DeLaval

ALPRO®

Your runway to greater control and profitability

ALPRO® herd management for total control

ALPRO® Windows* is a user-friendly and flexible management program designed to optimize your decision-making process.

Complete cow milking, feeding, breeding and veterinary records help you make the best management decisions. Historical data on individual cows and a superb graphical user-interface, allow you to monitor lactation curves, fat and protein content. You can also view the likes of body score development, somatic cell counts and other cow-related parameters.

ALPRO® thoroughly and accurately collects then evaluates data from every animal in your herd – 24 hours a day, seven days a week. With the ALPRO® herd management solution you can assess trends, evaluate alternative strategies, proactively implement correct decisions and calculate the outcome.

Modern dairy farm management at your fingertips

Essential information is just a click away

The user-friendly ALPRO® Windows* interface lets you review your daily actions at a glance and check individual cow or herd data. You can highlight the information you want and simply "drag and drop" to create tailor-made reports.

General management

ALPRO® permanently monitors your herd's performance and health within many key parameters. You can go directly to the herd summary screen, select a desired time period for analysis and check if your management goals are being achieved. Milk production projections and data analysis graphs help you make the right decisions.

Individual historical records of ailments, treatments and culling will help you evaluate your management practices. These can be automatically linked to the desired treatment, which avoids misunderstandings and reduces data entry time. You can also group cows according to milking time for more effective use of parlour capacity, as well as identify and isolate individual cows that require special attention or treatment.

You view the data ALPRO® collects on the PC in your office as a print-out or on the ALPRO® processor, or on the DeLaval milking point processor MPC.

Reliable and easy to use

DeLaval milking point controller MPC takes reliable care of flow-controlled milking, milk metering and in-parlour feeding. It shows each cow's number and milk yield. It warns you if any cow is producing less than normal due to sickness and the like. If she is wearing the DeLaval activity meter then you can also see if she is coming in to heat. Naturally, data is also sent directly to your PC so you can respond immediately.

The DeLaval MPC also controls cow traffic. An animal requiring special attention can be separated via an automatic sort gate.

Milking

Fine-tune milk production

Daily milk recording is vital for fine-tuning milk production and maximizing herd performance. For example, you can use yield data to implement and evaluate feed rations for individuals or groups, calculate actual lactation curves and identify potential health problems proactively. Additional daily recording benefits include grouping cows according to yield and lowering involuntary culling rates by more closely following individual milk production. Milk yields are proven to be the fastest detector of health problems in fresh cows and the first three to four weeks of lactation contain the majority of all health issues.

ALPRO® lets you use flow controlled milking. Flow control means faster, more complete milk-out. It also lets you set milking parameters according to your herd and thus get maximum milking performance.

Automatic cluster removal (ACR)

A DeLaval ACR does half your milking job for you, so your milkers and your cows can calmly perform to the best of their abilities. Automated take-off is one of the first steps towards full herd control and offers the immediate benefits of improved workflow with reduced work-related stress. ACR consistency is key to maintaining good udder health.

Milk metering

DeLaval milk metering helps you accurately monitor individual cow yield to efficiently improve feed distribution, cow health and quality milk production.

DeLaval milk meters MM15 and MM25 perform important tasks. They continuously record each cow's milk production, to help ensure the milk yield data, that ALPRO® processes, is always accurate and timely.

Cow identification

Automatic identification is the natural compliment to milk metering and is key to an integrated herd management system. DeLaval offers compatibility with all NLIS approved devices available as transponders, ear tags or rumen pellets.

Milking performance

The procedures involved in milking cows have become a focal point for today's dairy farmers. Are cows being prepared correctly and according to a precise, predefined protocol?

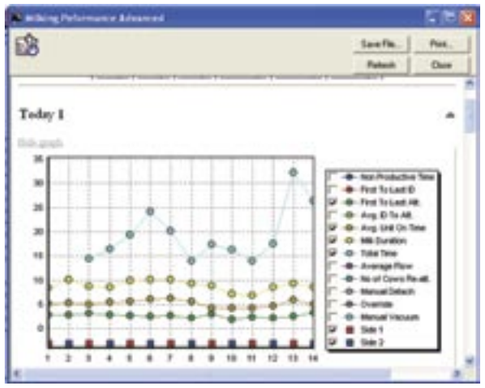
Effectively using protocols requires tools for monitoring milker's adherence and measuring the results. ALPRO® Windows* now includes some highly advanced features for this area of dairy management.

Milking process efficiency

The latest ALPRO® Windows* developments concentrate on the efficiency of the milking process. There are different aspects and values to this focus relating to particular aspects of the cow's life.

Research shows that cows which are well prepared and stimulated for milking will release their milk much faster than ill-prepared cows. Today's recommended preparation routines call for 60 to 90 seconds from first touch of the udder until milking machine attachment.

