

# DairyComp 305 Newsletter

Number 22

Fourth Quarter - 2003

The year 2003 looks to be ending up with better prices than when it started. However, many are still reeling from 11 or 12 months of record low milk prices. Changes are occurring in the industry as a result. While cow numbers are staying almost the same, dairy numbers are dropping, especially in some areas.

At Valley Agricultural Software we always work to improve our service, develop new features for our programs and add new programs to our business. The bulk of this newsletter will detail updates to **Dairy Comp 305**. Other potential points of interest are also included.

Changes to DC305 include new features that allow graphing of cow inventory, production and events over the past year or years. We also started working with Dell Axim™ palm devices (PDA's) that will allow cow card data from the cowfile to be seen and updated as changes in DC305 are made. A module for tester's use is also being developed that has been used on one large dairy and is being enhanced for potential field technician use. Changes have been made in event analysis with regards to reproduction along with various enhancements to many modules. These are described in the body of this newsletter. (See Table of Contents and Highlights on next page.)

**FeedWatch** sales have been steadily improving. We've hired new people to help with support for this product and have gotten a lot of interest from dairymen as well as nutritionists. Having this program has forced us to look at feeding management and techniques. We have learned much from this process but there is much that still needs to be learned by all. Just as using Dairy Comp 305 has caused improvement in cow data analysis, we believe FeedWatch will increase the overall knowledge and profitability of feed management.

Two new additions have been added to the FeedWatch "Family" of programs. The first is a "Lite" version of the program with less sophistication and features. Instead of wireless modems a long serial cable is used to handle data transfer between the truck scale and the PC computer. Many of the synchronization features of wireless modems are not available but the program will allow simple feeding programs to be setup and monitored. Upgrading to the full version of FeedWatch at a later date is available if desired.

Secondly, a truck platform scale interface called "WeighRite". This program electronically records incoming and outgoing deliveries that are weighed by the scale. The data from the scale activity is automatically transferred to the office PC computer. The system uses the same hardware (scale head, display and wireless modem) as FeedWatch.

**Parlor Watch** continues to make steady sales. The biggest addition to this program has been a large display that goes up in the breezeway for milkers and visitors to see the milking progress. We are actually using the large outside display from FeedWatch. It shows the current pen in the barn, the number of cows, percent of this pen that has been milked and the total milk for the current pen. This has helped milkers remember to punch the button when a new pen starts milking and lets owners and others see the progress of the milking each time they come into the barn.

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## Highlights

- Updates and backups now are fully available via the Internet
- Wireless networks are now available and affordable
- Pictures, pedigrees and notes can be added to DC305 (page 5)
- EVENTS Command has been changed with regard to PREG and OPEN and should be understood before using the new version (page 6)
- Looking at historical trends is now possible using ECON\ID (page 7)
- For those working with multiple herds, across herd reporting and analysis is now available (page 10)
- Many changes to specific commands and procedures have been made. These are discussed in the center of the newsletter and listed above in the table of contents.
- News of Drug Watch's current status and function (page 13)
- TankWatch demonstration available On Line (page 14)
- A discussion of backing up and changes associated with new hardware (page 15)
- A review of Daily Milk Interface features and improvements (page 16)
- A discussion of concepts of Reproduction Monitoring (page 17)
- Detailed instructions for Install the Update CD (last page)

## Feature Updates

In last year's newsletter various Internet features were mentioned as being "just" completed or "soon to come". Two of these have been implemented at this point. The first of these is automatically updating the DC305 program from the Web. In "Help" of the Windows pull down menus, a selection to "Check VAS web site for updates" is shown. One needs to have Internet access for this to function. The program will connect to the internet, check your account status, determine what updates you need on your computer, download and install them. If a new DC305 program is downloaded, the program is shutdown and the new program installed. You will need to restart DC305 when this happens. The updating program will look for DC305 program up-

### Updates

Home	Products	Contact Us	Support	About Us
New features and fixes can be viewed here: <a href="#">Update Log</a>				
Account Number	VASTEAM	Support Plan	D03	
Serial Number	VASDC678	Licensed Type	DC305EU	
Program Directory	C:\DC305	Downloadable	Authenticated	
Installed Type	DC305EU	Version	1.1.3.12-10/15/2003	
Local Files		Updated Files		
DCWIN.EXE 25-Sep-03 4:44:58 PM		DCWIN.EXE 17-Oct-03 10:26:42 AM NMFAST50.BPL 11-Aug-99 2:00:00 AM VCLJPG50.BPL 16-Oct-03 3:06:34 AM DCSIRESDAT 20-Aug-03 7:57:50 AM		
		<input type="button" value="Update"/>		
You have 4 file(s) that are not the latest version. Press the Update button to download the new versions. Estimated time to download via modem is 283 seconds.				

dates, new USDA quarterly sireproofs, DrugWatch updates and some program utilities. The programs and files to be updated are displayed as shown. Clicking on the update button starts the update process. This will download the programs into your computer and install the updates automatically.

The second feature is backing up to our web site. This has been done over the last year and we have improved our service for this feature. There are a number of reasons for backing up to our web site. The first is to have a secure off-site backup. The second is to provide your data for others to use. The third reason is to send us a cowfile for support use. Sending a cowfile can be done by clicking on the "Upload cowfile to support" Help menu selection. It can also be done by the command ICONNECTU. This can be scheduled or run whenever it is desired. The upload files contain COWFILE1.DAT, up to 9 ARC files and the program setup files. It is not as complete as a properly configured daily backup but it does contain the most important cow data from the dairy. A release form must be filled out for scheduled backups or sending data for others to analyze. Currently we are storing one backup per week for 8 weeks.

For those who wish, we are also doing integrity checks on the cowfiles backed up to our server. A report of the process is E-mailed or faxed back to the user. Call for service fees if you are interested.

We do have other aspects of this feature are "in the process" of being implemented. The most important is being able to have the program upload cowfiles over the modem but not using the internet. This will require a long distance phone call to our modem but will accomplish the same thing as an Internet connection. It may well be that the long distance fees for this are cheaper than monthly Internet access service. We realize that many barns do not have an internet connection but would still like to have many of the Internet features available. Also, for those who

worry about Internet access in the barn, it is possible to limit access to only certain web site or sites with most Internet browsers. Contact us if you are interested in this feature.

When talking about new features that take advantage of new technologies a discussion of operating systems is in order. It is obvious to all that Windows operating systems are the industry standard. By Windows we mean the version that started with Windows 95. The old Windows that stopped at Version 3 is no longer a subject for discussion. There are a number of operating systems in the “family” of recent Windows operating systems. These are Win95, Win98, Win2000, Windows ME and Windows XP. There are differences between each system and smaller differences – usually called editions - within each. DC305 for Windows will run in all these systems. Win95 has Internet access capabilities. However, accessing the Internet using DC305 is no longer possible on Win95 machines. Due to Windows improvements, it is impossible to write programs for this purpose that will work with both Win95 and Windows XP operating systems. Basically, once a computer is over 5 years old, it needs to be replaced or put to a use that doesn’t require the latest available cyber technology. We try to take a middle road by adapting new technology that when we think will be around for awhile while still staying compatible with older machines. However, there comes a time when compatibility has its limits and this is one of them.

