

Penn State **Extension**

Estimating the Impact of Cow Comfort

Poor cow comfort affects dairy cattle and herd profits in several ways:

1. Reduced milk production per cow and less income over feed costs.
2. Poorer conception rates, longer calving intervals and more tail-end producers.
3. More involuntary culls, higher replacement costs and loss of valuable genetics.
4. Higher vet and medical costs.

The following worksheet can help you estimate the economic impact of cow comfort.

1. **Reduced milk output** (heat stress reduces DMI):

Milk price per cwt.	19.00	
Feed cost per cwt. milk	- 7.60	-
Milk Margin - per cwt. of milk	11.40	
	<u>÷ 100</u>	<u>÷ 100</u>
- per lb. of milk	0.114	
Milk loss per cow per day (lb.)	<u>x 10</u>	<u>x</u>
Change in milk margin per cow per day	1.14	
No. of days milk production is down	<u>x 30</u>	<u>x</u>
Total loss of milk margin per cow	34.20	
<u>No. of cows in milk</u>	<u>x 60</u>	<u>x</u>
Total impact	<u>\$ 2,052.00</u>	<u>\$</u>

2. **Reduced milk output** (due to forced culling of good genetic cows):

Drop in DHIA RHA or milk per cow per year	500	
Milk margin (see part 1.)	<u>x 0.114</u>	<u>x</u>
Total loss in milk margin per cow per yr.	57.00	
<u>Average herd size (milking plus dry)</u>	<u>x 70</u>	<u>x</u>
Total impact	<u>\$ 3,990.00</u>	<u>\$</u>

3. **Longer calving interval** (more tail-end producers):

Herd average (305 day actual)	21,000	
First 305 days in milk	<u>÷ 305</u>	<u>÷ 305</u>
Average milk per cow per day:		
For the first 305 days	68	
For the days milked beyond 305	- 40	-
Difference in daily milk	28	
Increased days open	<u>x 30</u>	<u>x</u>
Total production lost per cow (lb.)	840	
Milk margin per lb milk (see part 1.)	<u>x 0.114</u>	<u>x</u>
Milk margin lost per cow	95.76	
<u>No. cows with increased days open</u>	<u>x 15</u>	<u>x</u>
Total impact	<u>\$ 1,436.00</u>	<u>\$</u>

4. **More cows culled, fewer cows merchandised:**

Total cost of a replacement (cash plus non-cash)	1,500	
Average price of a cull (dead or alive)	- 650	-
Net cost of filling a stall with a replacement	850	
<u>No. of extra cows culled</u>	<u>x 4</u>	<u>x</u>
Extra replacement costs	<u>\$ 3,400.00</u>	<u>\$</u>

5. **Increased vet and health costs**

	<u>\$ 500.00</u>	<u>\$</u>
--	------------------	-----------

6. **Cumulative impact**

	<u>\$ 11,378.00</u>	<u>\$</u>
--	---------------------	-----------

Worksheet developed by Glenn Shirk, 2000; Revised by Tim Beck 2012

PENNSTATE



Cooperative Extension
College of Agricultural Sciences

extension.psu.edu

An **OUTREACH** program of the College of Agricultural Sciences

Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, genetic information, national origin, race, religious creed, sex, sexual orientation, gender identity, or veteran status and retaliation due to the reporting of discrimination or harassment. Discrimination, harassment, or retaliation against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901; Tel 814-865-4700/V, 814-863-0471/TTY.

© The Pennsylvania State University 2012