THE EFFICIENCY CHECK

A tool for farmers to analyse potentials for improvement

Efficiency-Check: WEB application to visualize linkage between management, housing conditions, animal health and profitability in dairy cattle

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Session: Management Tools to Support Circular Economy: Practical Herd Applications

What is EFFICIENCY?

„To produce with minmum input a maximum output“

Or as farmers says

„To do things right“

Results of a survey at farmers

Which areas are of interest for farmers for additional information?

Economically of dairy farming

Hints to cows with problematic health

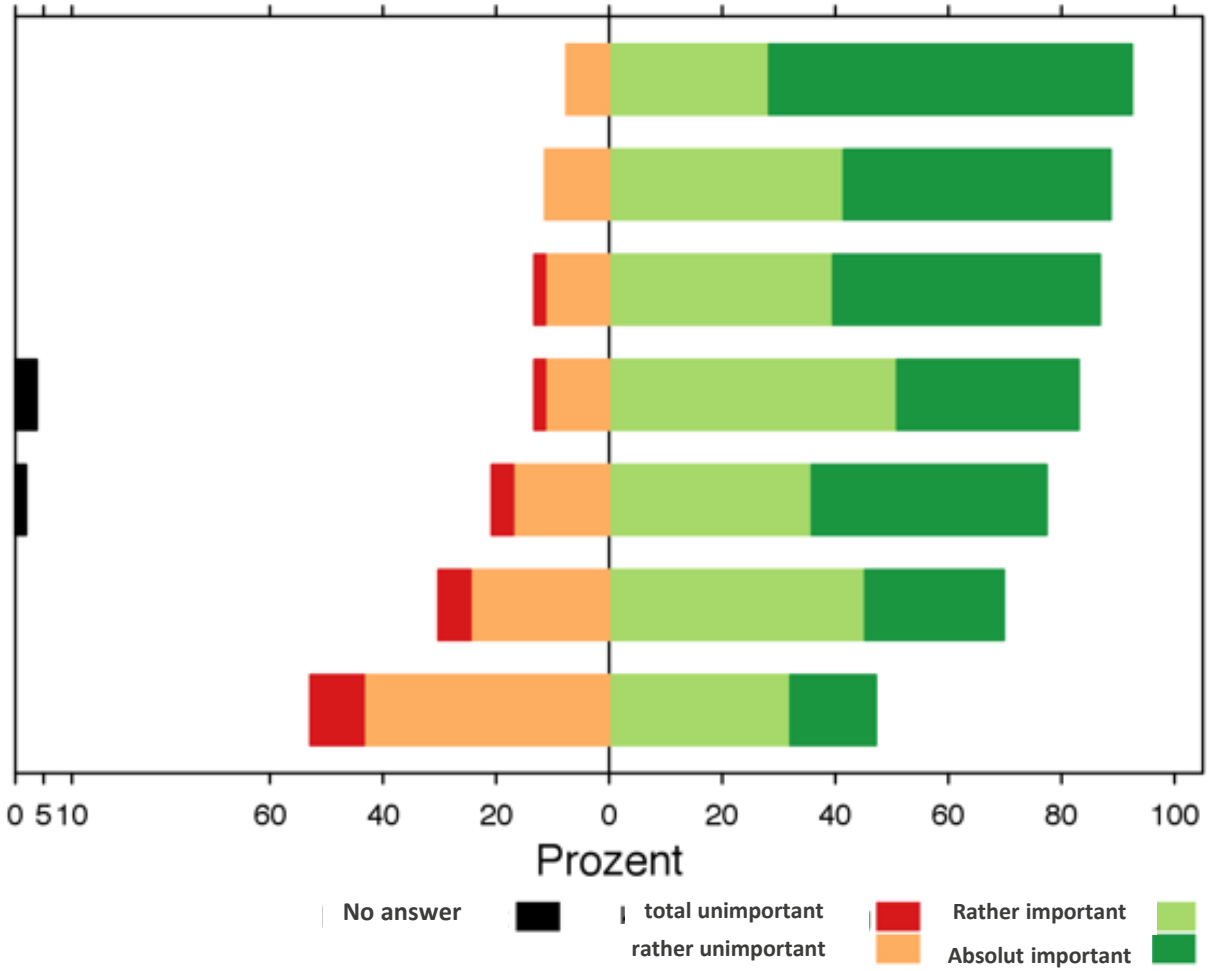
Health status of single cows

Efficiency of metabolism of single cows

Economically of single cows

Evaluation of effort and benefit of changes in management of dairy cows

Evaluation of costs and benefits of investments



Results of a survey at farmers

How important are this functions in a web applications?

