

From the Department of Dairy and Animal Science

This regular column from Penn State's Department of Dairy and Animal Science features the research findings, student opportunities, and reports on other important topics generated in the Department. The back issues of the column are archived on Lancaster Farming's Internet www.lancasterfarming.com home page. Look for them.

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Calculating an accurate cost of raising a replacement heifer is probably one of the most difficult tasks for dairy farmers. Heifers do not generate income and some of the expense of raising them is hidden in the costs of the milking herd as, in most cases, the heifers are fed refusals from the milking herd or feed that comes from the same source as the dairy herd's ration. Knowing the true cost of raising heifers would allow a dairy farmer to determine whether the resources available could be better utilized. For example, the dairy farmer could contract out heifers and replace them with more milking cows if the costs of rearing them on-farm are much higher than having them raised off-farm.

Research has shown that the average daily cost of rearing heifers in Pennsylvania is \$1.53, however, the range is from \$1.21 to \$1.77. The reason for the wide range is the different combinations of labor, facilities,

feed and numerous other factors that go into raising replacements.

The costs to raise heifers are labor, feed, facilities and machinery, interest, mortality, bedding, health, and reproduction. Several of these costs are relatively easy to measure; these costs are bedding, health, and reproduction. The remaining costs are a little more difficult to estimate. To estimate the true costs of feed for heifers a value needs to be placed on all feed, including refusals from the dairy herd. The value of farm-grown feed is the market value of the forage and the refusals can be valued at either market or replacement value.

The time a facility or machine is used by the heifer enterprise and the value of the item determine facilities and machinery costs. Costs for machinery and facilities should also include a proportion of the repairs and maintenance costs based on the allocation of time to the heifer enterprise. The value of the capital items used by the heifer activity should be the depreciated value rather than the cost value.

Interest costs capture the opportunity cost of having a heifer on the farm; the cost also includes the interest cost of variable inputs, such as feed. Opportunity costs are the costs the producer incurs when a decision is made. For example, the dairy farmer could sell the heifer and invest the money in the bank at the current interest rate and gain income from this investment; the income foregone is the opportunity cost.

The mortality cost measures the costs incurred due to the death of heifers as they progress through the heifer herd. Included is the cost to raise a heifer to a particular age, the value of the heifer in different age classes and the mortality rate of heifers in each age class.

The final cost, labor, is calculated in a similar way to the facilities and machinery cost. The most important aspect to consider here is that all labor tasks are included. In the same research mentioned earlier, producers reported time spent on feeding, bedding and cleaning out heifer facilities, but did not include time spent on such tasks as breeding, health checks and vaccinations, and record keeping. By not measuring and reporting these jobs a

dairy farmer or heifer grower is underestimating the time spent rearing heifers, which in turn leads to an underestimation of the cost of rearing heifers.

Measuring all these costs accurately leads to a cost that is closer to the true value of rearing a heifer and allows a dairy producer or heifer grower to determine a better use of the resources available to them. Better utilization of resources then leads to potentially higher income and higher profitability of

the dairy enterprise.

A computer-based spreadsheet developed at Penn State is available that calculates the costs of raising heifers. The spreadsheet and accompanying instruction manual can be downloaded from the Department of Dairy and Animal Science's web-site, the address is <http://www.das.psu.edu/teamdairy/special/>. If you don't have access to the web, disk copies of the program and manual can be obtained by calling Peter Tozer at (814) 863-3917.

Lancaster Farming



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Dairy Of Distinction Winners Listed From Past Years