There are some other limitations that have appeared when we try taking advantage of the Internet. One is the “browser” that is being used. For those who connect using AOL<sup>®</sup>, neither the upload or program update features will work unless using AOL version 7 or higher. We have successfully worked with versions 7 and 8. Also, some Internet connections will not allow the transfer of large files. We assume this is due to limitations of local providers. We do encourage computer upgrades to be able to take advantage of current and future advances in technology.

## **Wireless Computing**

In most cases, computers are hooked together into a network using cables and sometimes modems. Over the past few years, wireless technology has developed and is becoming affordable and practical to accomplish this same purpose. Today cards are being put into laptop and desk computers at a reasonable cost and provide a starting point for setting up wireless networks. Usually, within an office setting, running cable between computers and through switches is cheaper than setting up a wireless system. However, when distances become longer or obstacles to running cable exist, wireless networks are becoming increasingly used. Two computers can connect to each other via their wireless cards as a “peer to peer” network, similar to hooking them together with a network cable. If more than two computers are to be hooked together with cable, usually a switch is used into which each computer’s cable is plugged. When the same configuration is being used for a wireless network, an “access point” is needed.

Over the past two years Randy Kuntz has learned a great deal about these systems and has put together several networks hooking together dairy barns, offices and homes. PC computers are not the only things that are being added to the networks. Cameras and scale monitors have been included in these systems as well as substituting wireless transmission for normal serial connections that are used for milking meter interfaces. If you have an interest or question about these, contact us for more specifics about your plans.

## Major Features and Changes to DC305

The following section discusses the changes and improvements made to DC305 over the past year. Many of these are already available for those who have updated since the December 2002 CD was sent out. Others have been more recently developed and tested at a few selected dairies.

### Page 7 Additions to the Cow Card

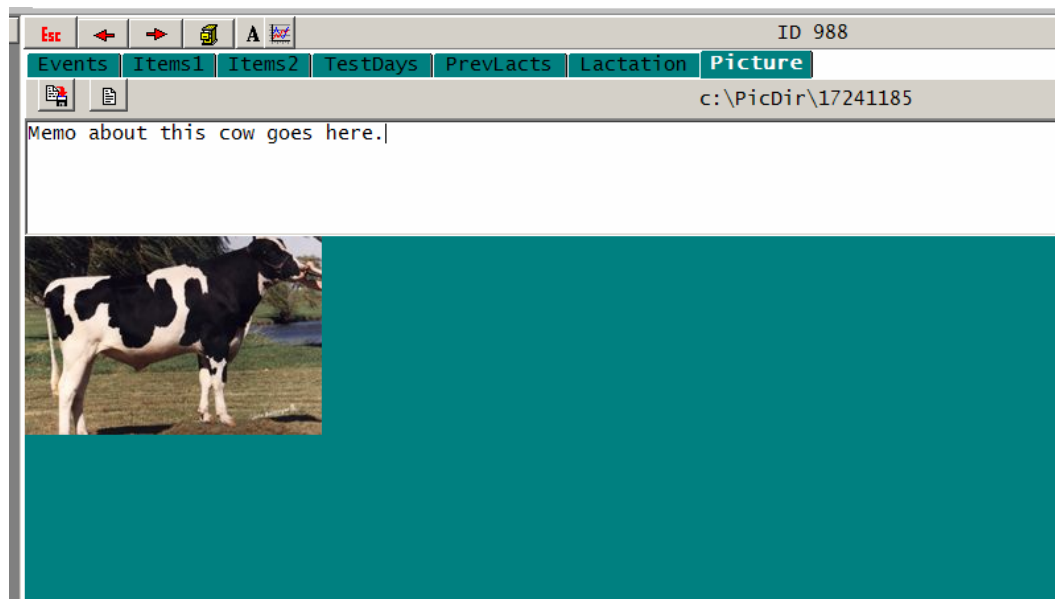
An optional seventh page has been added to the cow card that can include a cow's picture, her pedigree and a text message. This information is stored as files that are kept in a user defined directory and accessed by the program when page 7 is enabled. The file formats are:

Pictures:       JPG files  
Pedigrees:       PDF files  
Messages:       TXT files

These are stored as the permanent ID.{ext} of the cow. Thus, 93WTS5432.JPG would be the picture for the cow whose permanent ID (USDA) was 93WTS5432.

It is important to remember that these files require a lot of disk space to be stored. This feature should not be implemented unless there is a new, fast computer with a lot of space on the hard disk drive that is being used for DC305. Don't try this feature with a Win95 or Win98 computer. Also remember that data stored is usually data that needs to be backed up. Make sure you have adequate backup capacity. Usually, JPG and PDF files do not compress (zip) very much so whatever is being used to back these up must be able to hold a lot of data. The JPG files used for this example averaged 20 K per cow with the range of 10K to 50K. A PDF file was 160 K. One thousand pictures would there take somewhere between 20 to 40 megabytes of disk space and 1000 PDF files would take up 160 or more megabytes.

ALTER choice A is where the Page 7 of the cow card is enabled. The directory where these files will be stored is specified here also. Once this is done, the extra tab labeled "Picture" will appear on the cow card.



Notice the file name is the animal's permanent ID (REG or USDA). If a TXT file exists, what is written will appear in the white space above the picture. Clicking in this space will allow editing of notes for this animal. To save, click on the first icon that is located above the word "Memo" in this example.

If PDF files exists a second icon will appear. Clicking on it will activate Adobe Acrobat® and display the pedigree. These files usually come from the breed associations. Adobe Acrobat is on the update CD and can be installed on your computer if it is not already.

