

Mällona Mõis, EE

Organic production

certified acc. (EU) 2018/848 since 2008



Field of buckwheat of Mällona Mõis. Difference on the picture is from different ploughing times. Left side is ploughed three weeks earlier than the right side.



Yield enhancing strategy, what makes the farm special?

Organic farm, piloting innovative technologies like compost tea

Optimisation wishes and questions:

We would like to decrease ploughing to keep soil structure more healthy. Although ploughing helps to keep the weed under control, it is very expensive. We would like to try other methods for the weed control such as cover crops, special cultivators etc.

Heilo Altin

Farm: grain and legumes, 250 ha arable land, 1.5 ha permanent grassland

Soils: light sandy clay, clayey sand

Rainfall and temperatures

2003-2023	J	F	M	A	M	J	J	A	S	O	N	D	Year
Rainfall [mm]	22.4	20.0	18.9	28.5	51.8	76.1	62.2	83.4	51.1	57.3	39.1	33.5	544.2
Temperature [°C]	-4.7	-4.3	-0.4	5.6	11.8	15.8	18.2	17.0	12.2	6.3	1.9	-1.6	6.5

Arable crops, yields, fertilisation, 2019-2024, (rotation 1) [t/ha]

	2019	2020	2021	2022	2023	2024	Av.
1 Rapeseed (facultative)	0.42		0.81				0.62
2 Peas	0.97			1.34	1.24	2.02	1.39
3 Beans		2.31	0.81	0.77		1.27	1.29
4 W-Wheat*		0.67		3.3	0.99	2.33	1.82
5 S-Oats		2.24	1.89		2.01	1.52	1.92
6 S-Barley (facultative)	0.76			1.18			0.97
7 W-Rye				1.37	1.35	0.75	1.16
8 Buckwheat (facultative)			1.34	1.18	1.23		1.25
Fertilisers							
Cattle solid - imported				120/12 ha	100/10 ha	250/25 ha	123.3 t/yr
Cattle slurry - imported				25/40 ha		25/50 ha	25 t/yr

Grains: 86% DM, livestock manure in fresh matter, cooperation with conventional dairy farm: Nutrient-input by 100 t cattle solid manure: N 435 kg, P 137 kg, K 409 kg (10 t/ha*year applied to cereals); input by 25 t slurry: N 117 kg, P 30.5 kg and K 105.5 kg (applied to cereals). There is no fixed crop rotation, it depends on the soil fertility of the field and the year. In general, the order of crops is as follows: (S-barley) alfalfa, alfalfa, W-wheat, peas, oat, W-rye. Another option is: oat, peas, W-wheat, oat, beans. Buckwheat is not grown every year; it is grown in fields where the soil has a low P level. It is usually sown before or after oats. Cover crops (buckwheat, phacelia, hairy vetch) are sown after oat and winter wheat.

Photos: © Saamuel Stepanov

Machinery

Tractors

John Deere 6250r 184 kW
New Holland T6.180 132 kW

Power HP

250
180

Working width (m)

Cultivation

Cultivator Unia
Plough Överum
Disc harrow Unia
Harrow

8
5 furrows
6
6

Drilling

Horsch Pronto 4DC

4

Fertilisation

Slurry via contractor
WF DS/DST manure spreader

12

Harvest

New Holland CX8080

7.5

Estonian University of Life Sciences and Mällona Mõis, 01/2026