

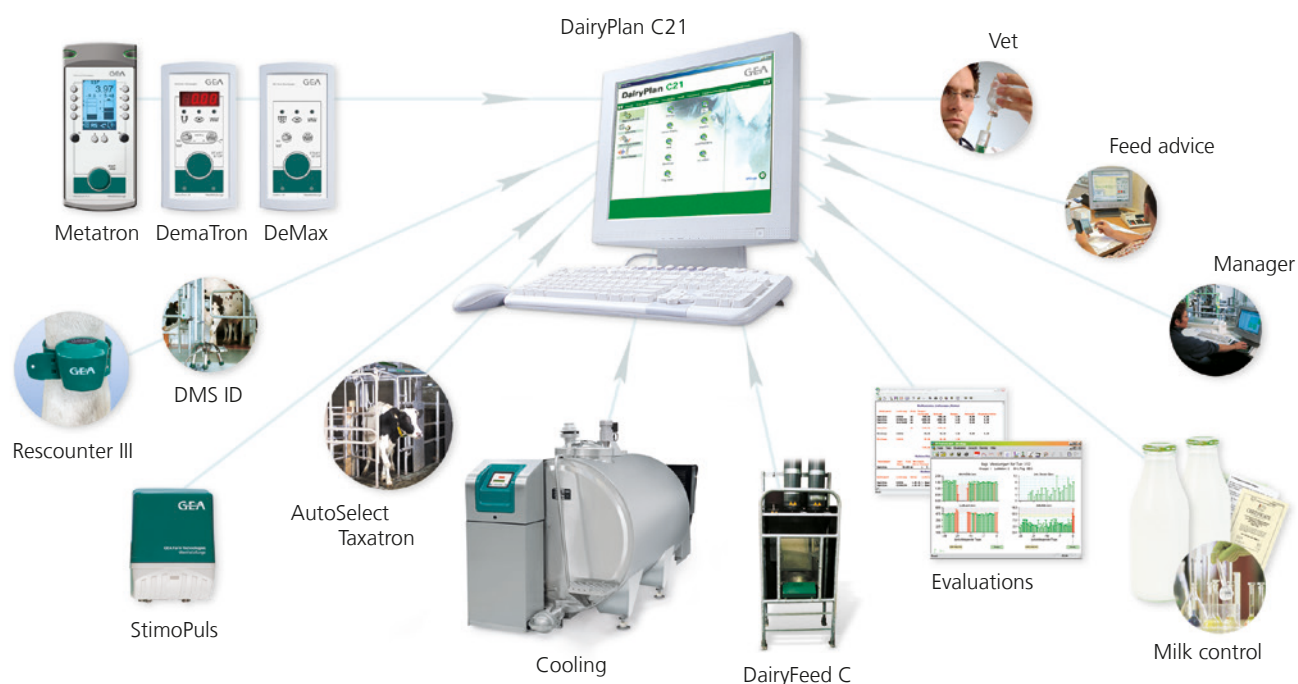
DairyManagementSystem 21

The information expert with new reproduction management tools

Content

DairyManagementSystem 21 Overview.	2
Precision Livestock Farming	3
Milk Management / Information in the Milking Parlour	4-5
Milking Installation Management / Installation Monitoring	6-7
Reproduction Management / Rescounter III DPVet / Animal Monitoring / DPMobil	8-11
Animal Segregation	12
Feeding Strategies	13
Rearing Healthy Calves / Herd Yield Analysis	14-15

DairyManagementSystem 21 Overview



Precision Livestock Farming

Best equipped for the future with DMS 21

Today, anyone who wants to produce milk successfully must have a firm grasp of all of the critical factors. All relevant information must therefore be available and monitored and important decisions made and

implemented at the right time. The forward-looking DairyManagementSystem 21 is your dependable partner here: maximum flexibility for minimal cost – the best conditions for a successful future.