To summarize, there are three files for this cow. They are 17241185.JPG, 17241185.TXT and 17241185.PDF and they are located in the C:\PicDir directory

## Changes in the EVENTS Command

The EVENTS command is primarily used to look at and analyze the events that have happened over the past year. These can be viewed, for example, in the **Table by Month** as shown:

EVENTS ... FOR LACT>0													
Event	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FRESH	2154	192	162	199	169	214	243	218	195	149	142	133	138
OK	1405	35	55	137	155	147	98	179	75	142	140	129	113
RECHK	49	5	2	4	7	6	5	1	0	3	10	3	3
HEAT	724	49	45	63	62	56	54	60	76	54	73	76	56
BRED	5734	451	342	428	465	477	471	552	620	480	518	480	450
PREG	1453	142	110	126	178	131	129	110	69	0	163	147	148
OPEN	3334	265	200	279	276	323	314	387	366	21	319	301	283
PREV	126	8	11	15	5	9	12	9	9	16	7	11	14
BULLPEN	2309	158	178	194	205	212	233	260	221	163	163	173	149
DRY	1200	99	44	36	114	108	144	108	139	67	104	114	123
ABORT	160	15	14	20	10	17	13	19	9	1	8	22	12
DNB	70	8	3	2	0	8	6	14	17	4	3	0	5
SOLD	711	39	85	35	23	0	114	104	70	57	56	82	46
DIED	45	1	3	8	1	0	8	5	1	8	6	2	2
CHECK	123	10	7	16	11	4	9	4	11	9	23	14	5
XID	57	2	4	10	6	3	5	12	11	4	0	0	0
MAST	193	9	14	16	24	13	20	26	26	22	3	12	8

This table shows the number of events that have occurred during each month for the past year. One can quickly see for example, how many mastitis cases have occurred over the last 12 months. This is still true except for two events, PREG and OPEN. The problem has occurred that people often want to look at this table and determine their abortion percentage. However, when the Preg event is used both to declare a cow pregnant initially and confirmed she is still pregnant later in gestation, it makes estimating abortion rates (number of abortions / number of pregnancies) impossible. In the new program, PREG and OPEN are really looking at the breeding result code in the event BRED and reporting that IN THE MONTH OF THE BREEDING. Thus if a cow was bred in February, found pregnant in April, there would be 1 PREG in February. Notice that in this table, there is a "0" in the PREG row for September as this was when this table was made.

PREV events will display in the month they occurred as previously. If a bull bred cow was declared 60 days pregnant, she would get 3 events added to her display on this table. One for the

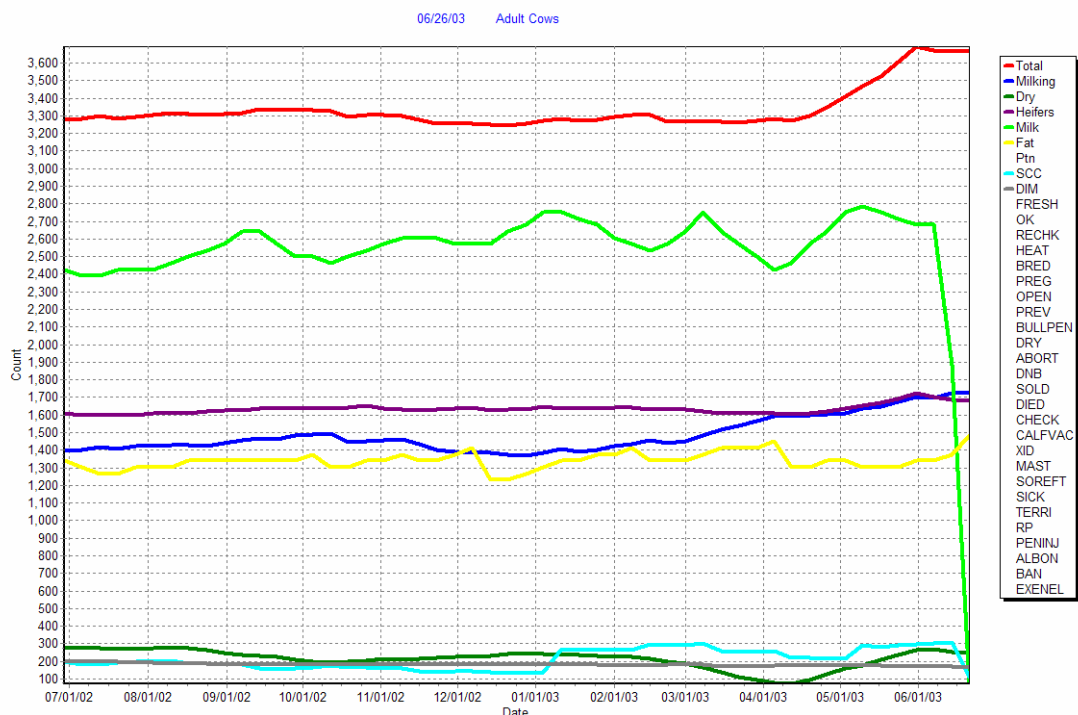
BRED event that was estimated, one for the fact that she is PREG to that breeding and one for the PREV in the month it occurred.

The other addition is that OPEN is no longer the OPEN event when the cow was diagnosed not pregnant. It will show up when a cow gets bred twice. When this happens, the first breeding receives an “O” result code and an OPEN event will appear in this table in the month if occurred. Thus OPEN now represents all open breedings.

We can know that out of the 1453 pregnancies that occurred on this dairy, 160 aborted or about 11%. Those cows that do abort and have an “A” breeding result code will still show a PREG in the month of the breeding. ABORT will show up in the month the abortion was determined to have occurred.

### Looking at History Using the ECON Command

The inventory feature of ECON has been enlarged so one can look back over time and graphically see changes that have occurred in the dairy. The command for this is **ECONID**. This command will make a graph similar to the following:

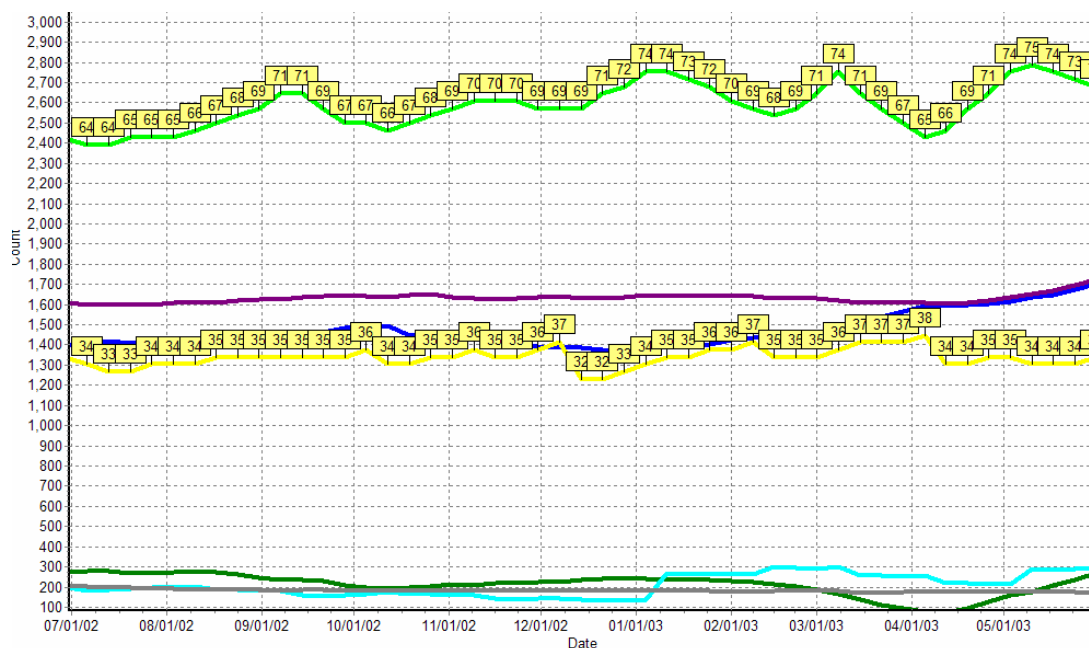


When this command is run, one is asked to specify a date range. The default is one year. The tab on the right side defines what is being displayed on the graph. Clicking on a parameter will add or remove it from the graph. For example, this graph shows no Ptn (protein) because the dairy does not test for it but tests for SNF instead. Thus “Protein” values approximately 3 times larger than Percent Fat are not displayed.