Simple, self-explanatory evaluations

No additional documentation

Import of dairy datas into the application

Import of results of analyses from feeding ration

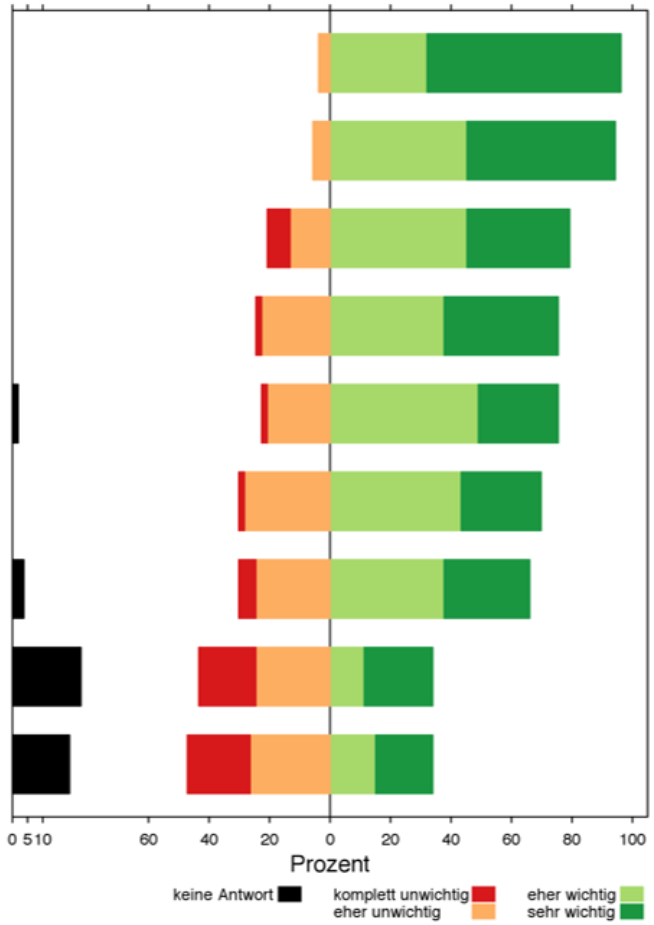
Consideration of all interdependencies as far as possible