Precision Livestock Farming -
more than just electronic animal identification

In order to be „better equipped“ in the future the agricultural business must have the electronics to control the various working processes. It is clear that, in addition to recording data, data monitoring, maintenance and control as well as the interactive exchange of data is becoming more and more important. DairyManagementSystem 21 from GEA Farm Technologies will help you keep ahead now and in the future. With electronic animal ID, DairyManagementSystem with DairyPlan C21 records production data automatically. Details of milk quantity, conductivity, feed quantities, weight and activity measurement then provide important information for optimal herd management.

Helping to make decisions and controlling decisions. DairyPlan C21 therefore not only provides the basis for making decisions, it also lets you control the success of how the decisions are implemented in detail. DairyManagementSystem with DairyPlan C21 for successful milk production:

- Optimising yield
- Optimising herd health
- Optimising herd fertility
- Optimising feeding
- Optimising working efficiency
- Ensuring product quality

Starter Kit for DairyPlan C21, Version 5.2



*A good quality USB
stick for DP data
backup*

*C21 installations CD and
DMS 21 – Livestock
Precision Farming
Manual*

Milk management

The smooth integration of Metatron 21 and DairyPlan C21 opens up completely new possibilities for optimising your working processes directly at the milking place. Metatron 21 consults the relevant data record provided by DairyPlan C21. All of the accumulated data, such as milk quantity, milk flow

and conductivity are recorded and analysed in DairyPlan C21. Processed and formed into graphs, this information can be accessed at any time with a look at the Metatron P21 terminal.



*Management on the spot:
Metatron P21/S21 - "the small
PC in the milking parlour"*



*The screen in the milking parlour:
current information entered directly
in the milk parlour. Clear and easy in
DPView!*



Your benefits at a glance:

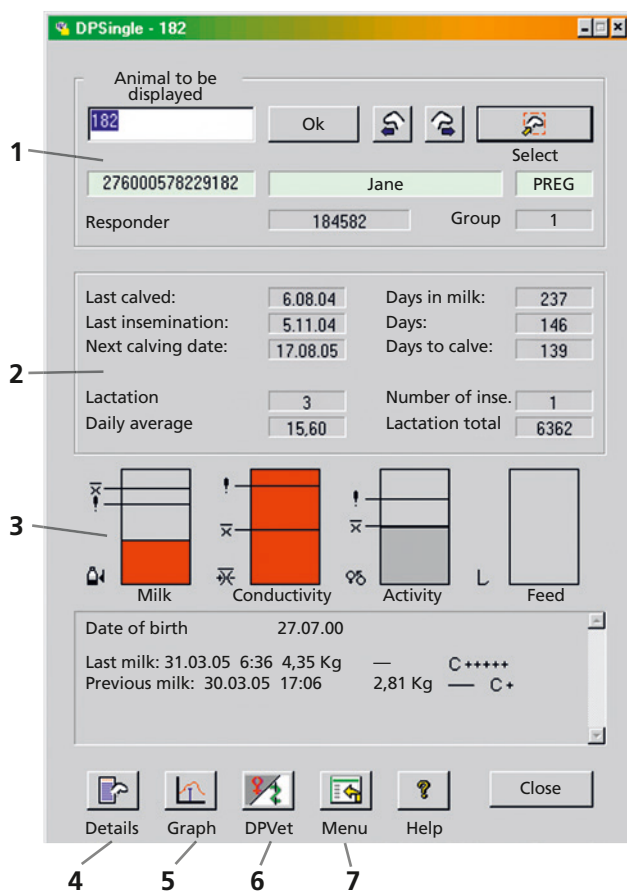
- Accurate, ICAR-approved milk yield records
- Health control by displaying milk quantity and deviations in milk quantity and conductivity
- Animal data in the milking parlour for reproduction management: important dates such as heat, insemination, treatment, etc. are shown at the relevant time.
- Preparation for milking and stimulation from an analysis of the individual animal data provided by DairyPlan C21, such as automatic introduction of the stripping phase
- DairyPlan C21 controls functions such as pulsation, Metatron, milk metering, feeding and segregation

Information in the milking parlour

The “life line” to success

The GEA Farm Technologies identification system DMS ID is required for automatic recording and processing of each animal. This information is the “life line” of successful herd management. In the

milking parlour or in the office, animals with a low milk yield and high conductivity, for example, can be displayed automatically as having suspected mastitis.



