



Precision Dairy Farming

Hielke Sportel | 29/10/21



Euroopa Maaelu Arengu
Põllumajandusfond:
Euroopa investeringud
maapiirkondadesse



BETTER COWS > BETTER LIFE

Introduction

- **Hielke Sportel**
- **Farmers Son**
- **Grew up in Zambia, Africa**
- **Work as an Area Manager for CRV in the Baltic States, Poland and Sub Sahara Africa**

Context – Agricultural Challenges

- We have to feed more people with using less resources
- Agriculture is under continuous scrutiny – especially in dairy
- Efficiency of food production is of economic and environmental essence

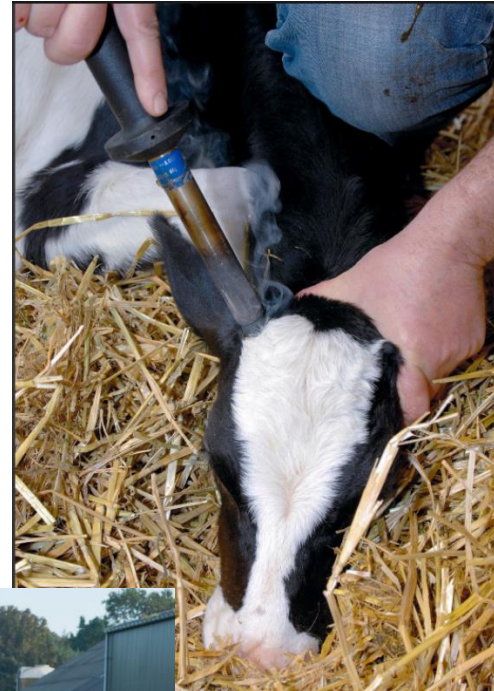
Challenges in the Dairy Sector – Rising Cost of production

- **Feed Costs**
- **Electricity Costs**
- **Gas Costs**
- **Labour Costs**
- **Fuel Costs**
- **Farm input costs**
- **Pharamaceutical costs**
- **Management costs**
- **Technology costs**
- **ETC ETC**



Challenges in Dairy – Animal welfare

- Housing
- Dehorning of animals
- Longevity of animals on the farm
- Housing and bedding
- Semi grazing



Challenges in Dairy – Environmental

- Methane production
- Nitrogen leaching
- Nature conservation
- Antibiotic resistance
- Excessive use of hormones
- Feed efficiency

WE MUST KEEP MODERNIZING & ADAPTING

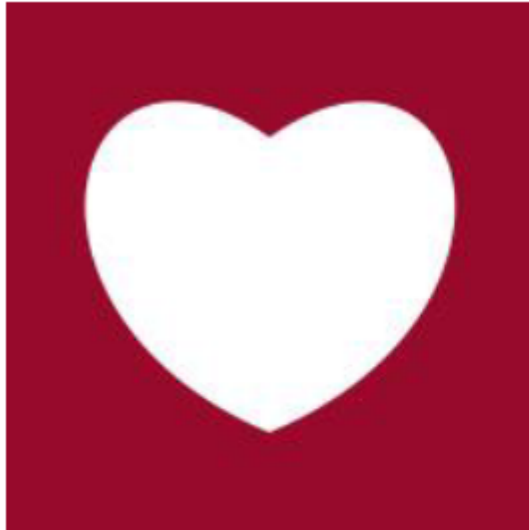
Modernizing the Dairy Sector - 1950's



Modernizing the Dairy Sector – Precision Farming



CRV HEALTH



A unique index that helps breed cows that are **easy to manage** and produce **without problems**.

The most important building blocks of CRV Health:



CRV EFFICIENCY



A unique index that helps to breed **highly productive** cows that **convert feed** efficiently **into milk**.