ALPRO® Windows* new milking efficiency features adherence to your milking routines and check that cows are reacting as expected.



This graph illustrates all the parameters measured during the milking process. Different parameters can be compared.

For example:
Green = Average time from cow identification until unit attachment.

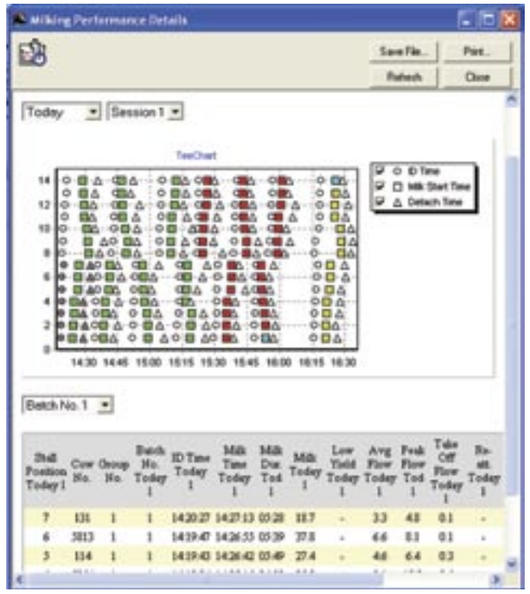
Yellow = Milk duration – the total net time of milking machines on cows from first attachment to last detachment.

Brown = Average machine-on time for the cows.

The above sample clearly shows that the first two groups of cows stand in the parlour for a long time before being milked. This probably means that cows are allowed into the parlour too long before actual milking and in this case, it would be better for them to be resting or eating.

In the group 7 example above, the net machine-on time was very long without the average per cow being substantially different.

The following graph illustrates milking performance details:



Each cow is represented by three markers:
Circle = Time identification took place
Square = Time of milking machine attachment
Triangle = Time of detachment

In this 2x7 parlour example, batch one was attached in order 1 through 7, but then something odd occurred. Batch two was started as batch one was finished, but stalls 14 through 8 were started from the back! Obviously, the milker in this instance finished attaching units 1 through 7, then went across the pit and started from 14.

This indicates that either no preparation procedure is in place or it is being ignored. A report for any of the milking batches can be displayed with all the individual time stamps noted below the general graph.

A well stimulated cow will start milking at a high flow rate almost immediately. The new ALPRO® Windows* measurements show if your cows are stimulated during attachment and whether the milking staff have followed the routines. In the example you'll see summaries per group and the data for individual cows. The benchmark figures for a modern dairy with a good milking procedure are as follows:

Illustrated flow rates:

Flowrates

Flowrates
Group: All Filter: All Cows
Column Filter:
Count 953

Group No.	Number Of Cows	Flow 0-15 Yest. 1 Avg	Flow 15-30 Yest. 1 Avg	Flow 30-60 Yest. 1 Avg	Flow 60-120 Yest. 1 Avg	Take Off Flow Yest. 1 Avg	Avg Flow Yest 1 Avg	Milk Dur. Yest 1 Avg
All	953	0.6	3.9	3.8	5.4	1.3	5.3	4:54
1	63	0.4	2.4	2.2	4.4	1.2	5.3	4:44
2	37	0.8	3.9	3.5	4.6	1.3	4.9	4:58
3	48	0.7	3.1	2.8	4.4	1.3	4.6	5:18

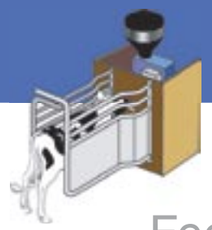
Cow No.	Milk Yest 1	Flow 0-15 Yest. 1	Flow 15-30 Yest. 1	Flow 30-60 Yest. 1	Flow 60-120 Yest. 1	Take Off Flow Yest. 1	Avg Flow Yest 1	Milk Dur. Yest 1
2464	27.9	0.0	0.7	2.0	2.9	1.3	2.4	12:13
3222	33.7	-	-	-	-	-	3.1	11:51
2045	56.1	0.4	5.5	7.3	7.7	1.1	5.1	11:29
3399	37.3	0.2	1.1	1.8	1.3	1.5	3.7	10:52
789	33.0	0.2	2.4	3.5	4.8	1.5	3.3	10:51
3226	53.3	-	-	-	-	-	5.3	10:39
4424	28.0	0.2	0.0	1.3	2.2	1.3	2.9	10:15

Average flow-rate to be expected by a group or for the herd (individual cows will vary widely.)

Flow-rate	0 to 15 seconds	= 0.5 – 1.5 Kg/Min.
Flow-rate	15 to 30 seconds	= 2.0 – 3.0 Kg/Min.
Flow-rate	30 to 60 seconds	= 3.5 – 5.0 Kg/Min.

