	List Sampling Frame
LV	Low volatility
MF	Modified formulation

Common Abbreviations (continued)

MNS	Market News Service
NASDA	National Association of State Departments of Agriculture
NASS	National Agricultural Statistics Service
OL	Oil soluble liquid
OMB	Office of Management and Budget
P	Pelleted
PITW	Prices paid by producers for production, interest, taxes, and wage rates
PPITW	Prices paid by producers for commodities and services, interest, taxes, and wages
RTU	Ready to use
S	Solution
SL	Slurry
SP	Soluble Powder
ULV	Ultra-low volume concentrate
USDA	United States Department of Agriculture
VR	Virus Resistant
W	Wettable powder
WDG	Water dispersible granule
WP	Wettable powder
WSB	Water soluble bag
WSP	Water soluble packet

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