

## Documentation of Procedure for Updating Farm Cost of Production of Milk

We have received, from Farm Bureau, information on the farm cost of production of milk for the prior year. We update that information using appropriate indices that will provide a current view of the cost of production. Below is a listing of the cost categories used by Farm Bureau and the indexes and calculations used to update these costs.

The basic methodology we have developed presumes that actual current costs move in the same direction and in the same amount as an index that is providing that same kind of information. For example, we will receive cost information for the expense of using fuel on the farm to produce milk. The information from Farm Bureau gives us the average cost for purchasing fuel in the previous year by the cross-section of dairy farms. Farm Bureau provides this cost in terms of cost per hundredweight of milk produced by the cross-section farmers. In order to know the current cost a dairy farmer might incur for fuel, we compare last years average On-Highway Diesel Price for the Central Atlantic Region as provided by the Department of Energy and presume that the farm costs have moved in the same direction and in the same amount as the current On-Highway Diesel Price. The calculation is simply:

$$reported\_Cost\_For\_Last\_Year \times \left( \frac{Current\_Fuel\_Cost}{Last\_Years\_Average\_Cost} \right)$$

One other factor noted by the Economic Research Service affecting the cost of production is the amount of milk produced. That is to say, the more milk you produce the lower your cost of production. Conversely, the less milk you produce relative to your base period, the higher your cost of production. The adjusted formula would then read as follows:

$$reported\_Cost\_For\_Last\_Year \times \left( \frac{Current\_Fuel\_Cost}{Last\_Years\_Average\_Cost} \right) \times \left( \frac{Last\_Year\_Avg.\_production}{Current\_Daily\_production} \right)$$

The following is a list of accounts used for cost of production and a reference to the website used to obtain comparable data for last year and current data and the method for adjusting.

### *Milk Production by State*

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1103>

This is used to compare current production with production in the base period.

### *Farm Labor:*

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1063>

Here we are using an agricultural labor index for the Northeast II Region which includes Delaware, Maryland, New Jersey and Pennsylvania. We are modifying this cost component by changes in production.

### *Employee Benefit:*

Same as *Management Labor*

### *Machine Hire*

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1002>

The National Agricultural Statistics Service publishes this report monthly. The report may vary in length, usually containing about 70 pages. Many of the indices are found on a page titled "Prices Paid Indexes... With Comparisons." This page is about two-thirds of the way back in the report.

*Custom Work*

Same *Machine Hire*

*Chemicals*

Same as *Machine Hire* using Chemicals cost

*Fertilizers*

Same as *Machine Hire* using Fertilizer cost

*Labor Agriculture*

Same as *Management Labor*

*Conservation Expenses*

Not Changed

*Feed Purchased*

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1002>

This is the same report used in *Machine Hire*. For this cost center we are using the Pennsylvania corn and the US soy bean prices found on or about page 15 titled "Grains: Prices Received by States..." For alfalfa, we use the Pennsylvania price usually found on or about page 17 titled "Field Crops and Apples; Prices Received by States,..." We are modifying this cost component by changes in production.

*Freight & Trucking*

<http://tonto.eia.doe.gov/dnav/pet/hist/DDR01yM.htm> We are adjusting this cost, using the "On-Highway Diesel Price for the Central Atlantic region" as published weekly by the US Department of Energy. Numbers in the link above are monthly averages. Also, we are modifying this cost component by changes in production.

*Gasoline, Fuel & Oil*

Same as *Freight & Trucking*

*Insurance (Business)*

<http://www.seattle.gov/financedepartment/cpi/historical.htm> We believe this cost will behave similar to the Consumer Price Index as published by the Bureau of Labor Statistics. Choose the monthly U.S. CPI-U in PDF format from the link above for a convenient one-page summary of monthly CPI data.

*Interest, Mortgages*

<http://www.federalreserve.gov/releases/H15/data.htm>  
The Federal Reserve Release of Selected Interest rates provides information on fluctuating interest rates. We are using the bank prime loan rate provided on this site to calculate current interest expense by comparing last years average prime rate to the current months prime rate. Scroll down to the "Bank Prime Loan" instruments and select the monthly frequency,

*Coop Dues*

Not adjusted

<i>Rent (Real Estate)</i>	Same as <i>Insurance (Business)</i>
<i>Repairs (Real Estate)</i>	Not Adjusted
<i>Rent (Machine &amp; Equip)</i>	Same as <i>Insurance (Business)</i>
<i>Repairs (Machine &amp; Equip)</i>	Same as <i>Machine Hire</i> using Repairs cost
<i>Seeds &amp; Plants</i>	Same as <i>Machine Hire</i> using Seeds cost
<i>Storage &amp; Warehouse</i>	Not Adjusted
<i>Supplies (General)</i>	Same as <i>Insurance (Business)</i>
<i>Milk Advertising</i>	Not Adjusted
<i>Taxes (Business)</i>	Not Adjusted
<i>Utilities</i>	Same as <i>Insurance (Business)</i>
<i>Vet &amp; Medicine</i>	Same as <i>Insurance (Business)</i>
<i>Milk Hauling</i>	Same as <i>Freight &amp; Trucking</i>
<i>Milk Testing</i>	Not Adjusted
<i>Marketing Expense</i>	Not Adjusted
<i>Miscellaneous</i>	Same as <i>Insurance (Business)</i>
<i>Registry Fees</i>	Not Adjusted
<i>Accounting</i>	Same as <i>Insurance (Business)</i>
<i>Breeding Fees</i>	Not Adjusted
<i>Fire Department</i>	Not Adjusted
<i>Vehicle</i>	Same as <i>Insurance (Business)</i>
<i>Depreciation</i>	Same as <i>Insurance (Business)</i>
<i>Dues &amp; Meetings</i>	Not Changed