Advisor should have access to this application

Concentrat components of automatic feeding station should be importet

Data of milking robot should be importet into the application

Data of application should be importet into the milking robot



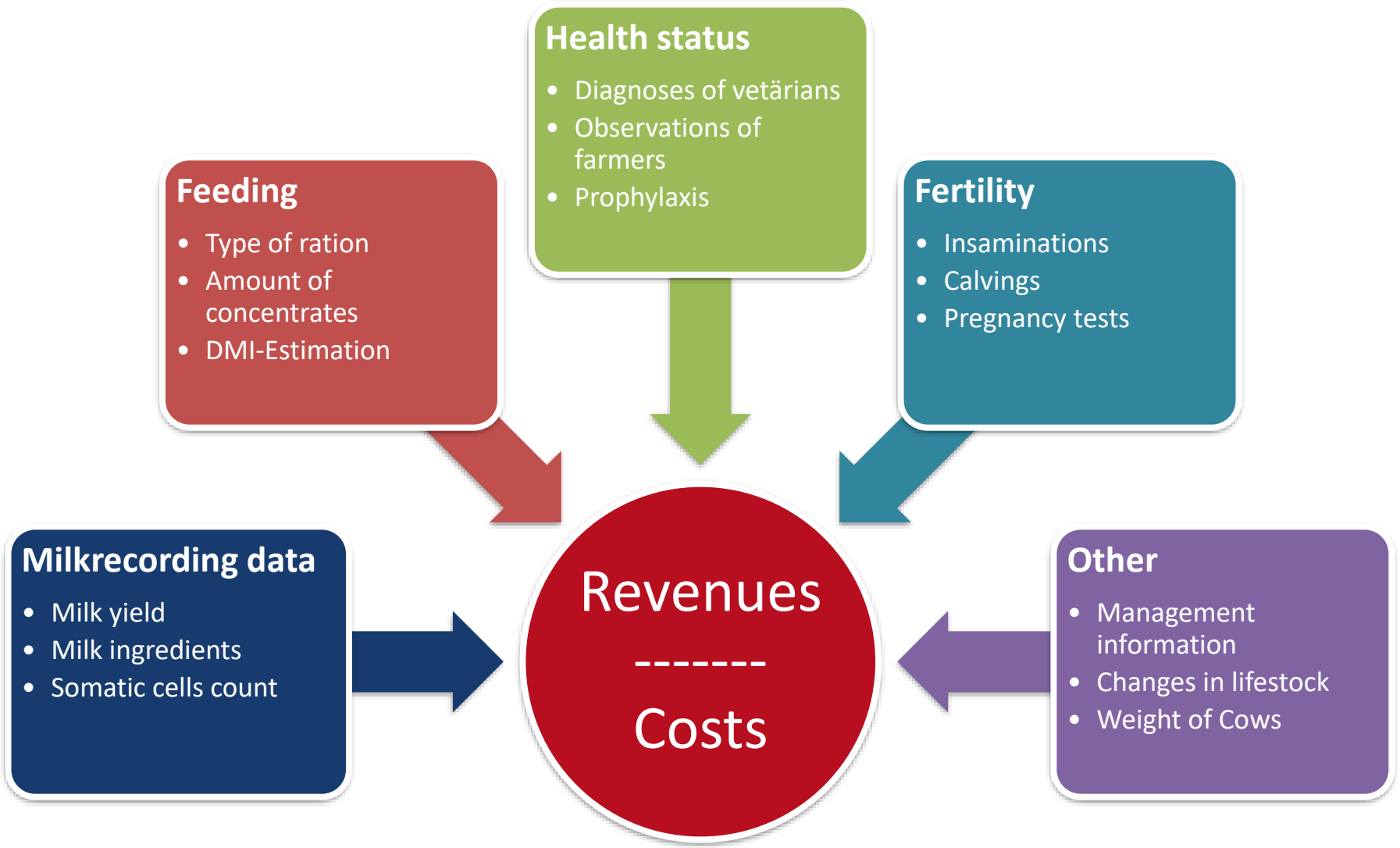
Target to the web application „Efficience Check“

1. Calculation of key figures of single cows on farm and comparing (ranking) them
2. Analyses and key figures of the farm and compairision with other similar farms
3. Hints to existing risks on farm and prediction of the impact of increasing or decreasing of selected key figures
4. The farmer should get this data without any additional documentation

Development of „Efficiency Check“

- The project has been developed under the leadership of ZAR (Association of Austrian Cattle Breeders) together with practitioners (farmers, veterinarians, consultants, DHI staff) and scientists (**E**uropean**I**nnovation**P**artnership-project)
- Projectleader : Franz Steininger
- Project runtime: 4 years (1.1.2016-31.12.2019)
- The **Efficiency Check** is **connected to the RDV** (RinderDatenVerbund/Central Cattle Database) – existing data within RDV are used within this application
- **Online tool**

Data usage in the „Efficency Check“



Data analyses – comparison of cows

- This table can be sorted by clicking into the head of column.
- Most important key figure is Balance (exklusive stock exchange costs) per kg milk

