



This powerpoint file was prepared by Dr. Ken Nordlund of the UW School of Veterinary Medicine. It summarizes the new “Transition Cow Index”, a monitor that can be used to objectively benchmark and monitor transition cow programs. The presentation will also introduce the other items in the new AgSource “Fresh Cow Summary” that will be introduced in January 2006.

Transition cow?

- Period from about 3 weeks prior to calving until about a month post-partum
- Termination of pregnancy and initiation of lactation
- Associated with tremendous hormonal and metabolic changes
- Also associated with the majority of disease events in a dairy cow's life

The transition period refers to a time period starting that runs from about 3 weeks before until about a month after calving. Calving is the termination of the pregnancy and the initiation of a new lactation, and as such, there are tremendous hormonal and metabolic changes that occur at this time. While calving signals the birth of a new calf and the onset of the new lactation, it is also the opening to the majority of the disease events that occur in the life of a cow.

Think of a dairy farm!

- Your own or one of your clients
- Characterize the mastitis status of the farm, *i.e.*, *excellent*, *poor*, *average*?
- What criteria did you use?

Visualize a dairy farm, your own or one of your clients!

Now think about mastitis control on that farm. How does it compare to the industry? Is it excellent, poor, or average?

Now think about the criteria that you used to make that determination.

Most of you probably thought about the herd somatic cell count. 150,000 is terrific, 300,000 about average, 500,000 needs improvement.

Somatic cell counts have given the dairy industry a benchmark and a monitoring tool to lower and manage mastitis.

Now visualize the fresh cows!

- Characterize the transition cow programs, *i.e., excellent, poor, average?*
- What criteria did you use?

Okay, you've characterized mastitis status.

Now think about the fresh cows. How would you characterize the transition cow program of the dairy? Excellent, poor, average?

What criteria did you use?

Some people will think about the process, *i.e.*, the rations, the housing, etc., and not outcomes.

Other people will think about outcomes such as a disease rate, *i.e.*, the number of displaced abomasum problems.

In fact, health records would seem to be a logical way to assess the effectiveness of transition cow management programs. But are on-farm health records consistent enough to be used to evaluate transition cow programs?

Health records?

- On one farm, change has to be extreme to detect a difference with certainty
- Between farms, health records are too inconsistent to compare programs

In a word, NO.

On a single farm, the change in disease rate has to be extreme in order to detect a difference with certainty. For example, if 100 cows calve each month and the number of displaced abomasas increase from 3 per month to 6 the next month, is this a true change in rate or simply a matter of random chance. The statistics suggest that we would only be about 60% confident that the difference was not due to chance. It's better than 50:50, but not much...

Health records are also too inconsistent to be used to compare the results from one farm to another, with the intent of identifying the most successful transition programs.

“High quality” DC305 record sets

Farm	Fresh	DA freq	MET freq	KET freq	LAME freq	TRIM freq	MAST freq
KB	446	7%	5%	14%	11%	63%	24%
DW	643	8%	7%	21%	3%	68%	19%
UB	879	3%	5%	12%	4%	65%	33%
OM	996	5%	12%	0%	0%	1%	0%
JA	1185	5%	3%	5%	0%	94%	8%
6E	1228	14%	22%	3%	10%	79%	56%
GJ	1291	7%	7%	4%	0%	61%	9%
OL	1343	0%	32%	0%	59%	0%	57%
TB	1369	4%	17%	5%	3%	0%	19%
WA	1475	2%	45%	31%	0%	65%	15%
BK	1649	5%	9%	39%	3%	128%	6%
SW	1751	7%	26%	12%	48%	0%	17%
CP	1780	6%	23%	0%	8%	2%	43%
KL	1835	7%	9%	5%	0%	75%	13%
LT	2273	31%	30%	0%	11%	0%	37%
SG	2407	0%	27%	3%	1%	0%	
BF	3955	1%	11%	1%	3%	61%	5%
JD	4154	6%	25%	28%	7%	0%	18%
MS	5457	4%	0%	14%	8%	0%	13%

The table above summarizes on-farm health records from 19 large Midwest dairies.

The table was constructed from Dairy Comp 305 records that were offered to the UW for a research project. The herd managers were proud and confident in these record sets, and we have every reason to believe that these records met the needs of each individual dairy.

The column fresh lists the number of calvings over the prior 12 months. “DA freq” is the frequency of displaced abomasa per 100 calvings, “met” is the metritis rate, “ket” is ketosis, etc.

However, the extreme rates in each disease category are highlighted. Under metritis, we see that there were no metritis cases notes among 5,457 calvings. We all know better, including the herd manager. It’s simply that metritis was not recorded on that dairy. In the next column, we see extremes in ketosis frequency. Yes, there are differences between herds. But ketosis is diagnoses in many ways. Some herdsmen can smell ketosis in the air from 100 yards. Others use urine tests on fresh cows on a daily basis. Others use a milk test once a week. Others diagnose ketosis when the cow is off feed. Others only record ketosis when the cow gets intravenous treatments, but do not record mild cases that may be treated with oral drenches. And on and on.....

On-farm records may serve the individual farm well, but the inconsistencies make them unsuitable to use in evaluating the success of transition cow programs.

“So what?”

- Without objective benchmarks, we don't know how good our programs actually are
- Without objective benchmarks, many of us accept poor results because it's what we are “used to”

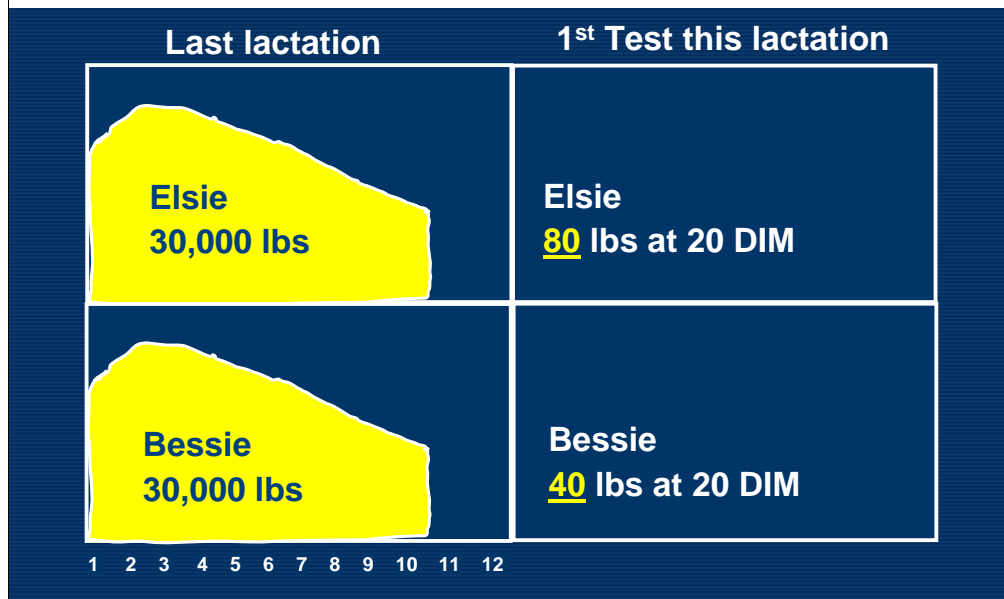
So why is it important to evaluate transition cow programs objectively?