The most important building blocks of CRV Efficiency:



CRV'S PRECISION BREEDING TOOLS

HerdOptimizer (Go)



SireMatch



Ovalert

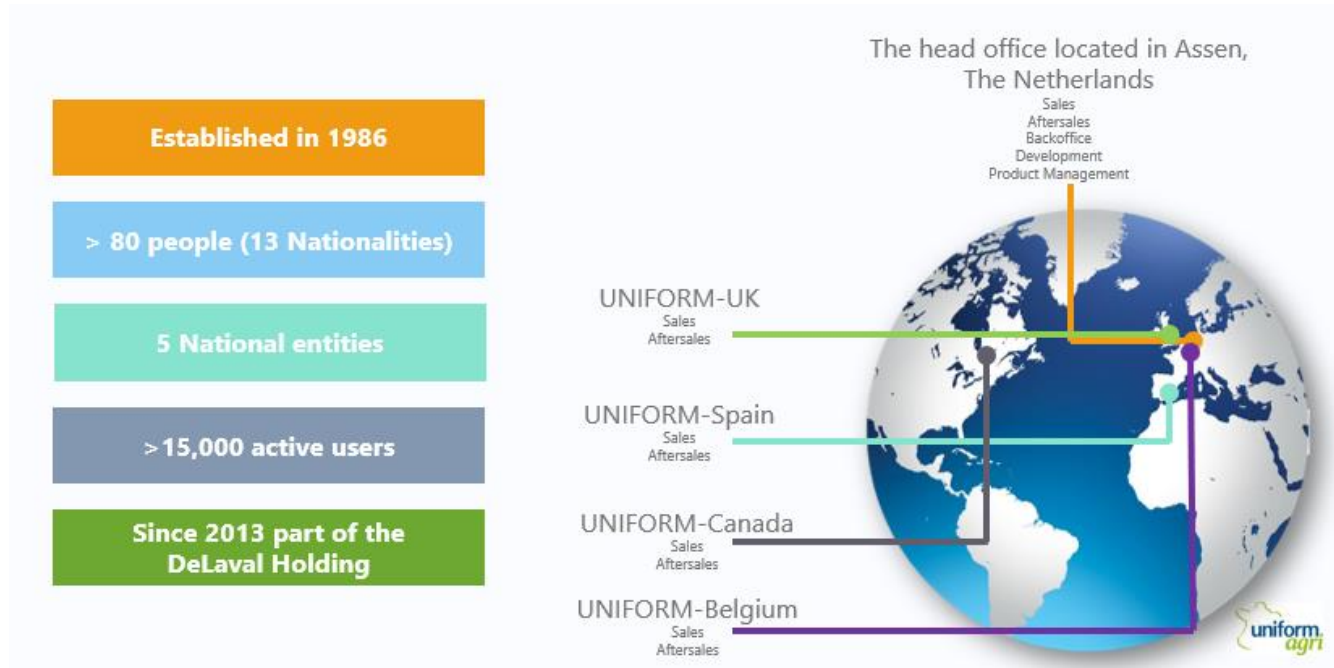


Fast Forward



Precision Breeding with Precision Management

- Farm Management program from UniForm Agri partnering with CRV



Precision Management with UniForm Agri



UNIFORM-App

The most daily used feature of the software, available for Android and iOS. Quick, easy & complete.



Easy data entry

Enter data once in the program and it will flow to the other on-farm systems and national institutions.



Data Safe

We make sure regular backups are saved on an external server to have it ready in case of a PC crash.



Data Validation

High quality data validation makes sure conclusions will be based on reliable data.



Easy analysis

Analyse the herd with pre-set analysis in easy to understand graphs. Fine-tune them by using the many possible filters.



Best service

Our aftersales team has the ability to help you with questions and problems. We have IT knowledge and a farming heart.