Each point on this graph is taken from a week in the dairy’s past. The milk line is taken from the average weekly milk plotted on page 6 of the cowcard. Inventories are taken from the animals

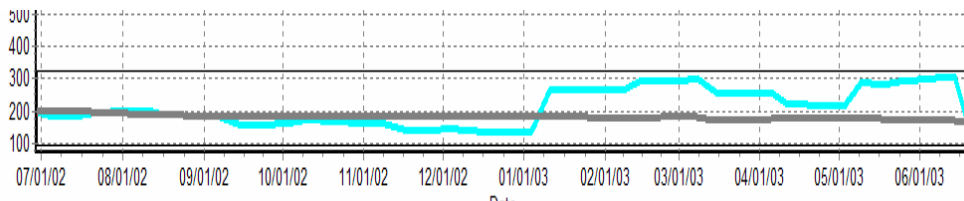
that were in the herd at the beginning of each weekly interval. The program is using cow records from archive files and data files to make these calculations. It is important to remember this when looking at the graph. If these records are not accurate, the graphs will obviously be wrong. For example, initially the total numbers for this graph were not close to what really happened on the dairy used. An archive file had accidentally gotten duplicated and the cow numbers were greatly inflated. CLEANUP\A fixed the problem.

The inventory graph lines are scaled off the numbers on the left axis as are DIM and SCC. The others are scaled off an un-shown 0 to 100. This is changed where appropriate. Thus, Percent Fat is actually multiplied by 10 so it shows up approximately 1/3 of the way up the graph. Clicking of a line will display the actual numbers.



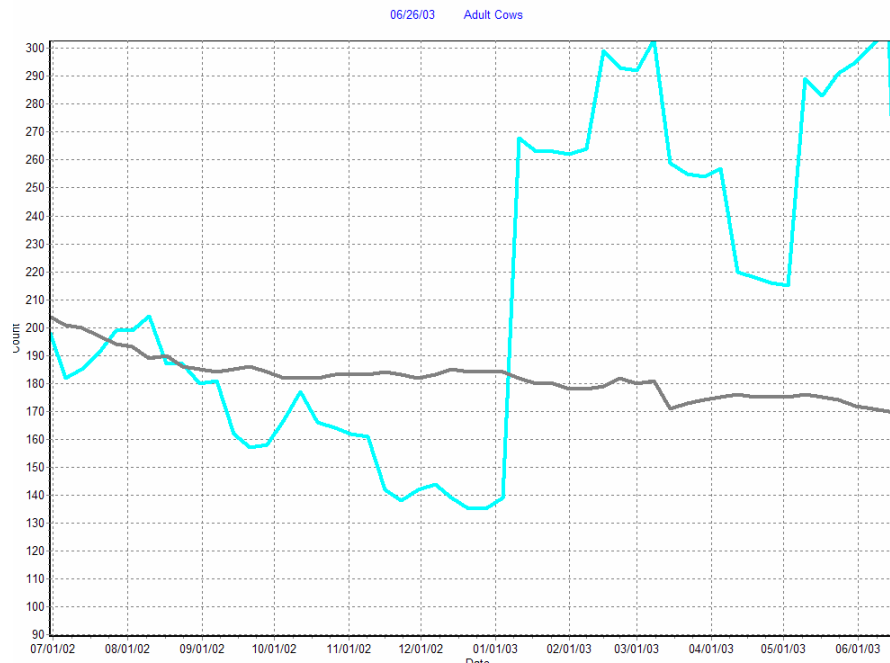
The milk and PCTF lines have been clicked to show the actual numbers that go into their graph values.

Using the zooming feature of graphs, one can dramatically show changes which are otherwise not readily seen. For example, the dry cows were removed (by clicking on DRY in the inventory portion of the selection tab) and we zoomed in at around 300 (as is next shown by the fine lined box) to accent the SCC graph line.



This produced the following graph which shows the changes that have occurred in SCC for the past year on this dairy.

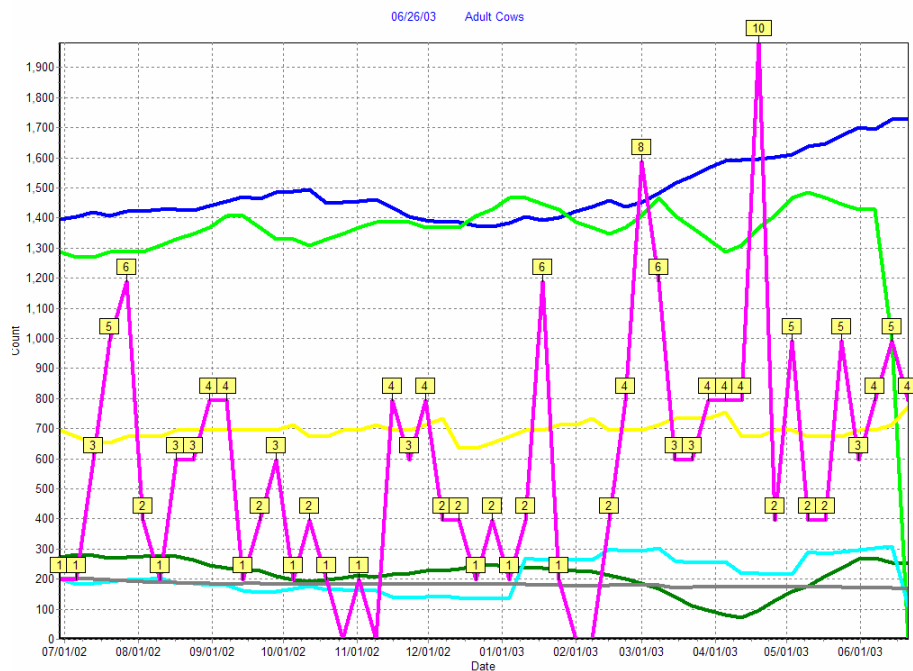




One Years SCC Graph

The gray line going through the graph is the DIM line. One can see that this dairy's SCC is now around 300 which represents almost a 2 fold increase in the last 6 months.

