Manure Standards

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Template for a farm survey on manure management

Questionnaire for cattle farms

Farm name: _____

Manager: _____

Location: _____

Date: _____

Interreg Baltic Sea Region
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
EU STRATEGY FOR THE BALTIC SEA REGION FLAGSHIP

1. LIVESTOCK REGISTER FOR THE SEASON (normally 12 months)

1.1. Livestock numbers and specifics (per manure handling line)

TMR and AFC calculation	
Livestock	**Total livestock number**
Milking cows	
Nursing (suckler) cows	
Heifers (per age groups if possible)	
Cow calves	
Bull calves	
Young bulls	
Bulls	

1.2. Production

TMR and AFC calculation			Only for AFC calculation		
COWS					
Milk quantity		kg/year	Average dry period		days
Milk protein		%	Grazing period		days/year
Average body weight		kg	Grazing period		hours/day
Mature weight Average weight before calving		kg			
HEIFERS (per age groups)					
Starting weight		kg	Grazing period		days/year
Final weight Average weight before calving		kg	Grazing period		hours/day
Calving age		months			
CALVES					
Starting weight		kg	Grazing period		days/year
Final weight Average weight before moving to the next group		kg	Grazing period		hours/day
YOUNG BULLS (BEEF CATTLE)					
Starting weight		kg	Average ralization age		days
Final weight Average weight before realization		kg	Grazing period		days/year
			Grazing period		hours/day

NURSING (SUCKLER) COWS					
Starting weight (calf)		kg	Grazing period		days/year
Final weight (calf)		kg	Grazing period		hours/day

2. DIET COMPOSITION - FEED TYPE AND QUALITY FOR THE SEASON

SPRING ……/SPRING ……..

TMR calculation (according to the number of feeding groups, example - four feeding groups for dairy cows)

2.1. Milking cows NEB- negative energy balance

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.2. Milking cows 0- energy balance

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.3. Milking cows PEB-positive energy balance

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.4. Dry cows

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.5. Nursing cows (according to the number of feeding groups)

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.6. Heifers (according to the number of feeding groups)

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.7. Calves (according to the number of feeding groups)

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

2.8. Young bulls (according to the number of feeding groups)

				Unit may be variable (g/kg FM; g/kg DM; etc.)			Needed only if the DM digestibility is not known			Period length
Feed	**kg/day per animal**	**DM %**	**DM digestibility %**	**CP %**	**P %**	**K %**	**Ash %**	**OM %**	**OM digestibility %**	**Days**

DM – dry matter, OM – organic matter, CP – crude protein

3. HOUSING SYSTEMS FOR THE SEASON (normally 12 months)

3.1. Animal housing

3.1.1 Confinement (mark with +)

	Milking cows	Nursing cows	Heifers	Calves	Young bulls	Bulls	Other	
Permanent (100% time)								
Access to outdoor areas								
Concrete floor								
Drainage collected								
Pasture								
Months of confinement (if not permanent)								**Months per year**
Pasturing								**Hours per day**
Average number of hours animals are kept inside								**Hours per day**

3.1.2 Pen type (mark with +)

	Milking cows	Nursing cows	Heifers	Calves	Young bulls	Bulls	Other
Tied							
Loose housing							
Other *							
* Please clarify if other pen types are used							

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3.2. Bedding material (per manure handling line)

Manure handling line	Annual consumption (m^3)	DM %	Total N (kg/t)	Soluble N (kg/t)	P (kg/t)	K (kg/t)	* Specify crop species
Straw *							
Sawdust or wood shavings							
Peat							
Sand							
Rubber mat							
Other*							

* - Please specify, **- If own data available

3.4. Removal frequency from barn to storage (needed only if deep litter manure system is used)

Manure handling line	Slurry system		Solid system	
	Manure channel	Cross channel	Manure channel	Cross channel
Frequency (times/day)				
Other (please, specify)				

3.5. Additives to Manure / Slurry / Liquid waste

Additional substance		Approx. volume / quantity	Frequency	Notes
Rainwater from roofs**	Yes/No			
Water (washing, rinsing)*	Yes/No			
Wastewater from cleaning milk lines	Yes/No			
Other (please specify)	Yes/No			
Would it be possible to measure by installing flow meters on specific water lines?				Yes / No

* from rinsing milking areas, passageways etc., ** may be given as a water volume in m3 or as a roof area in m2 - please specify.

