Farm Management Monitor

Supporting Sustainability of Farming

Cultivating Trust

Transparency

Value

ELDC

Farm Management Monitor

Farming Basics

ELDC BV has made instruments that show the levels of the 5 basic blocks that measure and offer optimized support

Dairy-FMM

Farming Basics

ELDC BV has made instruments that show the levels of the 5 basic blocks that measure and offer optimized support

Based on Bulk Milk laboratory tests

Dairy-FMM

Farming Basics

ELDC BV has made instruments that show the levels of the 5 basic blocks that measure and offer optimized support

Based on Bulk Milk laboratory tests

Every 30 days a Bulk Milk sample from the milk-collection service is being tested on

Dairy-FMM

Farming Basics

Every 30 days a Bulk Milk sample from the milk-collection service is being tested on

•the main **disease parameters** that affect milk production and animal well-being

Dairy-FMM

Farming Basics

			Scheme											
Test group	Test		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Animal disease	Ab/PCR	BVDV	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	IBR-gB/gE	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	Salmonella Bov	x		x		x		x		x		x	
	Ab	ParaTB	x		x		x		x		x		x	
	Ab	Fasciola	x		x		x		x		x		x	
	Ab	Neospora	x		x		x		x		x		x	
	Ab	Leptospira H/P	x		x		x		x		x		x	
	Ab	Mycopl. Bovis	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	MAA	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	*Schmallenberg*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*
	Ab	*FMD*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*
	Ab	*TB*	*x*		*x*		*x*		*x*		*x*		*x*	
	Ab	*Brucella Bov*	*x*		*x*		*x*		*x*		*x*		*x*	

Dairy-FMM

Farming Basics

Every 30 days a Bulk Milk sample from the milk-collection service is being tested on

- the main **disease parameters** that affect milk production and animal well-being
- **essential minerals** which ensure proper **feed uptake**

Dairy-FMM

Farming Basics

			Scheme											
Test group	Test		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Feed-uptake	FM	Mg^{2+}	x	x	x	x	x	x	x	x	x	x	x	x
	FM	Se^{4+}	x	x	x	x	x	x	x	x	x	x	x	x
	FM	Zn^{2+}	x	x	x	x	x	x	x	x	x	x	x	x
	FM	PO_4^{3-}/P_i	x	x	x	x	x	x	x	x	x	x	x	x
	FM	Ca^{2+}	x	x	x	x	x	x	x	x	x	x	x	x

Dairy-FMM

Farming Basics

Every 30 days a Bulk Milk sample from the milk-collection service is being tested on

- the main **disease parameters** that affect milk production and animal well-being
- **essential minerals** which ensure proper **feed uptake**
- parameters that indicate **toxins** in the silage, **silage quality**

Dairy-FMM

Farming Basics

			Scheme											
Test group	Test		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Sileage	EIA	Aflatoxin M	x	x	x	x	x	x	x	x	x	x	x	x

Dairy-FMM

Farming Basics

Every 30 days **individual milk samples** from the milk-collection service is being tested on

- the main **disease parameters** that affect milk production and animal well-being
- **essential minerals** which ensure proper **feed uptake**
- parameters that indicate **toxins** in the silage, **silage quality**
- collection of data on **reproduction**: **pregnancy tests (lab)**, insemination-rate, step-counters/ovulation-prediction, stress-factors, etc.

Dairy-FMM

Farming Basics

Search...

Filter

Animal ID	Work ID	Date of birth	Last delivery	Insimination date	Insimination count	Date Sampling	Date result	Result
NLxxx...	7998	05-07-2016	25-12-2023	13-02-2024	1	12-03-2024	15-03-2024	Pregnant
NLxxx...	8102	05-05-2020	05-03-2024					
NLxxx...	8186	05-07-2016	25-12-2023	12-02-2024	1	12-03-2024	15-03-2024	Re-check
NLxxx...	8199	16-07-2015	05-03-2024					
NLxxx...	8271	15-07-2018	05-03-2024					
NLxxx...	8280	15-09-2022	27-12-2023	13-02-2024	1	12-03-2024	15-03-2024	Re-check
NLxxx...	8285	16-07-2015	27-12-2023	13-02-2024	1	12-03-2024	15-03-2024	Pregnant
NLxxx...	8292	03-04-2017	05-03-2024					
NLxxx...	8376	05-05-2020	25-12-2023	12-02-2024	2	12-03-2024	15-03-2024	Pregnant
NLxxx...	8387	16-07-2015	25-12-2023	13-02-2024	1	12-03-2024	15-03-2024	Pregnant
NLxxx...	8391	15-07-2018	05-03-2024					
NLxxx...	8395	03-04-2017	05-03-2024					

