

Gut Rothenhausen, DE

Organic Farming since 1975

Association: Demeter



Field with common millet



Philipp Hennig

Yield enhancing strategy, what makes the farm special?

Focus on direct marketing of farm products potatoes/vegetables/milk/cheese/bread/eggs/meat – arable yields shall cover the demands of farm processing and marketing, broad variety of arable crops, grazing of clover grass by the dairy herd

Optimisation wishes and questions: Cooperation/land swap for optimal production of wheat-spelt-rye with other farmers according to soil quality, humus protection despite potato production, K-supply without external fertilisers, secure high-quality feed supply of dairy, stable yields of grain legumes

Farm: Mixed farm, 74 ha arable land, 16,5 ha permanent grassland, 23 dairy cows, 30 heads of young stock, 300-400 laying hens, milk yield 5100 kg/year and cow

Soils: sandy silty loam, brown earth

Rainfall and temperatures

2003-2023	J	F	M	A	M	J	J	A	S	O	N	D	Year
Rainfall [mm]	59.5	50.6	48.6	38.5	50.4	68.3	70.3	73.9	54.8	53.6	53.3	64.3	686
Temperatures [°C]	1.5	1.8	4.2	8.1	12.5	15.7	17.9	17.5	13.8	9.5	5.2	2.4	9.2

Crops, yields and fertilisation, 2019-2024 [t/ha]:

Crop rotation plan	2019	2020	2021	2022	2023	2024	MW
1-3 ^{CS} Clover grass	grazing, cut						
4 Common millet	-	2.0	2.0	2.0	1.92	1.46	1.88
4 Oats	1.86	1.2	2.5	1.09+Lu	1.71	4.62	2.16
5 W-Wheat ^{CF}	2.49	2.54	1.66	2.19	2.0	1.2	2.01
5 Vegetables ^{CS}							
6 Grain legumes ^{CF}				2.73+Oa		Lu 0+SB	
6 Feed legumes ^{CF}	mulch, grazing, cut						
7 W-spelt	1.6	2.46	2.78	2.5	2.82	3.0	2.24
7 Hemp	0.8	0.9	1.5	0.9	0.9		1.0
7 Buckwheat	1.08	1.0	2.34	2.0	1.77	2.55	1.79
8 Potatoes ^{CS,CF}	17.8	14.4	14.4	16.7	15.5	10.0	14.8
8 W-Rye	1.57	1.49	1.74	2.4	1.74	0.4	1.5
9 S-Barley + under-sown clover grass	1.17	2.85	1.98	2.03	1.44	1.0	1.75

Potatoes 20% DM, grains: 86% DM, ^{CS}Cattle-solid manure [%]: 25 DM, 5 N, 0.04 NH₄-N, 1.3 P, 5.8 K; ^{CF}Cattle fluid manure- [%]: 2 DM, 3 N, 0,27 NH₄-N, 0 P, 6.6 K, total available on farm p. a.: (24*114 + 25*5) * 80% = 3264 kg N; 24*15 + 25*17 = 545 kg P (acc. to DüV Germany), intercrops: legume rich or black oat/oil-radish

Photos: © HM Paulsen

Machinery

Tractors

Power HP

Fendt Vario 711	120
Fendt Favorit 311	110
Claas Arion 420	100
Fendt Favorit 309	90
Fendt GT 270	70
Fendt GT 231	30
Fendt GT 231	30
Fiat 500	50

Self-propelled machines

Working width in meters

Claas Dominator D58	3
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Cultivation

OVLAC Mini, shallow mouldboard plough	2.8
Lemken Smaragd, wing share cultivator	3
Agroland short disc harrow	3
Rau Rototiller, tinerotor	3
Amazone D disc seed drill	3
Ridger, 4-row	3
Kress star cultivator, 2-rows	1.5
Tine harrow	3
Potatoe cup planter, 4-rows	3

Harvest

Grimme SL750 potatoe harvester, 1 row	0.75
Claas Rollant 240, round baler	2
Claas tedder	6
Kuhn GMD702 front disk mower	2.7

Fertilisation

Mengele 6 t manure spreader	6
Drag hose barrel 6 m ³	6

Thünen-Institute of Organic Farming, Gut Rothenhausen, 05/2025