

"News from Denmark"
Rennes September 2022



• About Us!

The Danish delegation

Leif Frederiksen

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- Date of Birth: 20. sep. 1963
- Work: A.I. Technicians, since 1. okt. 1987
- Board Member of the Association of Danish A.I. Technicians, since 2006



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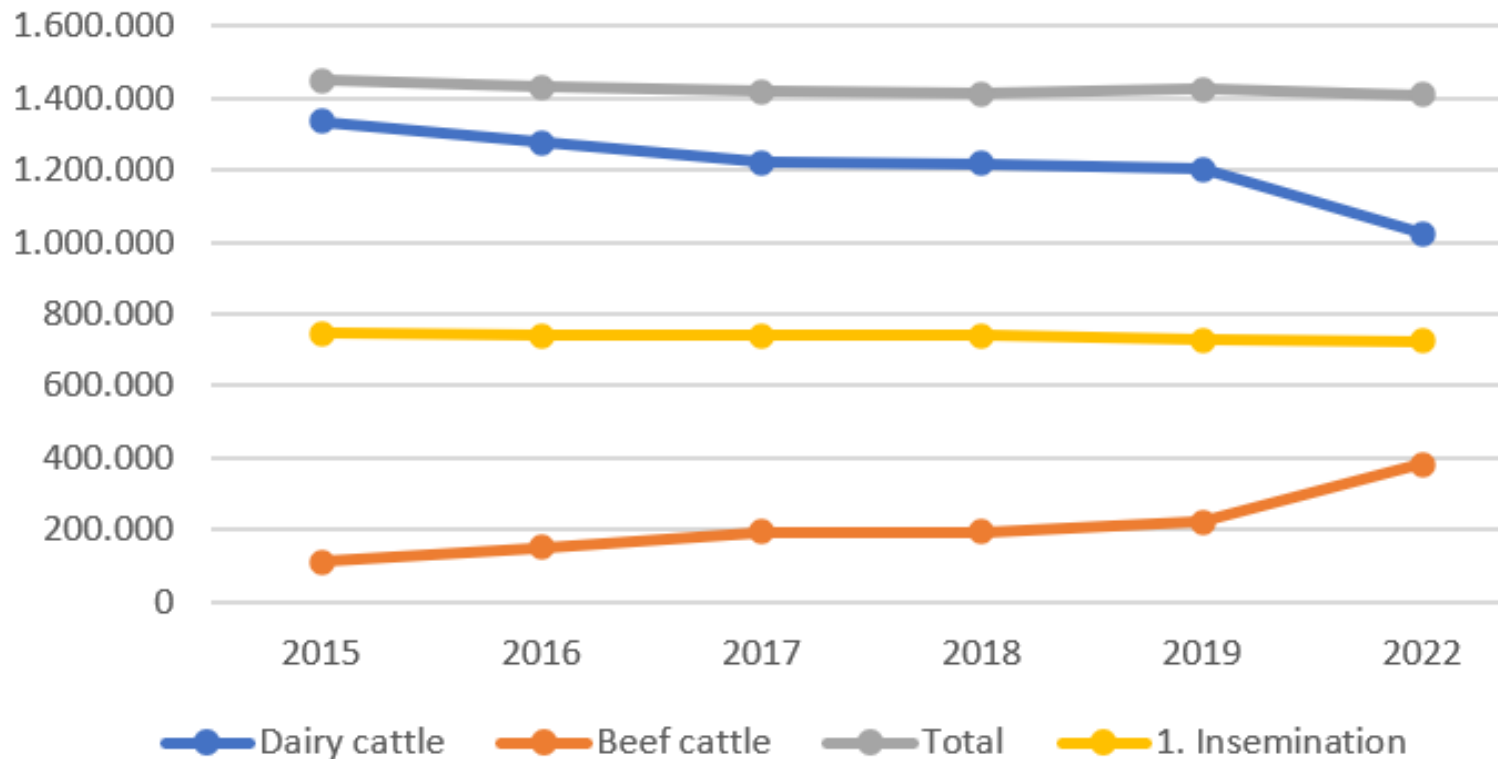
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- Date of Birth: 14. dec. 1964
- Work: A.I Technicians, since 1. okt. 1987
- Board Member since 1992 and Secretariat in the Association of Danish A.I. Technicians, since 1994



Numbers of A.I. in Denmark 2015 - 22

Inseminations i Danmark 2015 - 22



• Numbers of insemination in Denmark 2015 - 22

A.I. in Denmark	2015	2016	2017	2018	2019	2022
Dairy cattle	1.335.142	1.277.012	1.220.908	1.216.722	1.202.290	1.024.658
Beef cattle	112.372	151.867	196.228	194.512	223.188	382.989
Total	1.447.514	1.428.879	1.417.136	1.411.234	1.425.478	1.407.647
1. Insemination	746.280	740.615	740.027	739.045	727.238	723.792

Numbers of insemination i Denmark carried out by official A.I. Technician, Farmers and privat AI Technician. - Last 12 months

- | | | |
|----|----------------------------------|-----------|
| 1. | All Insemination | 1.407.647 |
| 2. | A.I. Technician | 78,0 % |
| 3. | Farmers and Privat AI Technician | 22,0 % |

Cattle in Denmark 2022 (Danmarks Statistik) (1.000 stk.)