In this sample no preparation procedure was in place to stimulate the cows. The flow rates for the first half-minute show the cows are barely dripping and the milking machine's pulsation is relied on to provide stimulation. While pulsation does provide stimulation, it does so without milk flow. This is a classic example of over-milking at the beginning of milking.

Also note the first cow on the list. The flow-rate at time of take-off was substantially higher than any other cow and the milking machine was manually removed by the milker. Likely scenario; the cow kicked off the machine – which then lay on the floor until it was manually retracted – and was NOT reattached.



Feeding – correctly fed animals produce more milk

More milk, lower costs and less labour

The ALPRO® feeding system works by keeping track of each animal – adjusting the quantity and type of feed concentrate according to her milk production. It also feeds small rations on a frequent basis. Both strategies maximise nutritional intake and efficiently utilize feed, to increase yield. ALPRO® also measures individual milk yield on a daily basis to show how different feed compositions given at different stages in the lactation cycle, affect the amount of milk each cow produces. Feed represents around 50 per cent of milk production costs so savings on feed while producing more milk, generates considerably higher profit.

TMR/PMR

ALPRO® makes it possible to establish the optimum combination between the TMR feeding system and individual feeding. This alternative keeps the advantages of TMR (total mixed ration) and adds several other benefits with the PMR (partial mixer ration) concept including:

- Possibility to utilize TMR for smaller herds
- Reduction in feeding costs to improve farm profitability
- Implementation of individual feeding with less labour costs

Feed dispensed according to individual needs

ALPRO® handles eight different feed types at the same time. In loose housing, feeding stations with automatic identification can dispense up to four feeds including minerals and liquid additives. The unique, continues qualification program promotes frequent visits and natural, stress-free eating patterns. Each station has up to four dispensers. In addition, you are instantly alerted if any animal deviates from her normal feeding routine so you can identify and remedy the situation quickly.

New ALPRO® feeding features

General data

Group No.	No. of Lact.	Breeding Status	Birth Date	Age Years	Age Months	Days In Milk	7 Day Avg Milk
1	3	Fresh	02/01/00	4.2	50.4	45	102.7

Feeding - General

Early Warning	One Day Low Consumption	Three Days Low Consumption	Cons. Rate (%)	Table	Dry Off Due
-	-	-	100	-	-(-)

Edit

Concentrates

Feed Name	Ration		Target	Step Up/Down Delay	Target Days	Step Size	Cons Today	Cons Yest.	Conc. Cons. Yest. %	Total Cons.	Available
SOLID	24.20		24.20	-	-	0.00	17.53	23.82	98	580.80	3.91
UNIK52	8.80		8.80	-	-	0.00	6.38	8.66	98	268.40	1.42
SUVER	8.14	↗	8.80	-	3	0.10	5.89	7.79	96	138.60	1.32
Tot	41.14	↗	41.80	-	-	0.10	29.80	40.26	98	987.80	6.65

The latest ALPRO® version has a link to TMR, so you can use the feed manager to import data that will be displayed in ALPRO® dialogues. The data will also be used in calculations shown in reports and summaries. The feed data stored as database item TMR is expressed in dry matter. The default value for dry matter for concentrates is 87 per cent and can be changed per feed to fit local conditions. “Dry Matter Efficiency” is calculated as milk yield divided by consumed feed in DM. Values for feed cost and milk price are entered in the window Feeding and Milk Parameters. These new tools give a good indication of your dairy operation’s economics.

THE FEEDING SUMMARY WINDOW

In the ALPRO® Feeding Summary there is a new window displaying a summary of yesterday’s feed consumption and costs, along with economical calculations for all groups on the farm.

In-parlour feeding

DeLaval feeding solutions are designed to raise milk production, while lowering feed costs and labour. Our in-parlour systems are a perfect solution for dairy farmers utilising a pasture-based system or those wanting to ensure that each cow receives her concentrate feed.

Out-parlour feeding

DeLaval out-of-parlour feeding systems for loose-housing and tie stalls allow you to adjust feeding rations during the whole lactation to maximize milk production. You save on labour costs, avoid inflexible working hours and are instantly alerted if any animal deviates from her normal feeding routine.

Improve calf management and profitability

Optimise growth, reduce costs

The special ALPRO® calf feeding station records how much each calf is eating and looks after several important feeding functions. For example, it automatically dispenses milk or mixes milk replacer with water and delivers it to the calf at the right temperature. The station can also supply vitamins and additives to promote healthy growth, plus dispense medicine to sick individuals.

