Using Dairy One tools to evaluate culling.

Cull numbers can be mysterious. There are many different ways to look at the data, and many different places to find it in your DHI data and on-farm software. Let's look at some of the culling data and discuss what it really means.

COWS TO BE MILKING, DRY, CALVING, BY MONTH

MONTH	NOV	DEC	JAN	FEB	MAR	APR
* MILKING	180	177	188	219	227	223
DRY	23	36	30	21	21	27
COWS TO CALVE	5	12	20	12	10	10
HEIFERS TO CALVE		13	9	27	12	5

* ASSUMES 2.1% PER MONTH CULLING RATE

Most people find the current cull rate for their herd on page 1 of the DHI 202 Herd Summary. This cull rate is used to predict inventory of cows to milk and can be the past year's actual cull rate or a rate chosen by the dairy. Because this number is being used to predict cows to milk over the next half year, cows sold for voluntary as well as involuntary reasons are included.

Some people panic when they see this number and may consider it too high compared to their goal. It is important to remember that those animals that are sold for dairy purposes, often due to the dairy's good management are included in the overall cull rate. The potential revenue generation is good.

The number used above at 2.1% or about 26% annual is the actual cull rate for this herd. It will be used unless the dairy indicates something different on test day with their technician. The rate option #48 can be changed using on the test day herd options input section on DHI 213.

48 MONTHLY CULL RATE % 0.0 | .

Below is an example of a herd that has chosen to project herd inventory using a cull rate slightly different than the one calculated for the past year. This herd has selected to project using 3% monthly or 36% annually even thought their past year calculated to 39%.

COWS TO BE MILKING, DRY, CALVING, BY MONTH

MONTH	JUL	AUG	SEP	OCT	NOV	DEC
* MILKING	75	73	74	63	56	56
DRY	11	10	7	16	22	20
COWS TO CALVE	2	4	4	5	8	13
HEIFERS TO CALVE						

* ASSUMES 3.0% PER MONTH CULLING RATE.

48 MONTHLY CULL RATE % 3.0 | .

Page 2 of DHI 202 Herd Summary does a better job of looking at culling practices on the dairy by making a distinction between animals "sold for dairy" and those "sold for failures in genetics, disease control, or faulty management". This Yearly Summary Of Cows Entered And Left The Herd breaks the herd down into 1st, 2nd, and 3 or more lactations and uses 7 common definitions for why cows are sold for some failure. A different category is used for cows that died and likely provided no salvage value. The other two columns provide for data reporting when cows are sold for dairy purposes and those sold or died but not recorded with a reason seen here. We are also reminded that only cows are reported in the culling summary. Heifers that are projected to affect the inventory of cows to milk will only be used to adjust that *projection* and not the *cull rate* for the herd.

YEARLY SUMMARY OF COWS ENTERED AND LEFT THE HERD

COWS ENTERED HERD		COWS LEFT HERD		NUMBER OF COWS LEFT THE HERD									
NUM.	%	NUM.	%	DAIRY	LOW PROD.	REPO.	MAST.	UDDER	FEET & LEGS	INJURY OR OTHER	DIS-EASE	DIED	NOT RPTD
38	41	10	11	1	1	1	3		2	1		1	
		9	10	1		3	1			1		3	
		22	24	3	2	6	6		1	2		2	
38	41	41	44	5	3	10	10		3	4		6	
			39	% LEFT HERD FOR INVOLUNTARY REASONS									

It is important to understand that when we view the herd summary, we see 2 separate cull rates. The 39% should be used for evaluating the rate that we sell cows that were not necessarily planned. The 44% listed above it is the total rate that we have moved cows out of the herd. To maintain an equal number of cows milking, we have to have a similar rate of cows entering the milking herd including heifers that were born and raised in the herd.

There are report options available to help determine what cows may be targeted for culling . The Special Management List DHI - 510 is a culling guide that lists cows by the lowest "Projected Relative Profit". The PRP is based on the projected production of the cows and maintenance cost when she will not be producing prior to her next calving. The value here is that cows, even when ranked high for past production, can have a lower value to the dairy because they are not pregnant.