Cattle in Denmark	2017	2022	Pct.
Bulls	259,9	217,5	-16,3
Less than ½ year	123,6	105	-15,0
½ - 1 year	98,9	73,4	-25,8
1 – 2 year	27,2	27,7	1,8
2 year and more	10,3	11,3	9,7
Heifers	633,9	633,2	-0,1
Less than ½ year	163,1	168,8	3,5
½ - 1 year	155,4	162,7	4,7
1 – 2 year	266,6	262,5	-1,5
2 year and more	48,9	39,2	-19,8
Cows	664,0	633,7	-4,6
Dairy cattle	574,8	557,1	-3,1
Beef cattle	89,2	76,6	-14,1
Cattle - all	1.557,9	1.484,4	-4,7
Pregnant Heifers	181,8	181,7	-0,1
1 – 2 year	153,4	161,7	5,4
2 year and more	28,1	20,0	-28,8

• The use of beef cattle semen is rising

- When the farmer is using beef cattle semen for dairy cows, it is combined with the use of sex-sorted semen from both dairy bulls and beef bulls.
- The use of beef cattle semen by dairy cows will result in fewer pure breed heifers.
- When there are fewer heifers to inseminate, work is disappearing - or ??
- Although the results for sexed semen are continually improving, a few more inseminations is still need to be used.
- At the moment the use of sex-sorted semen is apx:
 - Holstein (F) 20 - 25 %
 - RDM (F) 18 - 23 %
 - Jersey (F) 68 - 73 %
 - Beff (M) 10 - 12 %

The use of Sex Dairy Bull Semen		Sex Semen		Konventionel Semen	
Racer	Kvier/køer	Antal ins.	%	Antal ins.	%
RDM	Kvier	10.119	48,80	10.382	50,07
	Køer - 1. lakt.	3.334	21,53	9.066	58,54
	Køer - 2. lakt.	1.830	14,04	7.077	54,28
	Køer - øvr. lakt.	2.501	13,09	10.024	52,48
DH	Kvier	155.990	58,94	105.531	39,88
	Køer - 1. lakt.	36.936	15,80	152.821	65,39
	Køer - 2. lakt.	20.399	9,88	118.033	57,19
	Køer - øvr. lakt.	22.259	7,51	153.882	51,93
Jersey	Kvier	63.441	89,88	4.718	6,68
	Køer - 1. lakt.	29.544	59,87	3.225	6,54
	Køer - 2. lakt.	19.554	53,16	2.430	6,61
	Køer - øvr. lakt.	22.332	42,61	3.777	7,21

The use of Sex **Beef Bull** Semen Sex Semen Konventionel Semen

Racer	Kvier/køer	Antal ins.	%	Antal ins.	%
RDM	Kvier	2	0,01	233	1,12
	Køer - 1. lakt.	580	3,75	2.507	16,19
	Køer - 2. lakt.	811	6,22	3.320	25,46
	Køer - øvr. lakt.	1271	6,65	5.303	27,77
DH	Kvier	276	0,10	2.853	1,08
	Køer - 1. lakt.	5.868	2,51	38.099	16,30
	Køer - 2. lakt.	8.854	4,29	59.111	28,64
	Køer - øvr. lakt.	14.859	5,01	105.351	35,55
Jersey	Kvier	119	0,17	2.307	3,27
	Køer - 1. lakt.	5.018	10,17	11.557	23,42
	Køer - 2. lakt.	5.742	15,61	9.060	24,63
	Køer - øvr. lakt.	10.540	20,11	15.756	30,07

Insemineringer – racevis - på malkekøer i 2020.
Insemination by breed in dairy breeds in 2020 –

		Race – koen / Breed - cow						
Race - tyren / Breed - bull	RDM		HOL		JER		Krydsning / Crossbreed	
	%	Antal/no.	%	Antal/no.	%	Antal/no.	%	Antal/no.
RDM	74,1	51.426	1,2	12.221	0,1	248	12,0	21.508
HOL	7,4	5.157	77,5	767.702	0,8	1.470	44,7	80.470
JER	0,2	166	0,5	4.835	75,5	148.284	6,1	10.992
Øvr. / Other	0,6	437	0,7	7.279	0,02	37	5,6	10.152
Kødkvægstyre / Beef bull	17,5	12.166	20,1	198.149	23,7	46.491	31,6	56.821