Benefits of concentrate feeding

Consuming concentrate at an early stage supports rumen development. The ALPRO® concentrate feed station stimulates concentrate intake, as feed is always freshly dispensed at natural eating speed. Concentrate intake is the main parameter to consider when deciding to wean a calf and ALPRO® identifies the right moment to do so. In addition, diseases can be discovered earlier as calves reduce their concentrate intake long before milk consumption drops.

Calf feeder

Utilization of the automatic calf feeder connected to the ALPRO® system with concentrate feeding stations, offers the possibility to:

- Influence earlier and better rumen developing
- Reduce the consumption of milk/milk replacer
- Reduce waste of concentrate

Activity measurement

Measuring your individual cow activity allows you to measure your future business success. The lightweight DeLaval activity meter continuously collects and transmits activity data on each cow, so you can efficiently plan your breeding program accordingly. More successful inseminations and shorter calving intervals give direct financial gain. Improved heat detection and conception rate means a significantly shorter calving interval – which saves you money! There's also a new ALPRO® functionality called Low Activity which alarms you to a cow with a lowered activity level due to disease.

Breeding

Improve herd performance and income

ALPRO® keeps track of when each cow should be coming into heat and when it is time to inseminate with a built-in cow calendar. It's integrated with the DeLaval activity meter to pinpoint optimal insemination time and this information increases the chances of the cow conceiving. Improved heat detection and conception rate means a significantly shorter calving interval. Many studies show that this reduction saves you a significant amount of money and the larger your herd is, the more you save.

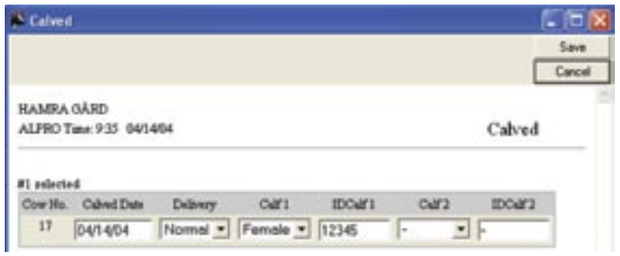
Information is always available and easy to follow

The DeLaval activity meter is small and weighs only 170 grams. It hangs conveniently around the cow's neck, where it stays clean and safe. It collects and transmits data every hour via an antenna link to the ALPRO® system. Every transmission covers a rolling 24-hour period so no data is ever lost and the data is then presented in an easy to read format. Finally, as the DeLaval activity meter system works independently from the parlour, the meter can also be used to help detect heat in heifers.

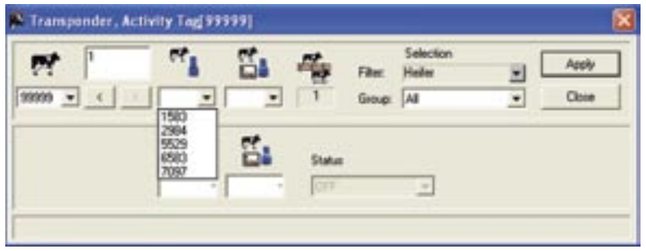
Breeding future success today

ALPRO® Windows* excels in keeping track of reproductive performance. When entering a calving, the born calf/calves automatically get introduced in to the database.

This is what the new calf ID card produced at calving looks like:



You can enter the delivery, sex and ID of each calf to get a permanent ID for your database.



The calf's number, birth date and sex are transferred from the first dialog and you can add the transponder number and new calf ID. The calf's mother and the bull the mother was last inseminated by can also be entered. You can add or delete text at any stage.

The system will also inform you if any cow should not be milked or if her milk should be dumped.

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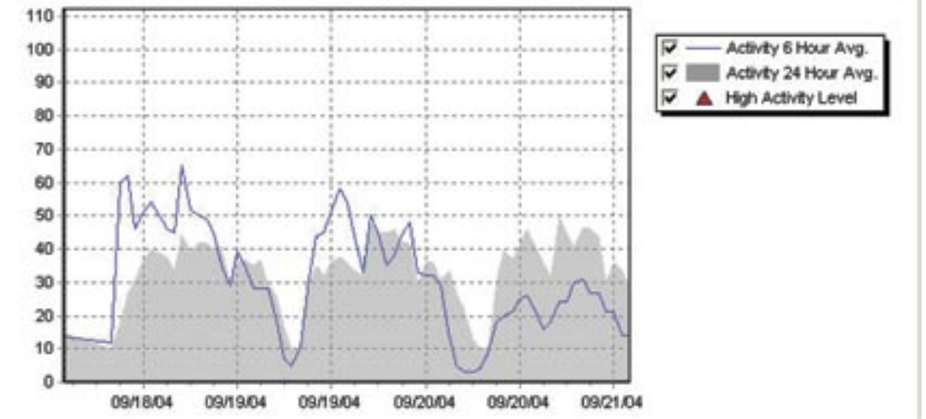
Herd health – low activity

It is obvious that a cow feeling poorly due to disease will lower her activity level. The new low activity function monitors activity levels for both increases and decreases, with decreased activity being a strong indicator of health problems.