In my opinion, the absence of consistent and objective benchmarks means that we never really know how well our programs are working. And without objective benchmarks, we tend to accept what we get used to. More directly, we sometimes accept an “unacceptable” rate of problems because we don't know what “unacceptable” is!



Most of us accept the idea that good and high levels of milk production reflect good health. Can we use milk production in early lactation to monitor fresh cow health?

What's the story here?



Here are two identical cows, Elsie and Bessie. Both produced exactly the same 30,000 lbs of milk in the last lactation in the exact same number of days. Both had identical dry periods, and at her first test date in the current lactation, Elsie produced 80 lbs at 20 days in milk. However, Bessie came in and produced 40 lbs at 20 days in milk. What's the story?

Virtually everyone in this room is thinking – “Well, Bessie is sick.”

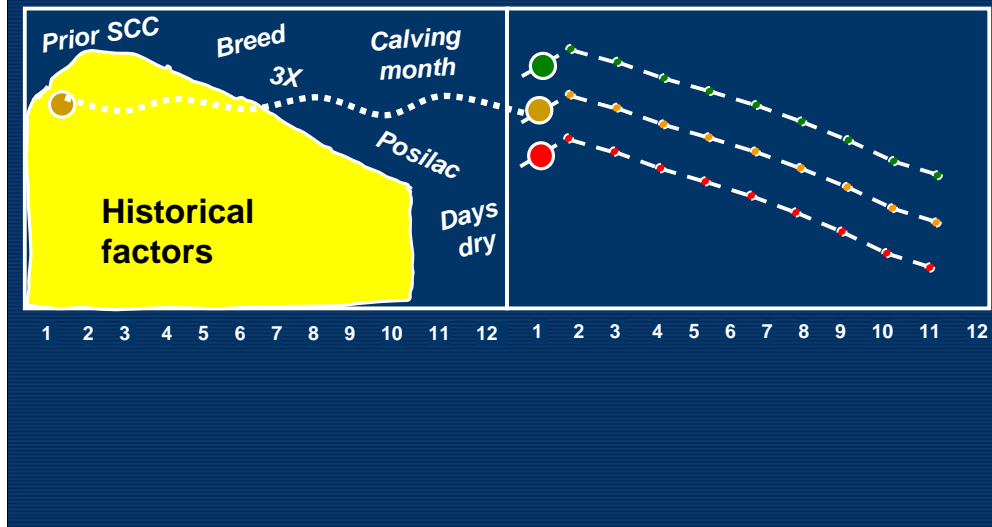
Using this idea, the question is this: Can we use the historical information of a cow to create an “EXPECTED” production in the coming lactation?



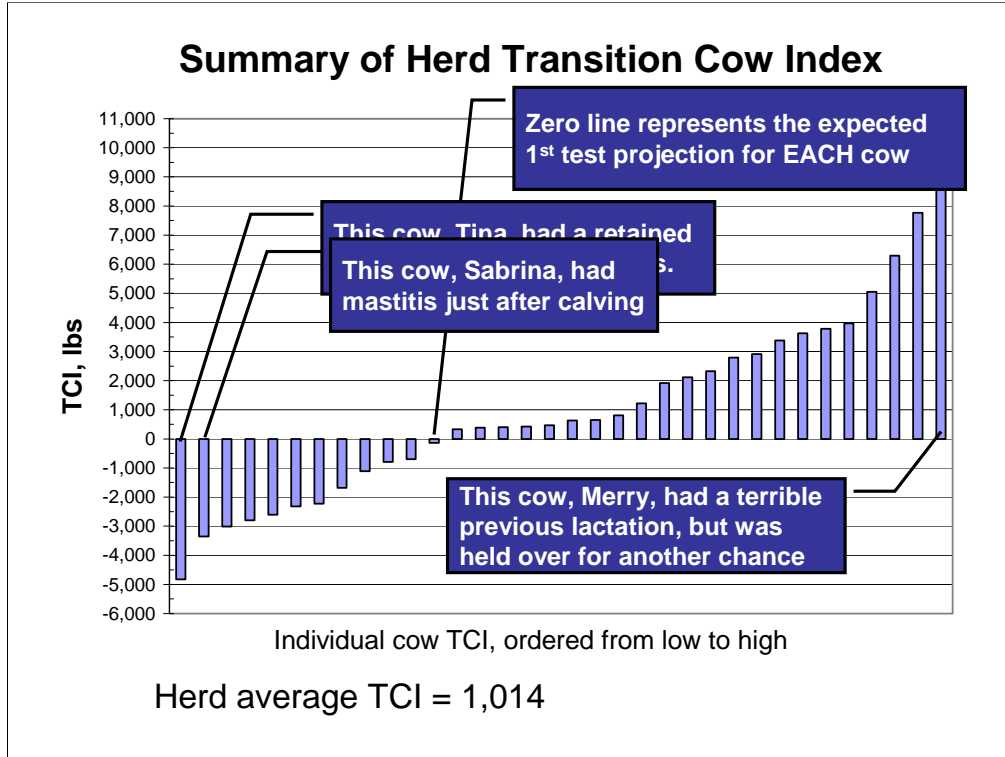
DHI collects and maintains a tremendous amount of information about cows on test. That wealth of information is the basis of Transition Cow Index.

Data used in the equations include breed, lactation number, prior milk, milking frequency, use of Posilac in the herd, length of dry period, somatic cell count in the previous lactation, month of calving, days in milk at the first test, and others. All of this information and more was used in a statistical modeling program to create an expected production level for each cow.