Fordeling af fædre til danske kalve af malkerace født i 2020 fordelt på kælvningsnummer
Use of sires in dairy breeds in 2020 separately for heifers and cows

% fødte kalve efter: % calfs sired by:	Afprøvede tyre* Proven AI bulls	Genomisk testede ungtyre* Genomic youngbulls	Importtyr Foreign bulls	Foldtyr / ukendt Herd bulls / unknown
RDM 1. kælvning <i>1st calving</i>	1,6	90,9	1,0	6,5
RDM øvrige kælvninger <i>later calvings</i>	1,6	91,1	0,8	6,6
HOL 1. kælvning <i>1st calving</i>	0,9	69,0	17,1	13,1
HOL øvrige kælvninger <i>later calvings</i>	0,9	70,8	23,2	5,1
JER 1. kælvning <i>1st calving</i>	2,3	81,1	2,4	14,2
JER øvrige kælvninger <i>later calvings</i>	2,3	89,9	2,8	5,0

*) Tyrene er inkl. tyre fra Sverige og Finland med dansk stambogsnr.

Milk production i Denmark 2021

Dairy Breeds

Holstein	64 %
Crossbreed	16 %
Jersey	14 %
VikingRed	6 %

Production

Numbers of cows i herd	236 Cows
Milk kg	10.518 kg
Fat kg	454 kg
Fat %	4,32 %
Protein kg	380 kg
Protein %	3,61 %
Milk EKM	11.092 EKM
Somatic cells	230.000 /ml
Age 1. calving	24,6 months
Days from calvning until insemination	75 days
Use of privat bulls	7,5 %

• A.I. Technicians i Danmark

- A.I. Technicians in Viking Danmark 172
 - 25 Women and 147 Men
 - Average age Women 36 years
 - Average age Men 50 years
- Full time AI Technicians/year i Viking Danmark 170
- New A.I. Technicians - received training in 2022 10
- A.I. Technicians working in other Companies? 2 - 4
- Members in The Association of Danish Inseminator /A.I. Technicians 170

• The AI Technician in Denmark



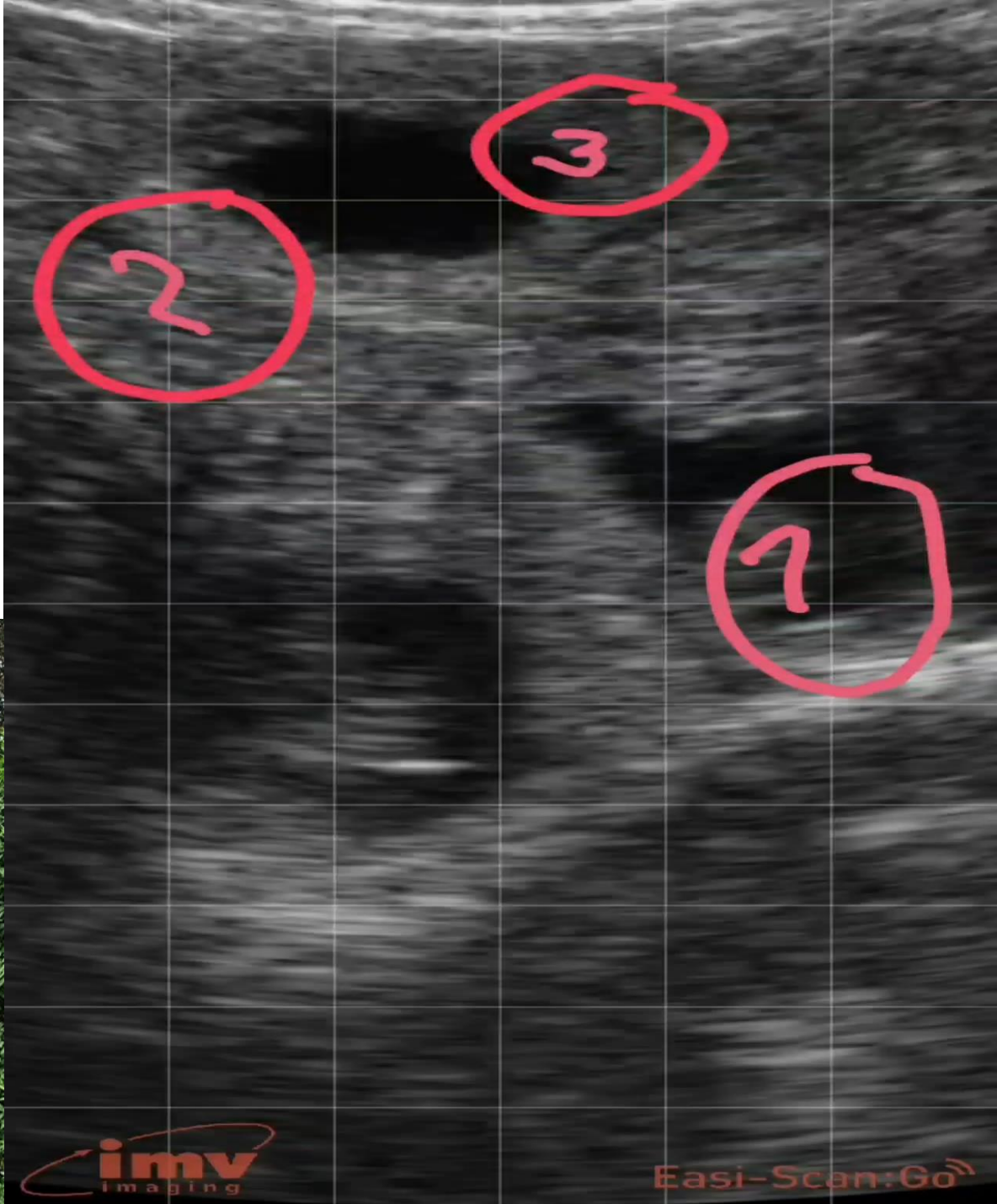
- **Is the Reproductive Specialist in:**
- Insemination
- Early pregnancy diagnosis – manuel and with ultrasound scanner
- Fertility control / diagnosis - manuel and with ultrasound scanner
- Collection of Genomic test (Ear)
- Collection of blood samples
- Advice in all aspects of cattle reproduction
- Embryo transfer is performed only by 10 to 15 AI Technicians. In the future, very few bull calves will be born, so different techniques must be used here. And the number of breeders who make use of Genomic Test, flusing and OPU/IVF becomes more, so the numbers of embryo transfers is increasing.
- Sale of cattle-related products to the Farmer is also job task
- Purchase of cows and heifers for export
- Teaching reproduction in agricultural schools