DPSingle –
not a closed book!

- 1 Master data on the animal
- 2 Information on the current lactation
- 3 Graphical representation of the measurement results (in this case: too little milk and conductivity too high)
- 4 Call up all available animal data
- 5 Call up “DPTableGraph” - graph generator
- 6 Call up “DPVet” - program for inputting animal data
- 7 Call up main menu

Audible speech output in the milking parlour:



now DPVoice 21 can voice over the animal information to you!



Milk installation management

Increase throughput with DPEvent

Are milking sessions too long? Is the working time well organized? DPEvent gives you an overview. The “Key milk yield figures” is a table summarising the efficiency of your milking work: the working processes are analysed, assessed and shown as key

figures. And you can set limits for important key figures - for example, number of milkings per hour or total duration of a milking session. Deviations or strong deviations are marked in yellow or red respectively.



Key milking efficiency figures can be called up via the DemaTron directly in the milking parlour.



The animals' ability to exit rapidly reduces the changeover times and their resultant shortened dwelling time leads to an increase in throughput capacity of up to 15%.



Your benefits at a glance:

- Analysis of everything that happens in the milking parlour (e.g. milking sessions, feeding, segregation gate, etc.) show in graph and table form
- Monitoring and analysis of all working processes
- Examination and optimisation of milking efficiency

Installation monitoring

Ensure milk quality with DpNet “online”

Network integration of Expert tank control

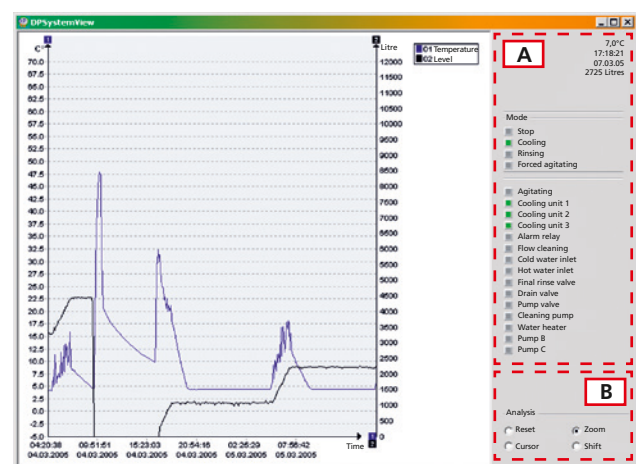
Would you like to stop losing milk revenues? Expert tank control will help you identify problems early. The record card in DMS 21 DpNet shows a graph of all milk tank data: quick and easy to identify, milk

temperature (blue) and milk level (black) are shown as a curve. Using the analysis function it is possible, for example, to show the necessary information on every measurement stored.



Your benefits at a glance:

- Forward-looking network technology with DpNet
- Storage temperature constantly recorded
- Milk quality assured “online” with Expert tank control
- Faults recorded and analysed
- An alarm can be given immediately
- Milk quality ensured