Filter

Datum von: 09.04.2020 Datum bis: 09.04.2021 Aktualisieren

SNR	Name	Lebensnummer	geb	R	Lakt.	GZW	MW	FIT	FRW	EGW	Cost for rearing	Feed-ing costs	Milk yield	Costs insam-ination	Yield of calves	Costs of diagnoses	Yield of selling cow		Saldo	Saldo / Mkg (Cent)	Saldo (exkl) / Mkg (Cent)	Days since 1. Calfing	Pure milking days	Life milk kg	Number of diagnoses	Milk from forage	Milk of best quality
											Zugang	Futter	Milch	Belegung	Kälber	Diagnosen	Abgang		Saldo			Futtertage	Melktage	Milchmenge	Anz.Diag.	GF-Milch	S-Klasse
8	GISA	AT	16.11.2018	FL	1						1.700	274	651	66	210	0	1.052	-1.180	-65,94	29,09	61	61	1.789	0	43,28	100,00
62	NELLI	AT	15.09.2018	FL	1	113	113	106	104	107	1.700	342	816	66	210	23	1.052	-1.104	-50,47	27,23	57	57	2.188	1	27,11	100,00
13	GRETA	AT	06.08.2017	FL	2	110	101	106	97	102	1.700	2.050	5.391	99	390	0	1.117	1.931	13,82	25,99	563	514	13.974	0	60,68	100,00
28	GOLDI	AT	20.10.2018	FL	1	110	104	102	95	100	1.700	470	1.402	132	180	0	1.052	-719	-18,96	25,85	134	134	3.794	0	61,94	100,00
41	STACY	AT	17.08.2017	FL	2	117	111	107	104	98	1.700	2.339	6.331	132	420	73	1.117	2.507	14,87	24,95	579	533	16.863	1	55,71	100,00
36	BAMBI	AT	02.09.2016	FL	3	106	105	110	107	115	1.700	3.582	9.644	231	630	293	1.137	4.467	17,89	24,70	887	798	24.968	1	56,61	100,00
38	LUISA	AT	02.02.2017	FL	2	108	104	107	98	115	1.700	1.350	3.663	99	180	0	1.117	694	7,15	24,68	406	359	9.702	0	66,23	100,00
1	GRAEFIN	AT	28.07.2018	FL	1	109	112	95	97	94	1.700	726	2.084	165	180	0	1.052	-327	-5,85	24,58	173	173	5.586	0	53,35	100,00
53	LUCIANA	AT	04.02.2018	FL	2	110	112	99	90	105	1.700	1.751	4.402	132	420	60	1.117	1.179	10,05	24,55	411	377	11.724	1	52,58	90,91
30	SELMA	AT	12.09.2018	FL	1	123	113	112	112	100	1.700	775	1.991	66	210	73	1.052	-413	-7,81	24,32	194	194	5.292	1	54,53	100,00
10	ANETTE	AT	18.10.2016	FL	3	106	103	108	104	110	1.700	3.105	7.539	231	540	0	1.137	3.043	15,56	24,26	799	691	19.550	0	57,66	95,45
29	ROMY	AT	03.01.2017	FL	2	106	100	115	103	120	1.700	3.204	8.308	231	420	0	1.117	3.593	16,39	24,15	752	667	21.914	0	54,67	100,00
32	DESIRE	AT	28.01.2017	FL	3	112	111	110	106	110	1.700	3.177	8.078	231	570	159	1.137	3.381	15,95	23,97	743	702	21.194	1	52,89	100,00
28	DOLORA	AT	30.12.2017	FL	1	98	99	98	94	98	1.700	524	1.440	110	180	73	1.052	-787	-20,63	23,95	159	159	3.813	1	65,46	60,00
14	LADY	AT	10.02.2015	FL	5	111	111	104	102	104	1.700	6.808	16.652	264	960	116	1.117	8.724	20,01	23,91	1.448	1.201	43.603	2	49,46	97,14
18	ROSALIE	AT	12.01.2015	FL	4	106	113	99	95	106	1.700	7.366	19.830	396	750	280	1.133	10.837	20,61	23,84	1.507	1.355	52.589	1	46,01	100,00
43	DONNA	AT	18.09.2016	FL	2	109	111	99	100	112	1.700	2.288	5.754	99	180	0	1.117	1.847	12,33	23,68	490	436	14.975	0	47,09	100,00
9	ANDREA	AT	05.09.2014	FL	5	99	93	113	109	116	1.700	7.125	18.209	396	990	536	1.117	9.442	20,03	23,64	1.632	1.427	47.134	3	53,61	100,00

Prediction of reducing mastitis

Actual value of somatic cells and amount of acute mastitis

Costs of actual situation

Target values of somatic cells and acute mastitis

Lower costs because of increased milk yield and lower costs for treatment

Gesundheit »