There is an increasing demand for examination by scanning to find twin calves.

In that case, the cow is dried off 2 weeks earlier than usual.

Here it is Triplets 😊😊😊



It is important that all negative pregnancy diagnoses and examination for lack of estrus are reported so that the farmer and the technician can always see it online

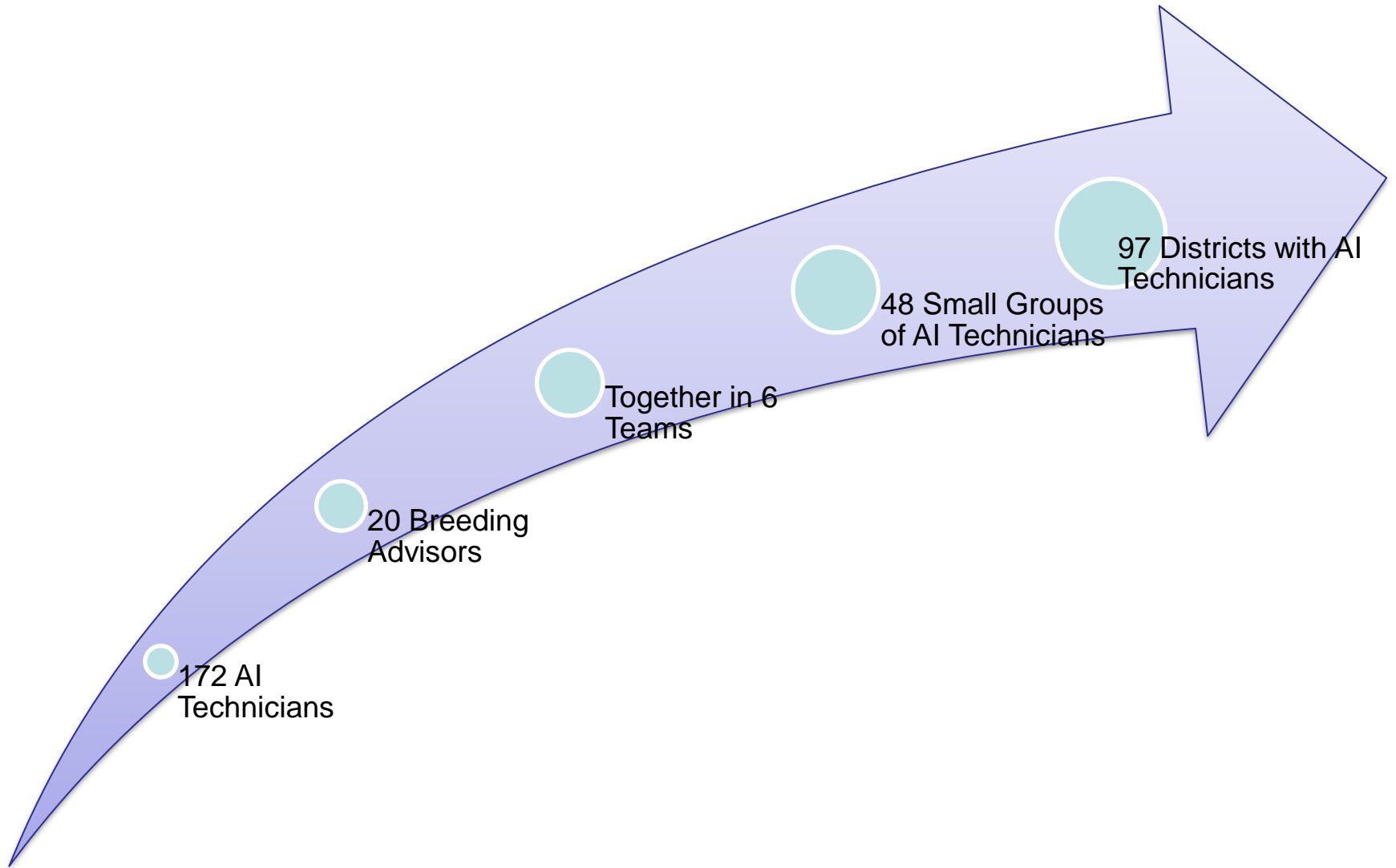
59: Eft brunst	<input type="radio"/>	After heat
60: Cyste henv	<input type="radio"/>	Cysts on the ovaries
61: Uren	<input type="radio"/>	Mild infection of the uterus
62: Blod	<input type="radio"/>	Visible blood after heat
63: Ej brunst	<input type="radio"/>	Not in heat
64: Børbetænd	<input type="radio"/>	Severe infection in the uterus
65: Ej cyklus	<input type="radio"/>	Acyclia
66: Gul legeme	<input type="radio"/>	Corpus Luteum - Middle of Cycle
67: OBS brunst	<input type="radio"/>	Close to heat
69: Tyrkvie	<input type="radio"/>	Not fertile