A - Current measurement values and switched relay for tank control

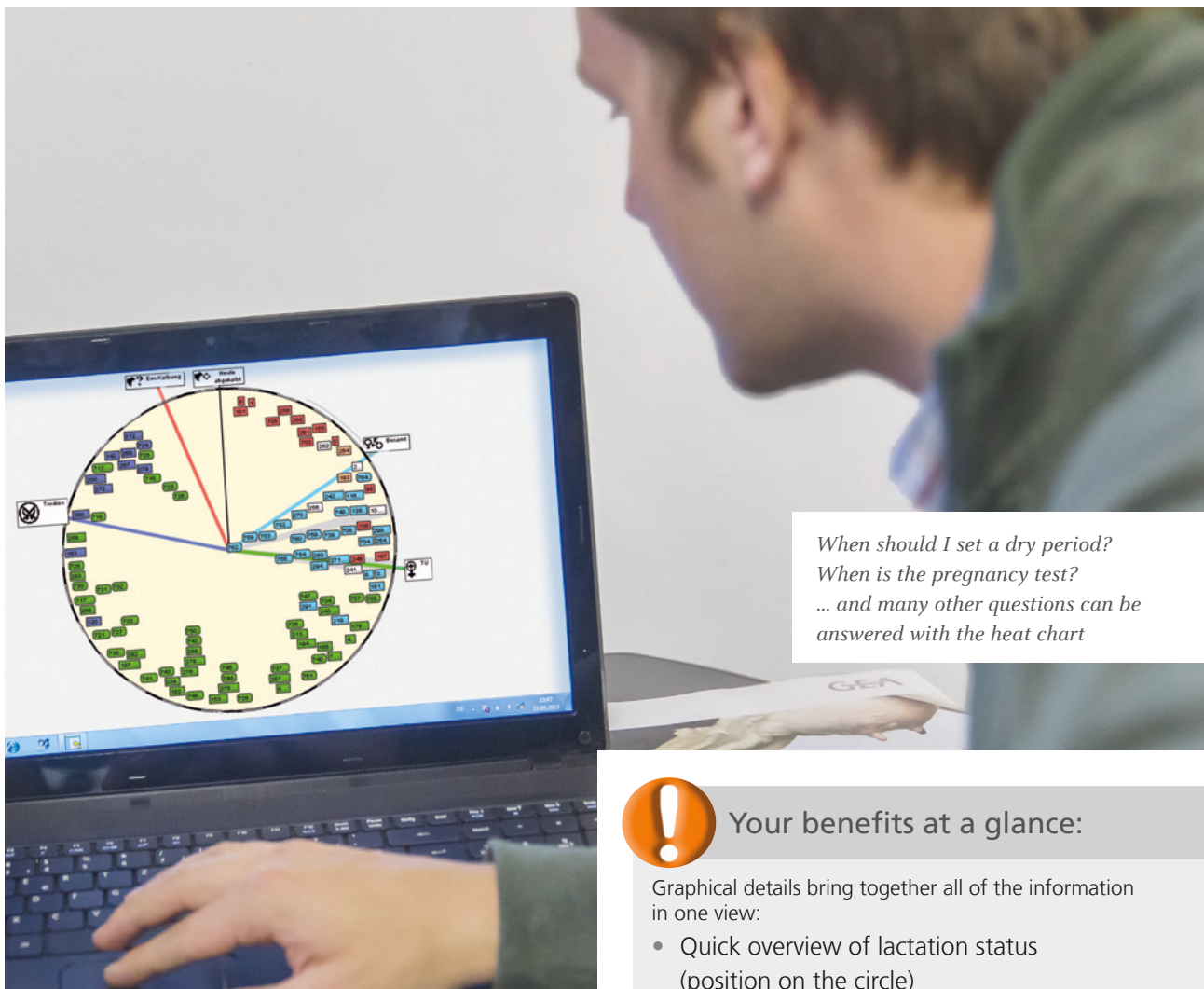
B - Analysis function for graphical analysis

DMS 21 Reproduction management

A reliable overview of the herd

One feature of DairyPlan C21 from GEA Farm Technologies is the “intelligent” heat chart: it is a successful conversion of the traditional heat disk – moved from the wall to the screen. The excellent clarity of the

graph helps you quickly find the answers you need to optimize your reproduction management.



The reproduction performance of a herd determines the success of your dairy farm. Correctly identifying when animals are in heat is the key to success. Therefore, it is crucial to have a complete view of all of the animals in your herd and their status.

Rescounter III

The sentry with a 2-hour cycle

High herd fertility is one of the key factors in profitable milk production. With DairyPlan C21 and the new Rescounter III, GEA Farm Technologies has further enhanced its accurate heat detection tool.

Rescounter III, equipped with a wear-free movement sensor, displays the activity every two hours so that signs of heat can be reliably recognised and the best time for insemination determined.