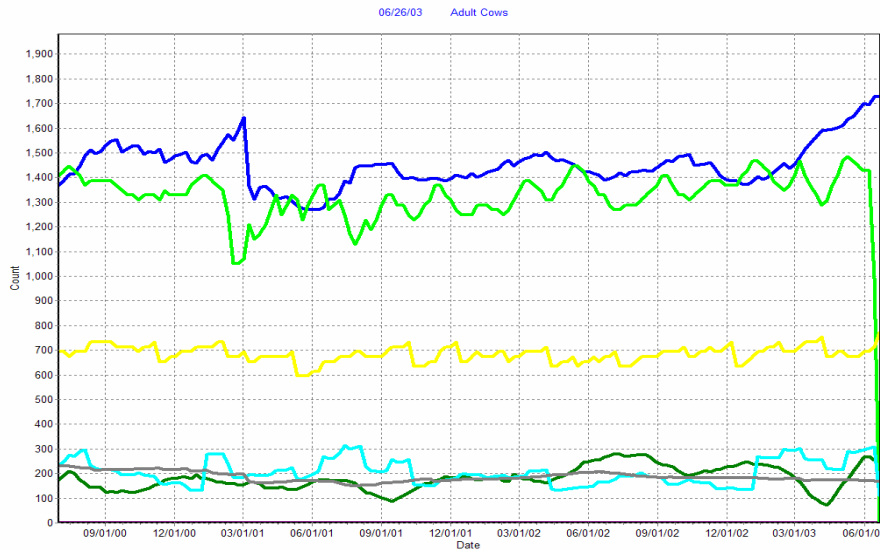
Clicking on an event will add its incidence to the graph.



Clicking on MAST produces the pink line that graph the number of mastitis cases that have occurred for the past year. This line will display the actual values which are needed to understand

the true importance of the event incidence. With the values shown it can be seen there is a high of 10 mastitis cases per week and an average of 3 or 4 on this 1400 to 1600 cow milking dairy.

Selecting a longer time range is possible. Again it is important to have all the archive files available to cover the desired range. The following graph covers that last 3 years.



If one clicks on the “Grid” tab when the graph is displayed, the raw inventory data and average milk that is use for the graph is displayed. The component production data and event information is not on this visible table. There is a further inventory breakdown showing the number of first calf heifers, cows and young stock. Looking at this, one can see how the basic graph is made. The program starts at “Today” and goes back through time week by week calculating inventories by looking at the records and the events that have occurred.

## Multi-Herd Enhancements

While the majority of the dairies use DC305 in single file mode, most consultants and an increasing number of dairies are running the program in Multi-Herd mode. This is defined in SETUP and allows the user to pick from a displayed list the dairy that is to be logged onto. We now have the ability to run commands through the all the herds using special characters to designate this procedure. These are outline as follows:

	Char	Definition	Example	Notes
1	*	Command is run in each cowfile	*VLIST	Makes a vet list report from each cowfile in the Multi-Herd Directory
2	&	Run the command through all cowfiles	&BREDSUME	Runs this command through each herd in the M-H Dir, combing data for all herds together
3	@	Use only herds in file HERDLIST.TXT	@EVENTS\5 FOR LACT>0	Used in substitution for “*” to use only herds listed in the file called HERDLIST.TXT for the reports

Making this work properly requires a basic understanding of the data that is being used and how it is handled. When the program is going through all cowfiles running the same command in each one, it uses the logon date from SETUP for the report. Thus if the SETUP preference is to use the last logon date, that date will be used for each report. If it is to use the System clock date, “Today” (as defined by the computer) will be the date used for each report. For printing reports, the printer should be “Enabled” (use SETUP\4E) and commands like SUM, PCT and GRAPH should be followed by an “!” that denotes to print immediately. List commands will run fine as long as the printer is enabled.

When using the “&” sign to run through many cowfiles collecting data for the same report, the logon date will be the date of the cowfile initializing the command. For consultants this is especially important to understand. Running the command &BREDSUMÆ through all cowfiles, some of which might be years old, will result in a totally useless report. Likewise listing items in a combined report such as DIM or DCC will be wrong if the logon date of the initial cowfile is not appropriate for all the other cowfiles. Commands using the “&” should only be done on heifer ranches, dairies running multiple cowfiles on one computer or with clients’ data that was collected at almost to the same date.

HERDLIST.TXT is a list of a few of the directory names in which you want to have the spanning commands to run. The following is a simple example:

```
93120997
BROWNS
WILLY_
```

Notice the difference between the file listed above and

```
93120997
BROWNS
WILLY
—
```

The Enter key was hit after “WILLY” and a spare line was put at the end of the file (as designated by the curser position). This will cause the spanning command to prompt for a final herd when the report is run.

## **Additional DC305 Features and Changes**

### **Use of Punctuation Characters in DC305**

One should be careful of using punctuation (non letter or number) characters in DC305. As shown by the preceding discussion, we reserve the right to use punctuations for new features as they are developed. These should never be used in items, command abbreviations or events. The one that is allowed is the “\_” character which is most often used as a space when a space is not allowed by other standards. Thus PEN=%WHAT\_PEN is ok for PEN=%WHAT PEN. The “WHAT PEN” will not be handled properly by DC305 whereas “WHAT\_PEN” is handled as one word by our program while it looks like two words to most of us.

### **Additions to the PLOT Command**

The plot command typically is used for graphing test date data from page 4 by test day. Daily milk data can now be displayed using the PLOT command. Instead of graphing this data by test date, week of lactation is used.

### **Making a File of Unused ID Numbers**

At a recent industry meeting, AllFlex USA contacted us asking if we could make a file of the unused ID numbers that could be sent to them. Now, many are printing out a list of reusable ID numbers and faxing this to the company which then is re-keyed at the company. Often the faxes are difficult to read and each time a human hand needs to re-enter something there are chances mistakes will occur. We still don't have all the details of how this information can be sent to the tag manufactures. We assume it will be either by disks or by email. For now, if the command for listing unused ID number is followed by an \F, a file of the numbers will be made that is suitable for manufacturers to read into their equipment. The name of this file will be your herd code.UID. If you have no herd code assigned, it should make a file called 00000000.UID.

### **Archive Files – In Reports and Management**

Archive files are being increasingly used in reports and analysis. The following commands will always look through archive files to find data: BREDSUM, EVENTS, ECON and EGRAPH. All these commands look at events in the cows' records to get their data. Currently, BREDSUM and EGRAPH require a \Y switch to look at young stock. One no longer needs to also write "FOR LACT=0" in the commands. Using "\Y" specifies looking only at young stock. The commands EVENTS and ECON will look at the events of both young stock and adults together unless specified differently using the FOR statement. EPlot specifically looks at height and weight of heifers and usually body score of cows. While this command looks at all animals, usually one event for weight and wither height is used in heifers and another is used for body scoring cows.