Activity

Activity Tag No	Activity Tag Status	Last Send Time	High Act Level	High Activity Start Time	Heat Date	Days Since Heat	Days Till Next Heat	Insem Date
41601	ON	2		0	09/09/04	12	9	09/09/04



This cow had alarms for high activity on April 16th. She was inseminated the same day. On April 19th she decreased her activity below the usual and was therefore marked with alarms for low activity.

The grey graph shows the average activity for the cow and is the reference for comparison of today's activity.

Activity items available for reports are shown below:

Cow No.	Group No.	Activity Tag No ▲1	Activity Tag Status	General Low Act Probability (%)	Latest Rel Act Level(%)	24 hrs Activity Avg.
320	10	3780	ON	33.72	108	27
4537	8	3927	ON	81.06	86	35
4501	7	3986	ON	85.31	86	25
4429	7	3994	ON	81.33	78	15
1334	9	4001	ON	53.98	96	11
1344	31	4148	ON	44.83	107	9
4214	12	4172	ON	47.61	101	32
4505	8	4173	ON	68.08	94	44
2005	12	4180	ON	57.93	88	6
777	3	4188	ON	81.06	82	20

General Low/High Activity Probability = the probability that the cow has low/high activity based on the latest 24 hours of activity data.

24 hrs Activity Avg. = the cows average activity level during the last 24.

In the reports you can combine and filter data for low activity, low milk yield and feed consumption to find cows needing special attention. Low activity can be used as a filter item in all reports and cow dialogues. If low activity is used to filter, only cows with alarms for low activity today and yesterday will be shown.

Automatic sorting

Sorting

DeLaval cow sorting allows you to reduce your daily labour demands by automatically diverting your herd in up to five different directions, based on various sorting criteria. A flexible, easy-to-use PC interface allows you to select cows directly from the printout or attention note and batch-enter those to be sorted. In ALPRO® Windows*, cows can be chosen for automatic sorting using sort criteria.

Sample Sort criteria selection:

Sorting definitions can be a combination of criteria, e.g. down in milk and down in concentrate consumption. You can add a name to describe the intent behind the criteria.

Example sort criteria named "Maybe sick cow":

Sorting criteria are chosen from the database tree with one or more criteria.

For ease of use, we created a folder named "Recommended sorting items", which includes all items used in the ALPRO® processor for sorting.

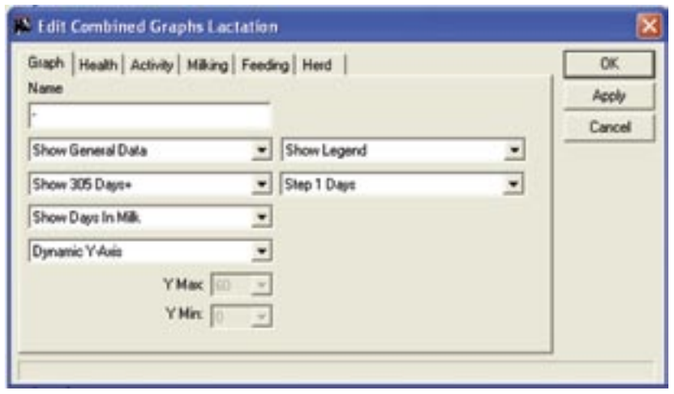
Note: If you want to save the criteria for later use but not separate the cows at the moment, you can give the information an 'inactive' status.

Create custom reports
Get more from each cow and the most from your farm

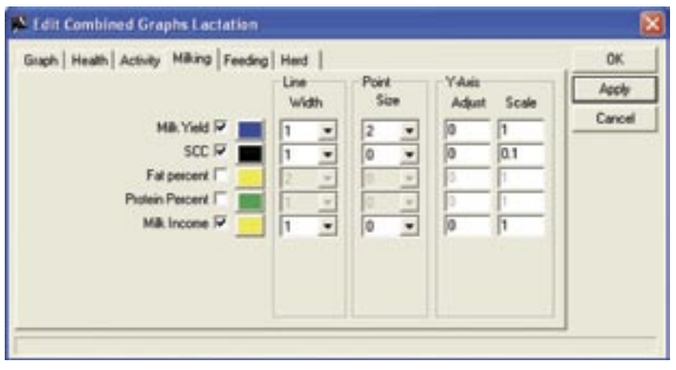
THE COMBINED GRAPHS WINDOW

A new powerful function in ALPRO® Windows* is “combined graphs”. The user can choose from a large number of graphs and see the information he/she is most interested in. There are two kinds of combined graphs – last 30 days and a graph representing the current lactation. These graphs can be easily accessed from the icons:

When you add a new user-defined graph for the last month the following window is opened:



You enter a field name that clearly describes the graph’s purpose. In this window you can also adjust graph settings (like how many days to display) and decide what kind of information you want in the graph and on print outs:



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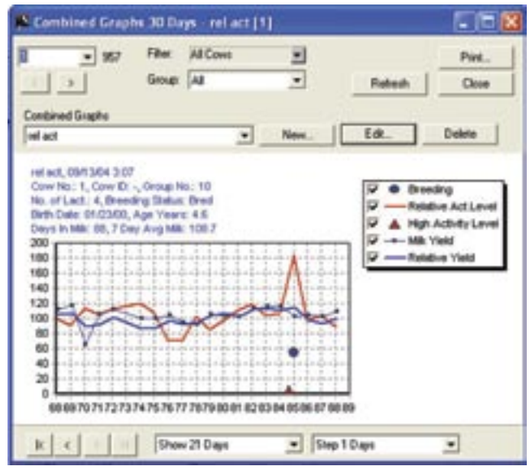
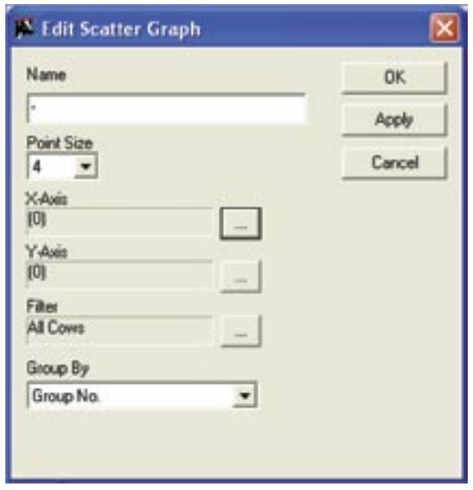
Clicking on the coloured button next to the graph name allows you to change colour on each individual item. You may also change the width of the line, size of points, the y-axis position of the graph and change the scale of the graph. Depending on the data you combine you may have to define best settings for each data set. Pressing one button will show the graph as below:



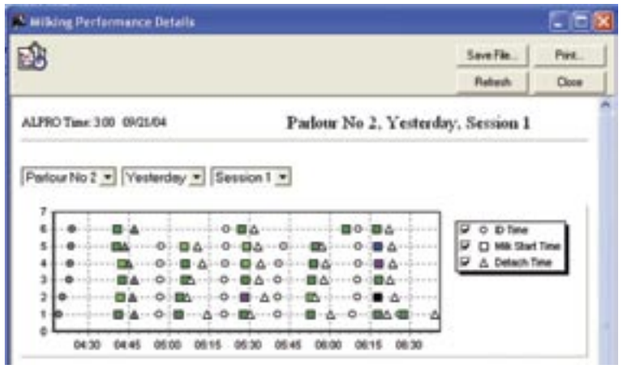
THE SCATTER GRAPHS WINDOW

This new graph type allows you to combine data on the x and y-axis. You can analyze the information for the whole herd, different groups, number of lactations or different breeding states. Data can be selected from the entire report design tree including user defined items. The graph is found in menu ‘Cow/Scatter graphs’ or by clicking on the icon:

You simply press the ‘Add’ button to create a new graph:



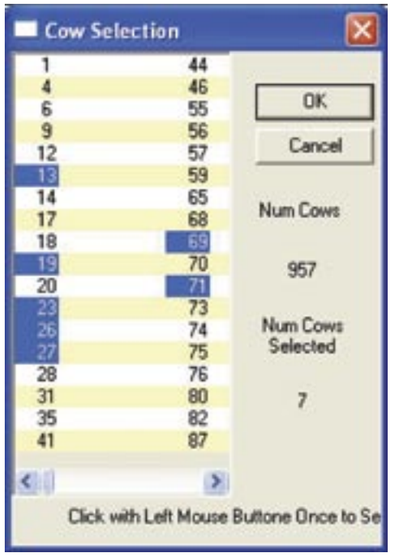
This example is a graph for milking routines:



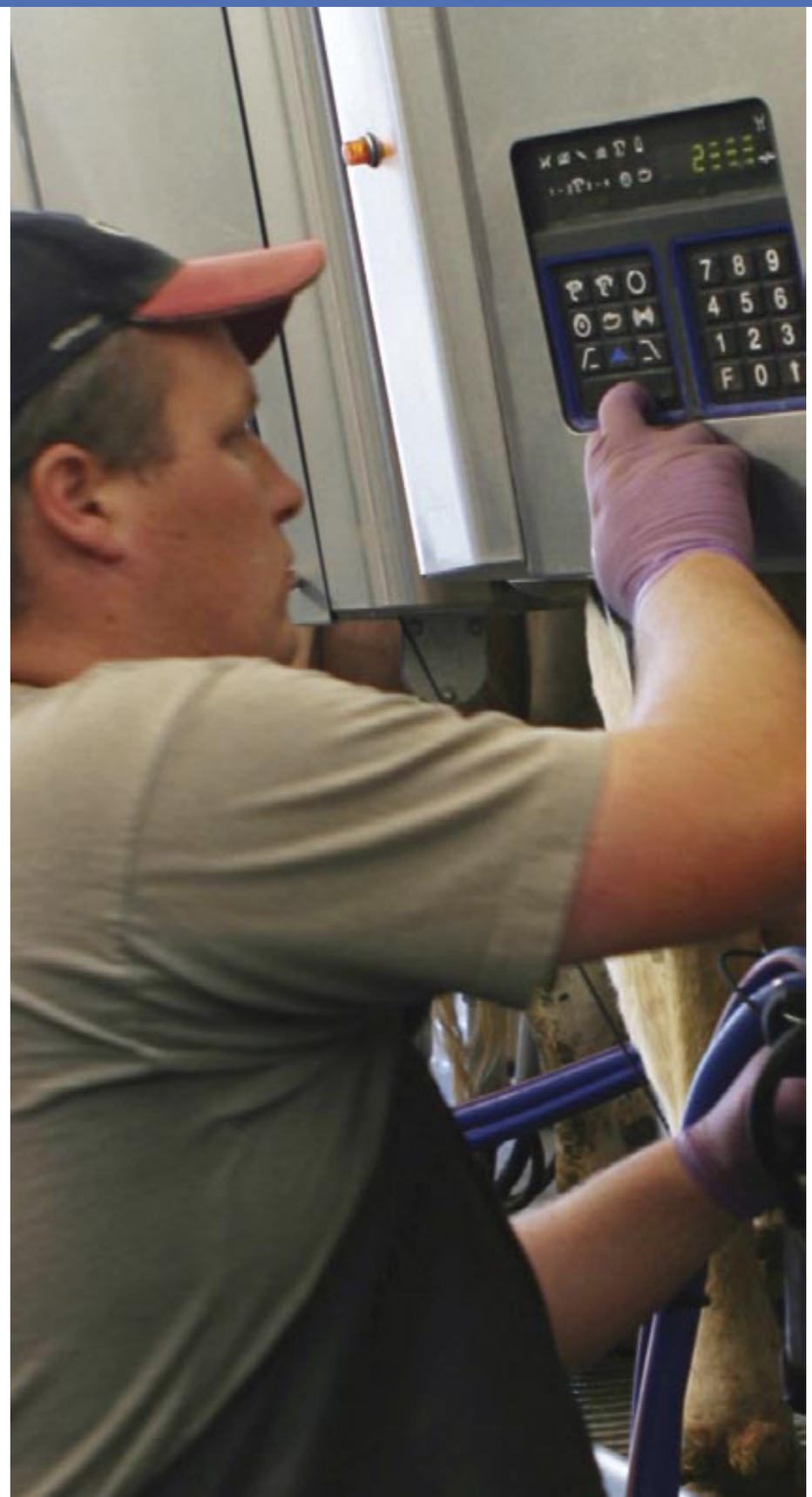
User defined filters and selections

You now have the possibility to create your own filters and selections of animals – for use in all reports and cow dialogs. With this feature, you may define a set of cows to be used later for reports or attention lists. The set of cows is stored and can be applied to any report.

Example of a set of cows – taken by manually selecting the cows belonging to the set:

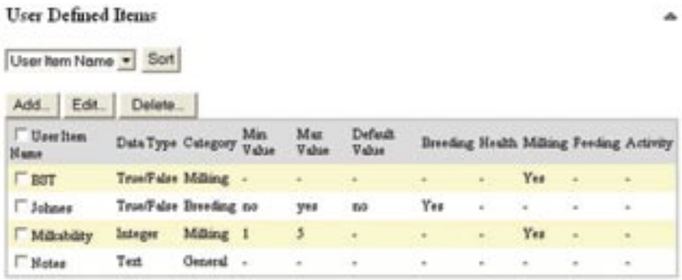


Similarly, cows may be highlighted on any report and saved as a set.



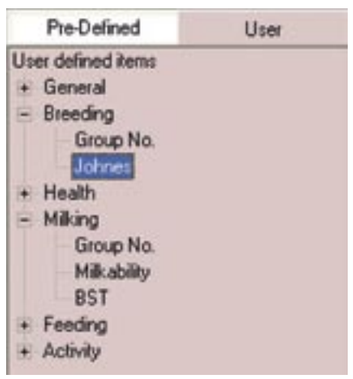
THE USER DEFINED ITEMS WINDOW

A large number of user-definable items are available to individually customize ALPRO® Windows*. To use these items, you merely select the data type (Integer, Number, Date, Text, or True/False). You may also define a category, the item it belongs to, low and high limits and a default value. If you would like to see the item in individual cow windows, you just set the check box/ boxes for the appropriate windows.