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- William Wood, South Gibson
- David Lauer, Springville
- Harvatine Farms, Thompson
- Hillside Farms Inc., Shavertown
- James Swetter, Union Dale
- Pecora Bros. Farm Dairy, Drums
- El-Bert Farm, Schuylkill Haven
- Coleman Crest, Montrose
- Louis and Natalie Hawley, Montrose
- James A. Rogers Family, Springville
- Arthur H. and Kelly Wolfe, Springville
- David Banicky, Thompson
- George H. Davis, Meshoppen
- Clyde Henderson, Lake Ariel
- Ray Kuzma, Tunkhannock
- Dewey Lyon, Hallstead
- Lloyd & Denise Pease, Susquehanna
- Mark Tompkins, Montrose
- Sandra & Edward Kelley, Montrose
- Joseph Pavelski, Susquehanna
- Dunns-Pride Farm, New Ringgold
- John & Diane Rickard, Honesdale
- R. M. Shipsky & Sons, Forest City
- Rick Stevens, Mehoopany
- Highland Farm, Honesdale
- Verbyla Bros. Farm, Sweet Valley
- Robert Day Sr. and Son, Mehoopany
- Peaceful Acres Dairy, Nicholson
- Sterling Miller's Farm, Stroudsburg
- Kenneth Wiker, Holtwood
- Myerose Farm, Elizabethtown
- Cherry Crest Farm, Ronks
- Bushmeade Farm, Columbia
- Breeze Summit Farm, Paradise
- Green Pastures Farm, Kirkwood
- District 19**
- Marvin Witmer, Litz
- James & Susan Musser, Mount Joy
- Luke F. Brubaker, Mount Joy
- Weaver Homestead Farms, New Holland
- Galen Crouse & Sons, Stevens
- Roy H. Book, Ronks
- Martin & Loren Zimmerman, East Earl
- Jay E. Landis, Lancaster
- Horace Jackson, Peach Bottom
- Eugene Burkholder, Quarryville
- Joseph DeLong, Quarryville
- Curtis Akers, Quarryville

- Noah Martin, Kirkwood
- Jay Richard Groff, Manheim
- Kenneth & Lois Hoffer, Manheim
- John L. Landis, Lancaster
- Dale Hershey, Gap
- Donald & Larry Hershey, Manheim
- Kenneth L. Balmer, Elizabethtown
- Titus B. Stoner, Landisville
- Maplehofe Dairy Farm, Inc., Quarryville
- Robert & Bonnie Wentworth & Family, Quarryville
- John S. Zimmerman, East Earl
- Rohrer Homestead, Lancaster
- John & Susan Howard, Willow Street
- Larry & John Hess, Lancaster
- Dale Herr, Kirkwood
- John Shank, Quarryville
- The Martins Bridge View Dairy, Conestoga
- David R. Wenger, Manheim
- J. Ray and Reba Ranck, Paradise
- Philip G. Crouse, Stevens
- Samel F. and Marian B. Long, Peach Bottom
- Dave and Joe Garber, Lancaster
- Kat-Lin Farm, Litz
- Sixcorner Farm, Leola
- Kenneth Rutt, Quarryville
- Leonard H. Martin, Ephrata
- Earl E. Martin, Ephrata
- John & Rick Groff, Leola
- Meadow Vista Farm, Bainbridge
- Alan D. McCauley, Elizabethtown
- James F. Brubaker, Mount Joy
- Earl N. Landis, Manheim
- Cletus & Dale Balmer, Manheim
- Ray Byer & Son, Litz
- Marlin Cassel Family, Manheim
- Kreider Dairy Farms, Manheim
- David & Lois Landis, Lancaster
- Glen & Sharon Longenecker, Elizabethtown
- Elvin Martin & Sons, Kinzers
- Earl & Mary Jane Sauder, Goodville
- Trout Spring Farm, Lancaster
- Harry & Elizabeth Zimmerman, East Earl
- Fountain Hill, Gap
- Brubaker Farms, Mount Joy
- Nevin S. Homing, Litz
- D.G. Kauffman/J.E. Kreider, Lancaster
- Samuel E. Beiler, Gordonville
- Marvin R. or Ruth Stoltzfus, Leola
- Johnathan or Miriam Stoltzfus, Jr., Ronks
- Lamar Gockley, Mohnton
- Bodendale Farm, Lancaster