Transition Cow Index™



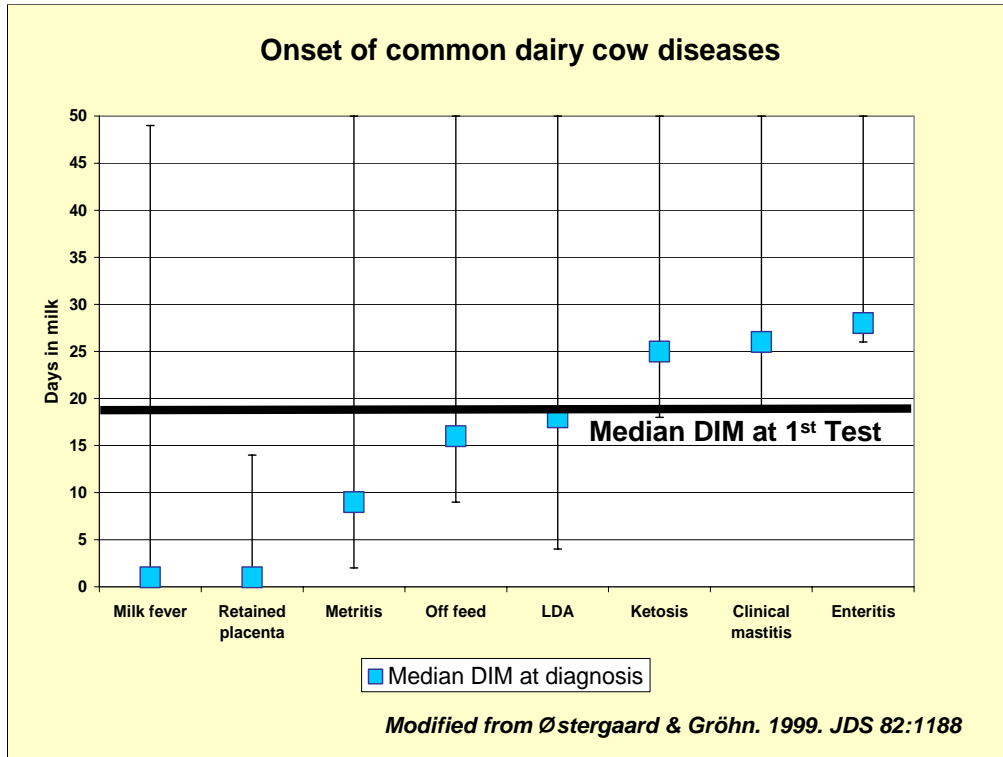
The TCI equations take all of those factors and create an expected performance projection for each cow, based upon her own previous history. If she calves and meets her expected performance, it is considered an average transition. If she calves and produces below expectations at her first test, it is considered to be a negative transition. However, if she produces above expectations, it is considered to be a very successful transition.



This is a graph of the TCI values for each mature cow in a herd of about 50 total cows, arranged from negative to positive. Each bar represents one cow. The zero line represents the projection for each cow, whether it be 15,000 lbs or 35,000 lbs. The cow on the left, Tina, has a TCI of almost minus 5,000 lbs and she indeed had a rough start. She had a retained placenta, fever, and metritis after calving, was on extended treatment and survived but did poorly. The next cow Sabrina was also sick in early lactation before her first test date. In contrast, Merry has a TCI of almost a positive 9,000 lbs. Merry actually had many problems in her previous lactation, but the owner thought that she had recovered quite well and decided to give her another chance. Clearly, Merry has made the most of the opportunity.



The time of delivery of a new calf is a time of great potential including the new calf, a new lactation, as well as the risk of most of the disease events in a dairy cow's life.



This graph shows the median days to diagnosis of many disease conditions that affect dairy cows. From the left, milk fever and retained placenta appear on the first day, metritis or uterine infections at 9 days, off-feed at 15 days, left displaced abomasum at 18 days, ketosis at 25 days, mastitis at 26 days, and enteritis or diarrhea at 28 days. The lines above and below each box give the range for individual cows.

This data comes from a European study and the ketosis problem is different in Europe than in the US. Here, median days is much less and is more related to transition cow problems and fatty liver. In Europe, the problem is more related to lower energy lactating rations and ketosis appears much later.

The black line across the graph show the median days in milk at first test date. Obviously, some cows will have their first test at 10 days in milk and others at 35, but the median will be about 18 in most monthly testing programs. Similarly, the first test date will miss some disease problems, but at the herd level, the first test date milk performance of cows is likely to be affected by fresh cow diseases.

Validation as health monitor?

- Secured DairyComp 305 records from 18,814 cows in 30 herds
- Identified date of diagnosis of selected diseases relative to first test date
- Compared TCI of cows with disease events to cows without noted disease

In an effort to validate TCI as a monitor of fresh cow health, on-farm health records were obtained from 30 herds in Wisconsin. Disease events in the records of cows were identified and the TCI values were compared to cows without recorded disease events.

Specific disease events

Event	TCI	Std. error
None	+ 137	86
Metritis	-540	605
Ketosis	-2,463	537
Lame	-2,835	656
Disp abomasum	-3,823	341
Off-feed	-6,054	1,033

Cows with no recorded disease events had a positive TCI value averaging +137 lbs.

Cows with metritis had a negative TCI of minus 540 lbs.

Cows with ketosis in their records were a minus 2,500 lbs.

Cows that were lame before their first test dates were a minus 2,800 lbs.

Cows with a displaced abomasum before their first test date were a minus 3,800 lbs.

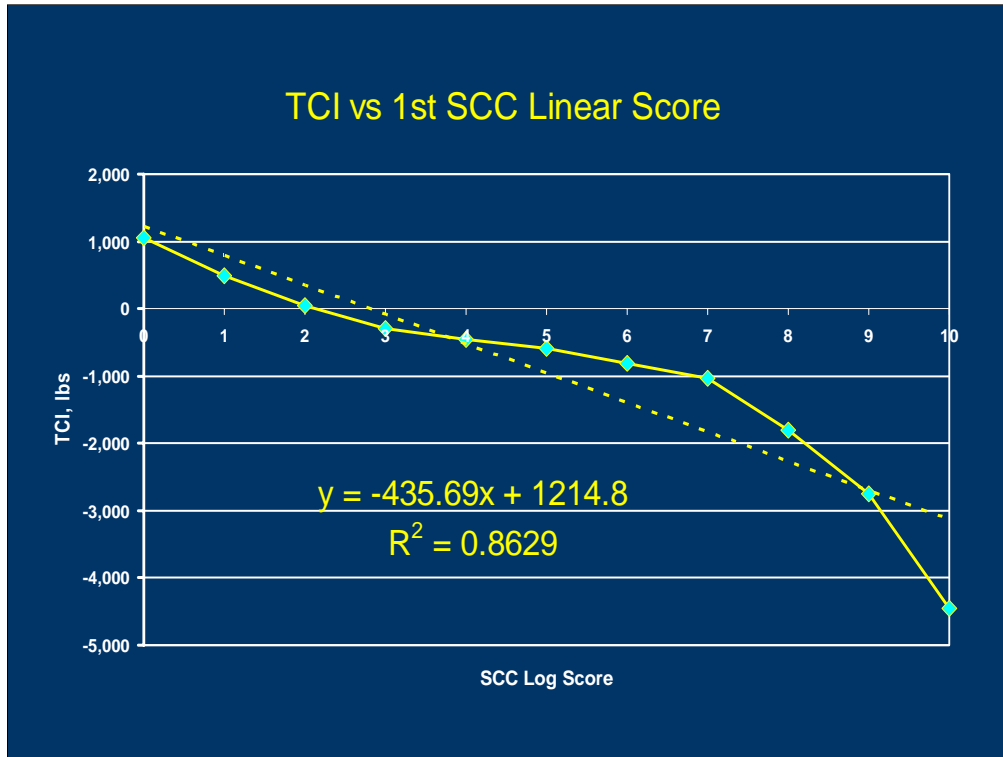
And while there were few notations of being off-fed prior to first test, those cows were a minus 6,000 lbs.

Validation as health monitor?

- Somatic cell count at first test is an objective monitor of fresh cow mastitis
- Sorted 163,624 cow records by 1st test SCC linear score
- Calculated average TCI by linear score group

In DHIA records, the only consistent health item that is recorded is somatic cell count.

