

A close-up photograph of a black and white cow's head. The cow has a yellow ear tag with the number 05571. The background is blurred, showing other cows in a farm setting.

Session: Advanced analytics for adding value to livestock data

Advanced analytics create insight and supports the Danish dairy farmers

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Product Portfolio Manager – Digital solutions for Cattle

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Acknowledgement to my team at SEGES who are working with Business Intelligence

SEGES Software

- **Management system for**

- 2800 farms, mainly dairy
- 200 advisors
- 200 veterinarians

- **Central cattle database including the mandatory movement data to ministry**

- **Exchange of cattle related data with stakeholders across the dairy business**

And they are all asking to get more value out of the data. SEGES is working on that through innovation projects and usage of newest technology

So lets set the scene



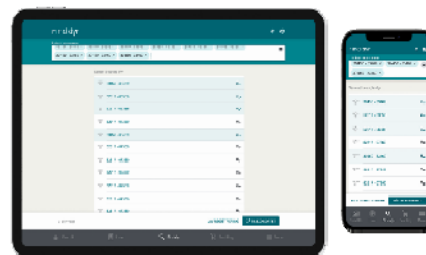
External data

- E.g.
- Viking
 - NAV
 - RYK
 - Dairies
 - Slaughterhouses
 - Eurofins | Steins
 - Veterinary practitioners
 - Ear tag manufacturers
 - Processing equipment
 - milk, feed, activity, weights, etc.

SEGES LIVESTOCK DIGITAL / DMS



DMS



EasyCow



WebDyr
WebDyr Plus



Claw registration

SINGLE SIGN-ON

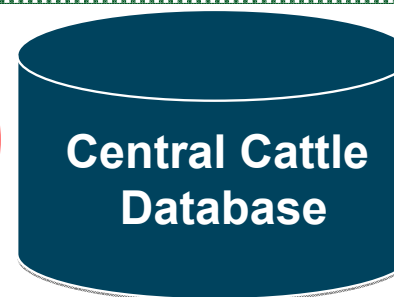
WEB SERVICE LAYER (DCF and DCF-O)



NorFor



Data
warehouse



Central Cattle
Database



GLR/CHR
Owned by Danish
Veterinary and
Food
Administration

SEGES
INNOVATION

From raw data to advanced decision tools (Big Data)

