

DAIRY BUDGETS EXPLAINED

An essential input to the “cost of disease” question is the cost of a sick animal. This cost is farm specific and depends on the farm’s cost of production and opportunity cost. While some cost estimates from research or your veterinarian’s previous experience may be helpful, the most accurate value will be based on the farm’s own numbers. The following file helps to estimate the cost of disease per animal that gets sick using partial budgets comparison.

It has 3 input pages:

7. *Vet_Input*. This is where the consulting veterinarian inputs the expected treatment costs and loss of productivity associated with the disease that he/she is trying to evaluate.
8. *Ext_Input*. This is where the extension specialist inputs the default values for his/her specific area.
9. *Prod_Input*. This is where the producer inputs normal productivity information and some of the relevant prices. The result is displayed at the bottom of the *Prod_Input* page and reflects the difference in net income between a healthy and a sick animal.

Vet_Input page

Each disease has a different effect on productivity and cost depending on the disease, the production system and other things. Therefore it is important that the consulting veterinarian input the expected effect on milk production (lbs/cow), calving interval, mortality rate, etc that a certain disease can cause in animals that get sick on the specific farm. This sheet is where the veterinarian can input those values. In some situations the disease may cause changes in prices, such as a decrease in the milk price due to a decrease in the milk quality. This spreadsheet asks the veterinarian if he/she expects changes in cattle and milk prices due to a disease outbreak.

Disease effect on	
Mortality in cows (%)	<u>2.00%</u>
Mortality in heifers (%)	<u>1.00%</u>
Mortality in calves (%)	<u>1.00%</u>
Change in Calving Interval (%)	<u>5.00%</u>
Change in Calving Rate (%)	<u>-0.50%</u>
Treatment Cost (antibiotics, etc) (\$)	<u>32</u>
Change in Cow replacement rate (%)	<u>10.00%</u>
Change in Cull Cow Weight (%)	<u>-10.00%</u>
Change in Cull Cow Price (%)	<u>-10.00%</u>
Change in Dairy Calf Value (%)	<u>-5.00%</u>
Change in Dairy Heifer Value (%)	<u>-5.00%</u>
Change in Milk sales lbs/cow (%)	<u>-5.00%</u>
Change in Milk price (%)	<u>0.00%</u>

Ext_Input page

There are some differences in productivity and cost per head between different regions of the U.S. Therefore is very important that the extension specialist can adapt the default values to their own region. The extension input page has default values for each of the variables and has a cell where the extension specialist can input the values for their region (yellow shaded cells). The final value for the variable is found in the green shaded cells. If some yellow cells remain empty, the final value for the variable will be equal to the default value.

There is a warning system to prevent typos when entering the data. If the input value makes no sense, for example a negative milk production, the computer will not let the value to be input showing a new window with a warning message that explains what is wrong. If one of the values entered differs too much from the default value, a warning message will appear on the right of the screen that shows something like this: **Warning: This value seems too high** (or too low)

There are also some differences between high and low production farms. Therefore the extension specialist has the option of filling in values for 4 different production level farms: 12,000 lbs/cow, 16,000 lbs/cow, 20,000 lbs/cow and 24,000 lbs/cow. The second value that the producer needs to input is his farm’s production level. The spreadsheet looks at the closest of the 4 production levels in the *Ext_Input* page and automatically uses the corresponding values as default for the producer sheet.

Some of the final values on this spreadsheet will be used directly in the calculation and some will be used as default values in the spreadsheet that the producer needs to fill out.

Here is an example of the *Ext_Input* page that shows 2 different levels of production for the sake of simplicity.

	Milk sales lbs/cow= 12,000			Milk sales lbs/cow= 16,000		
	Default values	Region values	Custom	Default values	Region values	Custom
Milk sales (lbs/cow)	12000		12000	16000		16000
Milk price (\$/cwt)	13		13	13		13
Cow replacement rate (%)	36.00%		36.00%	35.00%		35.00%
Cull Cow Weight (lbs.)	1300		1300	1350		1350
Cull Cow Price (\$/lb)	0.65		0.65	0.65		0.65
Calving Interval (days)	380		380	375		375
Breeding herd investment per cow unit						
	Default values	Region values	Custom	Default values	Region values	Custom
Dairy cow price (\$/head)	1200		1200	1400		1400
Replacement heifer price (\$/head)	1000		1000	1200		1200
Dairy Heifer Calf Price (\$/head)	400		400	450		450
Dairy Steer Calf Price (\$/head)	400		400	450		450
Death loss cow (%)	0.75%		0.75%	0.75%		0.75%
Death loss heifers (%)	2.00%		2.00%	2.00%		2.00%
Death loss calves (%)	5.00%		5.00%	5.00%		5.00%
Carcass disposal cost (\$/lb)	0.07		7.00%	0.07		7.00%
Variable Costs						
	Default values	Region values	Custom	Default values	Region values	Custom
Labor Price (\$/hour)	9		9	9		9
Labor Hours per cow	65		65	65		65
Veterinary & health related costs (\$/cow)	90		90	90		90
Feed Cost (\$)	942		942	1054		1054
Rates (interest, insurance, etc)						
	Default values	Region values	Custom	Default values	Region values	Custom
Interest Rate (%)	6.50%		6.50%	6.50%		6.50%
Interest rate, insurance on herd (%)	10.00%		10.00%	10.00%		10.00%

Prod_Input page

Every dairy operation is unique and so are the effects of diseases, therefore it is a good idea to estimate its cost based on actual information from the farm. This page is for the producer to input production information that is specific to his/her farm. The producer input page has default values for each of the variables that come from the extension page. This page also has a cell where the producer can input the values that are specific to his/her farm (yellow shaded cells). The final value for the variable is found in the green shaded cells. If some yellow cells remain empty, the final value for the variable will be equal to the default value.

There is a warning system to prevent typos when entering the data. If the input value makes no sense, for example a negative milk production, the computer will not let the value to be input showing a new window with a warning message that explains what is wrong. If one of the values entered differs too much from the default value, a warning message will appear on the right of the screen that shows something like this: **Warning: This value seems too high** (or too low)

Size and Production	Default values	Producer values	Customized
Number of head	250		250
Milk production per milking cow (lbs/cow)	20000		20000
Productivity and Costs	Default values	Producer values	Customized
Milk price \$/cwt	13		13
Cow replacement rate	36%		36%
Cull Cow Weight	1350		1350
Cull Cow Price (\$/lb)	0.65		0.65
Calving Interval	370		370
Calving Rate	98.65%		98.65%
Death loss cow	0.75%		0.75%
Death loss youth (6-24 months)	2.00%		2.00%
Death loss calves	5.00%		5.00%
Carcass disposal cost (\$/lb)	0.07		0.07
Feed Cost (\$)	1177		1177
Hauling cost (\$/cwt)	0.3		0.3
Breeding herd investment per cow unit	Default values	Producer values	Customized
Dairy cow price (\$/head)	1600		1600
Replacement heifer price (\$/head)	1400		1400
Dairy Heifer Calf Price (\$/head)	500		500
Dairy Steer Calf Price (\$/head)	500		500
Interest rate, insurance on herd (%)	10.00%		10.00%
Interest Rate (%)	6.50%		6.50%

The result appears at the bottom of this page and can be interpreted as the difference in net income between an animal that gets sick and a healthy one. The cost of the disease not only includes the cost of treatment, but also lost efficiency and product.

RESULTS
Cost per sick animal 404.42