- District 20**
- David & Phoebe Bitler, Fleetwood
- Wilmer & Robert Richard, Boyertown
- Kirby & Sheryl Horst, Newmanstown
- Clarence Kulp, Mohrsville
- Jack Miller, Kempton
- Hubert Sell, Schnecksville
- Donald Hoffer, Lebanon
- James Lindquist, Buckingham
- Cyrus Bomberger, Lebanon
- Ben Beiler, Cochranville
- K.W. & H.M. Blatt, Jonestown
- Warren W. Detweiler, Perkasie
- Donald E. Landis, Myerstown
- John C. & William J. Mertz, Kutztown
- Landis S. Reid, Parksburg
- Maynard Rothenberger, Lansdale
- D.J. & S.P. Schuler, Fleetwood
- Dennis & Sharon Wampler, Lebanon
- Clyde, Thomas & William Williams, Oxford
- Ar-Joy Farms, Cochranville
- WO-BO Farms, Ottsville
- Franklin Troutman, Womelsdorf
- Wilbur Hershey, Bethel
- Rick Phillips, Glenhartsville
- Wilhelmina Schmidt, Glenhartsville
- Allen Rohrback, Breinigsville
- Boonecroft Farms, Douglasville
- Klein Farms, Easton
- Dalton & Vickie Biehl, Kutztown
- Gary & Sharon Stoltzfus, Elverson
- Delaware Valley College, Doylestown
- Promise Land Dairy, Perkasie
- Dale Hoover, Lebanon
- Vincent & Juliet Wagner, Myerstown
- Lester & Marian Zimmerman, Myerstown
- Junge Farms, New Tripoli
- Ralph & Crystal Moyer, Myerstown
- Martin & Missy Moyer, Womelsdorf
- Charles & Linda Zimmerman, Mohrsville
- Paul & Geraldine Zimmerman, Bernville
- James & Dolores Keller, Coopersburg
- Nathan & Patricia Stoltzfus, Honeybrook
- Ken & Marilyn Umble, Atglen
- Wilkinson Farms, Landenberg
- Melvin & Jean Zook, Elverson
- Robert & Barry Gehman, Coopersburg
- Alvin M. Martin, Lebanon
- Rev-Hel Farms, Inc., Mohrsville
- Harold & Ester Bare, Atglen
- Tim & Teresa Kissling, Robesonia
- Andrew D. Stoltzfus, Morgantown
- Paul Semmel Family, Schnecksville

- Donald V. Seipt Family, Easton
- George & Carol Udemach, Palmyra
- Gideon Stoltzfus, Honey Brook
- James & Billie Hill, Lebanon
- Jesse & Michelle Howe, Ottsville
- Martin & Darlene Younker, Fleetwood
- George and Mary Troutman, Myerstown
- Joseph Greggo, Pen Argyl
- Norman and Audrey Kochler, Bangor
- Robert & Esther Crouse Family, Riegelsville
- Clarence & Carol Fehnel Family, Easton
- David & Rhoda King Family, Cochranville
- William & Lynn Klinc, Elverson
- Tom & Shirley Krall, Lebanon
- Timothy & Deborah Kurtz, Elverson
- Raymond & Nancy Seidel, Kutztown
- Larry K. Bauscher, Lenhartsville
- Dan Rice, Kempton
- Kenneth Sanner, Kutztown
- Karl Herr, Oxford
- Eugene Martin, Lebanon
- John B. Klinc, Myerstown
- Raymond Kleintop, Jr., Danielsville
- William and Karen Boyd, Mertztown
- Michael Dietrich, Kutztown
- Peter Markel, Breinigsville
- Melvin Stoltzfus Family, Cochranville.
- Conebella Farm, Elverson
- Mark & Melody Stoltzfus, Honeybrook
- Glen Run Way Farm, Atglen
- Evergreen Farm, Chatham
- Marshck Dairy Farm, Kennets Square
- Edn Shaynah Kee Farm, Tipton
- Kieffer Farms, Inc., Hamburg
- Maulfair Acres, Jonestown
- Reid & Diane Hoover, Lebanon
- Edward Shushler & Daughters, East Greenville
- Kirbyville Holsteins, Fleetwood
- Birchwood Farm, Newtown