Kildesystemer



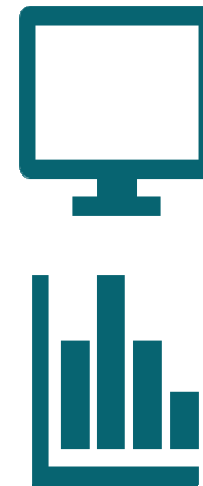
ETL proces



Datawarehouse



Analyse og rapportering



DMS KPI

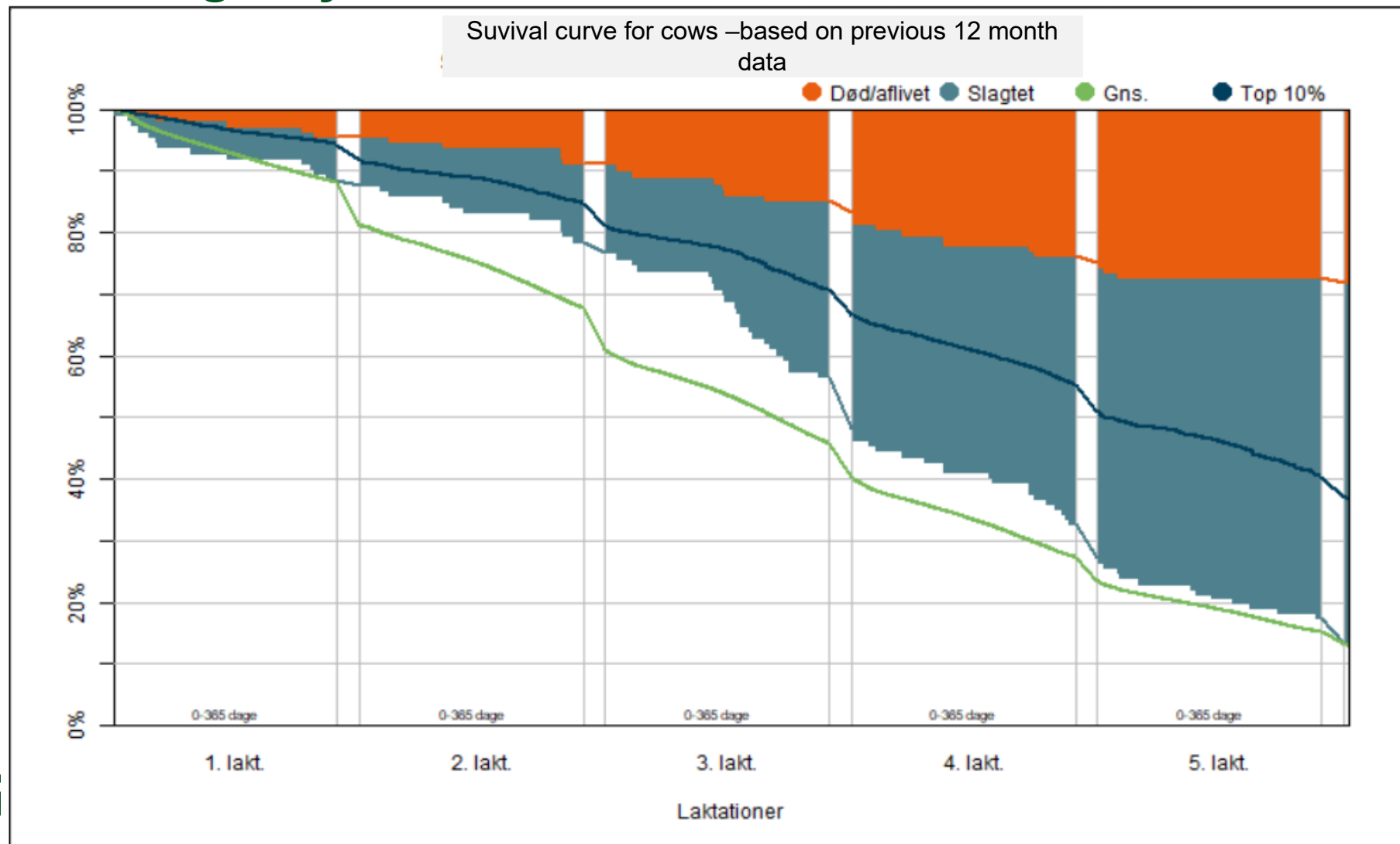
Daily update on milk production, reproduction, health and feeding. Giving an important overview.

Key Performance Indicators

Topic	Status	Key figure (unit)	Achieved	Alarm limit	Reporting period
Milk	✓	ECM delivered (kg/day)	11,713	Min 10,942	Latest measurement
	✓	Milk yield per lactating cows (kg ECM/day)	37.1	Min 35.1	Latest measurement
	●	Milk quality (numbers of deductions)	1		Last 7 days
Reproduction	✓	Inseminations of cows (numbers)	14	Min 4	Last 7 days
	●	Inseminations of heifers (numbers)	1	Min 2	Last 7 days
	✓	Not pregnancy examined cows (numbers)	0	Max 0	Last day
Health	✓	Disease treatment, cows (numbers)	5	Max 5	Last 7 days
	✓	Dead animals (numbers)	0	Max 0	Last 7 days
Feeding	✓	Energy efficiency (%)	103	Min 93	Last feed control