The first test date somatic cell count records of 163 thousand cows were sorted by linear score and TCI values were calculated.



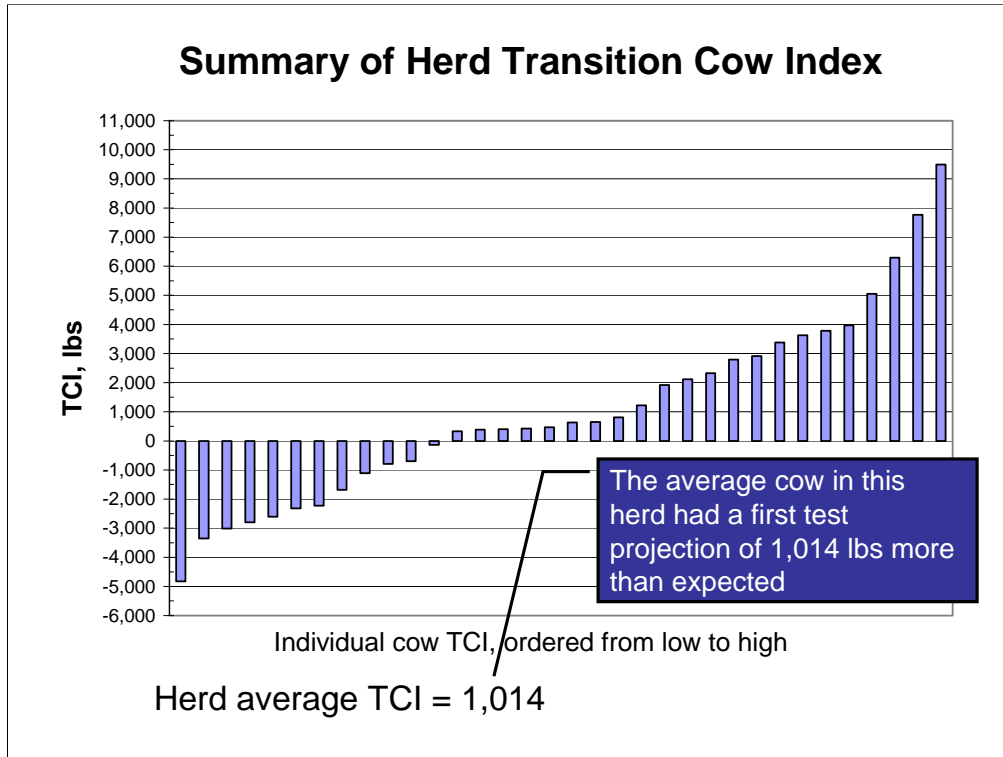
On the X-axis is First Test SCC linear score. Remember, LS 3 is 100,000 SCC, 4 is double for 200,000, 5 is 400,000, etc.

On the Y-axis is TCI in lbs. As somatic cell count and linear score increases, the TCI value decreases.

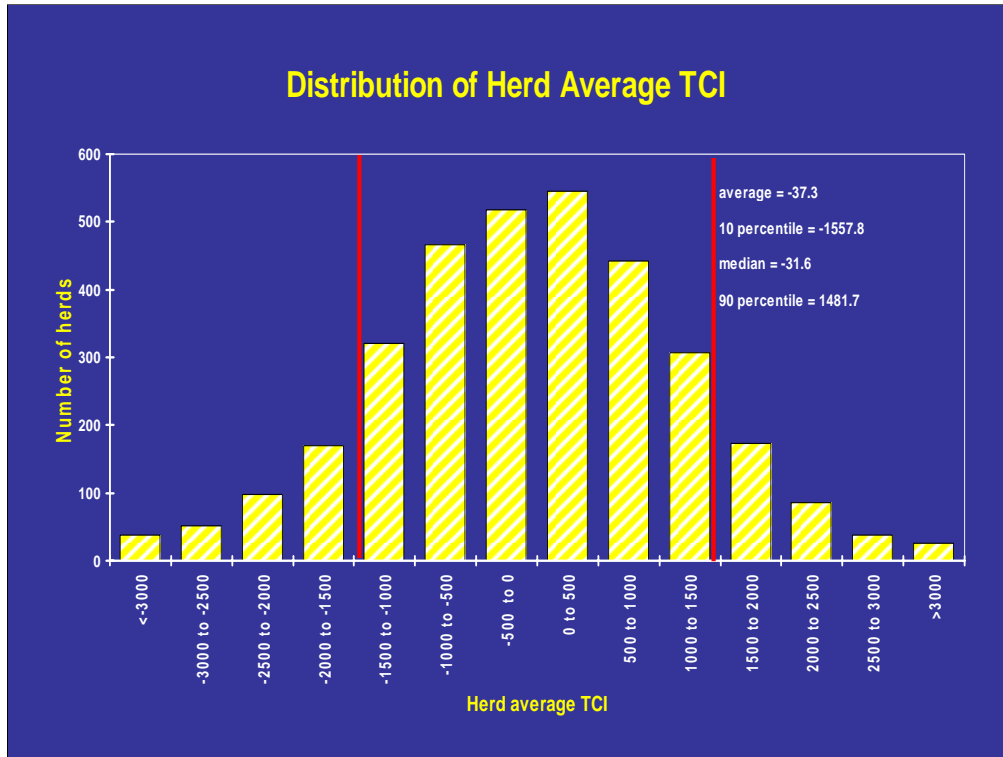
The dotted line is a regression line that summarizes the overall downward trend.

The formula on the graph shows the regression equation which indicates that for every unit of x, that is, for every increasing unit of SCC linear score, the TCI value drops -435 lbs.

This value is consistent with the work of mastitis researchers who have shown that for every increasing unit of SCC linear score, there is typically a decrease in production of about 400 to 450 lbs of milk in mature cows.



Because TCI appears to be a valid indicator of fresh cow health, it should be a good monitor of herd transition cow programs. If we look again at the graph that we viewed earlier, we see that the herd average TCI of cows currently in the herd is a positive 1,014 lbs. Some cows were positive, some were negative, but the average is positive. This suggests that the average cow in this herd did about 1,000 lbs better than expected at her first test projection.



This is a graph of the HERD AVERAGE TCI values from herds in the AgSource testing program. At the herd level, the average is about 0. However, in a few individual herds the average cow has a TCI of more than 3,000 lbs above expectations and at the other side, the average cow in a few herds have TCI values of a minus 3000 lbs. The red lines indicate the 10th and 90th percentiles of our industry in terms of TCI. The herds with TCI averages greater than +1,480 are the top 90th percentile of herds with the most successful transition cow programs. The herds below minus 1,550 are the herds with the most problems with transition cows.