1-94 HENRY SMITH, JR

HERD CODE NUMBER: ST 55, CO 99, HERD 9993 | DATE TESTED: MO 7, DAY 14

SPECIAL MANAGEMENT LIST DHI-510

CULLING GUIDE CULL VALUE PROD. LEVEL = $6.02

COW INDEX	DAILY LBS. MILK	DATE DUE	PROJECTED 305 DAY-ME MILK	PROJECTED 305 DAY-ME FAT	DAYS IN MILK	AGE IN MONTHS	DAYS OPEN	ERPA MILK	RATING	PRP
514	39.9	OPEN	12257	456	287	30	287	-5114	E	519
577	53.3	OPEN	16033	526	66	24	66	-1908	E	688
147	39.6	4-07	15976	637	178	66	165	-1303	E	718
166	48.3	OPEN	16962	530	915	37	915	-2123	E	781
466	36.8	11-18	14814	545	244	40	90	-4015	E	850
1075	43.9	OPEN	17236	627	333	25	333	-2880	E	856
151	39.5	2-10	17214	725	249	61	179	-618	D	944
412	43.3	11-04	16575	596	242	51	74	+646	E	975
482	50.3	1-11	20105	637	197	39	97	+198	D	1088
1072	51.8	4-05	21422	664	288	28	273	-716	D	1094
6178	41.5	OPEN	22616	815	376	90	376	-647	B	1130
1023	26.6	OPEN	22675	757	483	50	483	+1338	C	1140
502	47.9	OPEN	19736	880	247	34	247	-1358	C	1147
455	22.8	1-11	20479	766	334	39	234	+889	C	1194
620	46.3	OPEN	23788	825	568	25	568	+1101	B	1295
644	40.1	OPEN	23749	846	526	24	526	+770	B	1324
142	37.8	OPEN	26089	945	622	52	622	+3110	A	1401
183	47.1	OPEN	25309	925	593	44	593	+2871	A	1416
453	46.1	OPEN	27803	933	399	38	399	+2844	A	1519

Those dairies using Dairy Comp 305 software have additional ways to evaluate culling. One simple way is to make a list of cows by relative value (RV). This uses strictly RV as the ranking criteria and is based on the average for the herd being 100%. The lower the value below 100%, the less valuable she is compared to her herd-mates in terms of her ability to produce milk.

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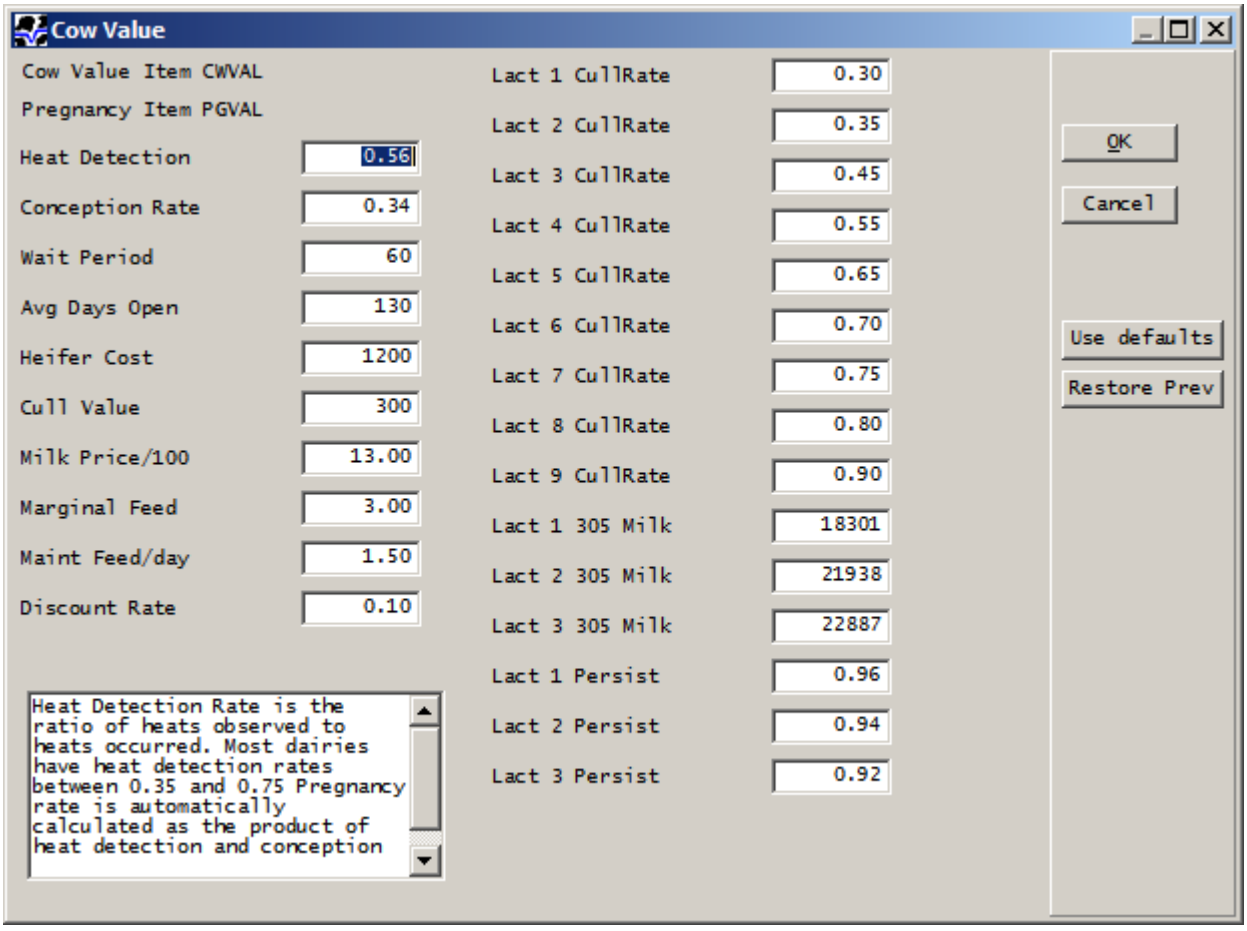
- Command  : SHOW REG RV DUE MILK SCC BY RV FOR INMILK RV>0\P FOR RV<60