4. MANURE STORAGE FOR THE SEASON (normally 12 months)

4.1. General questions

Liquid manure / Slurry

Is all manure stored — Yes / No
If no, how is it disposed — _____
How much is exported or sold — _____(%, t)
Is manure imported or bought — Yes / No
How much is imported or bought — _____(%, t)

Solid manure

Is all manure stored — Yes / No
If no, how is it disposed — _____
How much is exported or sold — _____(%, t)
Is manure imported or bought — Yes / No
How much is imported or bought — _____(%, t)

4.2 Liquid manure / Slurry storage

		Barn 1	Barn 2	Barn3
Pumping pit	Yes/No			
	Volume	(m^3)	(m^3)	(m^3)
	Frequency emptied			
Storage		**Storage 1**	**Storage 2**	**Storage 3**
	Type of storage (tank, lagoon, other)			
	Primary matter stored (slurry, urine, dirty water)			
	Storage area (m^2)			
	Volume (m^3)			
	Minimum storage capacity (months)			
	Number of animals served			
	Covered Yes/No			
	Roof /crust / other			
	Distance from barn			
Mixing	**Pump / propeller / other**			
	Time	(hours/day)	(hours/day)	(hours/day)

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4.3. Solid manure storage

Concrete pad Yes / No

Number of concrete pads in the farm _____

Pad characteristics	Pad 1	Pad 2	Pad 3
Amount of solid manure stored [%]			
Distance to storage [km]			
Seepage collected			
Minimum storage capacity [Months]			
Heap height [m]			
Floor area [m^2]			
Storage volume [m^3]			
Covered [Yes / No]			

Field heap Yes / No Number of field heaps in the farm _____

Pad characteristics	Field heap 1	Field heap 2	Field heap 3
Heap r area [m^2]			
Heap height [m]			
Distance to storage [km]			
Covered [Yes / No]			

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5. FARM CHARACTERISTICS FOR A GROWING SEASON (normally 12 months)

6.1. General farm questions

Mean annual air temperature for ……. and…… _____°C

Mean annual precipitation for …… and ……. _____ mm

Field ID	**Crop**	**Area** ha	**Soil status** (if available)		
			N*	**P****	**K****
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

* - plant available; ** - Expressed as elemental form

6. MANURE QUANTITY AND QUALITY FOR THE SEASON (normally 12 months)

Ex- barn or Ex-storage*

Analysis performed laboratory analysis / farm analysis

Date of analysis _____

Analysis frequency _____

Has quality changed over time? _____

Stage of manure sampling* ex housing / ex storing

* Circle the correct answer

Total quantity of manure produced** t/yr or m^3/yr		Volume weight kg/m^3	DM %	pH	TN (kg/t)	NH_4-N (kg/t)	TP (kg/t)	P_{inorg} (kg/t)	TK (kg/t)	Ash %
Solid										
Semi-solid										
Slurry										
Liquid manure /urine										

7. MANURE APPLICATION FOR A GROWING SEASON (normally 12 months)

7.1. General question

Total field area available at the farm for manure spreading _____ha
Portion of manure spread on fields as fertilizer _____%
Amount of manure exported off-farm _____tonnes
Use or fate of exported manure_____
Soil nutrient analysis before spreading Yes / No

7.2. Application of fertilizers and manures to fields (including permanent grasslands and meadows) for growing season (normally 12 months)

Field ID	Crop type	Field area (ha)	Planned fertilization (manures + mineral)			Manures						Mineral fertilization			Expected main yield (t/ha)	Achieved main yield (t/ha)
			N (kg)	P (kg)	K (kg)	Type[1]	Application rates (t/ha)	Distance from storage	Top dressing [2]	Spreading technique[3]	Incorp-oration[4]	N (kg)	P (kg)	K (kg)		
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

1) Slurry / urine / solid / semi-solid and animal type

2) Application in growing crop (check if yes)

3) Broadcasting / band spreading / injection

4) Time between application and incorporation: 0 (immediately), 1 (within 4hrs), 2 (between 4-24hrs), 3 (after 1 day), No (no incorporation)

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7.3. Spreading equipment use

Transport of liquid manure and/or slurry	**Farmer's own** Yes / No	**Number of tanks**	**Make model description / Volumes**
Slurry tanks			
Slurry hauling truck			
Umbilical system			
Irrigation			

Spreading of liquid manure and/or slurry	**Farmer's own** Yes / No	**Volume** [m^3]	**Spreading width** [m]
Buffer tank on field			
Band spreaders			
Injector			
Broadcaster			
Other			
Spreading of solid manure	**Farmer's own** Yes / No	**Load** [t]	**Spreading width** [m]
Broadcaster			
Incorporation method			

8. FARMS WITH MANURE PROCESSING FOR THE SEASON (normally 12 months)

8.1 Portion or quantity of manure processed / treated

Solid _____

Slurry _____

Liquid _____

Does processing occur **before** or **after** storage? _____