Herd-level TCI™

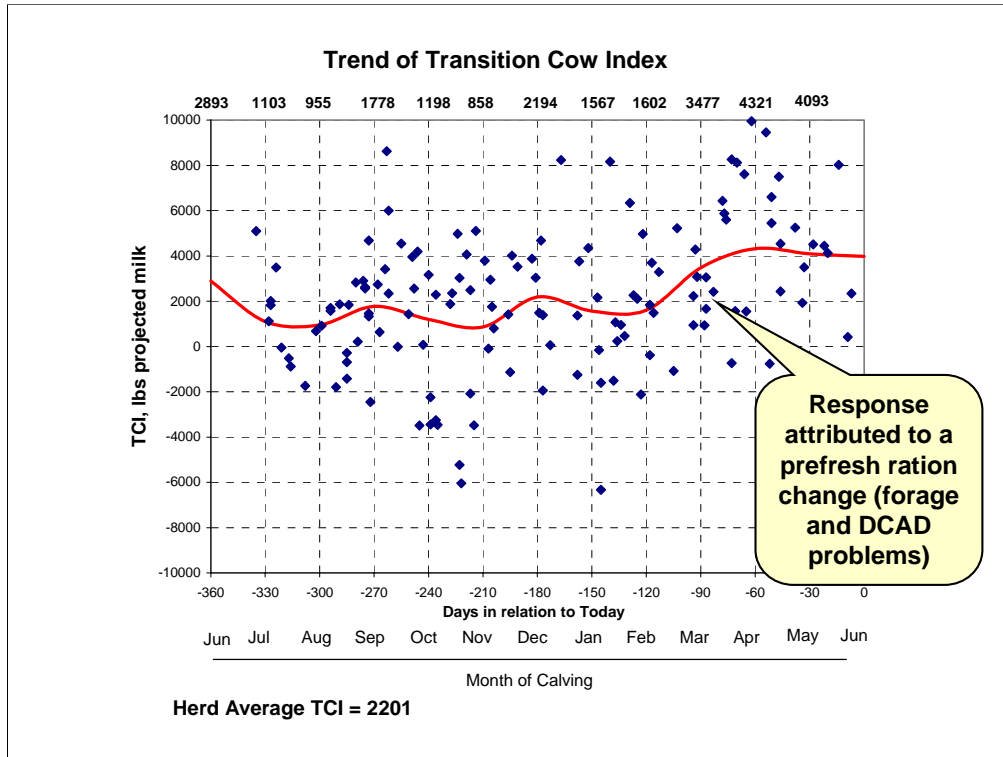
- $TCI^{TM} = \text{Prevention} + \text{Dx \& Rx}$
- Summarizes the net effects of preventative programs and disease management at the herd level
- Use herd average TCI^{TM} to benchmark herd relative to industry

The Transition Cow Index summarizes the net effects of both prevention and treatment programs. If programs are initiated to reduce the rate of fresh cow problems, the herd TCI should improve. Similarly, if programs are initiated to detect problem cows earlier or to treat their diseases more effectively, the herd TCI should improve. Because TCI summarizes the net effectiveness of transition cow programs, herd managers can use TCI as a benchmark to tell how well the current programs are working compared to the rest of the industry.

TCl as an ongoing monitor

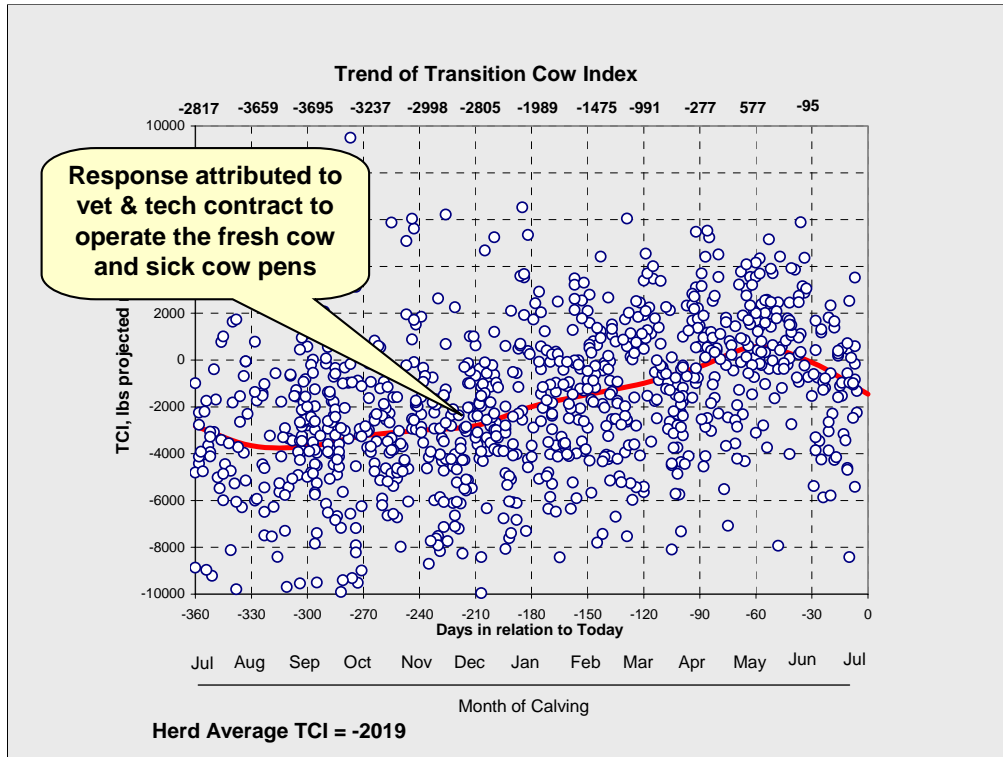
- Useful to evaluate changes in the transition cow programs

In addition to its use as a benchmark, TCl can be used to monitor the effect of new programs on fresh cow performance.



This is a graph of TCI of cows in a herd as they freshen. Each dot represents the TCI of a cow. The X-axis represents the days in milk of each cow, while the Y-axis is the TCI value. For example, the single dot to the furthest left represents a cow that is currently about 340 days in milk. She calved in July about a year ago and had a good start with a TCI of about +5,000 lbs.

The wavy red line in the middle represents the average TCI of cows that calved within the previous month and the actual monthly average values are printed above the graph. These monthly averages give an indication of performance of the transition cows over the past year. In this herd, the monthly averages were generally between 1 and 2 thousand, a very strong transition cow program. However, between February and March, the average TCI value appears to have increased further and is holding at nearly a positive 4,000 lbs. The dairy owner and the nutritionist give credit to better forages that became available in February and an adjustment of the DCAD balance in the rations.



Another TCI trend graph in a large dairy, the TCI values were approximately a minus 3,000 lbs last August, but increased steadily over the next 10 months to break into the positive values. The dairy owners report that they are not aware of any significant changes on dry cow management, but they hired a local veterinary service the previous September to manage the fresh and sick cow pens. The veterinary technician works in the pens to screen cows for problems and perform routine treatments, and the veterinarian visits on a daily basis for selected exams, treatments, and surgeries. In this case, the improvement was attributed to better detection and treatment.