Precision Management by UniForm Agri

- Full farm management program
- Can couple with all major dairy installations
- Gives you full control over your farm














BETTER COWS > BETTER LIFE

Precision Management – CRV & UniForm Agri

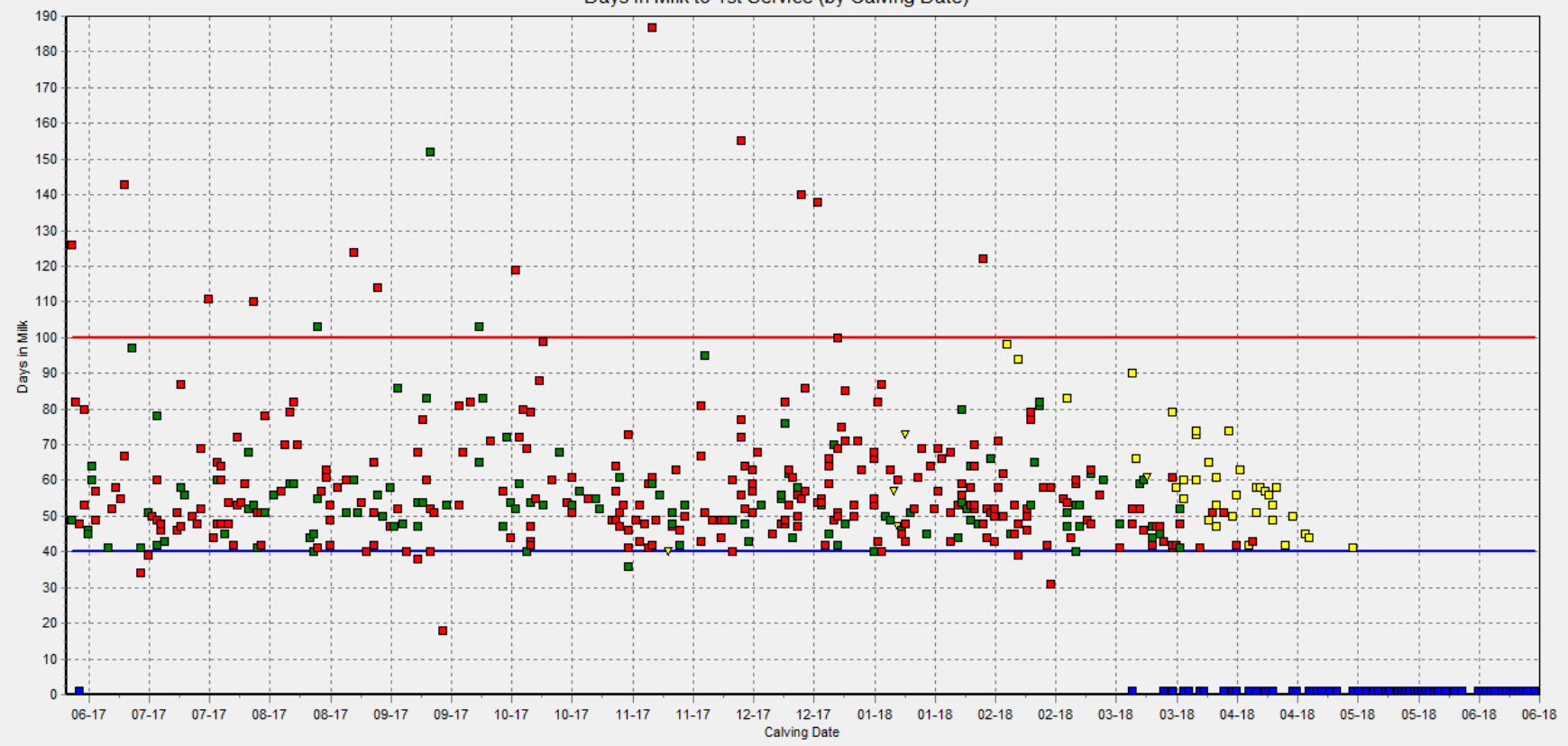
- **In collaboration with UniForm Agri CRV aims to have better reflection on;**
 - Performance KPI's set together with the Farm
 - Understanding on what happens on the farm
 - Be able to advise and give more accurate advice on processes
 - Collect data of bull and cow fertility
 - Be more informed to give more direct and custom made advice.