The AI Company “VikingDanmark” offer the following services

- Reproduction Service
- Breeding Advisory Service and Insemination Plans
- Semen Sale, Bulls and Goats but goats only abroad
- Sale and eksport of cattle
- Sale of cattle-related products to the Farmer, also medicin
- Sale of heat detection system “SenseHub”
- Sale of insurances
- Analyze calculations in SIMHERD
- Posting in Australia (2 for 2 months)
- Official milk yield control
- Advice and teaching in hoof trimming



Organising of AI Field Service in Denmark



AI-Technician group of 2 x 3 people – share work at weekends

- 6 AI-Technician shares work in 4 districts
- On all weekdays, there is 1 technician at work in a district
- On all Saturdays there is only 1 technician in 1.33 district (+33.3%)
- On all Sundays there is only 1 technician in 1.33 district (+33.3%)
- On all other holidays, there is 1 technician at work in a district
- This means that a technician over a 6-week period has 3 weekends off and on work 3 weekends
- Holidays are settled by exchanging days with colleagues

"Rotation plan" 6 weeks

Number of working days in 52 weeks

Days Off	140
Work Weekdays and Saturdays	209
Work Sundays (+5 back-up days)	26

Work	Days off	Days in "rotation"
5		
	5	
7		
	4	
7		
	3	
7		
	4	
26	16	42

AI-Technician group of 3 x 3 people - work together on Sundays

- 9 AI-Technician shares work in 6 districts
- On all weekdays, there is 1 technician at work in a district
- On all Saturdays, there is 1 technician at work in a district
- On all Sundays there is only 3 technicians on work in 6 districts
- On all Sundays 1 of the other technician is Back-up (About 5 times/year)
- On all odd holidays, there is 1 technician at work in a district
- Holidays are settled by exchanging days with colleagues
- Easy to change to 2 weeks work and 1 week off, or more.




"Rotation plan" 9 weeks


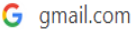
Work	Days off	Days in "rotation"
6		
	4	
7		
	4	
6		
	4	
7		
	4	
6		
	4	
7		
	4	
39	24	63

Number of working days in 52 weeks


Days Off	139
Work Weekdays and Saturdays	209
Work Sundays (+5 back-up days)	16


In order to be able to collaborate on work in several districts, it is important to be able to see what work tasks your colleagues have. At the same time, it must be easy to exchange work tasks. On your PC onWeb and on Mobil app.