Dairy-FMM

Farming Basics

Every 180 days **a water sample from the drinking tap** is being tested on

- the main **disease parameters** that affect milk production and animal well-being
- **essential minerals** which ensure proper **feed uptake**
- parameters that indicate **toxins** in the silage, **silage quality**
- collection of data on **reproduction**: **pregnancy tests (lab)**, insemination-rate, step-counters/ovulation-prediction, stress factors, etc.
- Drinking water: Chemistry and Bacteriology

Dairy-FMM

Farming Basics

			Scheme			
Test group	Test		Q1	Q2	Q3	Q4
Drinking water	FM	pH	x		x	
	FM	NH_4^+	x		x	
	FM	Cl^-	x		x	
	FM	PO_4^{3-}/P_i	x		x	
	FM	Fe-ttl	x		x	
	FM	Cu^{2+}	x		x	
	FM	Mn^{2+}	x		x	
	FM	NO_2^-	x		x	
	FM	SO_4^{2-}	x		x	
	MB	Coliform	x		x	
	MB	Enterobacteria	x		x	
	MB	E.Coli/Coliform	x		x	
	MB	Yeast and mold	x		x	
	MB	Aerobic bacteria	x		x	

Dairy-FMM

Farming Basics

Every 30/180 days Bulk Milk/individual milk/drinking water sample is being tested on

- the main **disease parameters** that affect milk production and animal well-being
- **essential minerals** which ensure proper **feed uptake**
- parameters that indicate **toxins** in the silage, **silage quality**
- collection of data on **reproduction**: **pregnancy tests (lab)**, insemination-rate, step-counters/ovulation-prediction, stress factors, etc.
- Drinking water: Chemistry and Bacteriology