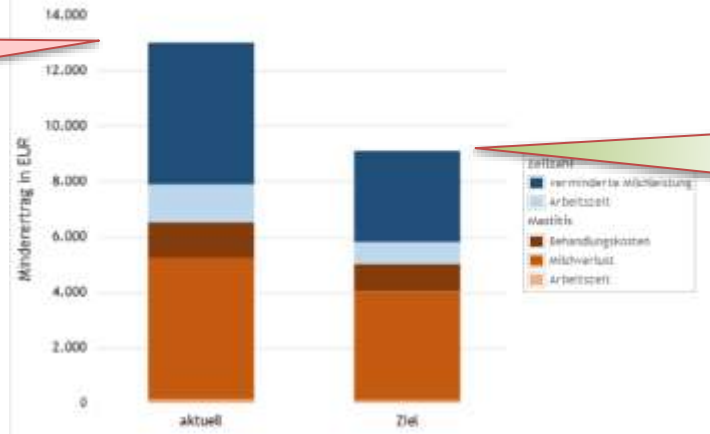
Eutergesundheit

Betriebsparameter

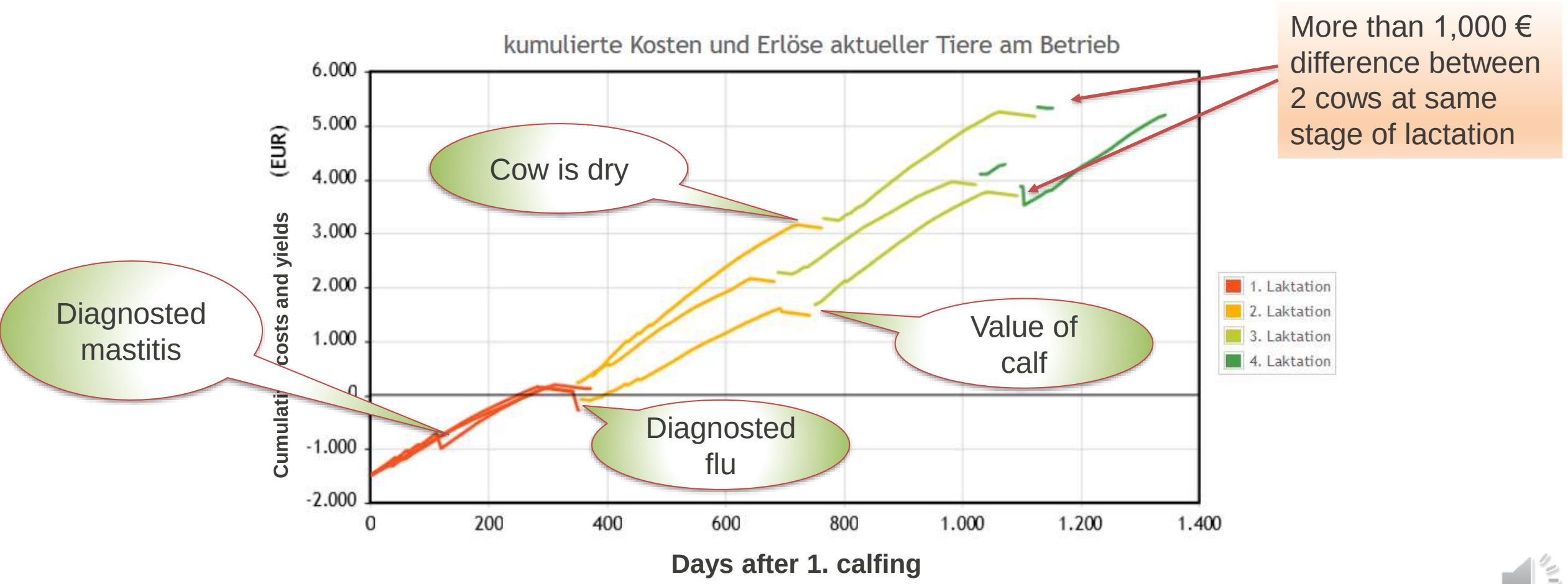
durchschnittliche Zellzahl	156.165	100.000
Anzahl Mastitiden pro Jahr	13	10

Kalkulierter Minderertrag aufgrund Eutergesundheit

	aktuell	Ziel	Mehrerlös
Zellzahl-Niveau			
verminderte Milchleistung	€ 5.130,86	€ 3.300,98	€ 1.829,89
Arbeitszeit	€ 1.360,20	€ 787,80	€ 572,40
Summe	**€ 6.491,06**	**€ 4.088,78**	**€ 2.402,29**
klinische Mastitis			
Behandlungskosten	€ 1.300,00	€ 1.000,00	€ 300,00
Milchverlust	€ 5.123,68	€ 3.941,29	€ 1.182,39
Arbeitszeit	€ 130,00	€ 100,00	€ 30,00
Summe	**€ 6.553,68**	**€ 5.041,29**	**€ 1.512,39**
gesamter Mindesertrag pro Jahr	**€ 13.044,74**	**€ 9.130,07**	**€ 3.914,67**