In addition to these commands, SUM and PCT will look through the archive files if the \L switch is used. Thus SUM BY MOFSH FOR FDAT>10.1.2\L will look through all archive records as well as COWFILE1.DAT for all cows that have come fresh since October 1, 2002. Likewise, PCT DOA>0 FOR FDAT> 10.1.2 BY MOFSH will display the percent of cows having dead calves by month for all cows that have calved since 10/1/2.

Notice it is not necessary to use ".03" to designate the year. Just as one can use ".6" to designate the month of June, ".3" is all that is necessary to designate 2003. Obviously, at the close of this decade we will all need to get back to using 2 character year designations.

Earlier versions of DC305 required special setup strings to tell the program to look through all archive files, not just COWFILE1.ARC. This has changed now and no setup strings are necessary. The program will run through any ARC files that are located in the same drive as COWFILE1.DAT. If you are having problems getting the new program to search through your archive files properly, contact support and they can quickly help you move your files around to accommodate the new program's setup.

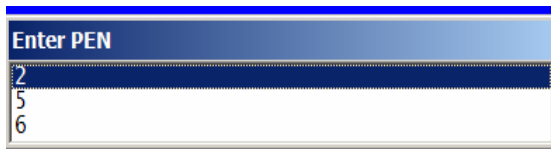
### **Version 5 of Dairy Comp 305**

Version 5 of the cowfile is out and running well. It is still being used on an "as needed" basis primarily because some of the testing centers have not converted their programs to be version 5 compatible. We anticipate that sometime in 2004 it will become the standard for all new programs and all who need to can switch to it. As we mentioned last year the main differences be-

tween Version 3 and Version 5 is the maximum size limitation. Version 3 is 12000 and Version 5 is 32000. Also, Version 5 can have 6000 sires in the sire table as compared to 2000 for version 3. A few other features are available and more will be forthcoming in the next few months before it becomes the standard.

### **ENTER – Limiting Allowable Inputs**

Sometimes it is known exactly what options are available when entering data and it helps to limit the available input. As an example, if fresh cows can go to one of 3 different pens, rather than having the pen prompt in the fresh command say “PEN” one can say “PEN=2;5;6. The choices will show up as:

A screenshot of a computer screen showing a command prompt window titled "Enter PEN". Below the title bar, there is a list of three options: "2", "5", and "6". The option "2" is highlighted with a blue background, indicating it is the current selection. The options "5" and "6" are in white text on a dark background.

No pens except these three can be entered into this cow's record at this point. The entry can be made by typing the number, moving the highlight bar with an arrow key or clicking on the number with the mouse.

### **Vet Enter Screen**

The input screen for vet enter can be enlarged by clicking “A-A” button in the upper left hand corner. Selecting a bigger font size will increase the display of the writing on the screen. Be a little careful when making these changes. It is possible to make the letters so big that part of the message (like the cow's ID number) does not show up properly. This is dependent on the “native font” settings of the computer and sometimes difficult to control. On most computers it is possible to put the font size at 12, 13 or 14 before the message starts to run out of the allotted box.

### **PUTCOW Enhancements**

The PUTCOW command is not commonly used as much as it was 10 years ago. However for those who do use it, a significant enhancement has been made that will allow one to change the ID number at the same time as the records are moved from one cowfile to another. For example, if one knows that 10014 was to become 286, 10015 → 1351 and 10016 → 173, it is possible to put the new numbers into the records of the 10000 numbered animals in the item COD2. Then one can say, PUTCOW ID=COD2 FOR ..... When the animals are moved to their new cowfile, they would have the numbers 286, 1351 and 173 respectively. Their OLDID will be the number from the original cowfile.

### **Drug Watch**

The Drug Watch program has been installed on a few dairies for testing and working out bugs. It is working well and we are improving the report capabilities. These are being tested as this is being written. Along the way we have improved our abilities to get Drug Watch installed efficiently. If protocols were previously set up and as new ones are made, they are put into the Drug Watch directory and imported into the protocol portion of that program. We can handle protocols that use more than one drug. We can also handle protocols that don't have withdrawals but need to be set up for inventory deductions such a calcium or dextrose. Manual deductions are also possible within the program. These are used when water medication is used for a pen of animals, for medications that might not get recorded into the cow's records (synchronization drugs, laxatives, etc.) or, if desired, items that are not directly related to cows such as paper tow-

els. The use of this aspect of the program will depend on how valuable the inventory portion of it becomes and how practical it is to adapt to a dairy's needs.

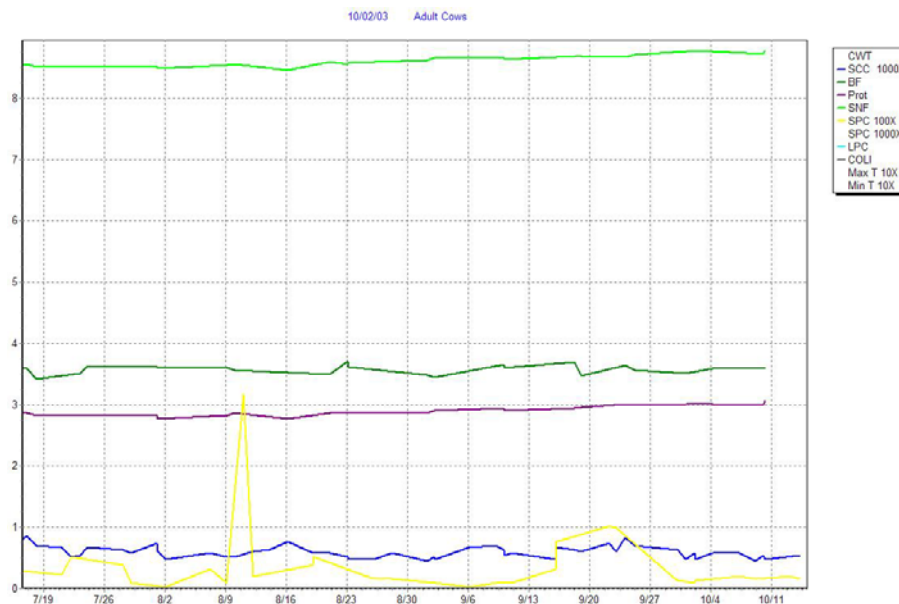
The reports we can create are pretty basic at this point, but should help for most of what will be needed. The inventory keeps track of both usage units (like cc's of Penicillin or tubes of mastitis medicine) and re-order units (such as bottles or cases). The treatment reports are designed to list treatments during a certain date range for all or selected medications such as all mastitis treatments. It is also possible to print out all treatments for certain cows. This combination should help when possible violations have been reported or when program inventories don't match those taken manually. More will be coming as the needs arise.