← → ↻ webhandyvik.vikingdanmark.dk/technician/order-distribution   



















 Google  gmail.com

Filer Rediger Administration Hjælp Bestillinger

 Besøg for valgt inseminør (6050):

Tilføj inseminør: 

Besætning	Kreds	Adresse	Postnr	By
+ 42621 Landbrug Peder Bruschau	100	Kirkegade 27	6800	Varde
+ 45850 Anders Harck	100	Solbjergvej 64	6731	Tjæreborg
+ 43802 Mc Share Milking v/Esben Møller Xu	100	Rudholmvej 24	6818	Årre
+ 43852 Jan Bolding	100	Roustvej 127	6818	Årre
+ 43806 Jan Bolding	100	Tyvevej 14	6800	Varde
+ 43092 Højlund Agro Aps	100	Kibsgårdsvej 11	6715	Esbjerg N
+ 42631 Stanstorp Dairy Aps	100	Alslev Møllevej 25	6800	Varde
+ 42689 Jakob Haaijer	100	Sømosevej 30	6800	Varde
+ 42660 Henning Tang	100	Hostrupvej 43	6710	Esbjerg V
+ 42664 Karsten Jørgensen	100	Sønderhedevej 42	6710	Esbjerg V
+ 42636 Landbrug Preben Helth Jensen	100	Tulsmarkvej 42	6800	Varde
+ 43224 Søren Lundgaard	100	Gl Darumvej 23	6740	Bramming
+ 43055 Søren Lundgaard	100	Darumvej 74 A	6740	Bramming
+ 46700 Kjærvang v. Anders Ring	101	Bjergvej 8	6771	Gredstedbro

4077   0 14:06	4020   0 14:06	4090   0 14:06
6024   0 14:06	4089   2 15:30	6034   0 14:06
4081   0 14:06	6050   2 14:50	4073   0 14:06



Gruppe oversigt

Min kalender

Vis som...

Lørdag d. 27. 08

Fridag

Søndag d. 28. 08

Fridag

Mandag d. 29. 08

Arbejde

Kreds 101

Tirsdag d. 30. 08

Afløst af: 6054 - Leif R. Hansen

Kreds 101

Onsdag d. 31. 08

Arbejde

Kreds 101

• Artificial Insemination done by the farmer.



Some farmers want to perform Artificial Insemination on their own cattle, which is possible by attending an approved course. This course is of very short duration and professionalism therefore very low, which may compromise animal welfare.

It happens that farmers assist each other with artificial insemination. It is clearly against the law, but until now, it could not be proved or punished.

“DY” INSEMINATION –

Is a challenge now and in the years to come!!

Artificial Insemination done by the farmer (DY) in Denmark

Some farmers want to perform Artificial Insemination on their own cattle (22%), which is possible by attending an approved course. This course is of very short duration and professionalism therefore very low, which may compromise animal welfare. Requirements for AI training “DY”, should be the same as by an AI Technician.

It happens that farmers assist each other with artificial insemination. It is clearly against the law, but until now, it could not be proved or punished.

With the free movement of workers across borders in (EU) Europe, we will be challenged on our jobs by, for example by, Eastern European Veterinarians.



VikingRed

Healthy, trouble-free cows

Healthy, trouble-free cows

What is a healthy cow worth to you? What if you didn't need to worry about reproduction, milk quality, bills and wasted time? What if your herd was simply thriving and yielding the biggest return?

VikingReds are **naturally healthy cows** with the highest production of milk and solids for red cows. This makes them a **popular breed for crossing**.

They are the kind of **easy-going** cow you love being around – and doesn't require too much of your attention.