Dairy-FMM

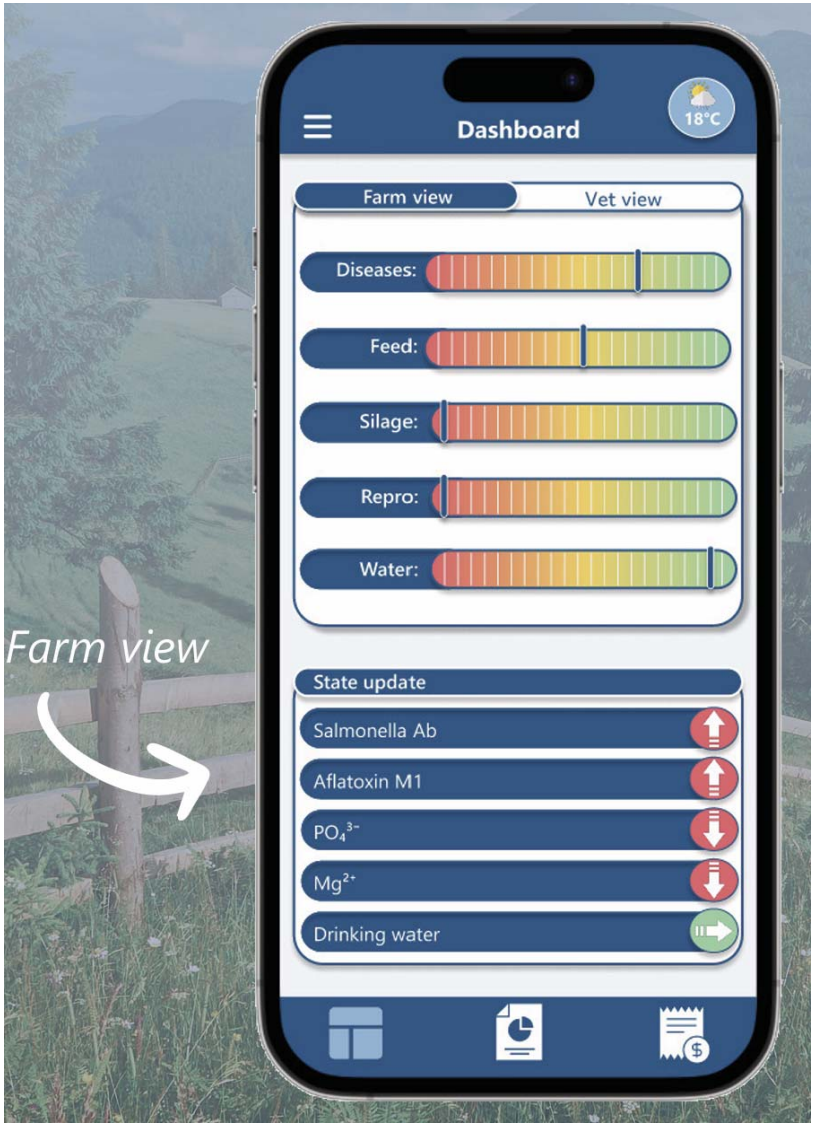
Farming Basics

Rund/Cattle

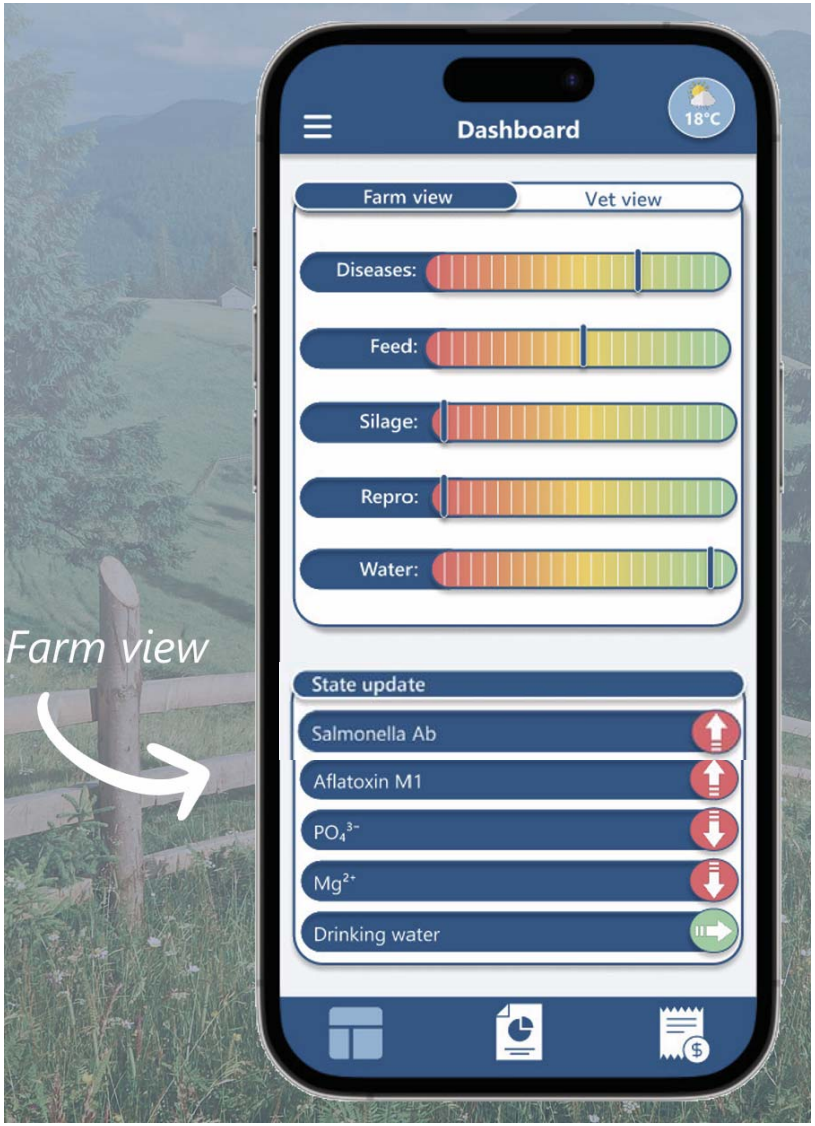
			Scheme											
Test group	Test		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Animal disease	Ab/PCR	BVDV	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	IBR-gB/gE	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	Salmonella Bov	x		x		x		x		x		x	
	Ab	ParaTB	x		x		x		x		x		x	
	Ab	Fasciola	x		x		x		x		x		x	
	Ab	Neospora	x		x		x		x		x		x	
	Ab	Leptospira H/P	x		x		x		x		x		x	
	Ab	Mycopl. Bovis	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	MAA	x	x	x	x	x	x	x	x	x	x	x	x
	Ab	*Schmallenberg*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*
	Ab	*FMD*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*	*x*
	Ab	*TB*	*x*		*x*		*x*		*x*		*x*		*x*	
	Ab	*Brucella Bov*	*x*		*x*		*x*		*x*		*x*		*x*	
Feed-uptake	FM	Mg^{2+}	x	x	x	x	x	x	x	x	x	x	x	x
	FM	Se^{4+}	x	x	x	x	x	x	x	x	x	x	x	x
	FM	Zn^{2+}	x	x	x	x	x	x	x	x	x	x	x	x
	FM	PO_4^{3-}/P_i	x	x	x	x	x	x	x	x	x	x	x	x
	FM	Ca^{2+}	x	x	x	x	x	x	x	x	x	x	x	x
Sileage	EIA	Aflatoxin M	x	x	x	x	x	x	x	x	x	x	x	x
Pregnancy	EIA	Indiv.milk	x	x	x	x	x	x	x	x	x	x	x	x
Drinking water	FM	pH	x						x					
	FM	NH_4^+	x						x					
	FM	Cl^-	x						x					
	FM	PO_4^{3-}/P_i	x						x					
	FM	Fe-ttl	x						x					
	FM	Cu^{2+}	x						x					
	FM	Mn^{2+}	x						x					
	FM	NO_2^-	x						x					
	FM	SO_4^{2-}	x						x					
	MB	Coliform	x						x					
	MB	Enterobacteria	x						x					
	MB	E.Coli/Coliform	x						x					
	MB	Yeast and mold	x						x					
	MB	Aerobic bacteri	x						x					