## Tank Watch Demo

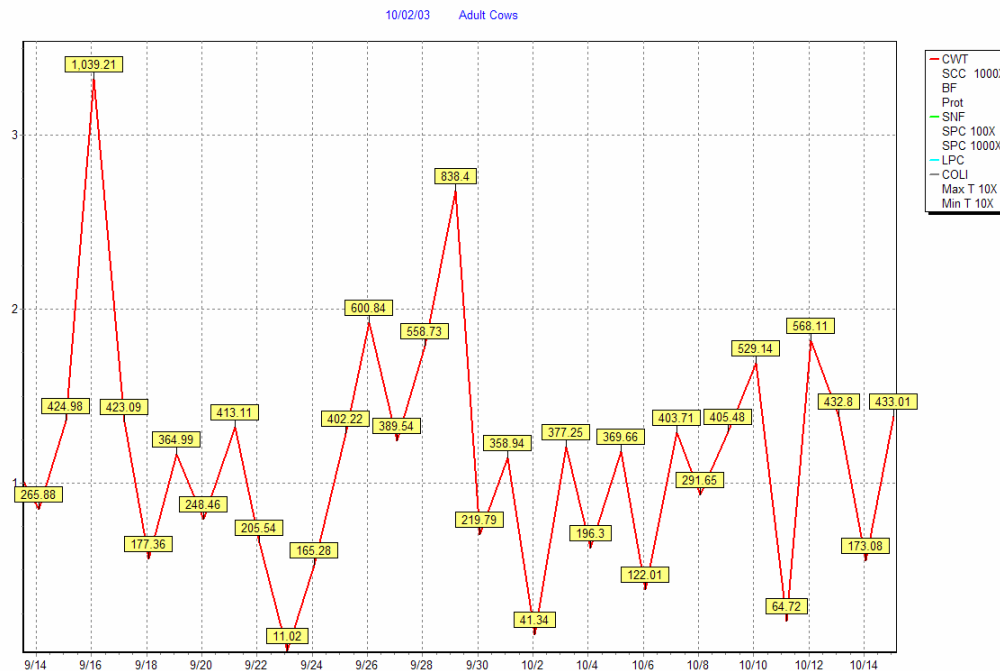
Tank Watch is a program we've developed to let the dairyman look at the tank loads of milk that have been picked up from the dairy. We now have a demo version for all to see some of what the program does. The command for this is TANKW. There are 3 main features to the program.

1. Data is downloaded to the dairy's PC for each tanker load of milk. This data can be seen as a table or graphed over varying time lengths. This demo data is available on the web or can be view it by selecting "Plot Current Data" from the menu choice.
2. "Alerts" can be set up within the program to notify people when certain limits are reached. This could be bacteria or SCC counts, low butter fat reading, etc. These alerts can be directed to varying people including owners, herdsman or service personnel.
3. Permission to receive the data can be given by the user to whomever the owner desires to have it. This includes veterinarians, nutritionists, equipment staff, etc.

The following is a graph of 3 months from the demo data.



The small box in the upper right displays the color codes for each item on the graph. As with all graphs, one can zoom into a special area, add numbers to the lined data and add or subtract data from the graph. The following graph was zoomed to look at the loads of milk picked up in the last 30 days.



## Backups – Understand Them, Use Them or Lose Data

In each newsletter we write something about backups. This is prompted mostly by the number of calls we get each year of people who have lost all their data due to lack of backing up. Needless-to-say, there is often nothing we can do to help. Sadly, many times when we check back on those who have lost their data, they are still not backing up as they should. Maybe they don't think a catastrophe can strike twice!

A second cause of problems is the fact that when people go to buy new hardware, there are an amazing amount of backup possibilities. Additionally, these are often sold by people who don't understand what they are handling. They are really only interested in talking about the latest buzz-words or gadgets that have hit the shelves. Many computers now come with read/write CD's. These drives can write and then re-write the CD drive. This is a fascinating accomplishment but there are some dangers. It appears that writing to CD's is not done the same by all disk drives and a CD written by one drive is not guaranteed to be able to be read by another. Furthermore, some CD's are placed in computers in such a way the drive can only be accessed by using Windows Explorer and clicking and dragging files to the CD. Batch commands that we commonly use for simpler backup will not work.

For these reasons, we still recommend using Zip disk drives. The disks are written using standard methods common to all electromagnetic drives and can be read by one another. There currently are three sizes of Zip disks, 100mb, 250 mb and 750 mb disks. The 750 mb disk drive will read all the others but write only to the 750 and 250 mb disks. The 250 will read and write both 250 and 100 mb disks. They are highly portable and rugged. While there is no iron clad guarantee that they will always be able to be read, we've seen few failures. However with CD's the manufacturers know that often the CD will only be readable by the drive that wrote the it (or another with the same exact configuration).

Another method of data storage are memory sticks. These are small portable devices that act like memory expansions that plug into the USB ports. They often look like something that would be placed on a key chain and sometimes are in fact found there. We've seen them have up to 250mb of data storage. They are fast and portable, especially on XP and Windows 2000 machines. Older Windows versions often require a special program or driver for these to operate.

If one does use CD drives for backing up, one must make sure that a second available computer is able to read whatever is written to the CD. Also, make sure the CD is set up in such a way that backups are easy to do. By this we mean they can take files sent by batch commands or you are willing to use the mouse and Windows Explorer to do your backups.

Some of the most satisfying support calls we take are the ones where people want to make sure their backups are working. Often, when this has been gone through and they are working well, when the real need comes to use them, an easy time is had by all.

### **Daily Milk Interface Changes and Additions**

The major changes that occur with the daily milk interfaces are those made to keep up with the changes that the meter companies are making to their meters and programs. Sometimes we are told of upcoming changes and other times we hear about them only when a customer gets a meter program upgrade and then some or all portions of the interface fail.

One of the biggest additions to the meter interface that has come in the last few years is flow information about each milking that we can analyze for parlor performance. This started with one manufacturer and currently two are sending this data to us. We are told that others are also considering collecting (and hopefully distributing) this information. In some cases, this has become the most important part of having meters. Using this data, we help determine if proper udder preparation, takeoff settings and milking procedures are being done. This is done by analyzing the flow rates at various intervals during each milking in each stall. Thus with this data, a dairyman can find when something is broken during the milking procedure (as a malfunctioning stall), when procedures are not being followed (like attachment protocols) or evaluating if changes to the milking procedure are beneficial or not.

Other improvements to the interfaces are that we can handle split parlors when multiple pits are being used. We can send and receive data for specific cows to specific pits and get data from each pit in separate milk loads. These requirements vary according to each meter manufacturer.

It is becoming popular to milk fresh cows more times than the rest of the herd. Depending on the manufacturer, we can at least add the milkings together when this occurs.