TCl monitors quality

- Herd average TCl improved >3,000 lbs in 8 months
- However, more ketosis, metritis, and mastitis was detected and treated in the same period
- Recorded rates of disease suggest that problems got worse, but the performance of fresh cows improved

This last example illustrates the problems of using health records to monitor the success of transition cow programs. In this example, disease problems had probably been missed. With more intensive fresh cow monitoring, more cases of metritis, ketosis, and mastitis were detected and treated. If disease records were the monitor, one could conclude that the transition cow programs had deteriorated because of the increased rate of disease. However, increased efforts to diagnose problems has resulted in a major improvement in fresh cow performance. TCl is an objective indicator based upon performance.



To illustrate the concept further, take the example of a displaced abomasum and the various paths that a cow could take before her problem is relieved with surgery.

Monitoring quality of Rx

- Suppose two identical cows get a DA on Friday
- One is detected and fixed on Saturday, the other the following Tuesday
- The tardy detection leads to severe ketosis and slow recovery
- The herdsmen who detect problems earlier will see higher TCI values, even though the disease rate doesn't change

Suppose two cows get a DA on the same day, last Friday.

One is found and corrected on Saturday, the other the following Tuesday.

The cow that has the surgical repair on Saturday recovers quickly, milks well, and has a very good TCI at her first test date.

The cow that languishes for the extra days until detected eats poorly for 4 days, develops a severe ketosis and her liver become infiltrated with fat. Although her surgical repair on Tuesday goes well, she recovers from the liver damage slowly, has chronic ketosis, and does poorly, resulting in a very negative TCI at her first test date.

Because of effects like this, TCI can indicate the efficiency and quality of fresh cow diagnosis and treatment programs at the herd level.

TCl™ is based on individuals

- Each cow serves as her own control
- Excellent TCI scores do not reflect the best cows, but rather the best transition programs
- Dairy operators with average cows can achieve excellent TCI scores.
- Some high production herds have poor (and expensive) transitions, but achieve through high peaks and persistency

To summarize, TCI is based upon expectations for individual cows, each based upon her own prior performance and experiences.

Excellent TCI scores do not reflect the highest producing cows, but rather the best transition periods.

Dairy operators with average cows can achieve excellent TCI scores if the transition programs deliver excellent results.

Conversely, some high production herds have poor and very expensive transitions, but achieve high production through high peak milk and persistency once the cows get going.

AgSource “Fresh Cow Summary”

- Transition cow index
Overall transition performance
- 1st test fat: protein % ratio
Monitor ketosis risk
- 1st test SCC summary
- First 60-day cull report
Coming in early 2006

TCl will be included in a new report to AgSource clients in January 2006. In addition to TCl, there will be reports on first test fat: protein ratios, a monitor of the risk of fresh cow ketosis in the herd, first test somatic cell counts, and early lactation culling rates over the past year.

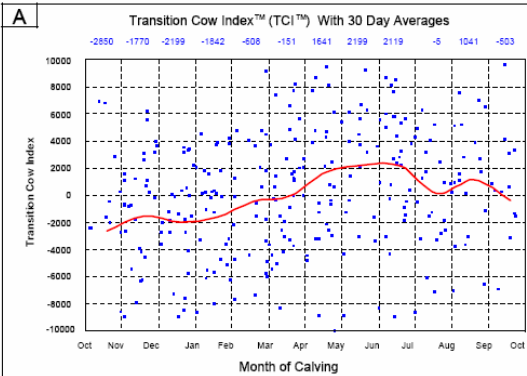


AgSource
Cooperative Services

Herd Code: xxxxxxxx
Herd Owner: xxxxxxxx

Fresh Cow Summary

Test Date: 10/25/2005



Annual average TCI™: -165
Percent below predicted: 49%

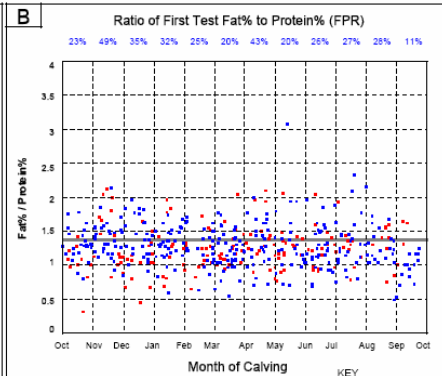
Assumptions:
No use of BST for first lactation cows.
No use of BST for second & greater lactation cows.

Interpretive comments:
TCI™ provides a quantitative measurement of the effectiveness of your dry and fresh cow management programs.

Industry benchmarks of average annual TCI™ (90th percentile is desirable):

90th Percentile	Average	10th Percentile
> +1,670	-40	< -1,850

Transition Cow Index™ 2005 Patent Pending Wisconsin Alumni Research Foundation



Percentages at the top of the chart equal the monthly percent first test FPR > 1.4 for all cows.

Annual percent First Test FPR greater than 1.4, 1st lactation: 24%
Annual percent First Test FPR greater than 1.4, 2nd + lactation: 32%

Interpretive comments:
Research indicates that cows having a first test FPR > 1.4 may have subclinical ketosis. If more than 40% of first tests are > 1.4, the transition management programs present risks for ketosis, displaced abomasum, and fatty liver disease.

Industry benchmarks of herd % FPR > 1.4 (90th percentile is desirable):

90th Percentile	Average	10th Percentile
< 29%	44%	> 83%

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The "Fresh Cow Summary" will look like this.

AgSource TCI report

- Will include all cows in past year with 1st test between 5-40 DIM
- Including:
 - Culled cows
 - Cows with CAR codes (Condition Affecting Record)
- Only exceptions will be cows removed before 1st test and CAR codes without milk weight

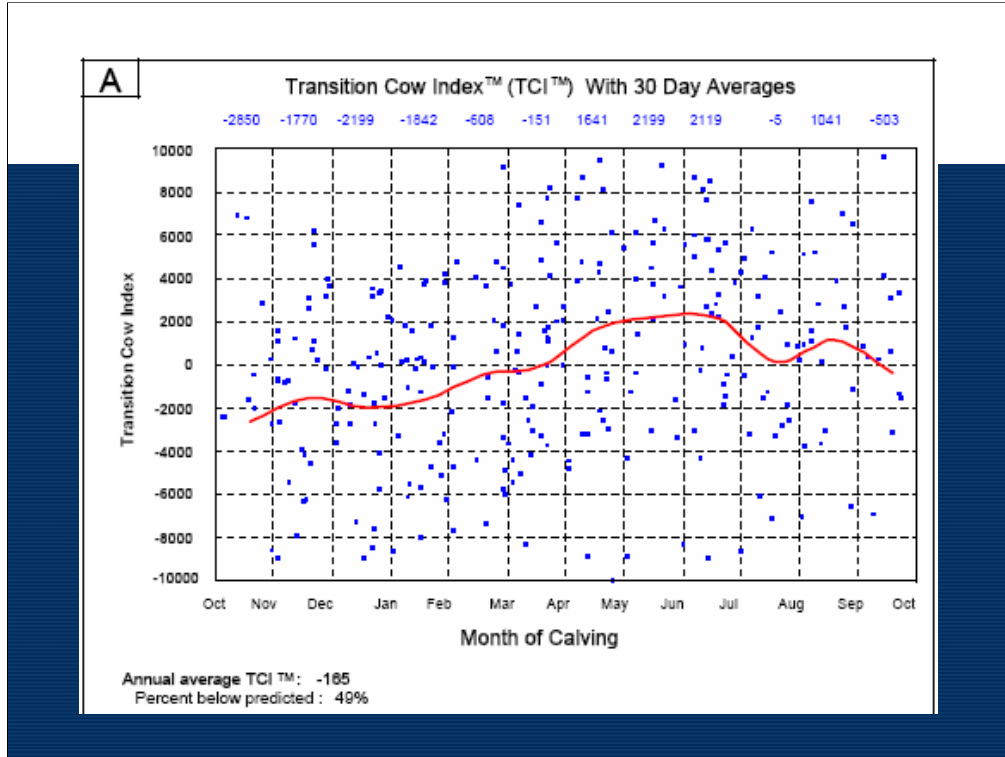
In the AgSource report, a TCI value will be calculated for all cows in the herd that had a first test date between 5 and 40 days in milk. Herds that test every other month will have many cows that fall outside of the 5-40 day range. In order to maximize the value of TCI as a monitoring tool, herds need to test on a regular monthly interval.