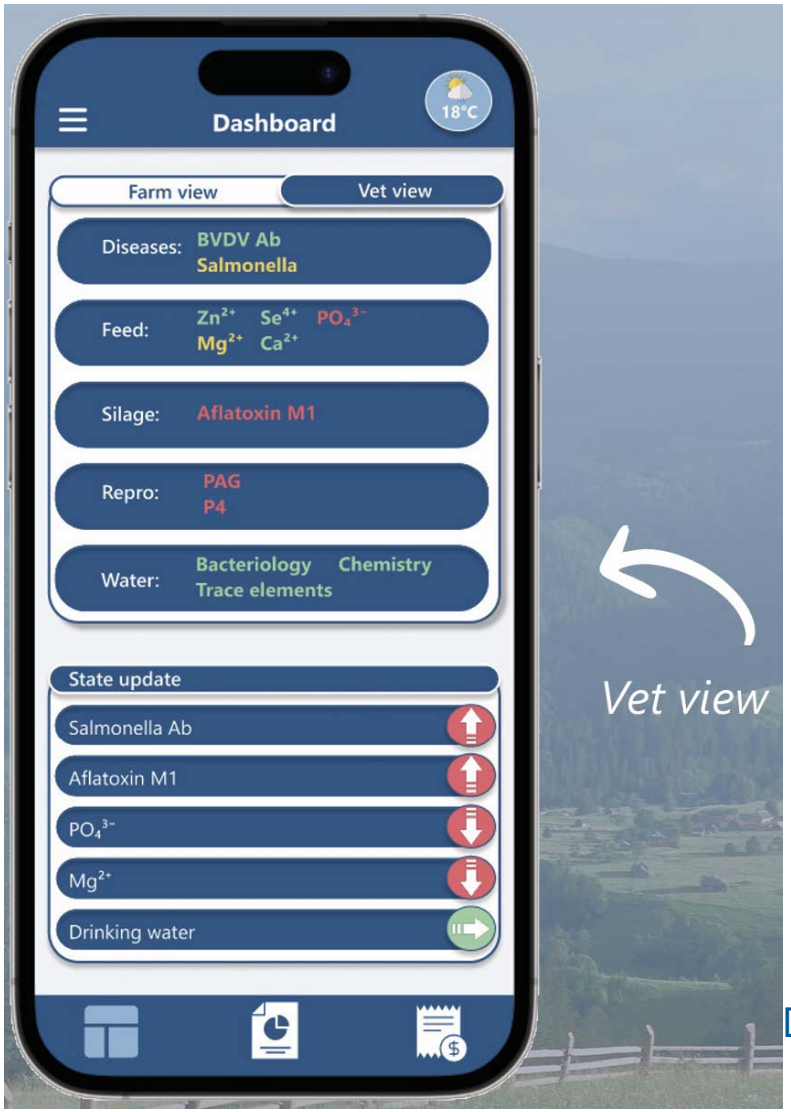
Ab=Antibody/EIA, PCR=DNA-test, EIA=enzymImmunoassay, FM=photometry, MB=microbiology/culturing