Precision Management– Fertility Example

3 Management / Fertility

1.  Fertility Analysis (Overview)	2.  Herd Fertility Status	3.  Calving Pattern	4.  Fertility Problems
5.  Young stock	6.  Service Bulls	7.  Insemination Analysis	8.  Heat and Service Intervals
10.  Fertility Analysis (Calving Group)	11.  Fertility KPI (USA)	12.  Fertility Monitor	

Days in Milk to 1st Service (by Calving Date)



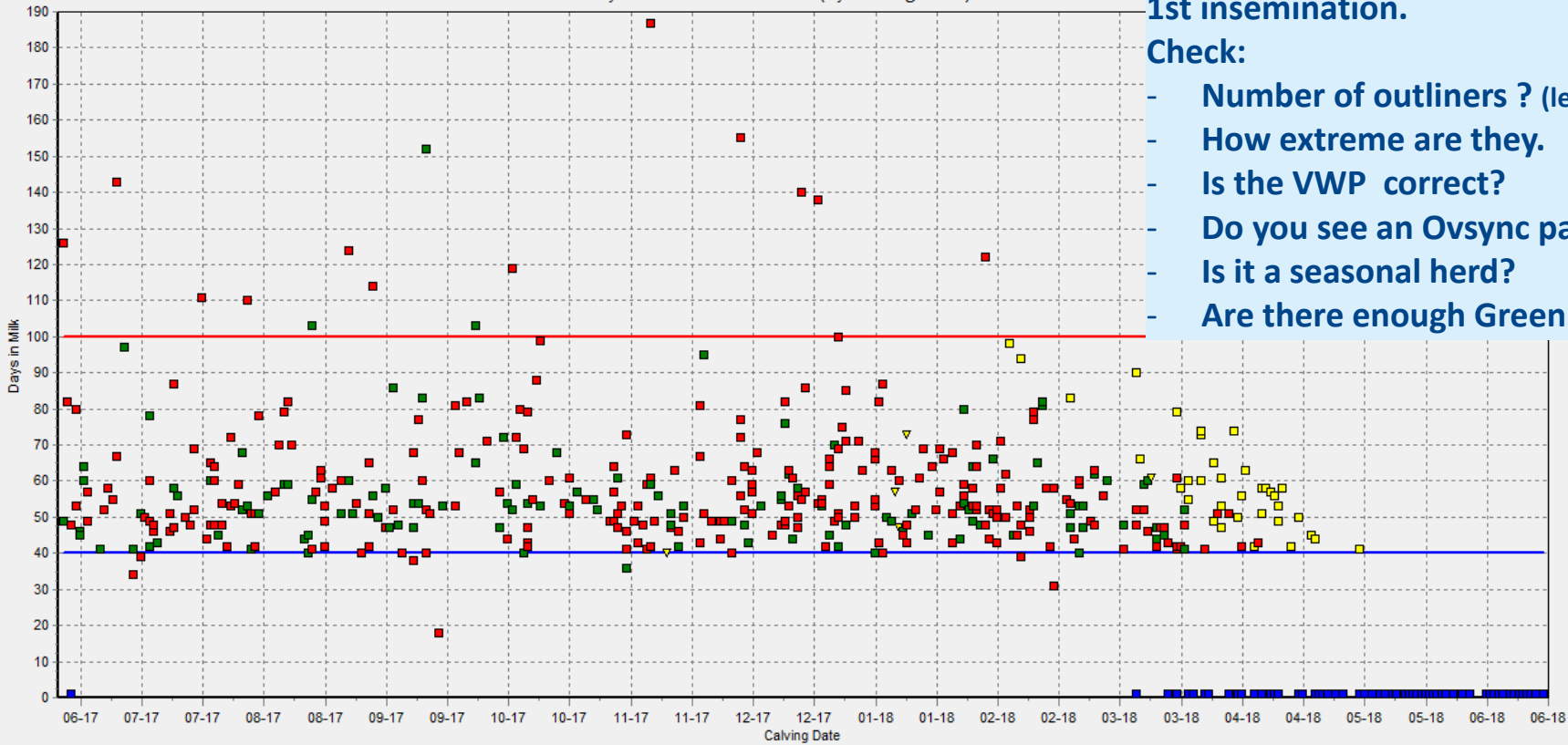
VWP	100 days	No service in lactation after calving
Inseminated. Cow to be pregnancy checked	Inseminated	Pregnant +
Pregnant -		