Manage your
production like
you manage
other business

Health & Longevity



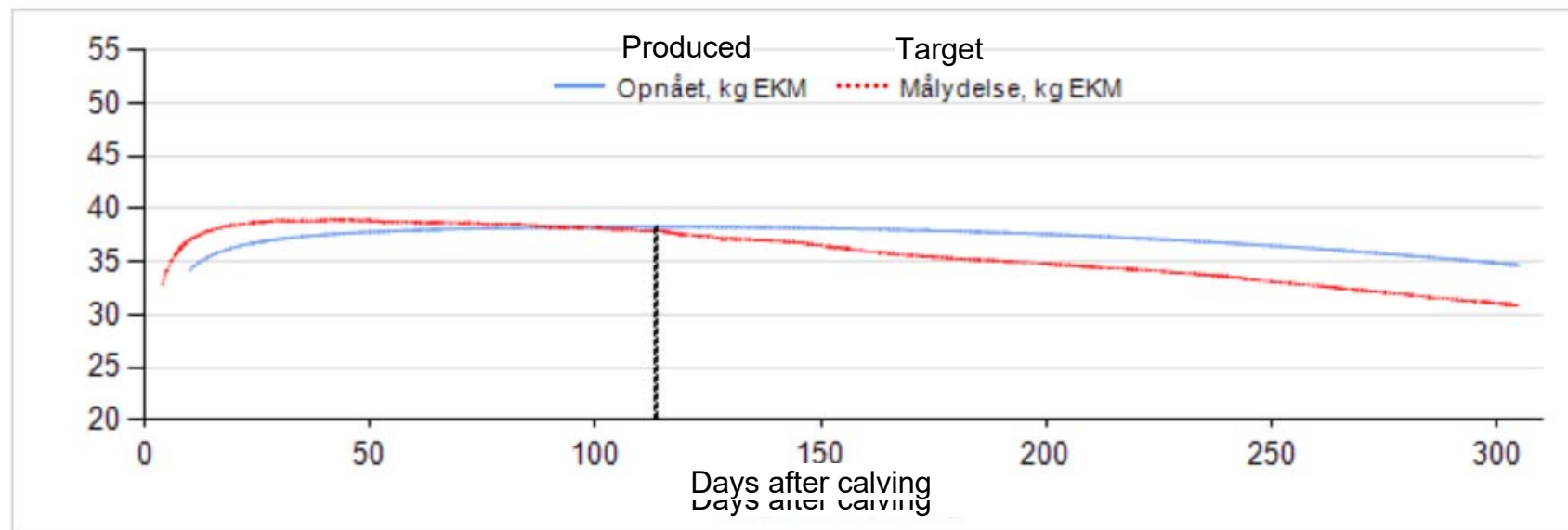
SEG

Ordinary herds / Organic herds

	10 % highest longevity	Average	10 % lowest longevity
Cost pr. kg ECM, EUR	0,321 / 0,404	0,328 / 0,44	0,344 / 0,461
Kg ECM pr. cow/ year	10.666 / 10.012	10.551/ 9.531	10.062 / 9.102
Price pr. kg ECM, EUR	0,355 / 0,455	0,352 / 0,451	0,348 / 0,451
Sold/slaughter income	3001 / 3.559	3.019 / 3.405	2.862 / 3.058

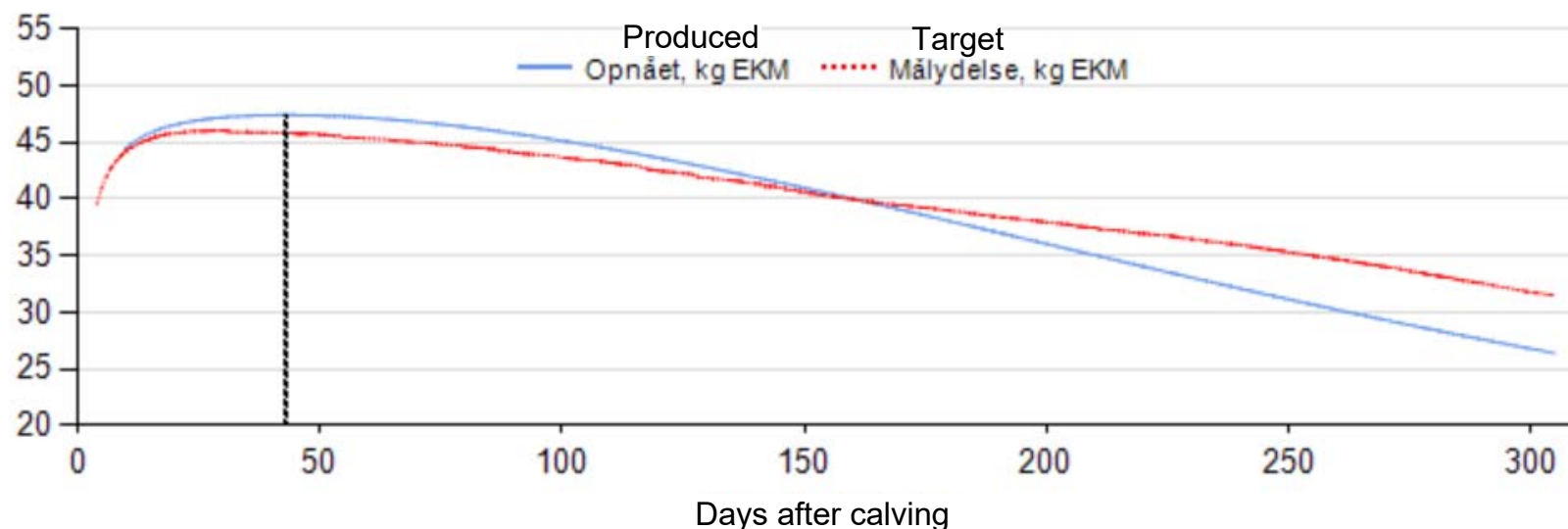
Source: SEGES, 967 ordinary herds, 180 organic herds