Rescounter III comes in leg- and neck-mounted versions



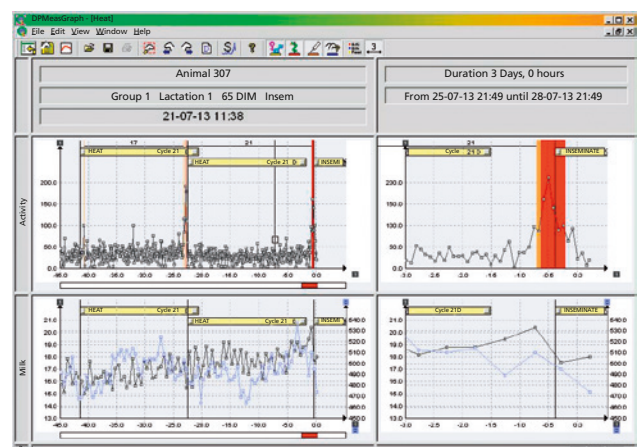
Your benefits at a glance:

- Lower insemination costs as fewer inseminations needed for impregnation
- Reduced time between calving
- Higher annual average milk yields

Rescounter III is available as a leg or neck-mounted version. It can be easily attached to the cow's leg or neck and has been designed for the animal's comfort.



Rescounter III - Now even more animal friendly: The leg band has been designed for the most comfortable fit and quick and easy attachment.



Analysis of historical and current activity, milk yield and conductivity curves – All visible at a single glance!

DPVet

For a complete health record

A healthy dairy farm needs healthy animals. Early identification of disease is therefore part of your every day work that has to be taken seriously. Whether it concerns the analysis of deviating animal data or the management and performance of the corresponding treatments; DPVet, in conjunction with DairyPlan C21,

keeps a medicine stock log in accordance with ISO 9002. This extensive automation of health control and the treatment of disease helps you keep control over your herd with a minimum amount of work and a maximum yield from your cows.

The screenshot shows the DPVet software interface. On the left, there are several input fields and buttons for recording a new action. On the right, there is a table of historical actions.

Available vet actions:

- TREATMENT
- TETRA DELTA
- INSEMINATION
- MILK FEVER
- HEAT

Vet action details:

- Group 1 Lactation 5 196 Lact.days INSEM. 44,0 Kg Clown
- Animal ID: [Field]
- Vet action: [Field]
- Date: [Field] Time: [Field] Code: [Field] Cost: [Field] Performed by: [Field]
- Positives Ergebnis: ☒ (Bullen)
- Inseminating bull: [Field]
- 2. Comments: [Field]
- Other change: [Field]
- Anzahl Spermaportionen: [Field]
- Neuer Status: ☐ (BES.)
- Gruppe ändern: ☐

Vet actions table:

Datum	Days	Action	+/-	Comments
16.09.04	-196	Calving	1 normal	1. female ap. 43
18.09.04	-194	Hooves	Cut V+H	VR w. Liniede
8.11.04	-143	Pregnant	stands and jumps	
5.12.04	-116	Pregnant	Zador	
22.01.05	-68	Treatment	Lameness	
4.02.05	-55	Treatment	5 ml Receptal	
11.02.05	-48	Estrumate	2 ml	
12.02.05	-47	IBR		
14.02.05	-45	Inseminate	2 ml Receptal	
14.02.05	-45	Treatment	Zador	
7.10.05	+190	Dry period.	Future event	
14.10.05	+197	Hoof treatment	Future event	
12.11.05	+226	Calving	Future event	
26.11.05	+240		Future event	

- 1 The individual action can be selected in the "Available vet actions" area
- 2 "Animal ID" field – single- or collective entries can be made
- 3 Shows vet actions that are planned or have been performed
- 4 Date – for calculating the corresponding follow-on actions
- 5 Positive result – the default setting
Negative Result – the tick should be removed
- 6 The status and group number can be re-specified in the "Other changes" area



In the milking parlour, Metatron 21 uses lights and symbols to indicate certain animals. Rapid entry using hot keys makes it easier to enter treatments.