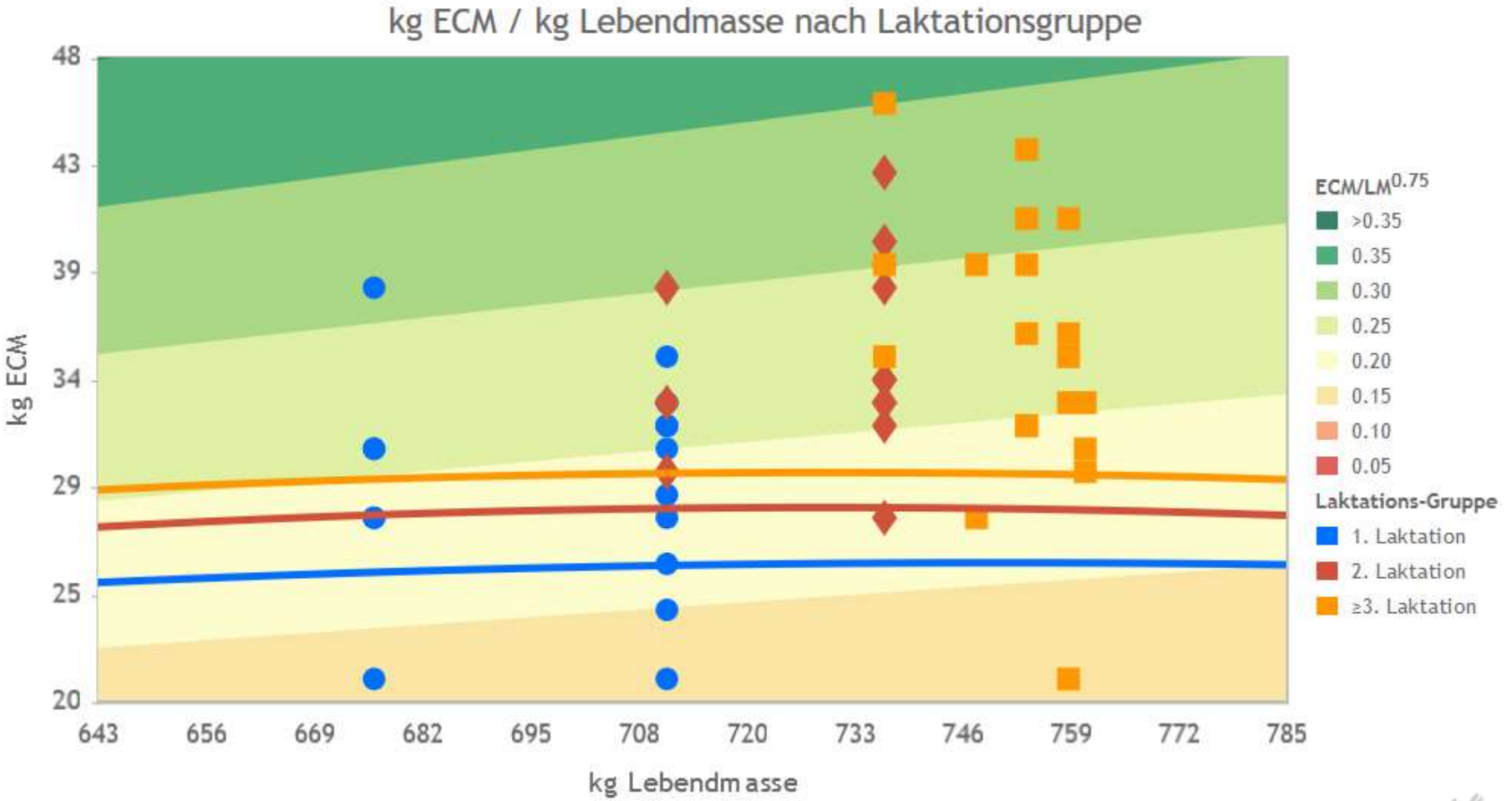
Cumulative costs and yields of selected cows