Dairy-FMM


Farm view
Dashboard
18°C
Farm view
Vet view
Diseases:
Feed:
Silage:
Repro:
Water:
State update
Salmonella Ab
Aflatoxin M1
PO_4^{3-}
Mg^{2+}
Drinking water

Dairy-FMM


Farm view
Dashboard
18°C
Farm view
Vet view
Diseases:
Feed:
Silage:
Repro:
Water:
State update
Salmonella Ab
Aflatoxin M1
PO_4^{3-}
Mg^{2+}
Drinking water

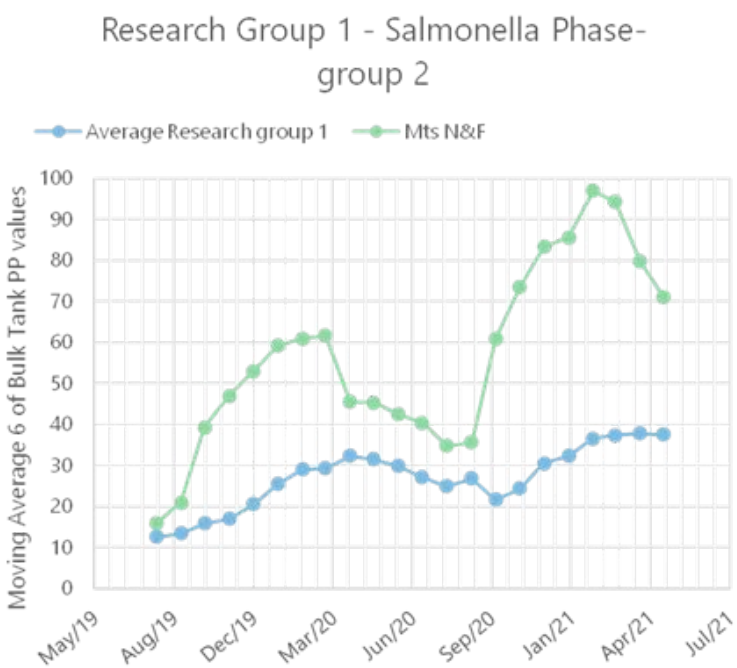

Vet view
Dashboard
18°C
Farm view
Vet view
Diseases: BVDV Ab
Salmonella
Feed: Zn^{2+} Se^{4+} PO_4^{3-}
Mg^{2+} Ca^{2+}
Silage: Aflatoxin M1
Repro: PAG
P4
Water: Bacteriology Chemistry
Trace elements
State update
Salmonella Ab
Aflatoxin M1
PO_4^{3-}
Mg^{2+}
Drinking water