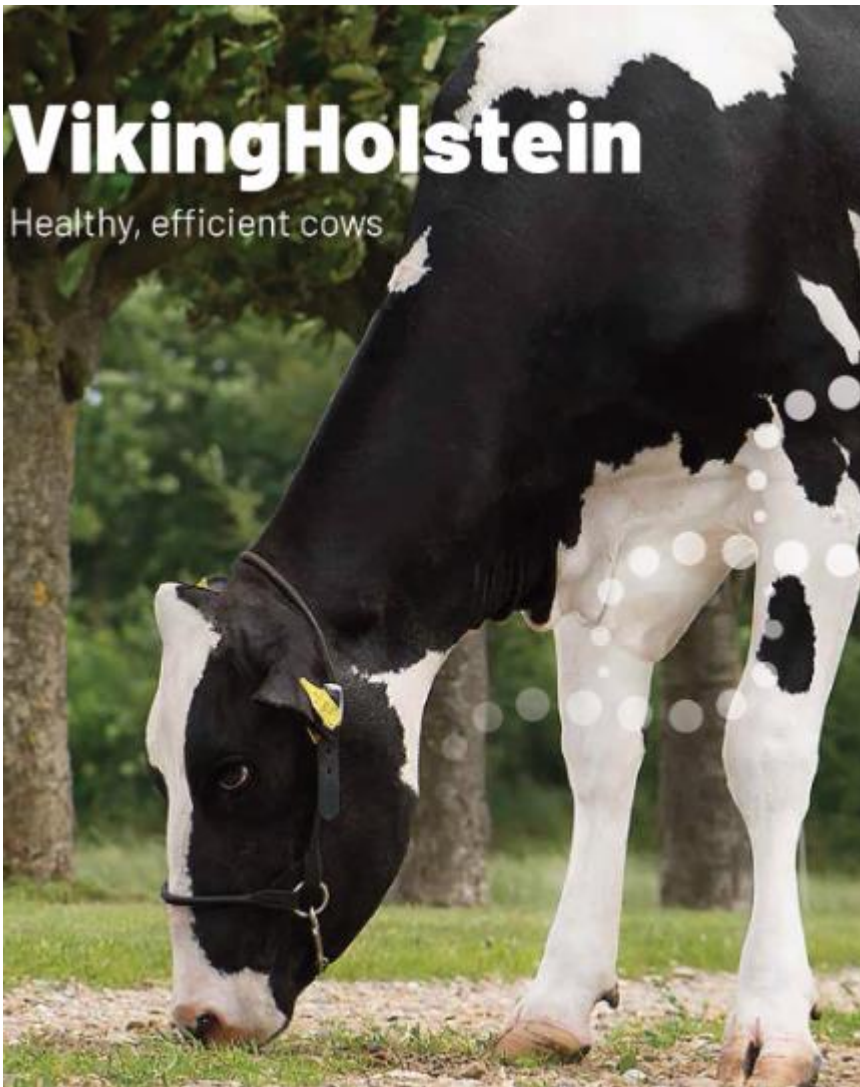
VikingRed cows are...

- **Naturally healthy**
Excellent health, fertility, and **calving ease**
- **High producing**
Highest production of milk and solids for red cows
- **Trouble-free**
Resilient, long-lasting cows
- **Popular for crossing**
Boosts the health, fertility, and efficiency in **crossbreeds**

- Average yearly yield

VikingRed

No. cows	175,000 (DNK, SWE, FIN)
Milk kg (305 days)	9,837
Fat kg	431
Fat %	4.38
Protein kg	353
Protein %	3.59
Fat + Protein kg	784



VikingHolstein

Healthy, efficient cows

Healthy, efficient cows

What is a healthy cow worth to you? What if you didn't need to worry about reproduction, milk quality, bills and wasted time? What if your herd was simply thriving and yielding the biggest return?

VikingHolstein are **resilient, medium-sized** cows that are **feed-efficient** and produce **high levels of milk** and **solids**.

They are the kind of **easy-going** cow you love being around – and doesn't require too much of your attention.

VikingHolstein cows are...

- **Healthy**
Excellent health and reproduction
- **High producing**
High lifetime production of milk and solids
- **Resilient**
Great genetic diversity - long-lasting
- **Efficient**
Medium-sized cows, easy to manage

- Average yearly yield

VikingHolstein

No. cows	570,000 (DNK, SWE, FIN)
Milk kg (305 days)	11,335
Fat kg	458
Fat %	4.04
Protein kg	392
Protein %	3.46
Fat + Protein kg	850

VikingJersey

Healthy, profitable cows



Healthy, profitable cows

What is a healthy cow worth to you? What if you didn't need to worry about reproduction, milk quality, bills and wasted time? What if your herd was simply thriving and yielding the biggest return?

VikingJerseys are **purebred, medium-sized** cows that produce milk containing the **highest levels of fat** and **protein** percentages.

They are the kind of **trouble-free** cow you love being around – and doesn't require too much of your attention.

VikingJersey cows are...

- **Healthy**
Breed leaders in fertility, health, and longevity
- **High producing**
Highest level of fat and protein percentages
- **Purebred**
7th generation purebred - ideal for outcross
- **Profitable**
Medium-sized, long-lasting, efficient.

- Average yearly yield
VikingJersey

No. cows	70,000 (DNK, SWE, FIN)
Milk kg (305 days)	7,565
Fat kg	452
Fat %	5.97
Protein kg	322
Protein %	4.26
Fat + Protein kg	774

ProCROSS



VikingHolstein

- Production
- Fat & Protein
- Medium size



VikingRed

- Calving ease
- Longevity
- Health



Coopex Montbeliarde

- Strength
- Fertility
- Adaptability

Profitable crossbreeding for intensive production

Are you struggling with poor fertility in your herd? Health issues? Problem cows? Are you concerned about keeping up with the demands of high lifetime production per cow and long-term sustainability?

ProCROSS is a 3-breed rotational crossbreeding system combining VikingHolstein, VikingRed and Coopex Montbéliarde.

The combination of the three ProCROSS breeds gives you:

Healthy, fertile, medium-sized cows that are long-lasting and easy to manage

Cows with a +9% daily profit compared to purebred Holstein

Cows that generate optimum results with an average heterosis of 86%

No worries about inbreeding

Scientifically proven

High-yielding herds in the U.S., Germany, the UK, France, the Netherlands, Denmark, Sweden, Finland, Italy, Spain, Portugal and other countries have switched to ProCROSS.