In order to provide the best information about transition cow programs, the herd TCI report may also include TCI values of cows that have been culled and cows that were given CAR codes at their first test.

If cows were culled before their first test date, those cows will not have a TCI value. However, if a cow had milk recorded at her first test and was subsequently culled from the herd, her TCI value will be reported in the herd report.

There are two varieties of CAR codes used in DHIA testing. If a cow is sick, a CAR code which designates a “condition affecting record” is applied to that test date. If milk was recorded for that cow, the milk weight will not be used in calculating her total lactation yield, but it will be used to calculate a herd TCI value. This policy means that dairy operators should test fresh cows that are not doing well, as it will improve the quality of the TCI herd monitor, but the CAR code will prevent a short-term illness from hurting the cow’s permanent record.

The second variety of CAR code is applied to cows that are too sick to be tested. No milk is recorded in these cases and therefore a TCI cannot be calculated. These cases, like cows culled before their first test, and cows whose first test date was outside of the 5-40 DIM window will be the only cows that do not appear on the TCI report.



This is the appearance of the AgSource TCI report. In this case, the annual average was minus 165 which would represent approximately an industry average transition program. This particular herd was doing very well in May through July, as indicated by the red line and the summary numbers just above the graph. In herds with 250 or more cows, the summary numbers above the graph will represent cows calving in 30 day periods. In herds with less than 250 cows, the numbers will represent the cows that calved in the preceding 90 days. This distinction is made to make the records more valuable to both smaller and larger herds.

1st test fat: protein % ratio

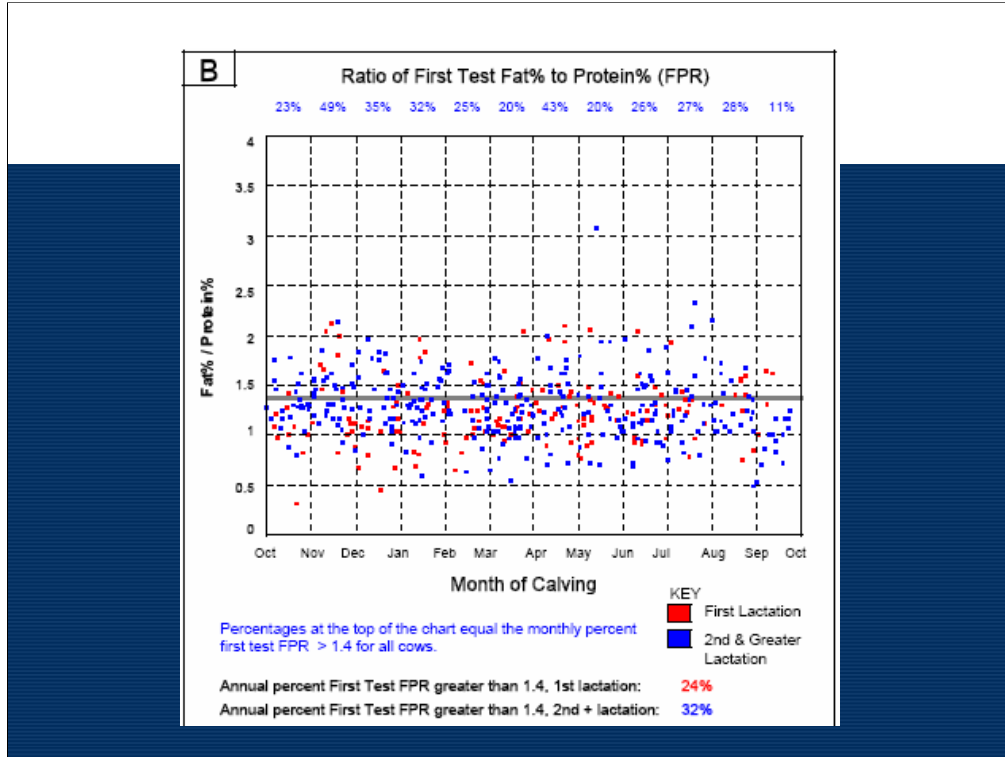
- High fat % associated with subclinical ketosis, ketosis, and fatty liver disease
 - *Example: 6% fat, 3% protein = 2.0 ratio*
- FPR > 1.4 is used as cut-point
- If more than 40% of cows > 1.4 at 1st test, herd has high risk of subclinical ketosis problems *Duffield, 2002*

The second report in the Fresh Cow Summary is the first test date fat: protein ratio for the herd.

High milk fat % at first test is associated with fresh cow ketosis and other problems related to fatty liver disease.

The ratio is simply the fat % divided by the protein %. For example, a cow with 6% fat and 3% protein had a FPR of 2.0

Interpretive guidelines developed by Dr. Todd Duffield at the University of Guelph in Ontario suggest that if more than 40% of the first-test cows in a herd have a FPR greater than 1.4, the herd is at high risk of subclinical and clinical ketosis problems.



This is an example of the FPR graph. The 1.4 ratio cut-point is shown by the solid line. First lactation cows at their first test are shown in red, mature cows at first test are shown in blue. The percentage of the first-test cows above the 1.4 cut-point is printed just above the graph and represents the cows that had a first test in the preceding 30 month. In the text area below, herd results over the previous year are shown. In this annual average, first lactation cows are reported separate from older cows.

1st test SCC report

- SCC > 200,000 suggests infection
- % of heifers > 200,000
 - *Infected at first test date*
- % of cows with new infections
 - *Under 200K before dry off, >200K at 1st test*
- % of dry period cures
 - *Above 200K before dry off, <200K at 1st test*

The “Fresh Cow Summary” also reports the changes in somatic cell count through the dry period. Cows with SCC greater than 200,000 are considered to be infected.

The percentage of heifers that are infected is reported, along with industry benchmarks.