Your benefits at a glance:

- Easy, clear medicine management to ISO 9002
- Complete, on-time identification of the need for treatment when animals are sick
- Each individual treatment is introduced, administered and checked

Animal monitoring

Stay mobile

Mobile data capture provides an optimum alternative to a "paper chase", right where you need it, directly in the barn. Simply take your DairyPlan C21 with you in your pocket! Because DPMobil 2 offers you the option

of calling up any required animal information and entering all important animal actions via a handheld device or mobile telephone.



Absolutely anywhere! DPMobil 2 offers you easy data entry using simple thumb operation. The V-Scan handheld reader electronically reads the responders, rescounters or ear markers (134 kHz ISO) and transfers the data via Bluetooth to DPMobil 2. Then with DairyPlan C21, your data are easily synchronised.



Your advantages at a glance:

- Capture your data, where it is generated
- No "paper chase"
- Simple, error-free animal identification using DMS21 V-Scan
- Time savings

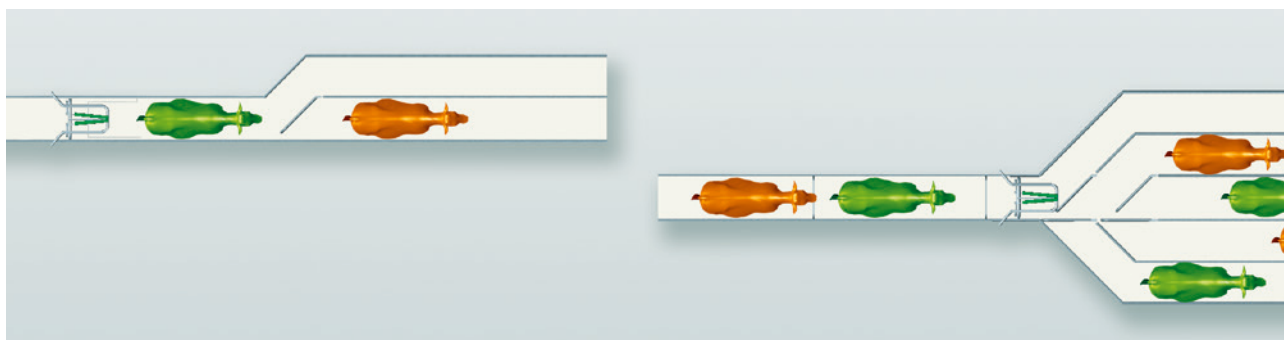


Animal sorting

AutoSelect shows your animals the way

You want to sort your herd effectively without a lot of effort? You don't want to keep on selecting the animals laboriously by hand?

GEA Farm Technologies can offer you various systems for automatically separating individual animals or groups of animals efficiently, quickly and reliably:



AutoSelect 3000 SA –
the guidance system **without**
data connection to
DairyManagementSystem 21

- Reliable semi-automated individual animal segregation
- Easy to use with segregation logic set by the individual application of responders
- Up to 3 segregation paths possible for simultaneous segregation for different treatment purposes
- High level of segregation reliability
- Can be integrated into DairyManagementSystem 21 later without a lot of conversion work

AutoSelect 3000 –
the guidance system **with**
data connection to
DairyManagementSystem 21

- Reliable fully-automated individual animal segregation
- Controlled via DairyPlan C21 (segregation specifications can be entered regardless of milking session or parlour)
- up to 3 segregation paths possible for simultaneous segregation for different treatment purposes
- Segregation conditions (e.g. high activity, etc) can be programmed in DairyPlan C21
- High level of automation, therefore minimum amount of organisational work on herd management

AutoSelect 5000 –
the guidance system **with**
data connection to
DairyManagementSystem 21