Dairy-FMM

Dairy-FMM

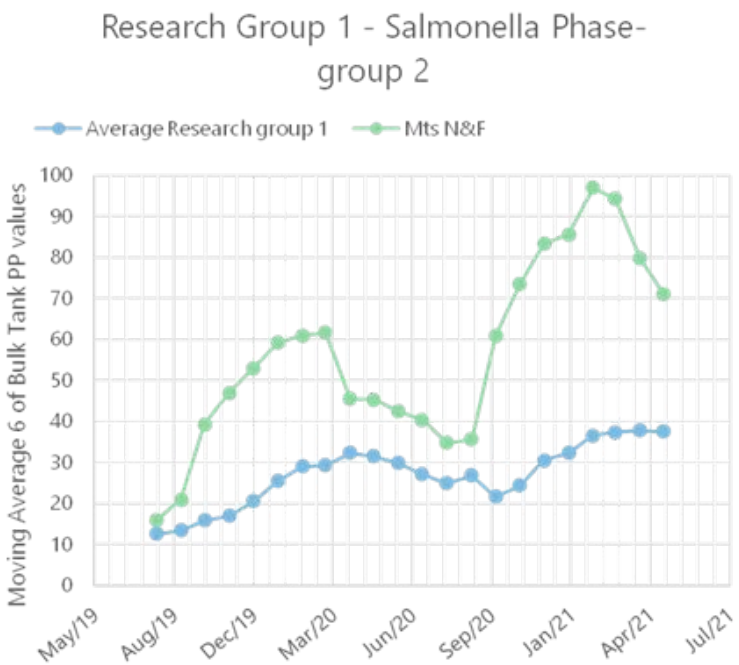
Select

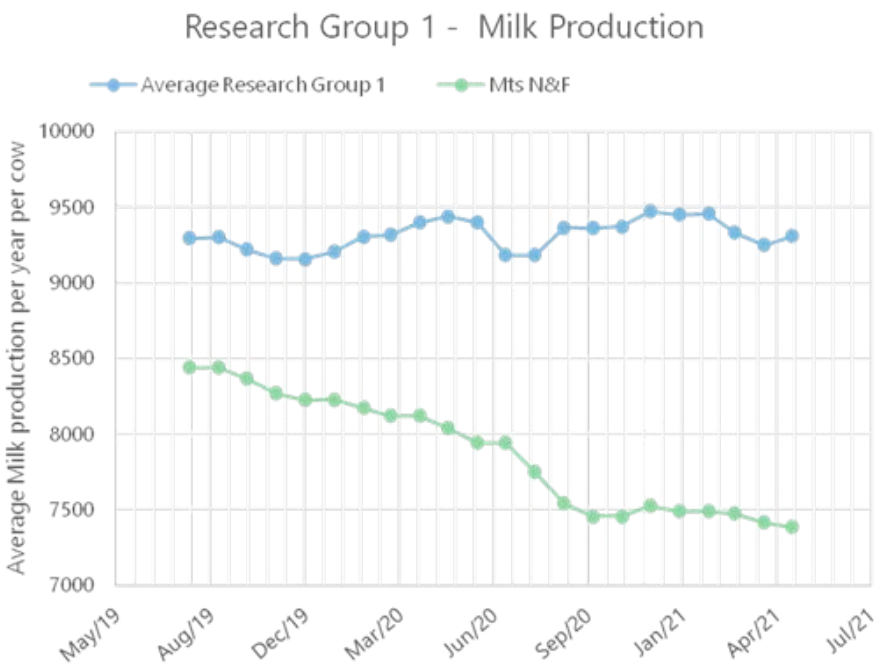

State update
Salmonella Ab


Research Group 1 - Salmonella Phase-group 2
Average Research group 1
Mts N&F
Moving Average 6 of Bulk Tank PP values
100
90
80
70
60
50
40
30
20
10
0
May/19
Aug/19
Dec/19
Mar/20
Jun/20
Sep/20
Jan/21
Apr/21
Jul/21

Select


State update
Salmonella Ab


Research Group 1 - Salmonella Phase-group 2
Average Research group 1
Mts N&F
Moving Average 6 of Bulk Tank PP values
100
90
80
70
60
50
40
30
20
10
0
May/19
Aug/19
Dec/19
Mar/20
Jun/20
Sep/20
Jan/21
Apr/21
Jul/21


Research Group 1 - Milk Production
Average Research Group 1
Mts N&F
Average Milk production per year per cow
10000
9500
9000
8500
8000
7500
7000
May/19
Aug/19
Dec/19
Mar/20
Jun/20
Sep/20
Jan/21
Apr/21
Jul/21