Animal da
Animal no
Name
Status
Lact. No / D
Milk / SPP
Sire
% Fat, % P
Urem / La

Inseminati
Inseminati
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Days In Mil
Inseminati

Lactation
 Young
 1st La
 2nd La
 Lactat

Days in Milk to 1st Service (by Calving Date)



— VWP	— 100 days	■ No service in lactation after calving
▼ Inseminated. Cow to be pregnancy checked	■ Inseminated	■ Pregnant +
■ Pregnant -		

Quick scan, that gives an overview of the herd and the results of the 1st insemination.

Check:

- Number of outliers ? (less 10%)
- How extreme are they.
- Is the VWP correct?
- Do you see an Ovsync pattern?
- Is it a seasonal herd?
- Are there enough Green dots?

Lactation

- Young
- 1st La
- 2nd La
- Lactat

Grid	Explanation	[3] 2016	[4] 2016	[1] 2017	[2] 2017	[3] 2017	[4] 2017	[1] 2018	[2] 2018
Milking Herd									
	Total cows in herd	609	641	643	704	654	658	681	683
	Total cows in milk	549	559	576	619	571	586	604	586
	0 - 60 DIM	141	100	118	156	140	114	130	28
	61 - 120 DIM	107	130	91	107	128	118	103	114
	121 - 200 DIM	126	149	132	132	109	164	141	143
	201 - 305 DIM	135	134	167	153	132	132	175	184
	> 305 DIM	40	46	68	71	62	58	55	117
	Average DIM	154	152	162	172	170	160	169	182
	Average 305 days production milk	12085	12119	12295	11887	11874	11736	11446	11447
	Cows sold/dead	54 / 3	62 / 5	113 / 4	29 / 3	133 / 7	81 / 2	67 / 3	18 / 2