The items you create in the dialog will then be available in the report design tree. The items can be located in the folder that you have selected.

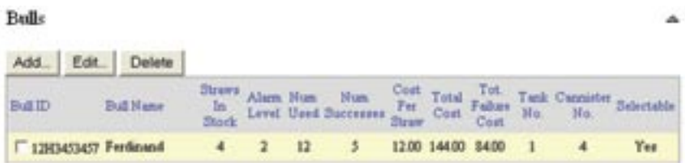
Here's a sample of user-defined items:



You can then use the items by dropping them in to a report.

THE BULLS WINDOW

In version 6.50 it is possible to inactivate bulls. When you don't use or very seldom use a bull, you can keep him in the database without displaying him in the list at insemination. You can also show him as active and possible to use for inseminating cows.



THE HERD SUMMARY WINDOW

There are some new items in the herd summary of version 6.50.

Percent of recruitment	*Percentage of new animals in the herd per year*
Milk income	*Milk income for the selected period*
Income over feeding cost	*Milk income / feed cost for the selected period*
Feed cost per unit milk produced	*Feed cost / milk yield for the selected period*
Milk to feed cost ratio	*Milk income / feed cost for the selected period*
Feed cost as percent of milk income	*Feed cost / milk income for the selected period*

THE CULL SUMMARY WINDOW

The cull summary is now divided into animals removed from the herd and animals cull flagged.

Cull summary

01/20/04 - 09/20/04

Cull Reasons	Number Removed	Distribution	Number Cull Flagged	Distribution
Bad feet	1	14%	0	0%
Udder	2	29%	0	0%
Low production	3	43%	1	20%
Fertility prob.	0	0%	1	20%
Cystic	1	14%	1	20%
?	0	0%	2	40%
Tot:	7		5	

The menu also has a new summary dialog of all removed and cull flagged cows.

Sort and filter in html dialogs

It is now possible to sort and filter the data in each column of the html summary dialogs by simply clicking on the column title you would like to sort or filter.

Cow Notes

Edit | Delete

Cow	Note	Note Type	Entered Date	Recorded By	Remind Date	Due Date	Completed Date
27	-	Oxytocin	09/21/04		-	-	-
26	-	Huge udder	09/21/04		-	-	-
23	-	Huge udder	09/21/04		-	-	-
20	-	Oxytocin	09/21/04		-	-	-
19	-	Huge udder	09/21/04		-	-	-
18	-	Slow milker	09/21/04		-	-	-
17	-	Sickly	09/21/04		-	-	-

THE BATCH ENTRY WINDOW

All batch entry dialogs have been improved to make them faster and easier to use. All dialogs with more than one column have a sort option where you can sort the data by column.

Sorted By: Cow No. Asc Desc

#7 selected

Cow No.	Don't Milk Days To Wait	Don't Milk Dur.	Don't Milk 1	Don't Milk 2	Don't Milk 3	Don't Milk 4	Dump Days To Wait	Dump Milk Dur.	Dump Sess. 1	Dump Sess. 2	Dump Sess. 3	Dump Sess. 4
1												
23												
47												
49												

Batch entry dialogs that include sessions, as in the picture above, are now more adjusted to each cow. Sessions that the cow is not milked are disabled.

We have added a check box to all blocks, where you can select several rows.

Heat (3)

Cows with 30 - 45 DIM and no heat reported (3)

In Heat | Add Note | Sort

Cow No.	Group No.	Days In Milk	High Activity Start Time	High Act Level	Comment
69	1	42	0		
5732	1	39	0		
5754	1	40	0		

Reports

There is new data in the report generator that can be used in reports, filters and selections. New items are:

– Sex, Dam and Sire
– Last ailment
– Latest cow note
– Relative yield
– Milking incidents
– ID times
– Batch number
– Milk flow values for 0-15 s, 15-30 s, 30-60 s, 60-120 s, and Take-off
– Last cut data
– Milk income
– Feed cost
– Different calculations for milk yield and feed consumption
– Relative activity

Import SQL reports

In menu ‘System/Imported SQL reports’ there is a new window where you can import sql reports. This function helps us get values and calculate different data from the database. This is not a function recommended for the farmer, but it is a powerful tool for troubleshooting if the farm experiences problems.

Networking

ALPRO® Windows* can be run in a network – meaning the program can be located on several computers. The document ‘ALPRO® Windows* Network/ Set up Instructions for Windows* NT, 2000 and XP’, describes how the installation is performed.

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