There is a special analysis available for Rotary barns. This analysis gives details of various rotary speeds, including the maximum, average and effective. Maximum is the fastest the rotary turned during the milking. Average is the time per stall for the total stalls processed (number of stalls in the barn times the number of rotary turns). Effective is the number of cows that were milked equated out to seconds per cow. The primary difference between average and effective would deal with the number of empty stalls that went around and the number of cows that went around twice.



There is a new item type number that will allow use of larger transponder numbers. These are gradually being changed as the need arises. In addition to this, many manufacturers will allow large integers and we can also allow them (up to 65000 if necessary) for the cow's ID number.

## Reproductive Monitoring

Each year we discuss some aspect of record keeping in this newsletter. This year we will discuss some new thoughts about monitoring reproduction along with some economics of getting a cow pregnant.

To start with, we usually ask the question, "Why do we monitor reproduction?" The usual (and best) answer is to:

1. Find when something about reproduction is broken and/or
2. Evaluate the effectiveness of management changes.

With regards to reproduction, a concise definition of what to measure has been set forth during this past year which bears repeating. This is, **"If a cow that is being bred gets pregnant, whatever is being used to monitor reproduction should show an improvement. If she does not get pregnant, the monitor method should show a decrease."**

A demonstration of this is probably most helpful. Many feel that average days open (Avg DOPN) is a good monitoring tool. Certainly, most breeding programs are designed to have a short Avg DOPN. To start with it is important that all agree that Avg DOPN is calculated by subtracting the fresh date from the conception date. If a cow doesn't have a conception date, she is not included in the Avg DOPN calculation. (The logic behind this is if you wanted to know the average age of kids starting kindergarten, one would only include the kids that go to school. If you wanted to know the average life span of people in a community, you'd go to the cemetery to get your data. You don't get data from those who haven't met the end date – starting school or dying.)

Now a three cow dairy will be considered.

Cow 1 is pregnant to a breeding at 90 DIM and is milking 200 days.

Cow 2 is pregnant to a breeding at 110 DIM and is milking 200 days.

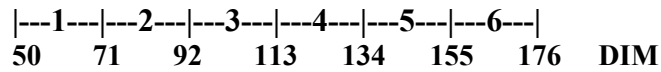
Cow 3 is open to a breeding at 130 DIM and is milking 200 days.

What is the average DOPN? It is 100 ( $90 + 110 = 200 / 2 = 100$ ).

If cow 3 is now found pregnant to a breeding at 160 DIM, what is the new Avg DOPN? It is 120 ( $90 + 110 + 160 = 360 / 3 = 120$ ). Avg DOPN has gotten worse but the last cow got pregnant which is what was desired. After all, she was bred.

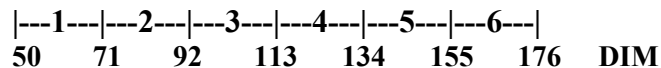
Now look at the same scenario using pregnancy rate. To start, pregnancy rate is calculated by dividing the number of pregnant cows by the number of eligible heat cycles. For this discussion the voluntary waiting period (VWP) will be 50 DIM. Thus, if we are looking at one cow and she

gets pregnant to a 90 day breeding (cycle number 2 as shown in the chart below), her pregnancy rate is 50% (1 pregnancy / 2 cycles).



So, starting with the same 3 cow dairy:

- Cow 1 is pregnant to a breeding at 90 DIM and is milking 200 days.
- Cow 2 is pregnant to a breeding at 110 DIM and is milking 200 days.
- Cow 3 is open to a breeding at 130 DIM and is milking 200 days.



To calculate the pregnancy rate:

- Cow 1 is pregnant to a breeding at 90 DIM, or 2 cycles.
- Cow 2 is pregnant to a breeding at 110 DIM, or 3 cycles.
- Cow 3 is open to a breeding at 130 DIM, or 4 cycles.

There currently are 2 pregnancies / 9 cycles which equals a 22% pregnancy rate

If cow 3 is declared pregnant to a breeding at 160 DIM

- Cow 1 is pregnant to a breeding at 90 DIM, or 2 cycles.
- Cow 2 is pregnant to a breeding at 110 DIM, or 3 cycles.
- Cow 3 is pregnant to a breeding at 160 DIM, or 6 cycles

Now there are 3 pregnancies / 11 cycles for a 27% pregnancy rate. This monitor method shows an improvement when the desired cow got pregnant. Average DOPN indicated the breeding was getting worse.

It is also very important to remember the economics of reproduction and what it means to a dairy. In most cases, we find that the day the average cows gets pregnant, her value increases by \$300. This “pregnancy value” increases as the calf gets bigger so that on average, when the cow freshens it is equal to the cost of replacing a cull cow (replacement cost minus cull beef cost) or about \$1000. Many have asked, “What is the value of increasing a pregnancy rate by one percent?” There are many ways to look at this but here is a relative simple one.

If a 1000 cow dairy has a 15% pregnancy rate, it could normally have somewhere between 25 to 30% eligible to be pregnant during any given 21-day cycle. If we say that averages 300 cows, 15% or 45 will get pregnant during each cycle. If the rate goes up 1% then that will be three extra cows per cycle. Assuming 17 21-day cycles in a year, that is 3 x 17 or 51 extra pregnancies. This multiplied by \$300 (minimum average pregnancy value) is over \$15,000 or about \$15 per cow per year for each 1% increase in pregnancy rates. Therefore, one could spend quite a bit of money on reproduction as long as the benefits of increased pregnancy rates followed.

We recognize that there are many variables in this scenario. First, the lower the pregnancy rate, the higher the pregnancy value of the next cow that gets pregnant. It is often a fact of life that the more of any “thing” one has, the less valuable each increment of that “thing” is. This applies to pregnancies also. A dairy that is having breeding difficulties will pay a lot to get the next cow pregnant while one that has a good breeding program will justifiably look with suspicion at spending more money for improvement. The value of getting the next cow pregnant will vary from almost \$800/ pregnancy in a poor breeding herd (5% pregnancy rates) to about \$200/ pregnancy in an excellent breeding herd (35% pregnancy rates).

The second factor is that the increase of 1% represents a different percentage increase depending on where the breeding performance starts. If one has a 10% pregnancy rate, increasing it 1% to 11% will produce 10% more pregnant cows. If one starts with a 20% pregnancy rate, going to 21% will produce only 5% more pregnant cows.

A third variable that goes along with this is that the lower the herd pregnancy rate, the higher the percent of the herd (and therefore the actual number of cows) that are eligible to get pregnant. As the pregnancy rates increase, there are less additional cows that will get pregnant for each 1% improvement. This last variable has only a finite affect on the value of changing pregnancy rates. There quickly comes a point when the faster cows get pregnant, the faster they will calve again and become eligible to breed the next time.

In summary it can be shown that the cost of good reproduction can almost never be too much. Obviously, spending a lot of money with poor success is bad. Not spending money and having poor breeding is not much better. The profits of a good breeding program (as defined by a high pregnancy rate) are well worth all reasonable expenses.