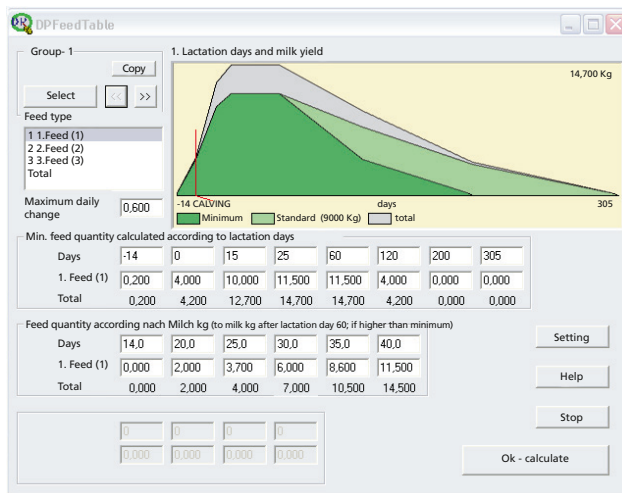
- reliable, fully-automated individual and group segregation
- up to 5 segregation paths possible for simultaneous segregation for different treatment purposes
- Controlled via DairyPlan C21
- Upstream identification (before the segregation area)
- Up to two segregation channels can be arranged one after the other, so that it is flexible for many different structural solutions (e.g. old buildings)
- High level of segregation reliability
- Taxatron scales can be integrated

Feeding strategies

Feeding according to yield and condition

Just feeding and nothing else? No thank you!
Optimal feeding – for each individual animal – is a foundation stone for the healthy development of your herd. With DairyPlan C21 and the automatic feed

concentrate dispenser DairyFeed C, you can perform automated feeding according to the most diverse criteria and modern nutritional and physiological points of view.



Your benefits at a glance:

- Reduction in metabolic problems thanks to use of individual feeding matched to the animal's condition
- Individual feeding for each animal
- Optimal adjustment to the most diverse factors and requirements
- Exact allocation thanks to volume dispenser
- Summary lists on individual rations and quantities consumed
- Automatic and manual ration adjustment; no overfeeding or underfeeding



Rearing healthy calves

The first hours are crucial

Rearing that is right for the breed, and individual care for each animal will result in a healthy, well developed calf. To ensure that nothing goes wrong, especially in the first few hours, DairyFeed J automatic calf feeders make everyday calf care easier. Special monitoring functions give you targeted control of all important data from birth. GEA Farm Technologies offers calf feeder equipment in standalone versions or versions that can be networked with DairyPlan C21.

DairyPlan C21 calculates the correct feed and feed concentrate quantities for you, for each calf.

The DairyFeed J feeding equipment from GEA Farm Technologies provides the right amount of feed or feed concentrate for each of your calves. It monitors drinking and feeding habits, saves the data and immediately reports any deviation. So, for example, an illness can be identified and treated immediately. This saves vet costs and ensures a healthy, rapid development of your calves.



Machine	Group	Animal	alarm...	date...	feeder...	Set feeder	Feeder rights [1]	Feeder rights [2]	Feeder call up	Feeder call up	Zubehörfeder [1]
Machine: feeder											
Animal 4											
Feeder 1	B	4	1	0	30.03.00	5.400	00:30	4.800	0.000	0	0.000
Feeder 1	B	4	1	0	30.03.00	5.000	00:30	4.800	0.000	0	0.000
Animal 6											
Feeder 1	A	6	1	0	30.03.00	0.000	04:30	0.000	0.000	0	0.000
Feeder 1	A	6	1	0	30.03.00	0.000	04:30	0.000	0.000	0	0.000
Animal 8											
Feeder 1	A	8	1	0	30.03.00	0.000	04:30	0.000	0.000	0	0.000
Feeder 1	A	8	0	0	30.03.00	0.000	04:30	0.000	0.000	180	0.000
Animal 20											
Feeder 1	A	20	1	0	30.03.00	6.100	04:30	5.000	0.000	0	0.000
Feeder 1	A	20	1	0	30.03.00	6.200	04:30	5.000	0.000	0	0.000
Animal 21											
Feeder 1	C	21	1	0	30.03.00	5.400	00:30	4.800	0.000	0	0.000
Feeder 1	C	21	1	0	30.03.00	5.000	00:30	4.800	0.000	0	0.000

Clearly laid out monitoring
list for feeder call up



Your advantages at a glance:

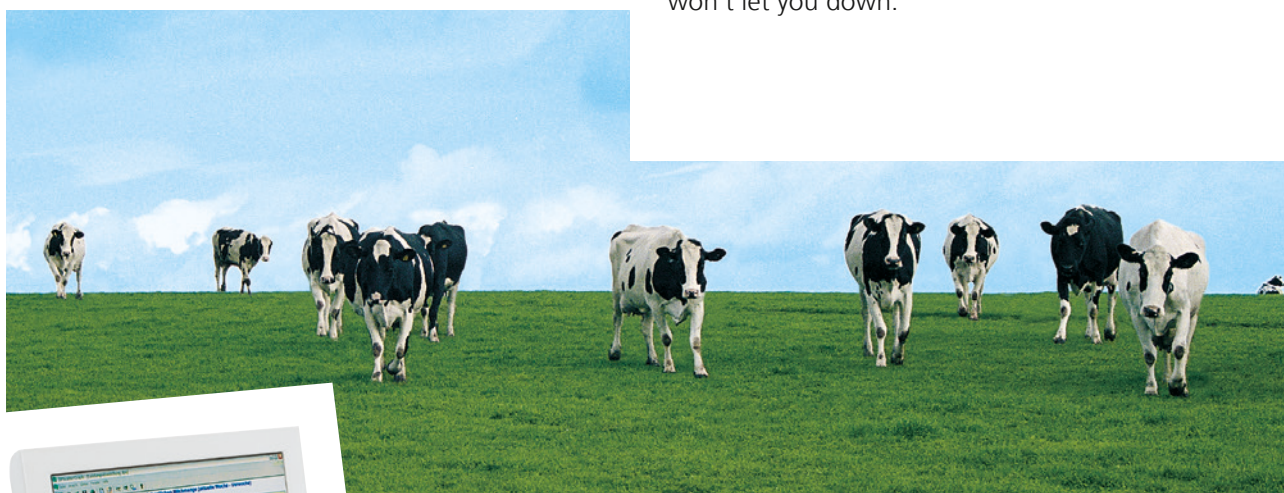
- Time saving calf rearing
- Healthy calf growth
- Optimum networking between calf feeders and PC permits on-site or office management

Herd yield analysis

Knowing about the whole year

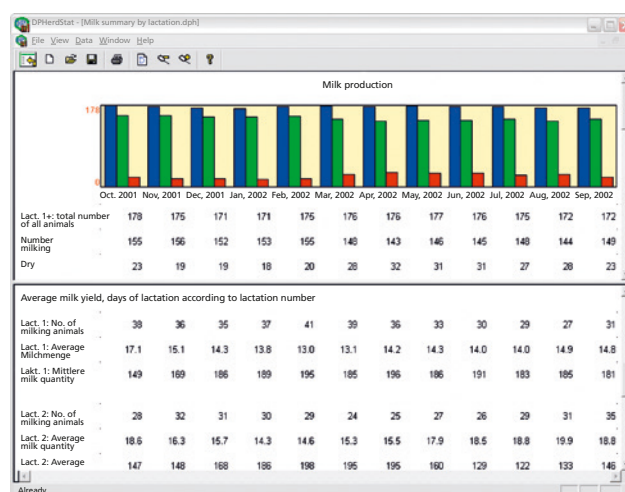
Just having a day-to-day overview is not enough. To work economically and effectively requires a rapid assessment of your farm's production figures over the whole year. Different figures give you a complete assessment of your milk production in all areas

that are important for your financial success in milk production. On the basis of the data from previous months and years, you can define realistic objectives as a benchmark for the future and therefore measure your success against these figures. Whether it's milk production statistics, simple yield analyses or special evaluations on reproduction and health – DairyPlan C21 won't let you down.



Your benefits at a glance

- Yield analyses for all aspects of production
- Rapid assessment with simple comparison of yield and key figures
- Precise tracking of the herd's yield over several years
- Realistic definition of targets (benchmarking) based on your own data



Milk production statistics based on the monthly herd values stored.



We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 index.

GEA Farm Technologies GmbH

Siemensstraße 25 - 27, D-59199 Bönen
Tel. +49 (0) 23 83 93 7-0, Fax +49 (0) 23 83 93 8-0
www.gea.com | www.gea-farmtechnologies.com