Laktation analysis, 1st calvers, curve form and benchmark



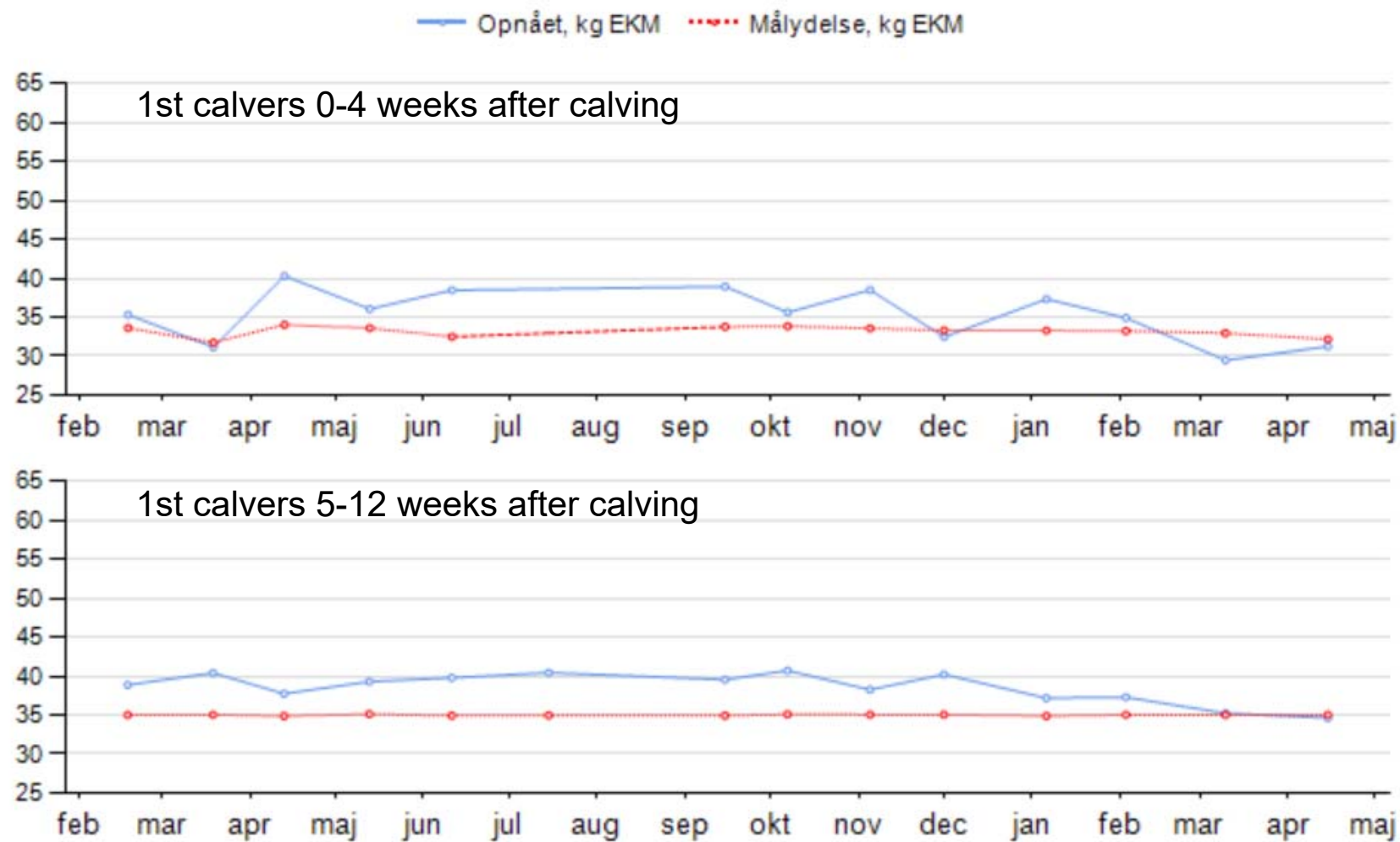
Nøgletal for "opnået" laktationskurve	Actual herd	25% lowest	25% highest
Top yield, days after calving	113	81	144
Top yield, kg ECM	38,3	29,3	32,9
Top yield, 1st calvers of 3rd+ calvers, %	80	70	77
305-days yield, 1st calvers of 3rd+ calvers, %	93	80	86
Variation between cows, %	14,5	10,5	14,3
Decrease form Top yield to 305D yield, %	9	6	12