Energy-corrected-milk per metabolic living mass

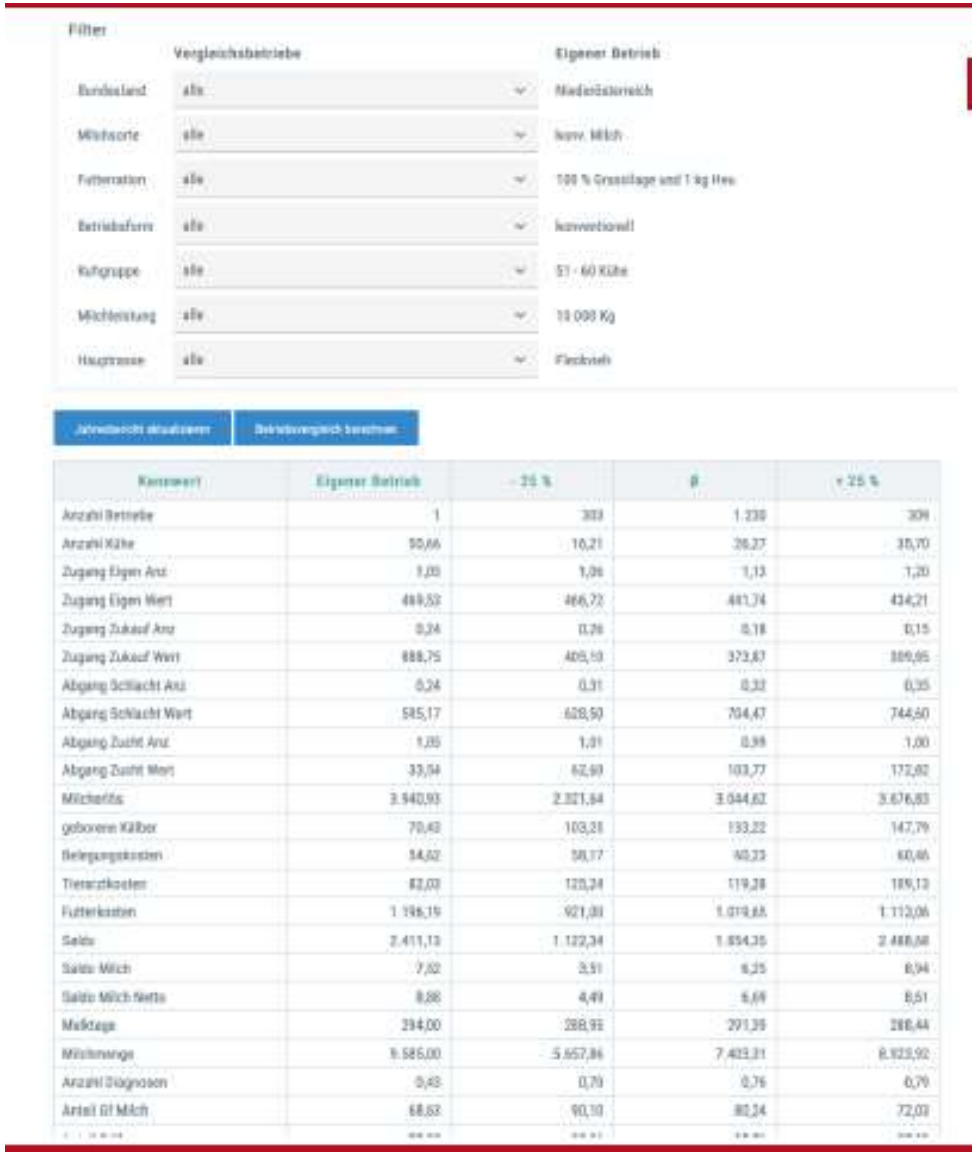
Cows with more weight have a higher ground energy level → require more feed to produce same amount of milk.

Delaying on weight and energy-corrected-milk yield are big diffences



Comparison between farms

Benchmarking included to analyse potential of improvement compared to similiar farms



ZuchtData
EDV-DIENSTLEISTUNGEN GMBH

Thank you and have a great day!

LKV AUSTRIA

eip-agri
AGRICULTURE & INNOVATION

MIT UNTERSTÜTZUNG VON BUND UND EUROPÄISCHER UNION

MINISTERIUM FÜR EIN LEBENSWERTES ÖSTERREICH

LE 14-20
Entwicklung für den Ländlichen Raum

Europäischer Landwirtschaftsfonds für die Entwicklung des ländlichen Raums: Hier investiert Europa in die ländlichen Gebiete