The percentage of “new infections” in mature cows is reported. These are cows whose last SCC before being dried-off was below 200,000, but were above 200,000 at their first test date. This can be used to monitor the risk of cows getting new infections during the dry period and in the first days after calving before testing.

Some people have questions about SCC in early lactation, but research has shown that SCC will drop to below 200,000 by 4 days after calving in most uninfected cows.

The percentage of dry cow cures is reported for mature cows. These are cows whose last SCC before being dried-off was above 200,000, but were under 200,000 at their first test date. This can be used to monitor the effectiveness of the dry treatment program.

C	Dry Cow & Heifer Udder Infection Summary																				
	Current Period		Previous 6 Months		Target Pct																
	Pct	Number	Pct	Number																	
Heifers, infected at first test	0	0 of 3	23	19 of 83	< 10																
Cows, new infections during dry period	38	5 of 13	25	37 of 148	< 10																
Dry cow cures	57	4 of 7	70	51 of 73	> 80																
<p>Interpretive comments: Uninfected = < 200,000 SCC Infected = > 200,000 SCC The first test SCC of each cow is compared to her last SCC of the previous lactation. Cows with new infections were < 200,000 at the last test date of their prior lactation, but were > 200,000 at the first test of the current lactation.</p> <p>Industry benchmarks (90th percentile is desirable):</p> <table border="1"> <thead> <tr> <th></th> <th>90th Percentile</th> <th>Average</th> <th>10th Percentile</th> </tr> </thead> <tbody> <tr> <td>Heifers, infected at first test</td> <td>< 12%</td> <td>22%</td> <td>> 32%</td> </tr> <tr> <td>Cows, new infections during dry period</td> <td>< 9%</td> <td>17%</td> <td>> 25%</td> </tr> <tr> <td>Dry cow cures</td> <td>> 81%</td> <td>71%</td> <td>< 59%</td> </tr> </tbody> </table>							90th Percentile	Average	10th Percentile	Heifers, infected at first test	< 12%	22%	> 32%	Cows, new infections during dry period	< 9%	17%	> 25%	Dry cow cures	> 81%	71%	< 59%
	90th Percentile	Average	10th Percentile																		
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Cows, new infections during dry period	< 9%	17%	> 25%																		
Dry cow cures	> 81%	71%	< 59%																		

This is the appearance of the first test SCC report. The three classes, heifers, cows with new infections, and dry cow cures are shown for the most recent testing period, along with a longer-term report that summarizes the previous 6 months. This provides both short term and longer term information about mastitis management within the herd.

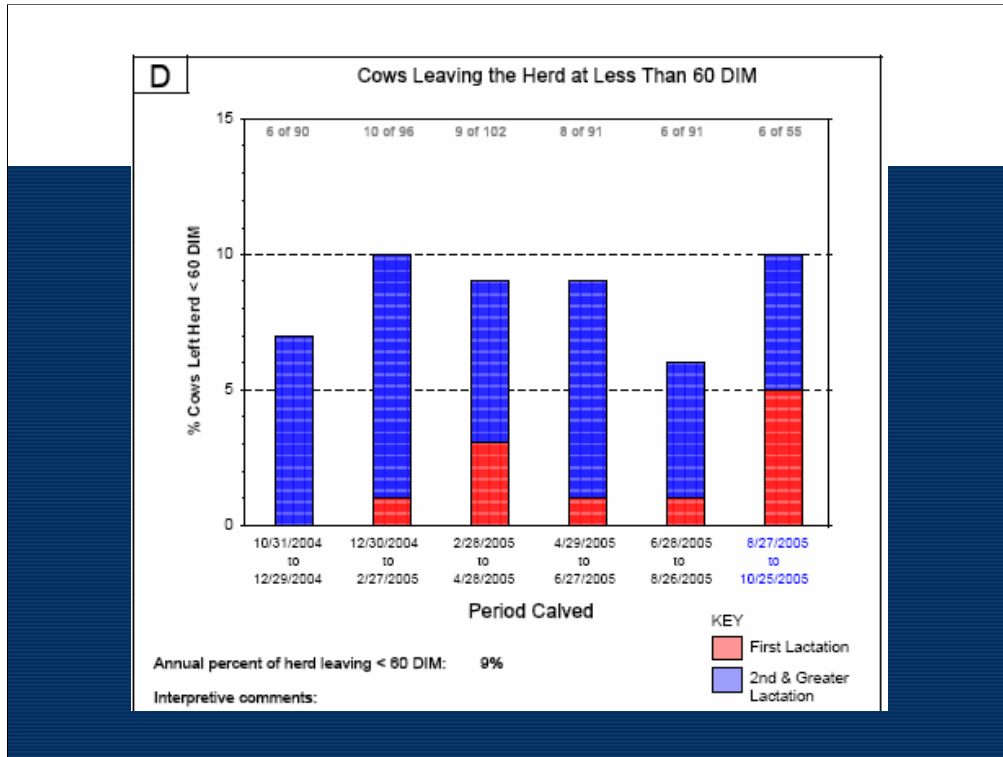
1st 60-DIM culling report

- Report is segmented into two-month time periods over prior year
- <60 day culling in last column may not be complete
 - *Cow may have calved 10 days before end of period, so her 60 days are not up*
- All removals are included, so “DAIRY SALES” may show up in this graph

Early lactation culling is also summarized based upon culling within the first 60 days after calving. Culling in this period represents the most costly culling from a dairy.

The report show early lactation culling in two-month periods over the past year. This will allow herd managers to monitor fresh cow culling over seasons and provide more timely reports.

A caution on interpretation: all cows that leave a dairy within 60 days of calving will appear on this graph. If cows in early lactation are sold as “dairy sales”, they will also appear in this report. Obviously, cows leaving for productive lives in other herds should not be viewed as a problem.



The six bars represent the cows that calved during six two-month periods over the past year. The industry average is about 9% of the herd being removed in the first 60 days, and this herd has experienced exactly that 9% removal rate in less than 60 days over the past year. Cows that calved in the period from mid-June through mid-August had a lower rate of about 6%. This coincides with the very good TCI scores from that similar time period.

It should be noted that the most recent time period, on the right side of the graph, has incomplete data. Cows can calve throughout the two month period from August 27 through October 25. In this herd, 55 cows calved during that period. So far, 6 of them have been removed. However, some of those cows will have only had 5, 10, or 20 days-in-milk in the period and may yet be culled before they complete their first 60 days in milk.

Summary

- 1) TCI can be used to benchmark and monitor transition cow programs
- 2) TCI can be to transition cow programs what SCC is to mastitis control
- 3) TCI will be introduced as part of a “Fresh Cow Summary” through AgSource in January 2006

TCI can be used as an objective benchmark of overall transition cow programs at the herd level, and to monitor the effectiveness of changes to those programs.

Because TCI is an objective monitor of outcome, it can be used to make transition cow programs better. TCI will become to transition cow management what SCC is to mastitis control.

TCI will be introduced as part of a “Fresh Cow Summary” to AgSource clients in January 2006.