Lactation analysis, 2nd calvers, curve form and benchmark



Nøgletal for "opnået" laktationskurve	Actual herd	25% lowest	25% highest
Top yield, days after calving	43	26	43
Top yield, kg ECM	47,4	37,6	43,2
Top yield, 2nd calvers of 3rd+ calvers, %	99	93	98
305-days yield, 2nd calvers of 3rd+ calvers, %	97	95	100
Variation between cows, %	18,9	11,2	16,5
Decrease form Top yield to 305D yield, %	44	26	34

Changes over time



Attention to high Somatic Cell Count

DAGLIGT OVERBLIK Ko-kort Indtast løbenummer... Find andre dyr

Vælg driftsenhed Bestilling Udskrifter Må slagtes? Registrering

Driftsenhed Alle besætninger Kvæg Øremærker Gen. analyser Oversigt Undersøg Kælvning Indgang Levebrug Slagtning Aflivning Død Beh.diag. Behævrige Kliniske Inseminering Løbning Drægtighed Goldning Klove Vægt/Højde Studning Interne nr. Udstationering Hjemtagning Eksport

Fokusdyr Golde køer: 78 Malkende køer: 562 Aktuelt

0/2 DAGENS BEHANDLINGER Der mangler reg. fra tidligere dage REPRO-FOKUS KØER

DYR MED TILBAGEHOLDESESTID TIL SLAGTNING REPRO-FOKUS KVIER

0 OBSERVATIONS- OG AKUTDYR OPFØLGNING KLOVE

Arbejdslister 5 DAGE 7 DAGE 16 - 20 MAJ 2022 Tilføj + ?