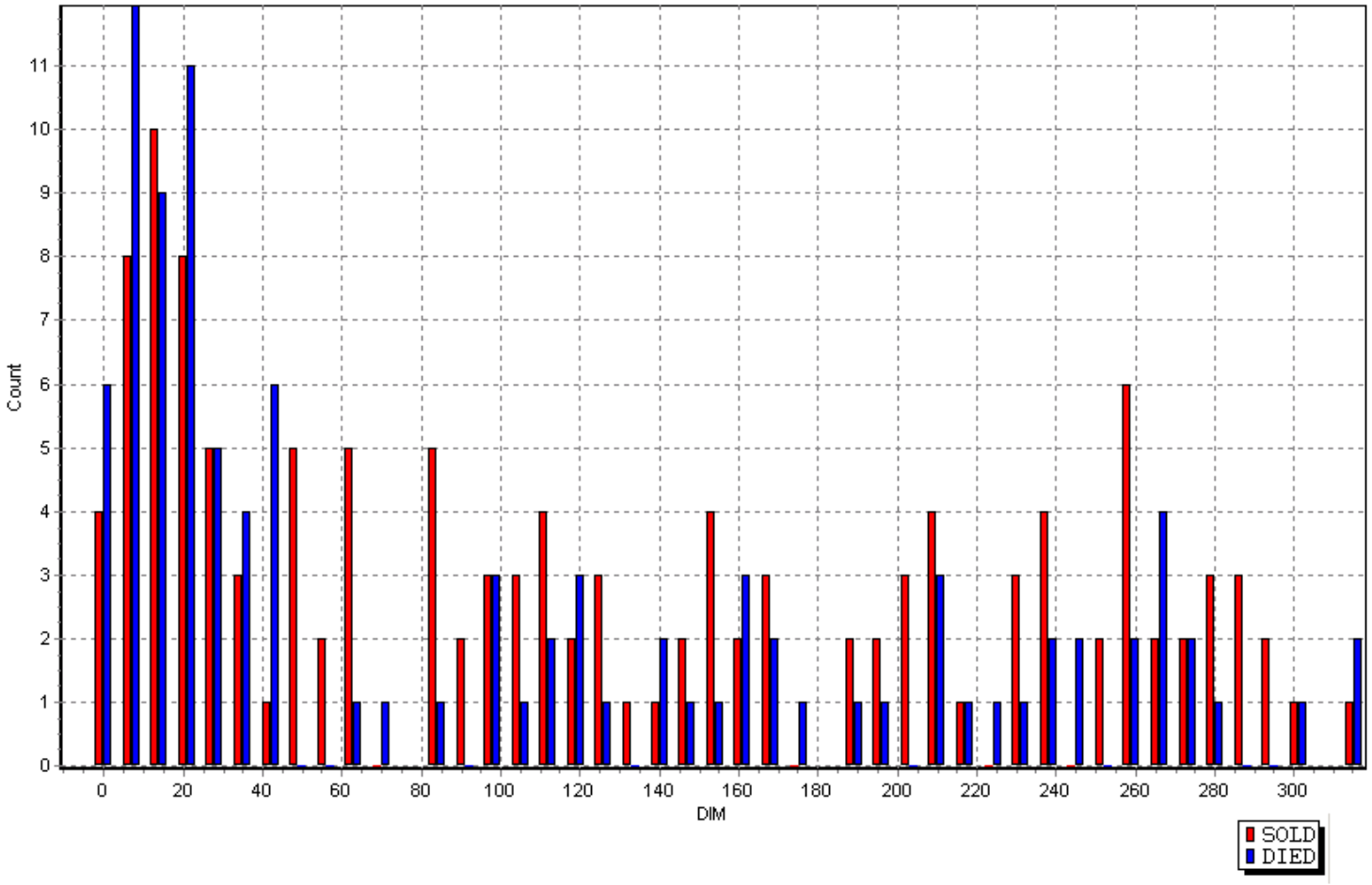
REG         RV       DUE  MILK   SCC     |REG         RV       DUE  MILK   SCC
========= === ======== ===== =====     |========= === ======== ===== =====
090321797  33 12/22/07     7    62     |60672148   55         -    68    23
090321553  33 10/28/07    20   152     |62011068   55         -    47   123
090321820  33         -    38   174     |60370917   56         -    74   123
62011114   36         -     3    29     |090321482  56 12/ 9/07    44    38
61278722   38 10/27/07    10   746     |61278942   56         -    31   429
62011176   38         -    24    81     |61278977   57  1/12/08    25    23
090321444  44 11/ 4/07    18   985     |090326572  58         -    35  1600
090322516  45  2/24/08    63   606     |61278752   58  9/15/07    39    71
62011062   49         -    45    44     |61278808   59  9/29/07    48    62
090321551  49  9/22/07    29   200     |62011026   59  1/12/08    55    31
62011190   52         -    41   429     |60371187   59 10/21/07    42   985
090326051  52  2/ 2/08    52   857     |
62011167   53         -     0     0     |Total: 25
60672356   54         -     0     0     |
```

Producers wanting to capture true economic value from culling will expand on that idea and use COWVAL to aid in those decisions. Here we can use reproductive herd performance, replacement cost, cull cow value, production value, and feed cost to calculate a "Cow Value" for each cow in the herd. Ever think that getting a cow pregnant would make her less valuable? With this tool you may find that out.



One final way to look at the culling data on a dairy is to look at when culling takes place. Imagine not only the disappointment of having to sell a cow that is short of reaching her peak potential, but the economic impact of such culls. Everyone would agree that avoiding management flaws that cause cows to exit the herd in early lactation for involuntary reasons is a high priority of dairies. Much of what we looked at thus far for culling has been the why's, who's, and reasons behind culling. We can again turn to software like DC305 to look at when culls happen the most frequently.

Running the command Egraph\ID can give us a picture of when culling occurs. Note the incidence of both sold and died in the first 60 days in milk. Now we have useful data to find out why the highest rate of culling happens in the first 60 days. In this example 35% of all cows that left the herd in the past year did so in their first 60 days in milk. Another fact we can discover is that of all the cows that calved in the past year and had to be sold, 29% of them were less than 60 days in milk.



Example of Egraph\ID

Looking at cull rates seems to be at times a favorite pastime of dairy related people. One final thought we might leave you with is that while we know what rates our cows leave herds at, when they leave, and reasons they leave, we still haven't done anything to change those rates and reasons. Aside from SCC testing, disease tracking might be as great or even greater value to the dairies we work with.