Developed by VikingGenetics and Coopex, ProCROSS is a scientifically-proven method based on the worlds' longest running study within commercial herds comparing crossbred dairy cows with purebred Holstein.

• More climate-friendly cows

Thanks to state-of-the-art 3D cameras and 24/7 feed surveillance, cow management has the potential to be transformed.

Feed impacts the environment, animal welfare and dairy business bottom lines. Dairy farm owners require tools to pinpoint the most efficient cows to ensure resilience, productiveness and climate friendliness.

Some cows are superior at turning feed into meat and milk. Others are less efficient and use too much feed for maintenance.

Cows spend 6% energy-producing methane rather than milk on average but can be anywhere between 2-12% depending on the cow's feed-to-milk efficiency.

A focus on carbon footprint and sustainability is therefore essential.

VikingGenetics invests heavily in reducing cattle breeding's carbon footprint.



• More climate-friendly cows

“Replacing average European cows with ones from VikingGenetics saves 0.1 kg CO₂ per kg milk. The savings are much bigger on other continents at approximately 0.33 kg CO₂ per kg milk, equating to roughly 0.74 million tonnes CO₂ per year”.

“Being part of the solution makes sense. We must contribute our knowledge to this important effort. Indian dairy farmers, for example, can reduce methane emissions by as much as 33% per liter milk using our genetics.

Feed-efficient cows = savings

Nordic research shows a €200 saving on cows per year when looking at the most efficient versus the least efficient cows.

The effect of our initiatives over the next ten years is the equivalent of removing 50,000 diesel cars in Denmark.

There's growing interest in how dairy farmers produce milk. CFIT technology and Saved Feed Index help our dairy products have a greener profile.

More climate-friendly cows

Real-time feed intake data

The Saved Feed Index is based on Cattle Feed Intake System (CFIT) data. This advanced system uses 3D cameras to monitor and measure feed intake in a cow's natural environment during lactation.

We focus on feed intake over their lifetime and compare it to other breeds and herds. We initiated the project in 2015, and data has routinely been collected since 2018.

Currently, the CFIT system is installed across 20 herds, which collects data from 7,000 cows, including VikingHolsteins, VikingJerseys and VikingReds.

Data throughout lactation

A cow's physiology changes dramatically through lactation. In early lactation, the cow goes from producing no milk to often a very high milk yield. This is a very unstable period for the cow. In mid and late lactation, the cow is used to the high milk production and also the corresponding feed intake. This change also influences breeding value estimation.

To create a reliable Saved Feed Index, we must ensure data is available throughout lactation. The data we get from CFIT farms provides information throughout the lactation period.

Payroll system 2022

Now:

The farmer is charged for the time the AI Technician spend on the farm, based on average times for a visit and a treatment.

Visit 4 minutes and different types of treatments 2,26 minutes.

If the farmer uses more - or less - time compared to the AI Technician personal processing time, the farmers get either an extra bill or a refund.

All AI Technician have their own personal time for all actions.

If the AI Technician have a personal time showing that - he or she - uses in average fx 2,8 minutes to make a treatment, then it is the time used to calculated extra bill or refund.



Payment per hour

Wages per hour for working on Weekdays	30,- euro
Wages per hour for time spent on driving on Weekdays	19,- euro
Wages per hour for working on Sundays	60,- euro
Wages per hour for time spent on driving on Sundays	38,- euro

The salary is calculated from the following registered times

Time used for notes and cleaning during a visit	4,0 minutes
Time needed for talk, interviews and more during a visit	3,5 minutes
Time required for a treatment	2,26 minutes

Payment for time working at home

Time needed for office work on weekdays, in average	45 minutes
Time needed for office work on Sundays, in average	45 minutes

Other tasks and job function.

Salary for meetings, advice, and other tasks of work/ <u>hour</u>	30,- euro
Salary for meetings, advice, and other tasks of work/ full <u>day</u>	27,- euro/hour min. x 8
Sales of various products for cattle	0 - 10 %
More then 3 years in the company	+ 1.420,- euro/year
Full salary for sickness	Average daily earnings
Full salary during 25 days of holiday	Average daily earnings
Full salary during 9 extra days off	Average daily earnings
Pension from employer	9.4% of the annual salary
Forced pension of the employee	4.7% of the annual salary

Average salary a year

Average level approx. Euro 62.500,- a year + 9,4 % pension

All new technician must have a company car – Other can choose money for driving in oven car.

(< 20.000 km +0,49 euro/km, >20.000 +0,29 euro/km) But from 2024 only the small tariff, and from 2030 all technician must drive in a company car.