Dine registreringer matcher ikke modpartens

Køber har ikke indberettet indgang - tjek afgang 1

Øvrige registreringer til gennemgang

Indberetning fra dyrlæge 17

Ydelseskontrol

Næste kontrol dato (52517): 19-05-2022 - dyr udpeget 0

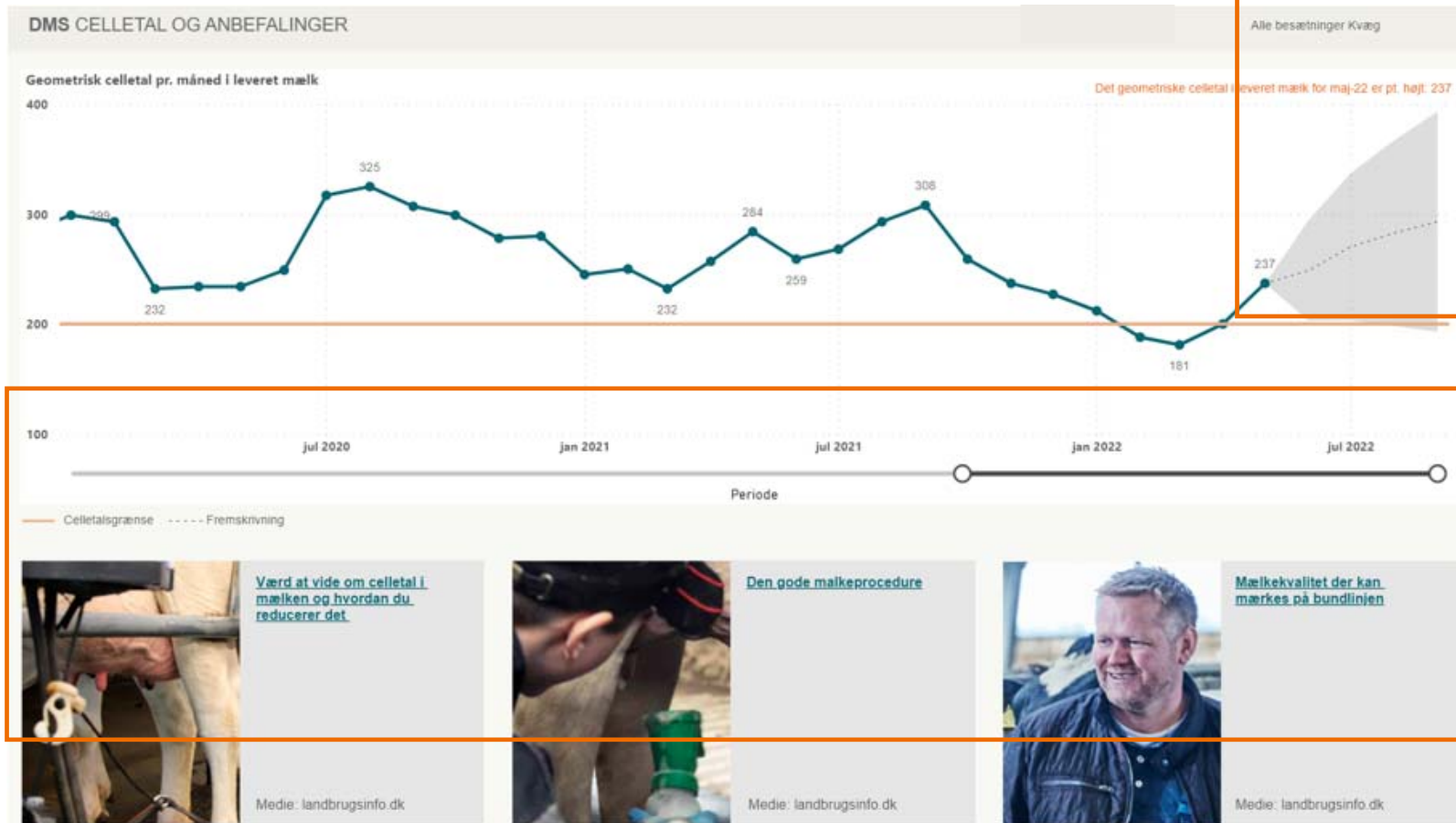
OBS

Det geometriske celletal i leveret mælk er pt. højt, klik her for at se udvikling og anbefalinger 237

SCC > 200.000 gives
reduction in price
So we give an alert if so

FORECASTING USING ADVANCED ANALYTICS

Overview and analysis



Forecast





What can I do

Herd Performance Benchmarking

Benchmark your own sights (farms) against a group of other dairy farmers. All Danish Dairy farms are available

Select different comparison groups related to breed, herd size, milking system, organic/not organic, milk yield pr. cow. Benchmark on 12, 3 and 1 months basis

Benchmarking

Key figure (unit)	Value	Ref	Goal	Compared to group	Rank
Milk yield (kg ECM/year)	11.662	11.247	11.600		6/345
Mortality, calves 1-180 days (%)	6,1	1,8			186/312
Milking years pr. cow (years)	1,9	2,2	2,5		343/355
Cell count (1.000)	154	164	200		74/365

Thank you for your attention!

**For more information, you are welcome to contact me
or my great colleges at SEGES**

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