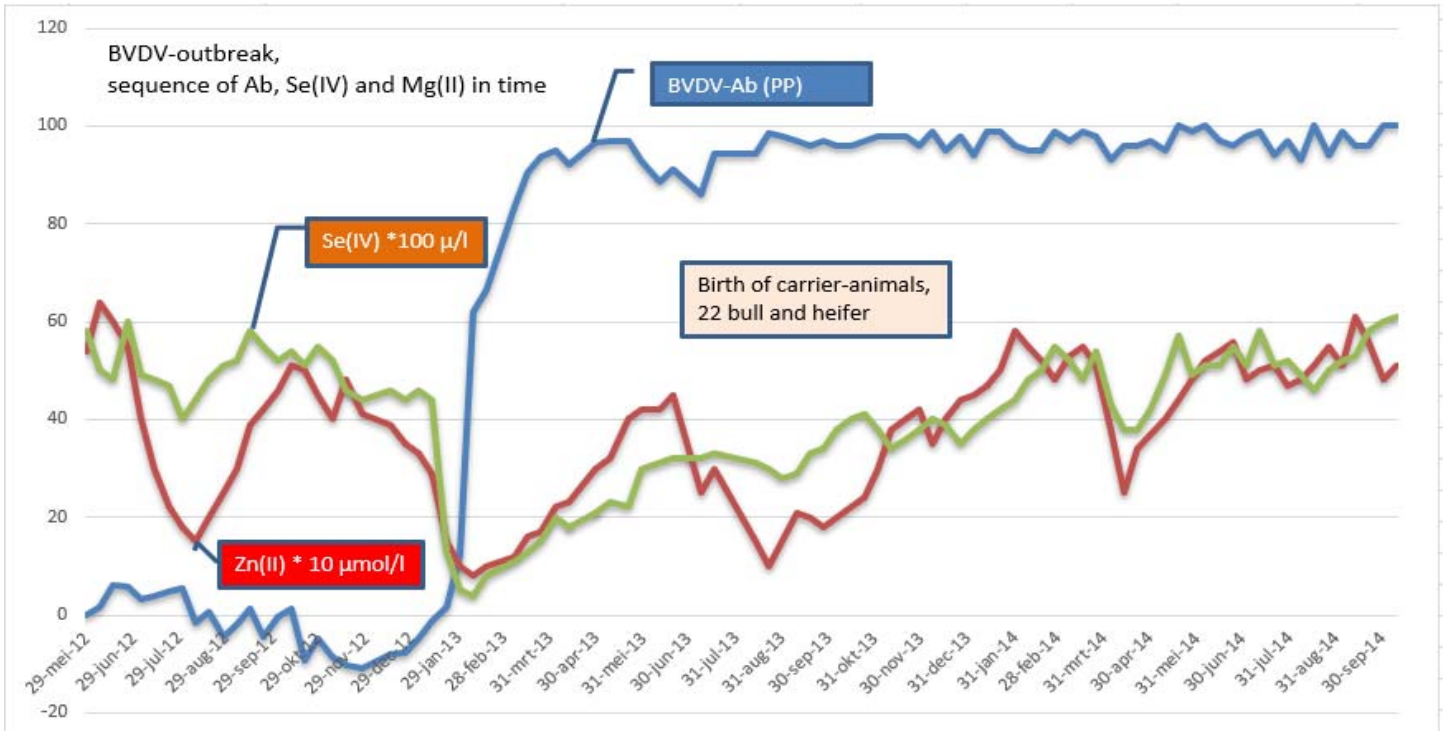
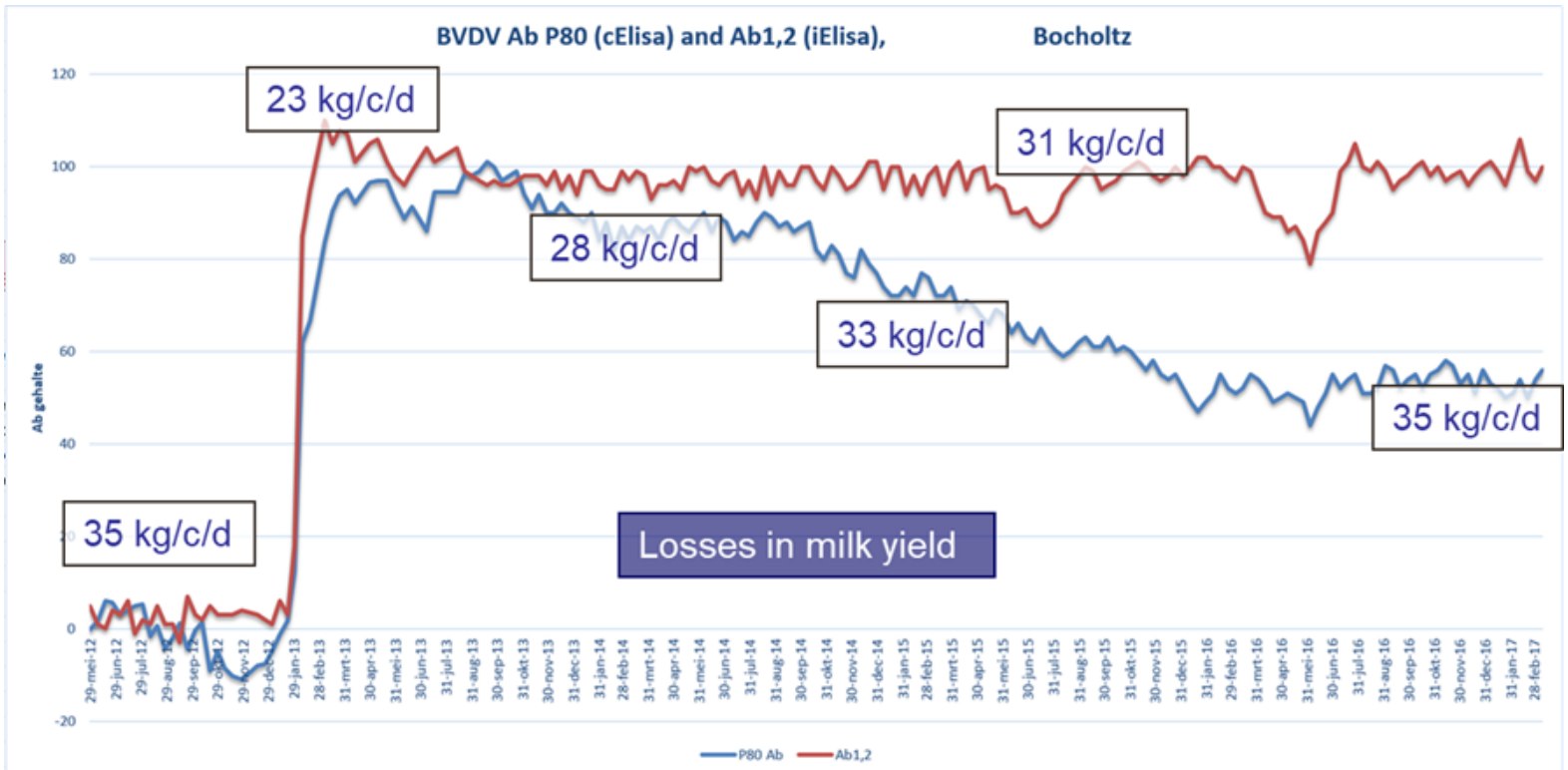


*Figure 3 Levels of the **minerals Zn(II)** and **Se(IV)**, and the **BVD-Ab-level** during a **BVD-outbreak**, regular dips of the minerals indicate **feed-change** (new sileage), the dip at the vast increase of Ab to BVD during the **outbreak** depict lower levels of **resistance** as a consequence of the **outbreak.***


BVDV Ab P80 (cElisa) and Ab1,2 (iElisa), Bocholtz
Ab gehalte
23 kg/c/d
31 kg/c/d
28 kg/c/d
33 kg/c/d
35 kg/c/d
35 kg/c/d
Losses in milk yield
P80 Ab
Ab1,2

Dairy-FMM

Pros of the FMM

1. Sustainable and environmentally friendly farming
2. Animal welfare and cost friendly
3. Control and insights in farm management
4. Increased productions with less animals, supports extra lactations
5. Preventive disease and essential nutrients control
6. Supports the choice for using feed additives

Farm Management Monitor

Supporting Sustainability of Farming

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