Young stock

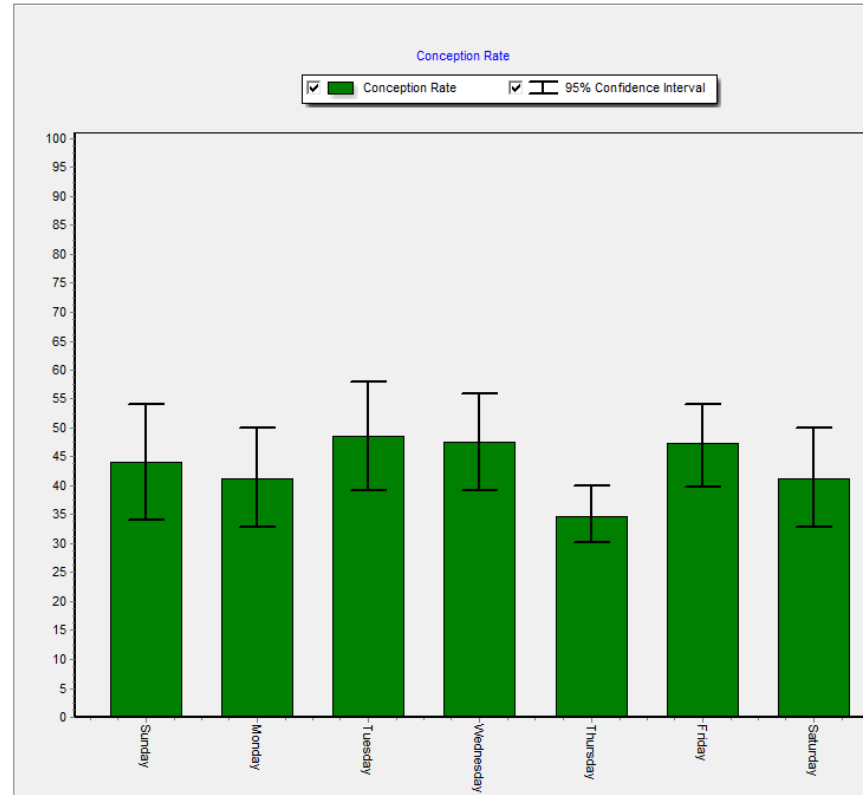
Fertility (Voluntary Waiting Period = 60 days)									
	Total number of calvings	206	179	228	204	206	201	195	69
	Cows / Heifers	119 / 87	80 / 99	110 / 118	111 / 93	116 / 90	114 / 87	102 / 93	47 / 22
	Number of abortions (incl. implicit)	6	7	6	3	8	1	4	
	Average days to first heat	42	40	48	53	44	44	45	51
	Heat detection rate	58	61	53	57	56	58	63	61
	Average days to first service	52	54	57	62	59	60	57	58
	Avg number of inseminations / pregnancy	2,10	2,24	2,52	2,17	1,96	2,19	2,12	1,00
	Conception Rate 1st Ins	38%	37%	37%	36%	48%	34%	45%	11%
	Conception Rate 2nd Ins	33%	42%	46%	40%	46%	33%	43%	0%
	Conception Rate > 2 Ins	39%	39%	41%	40%	45%	44%	49%	0%
	Days to Pregnant	91	96	114	107	91	99	96	43
	Percentage of the cows pregnant	58%	58%	63%	62%	60%	62%	65%	59%
	Realized dry off period	52	54	58	54	56	51	58	53
	1st Calving Interval (DIM)	360	378	376	367	368	368	368	368

Fertility is 3rd part of overview.

- Heat detection rate (IR) should be above 50%.
- Average days to 1st service compared to the avg days to 1st heat.
- Number of inseminations /pregnancy.
- Explain the 3 Calving Intervals. Historical, Expected, Predicted. The best is PCI !
- Check Suspicious data. Should be low as possible. Very good on this farm.

AND SO MUCH MORE – E.G. – PEOPLE MANAGEMENT

24-6-2017 - 25-6-2018 Overview										
Day of week	Conception Rate (CR)					Aborted		%	%	95%
	CR	Inseminated	Pregnant	Not Pregnant	Uncertain	Aborted	%			
All	41,9	1268	457	634	177	13	1	100	39-45	
Sunday	44,1	102	41	52	9	1	1	8	34-54	
Monday	41,3	138	50	71	17	1	1	11	33-50	
Tuesday	48,6	124	53	56	15	0	0	10	39-58	
Wednesday	47,5	136	57	63	16	3	2	11	39-56	
Thursday	34,6	395	117	221	57	2	1	31	30-40	
Friday	47,3	218	87	97	34	3	1	17	40-54	
Saturday	41,3	155	52	74	29	3	2	12	33-50	



Precision Farming Concept

- **1 stop shop for everything a dairy farmer needs in terms of genetics, control and management;**
 - Genetics – sexed, conventional, beef and even embryos
 - Genomic analyses of animals
 - Farm management Farm performance and data analysis
 - Benchmarking of targets
- **GOAL – PRECISION PROGRESS = PRECISION PROFIT**

Conclusions

- **Challenging times ahead in terms of Dairy**
- **Precision Farming is needed to stay ahead and remain sustainable**
- **CRV's products together with UniFrom Agri will offer precision breeding and management solutions to help farmers make continuous progress**