






Animal manure

	Gross margin without measure (€/ha)			Implementation costs (€/ha)					Gross margin with measure (€/ha)			Change in gross margin (€/ha)			Change in gross margin (%)		
	Output (yield x price)	Operating costs	Gross margin	Investment	Operational	Displacement	Avoided	Net cost	High yield impact	Middle yield impact	Low yield impact	High yield impact	Middle yield impact	Low yield impact	High yield impact	Middle yield impact	Low yield impact
Barley																	
Estonia	351	265	86	0	75	0	-68	7	149	79	44	63	-7	-42	74	-8	-49
Finland	492	593	-101	0	75	0	-138	-63	60	-39	-88	161	63	13	159	62	13
Germany	874	730	144	0	75	0	-128	-53	369	197	110	225	53	-33	156	37	-23
Greece	606	463	142	0	75	0	-127	-52	310	195	137	167	52	-5	117	37	-4
Hungary (winter)	502	411	91	0	75	0	-98	-23	206	114	67	115	23	-24	127	25	-26
Hungary (spring)	468	390	77	0	75	0	-61	14	149	64	21	72	-14	-56	93	-18	-73
Ireland	1044	645	399	0	75	0	-173	-98	681	496	404	282	98	5	71	24	1
Italy	764	437	327	0	75	0	-66	9	464	318	245	138	-9	-82	42	-3	-25
Lithuania	383	239	143	0	75	0	-70	5	215	138	100	71	-5	-43	50	-3	-30
Poland	477	369	109	0	75	0	-109	-34	238	143	95	129	34	-14	119	31	-12
Spain	426	249	177	0	75	0	-71	4	257	172	130	80	-4	-46	45	-2	-26
Spain (rainfed)	578	299	279	0	75	0	-114	-39	411	318	272	132	39	-8	47	14	-3
Spain (irrigated)	878	462	416	0	75	0	-163	-88	655	504	428	239	88	13	57	21	3
United Kingdom	1019	731	288	0	75	0	-160	-85	562	374	280	273	85	-9	95	30	-3
Common wheat																	
Bulgaria	518	268	250	0	75	0	-68	7	347	243	192	97	-7	-58	39	-3	-23
Czech Republic	701	493	207	0	75	0	-92	-17	364	224	155	157	17	-53	76	8	-25
Estonia	379	321	59	0	75	0	-96	-21	156	80	42	97	21	-17	166	36	-28
Finland	544	702	-158	0	75	0	-162	-87	38	-71	-125	196	87	32	124	55	21
France	1003	712	291	0	75	0	-187	-112	602	403	303	311	112	13	107	39	4
Germany	1148	728	420	0	75	0	-152	-77	726	497	383	306	77	-37	73	18	-9
Greece	512	407	106	0	75	0	-121	-46	254	152	101	149	46	-5	141	44	-5
Hungary	555	403	152	0	75	0	-85	-10	273	162	107	121	10	-45	80	7	-30
Hungary (winter)	581	428	153	0	75	0	-109	-34	653	461	296	500	308	143	326	201	94
Italy	1024	598	426	0	75	0	-104	-29	650	455	357	225	29	-68	53	7	-16
Latvia	531	432	99	0	75	0	-134	-59	264	158	105	165	59	6	167	60	6
Lithuania	591	392	198	0	75	0	-161	-86	402	284	225	204	86	27	103	43	13
Poland	734	489	245	0	75	0	-154	-79	470	323	250	225	79	6	92	32	2
Romania	536	300	236	0	75	0	-57	18	324	218	164	88	-18	-72	37	-8	-30
Spain	587	299	289	0	75	0	-77	-2	407	291	233	118	2	-56	41	1	-19
Sweden	770	663	107	0	75	0	-183	-108	367	215	138	261	108	32	245	101	30
United Kingdom	1200	821	379	0	75	0	-169	-94	706	473	356	328	94	-23	87	25	-6
Durum wheat																	
France	996	776	220	0	75	0	-163	-88	506	308	209	286	88	-11	130	40	-5
Greece	429	438	-9	0	75	0	-111	-36	113	28	-15	122	36	-6	1374	411	71
Italy	734	440	295	0	75	0	-88	-13	450	307	236	155	13	-58	53	4	-20
Spain	506	309	197	0	75	0	-66	9	289	189	138	92	-9	-59	47	-4	-30
Grain maize																	
France	1425	1074	350	0	75	0	-245	-170	805	521	379	454	170	29	130	49	8
Germany	1577	1007	570	0	75	0	-201	-126	1011	696	539	441	126	-32	77	22	-6
Greece	2029	1172	858	0	75	0	-280	-205	1468	1063	860	611	205	2	71	24	0
Hungary	917	615	301	0	75	0	-124	-49	533	350	258	231	49	-43	77	16	-14
Hungary (central region)	923	568	355	0	75	0	-73	2	692	557	353	338	202	-2	95	57	-1
Italy	1712	926	786	0	75	0	-191	-116	1242	902	732	455	116	-54	58	15	-7
Poland	959	549	410	0	75	0	-174	-99	701	509	413	291	99	4	71	24	1
Portugal	1629	1016	613	0	75	0	-215	-140	1078	754	591	465	140	-22	76	23	-4
Romania	812	401	411	0	75	0	-68	7	566	404	323	155	-7	-88	38	-2	-21
Slovakia	1012	776	236	0	75	0	-109	-34	472	270	170	235	34	-67	100	14	-28
Spain	1796	822	974	0	75	0	-186	-111	1444	1085	906	470	111	-68	48	11	-7
Spain (irrigated)	2190	1107	1083	0	75	0	-422	-347	1868	1430	1211	785	347	128	73	32	12

Co-benefits

Type of benefit	Size of effect	Type of effect
Promote soil biodiversity		Increases soil nutrient content and organic matter. Enhances microbial activity.
Erosion protection		Manure reduces the risk of soil erosion by creating a protective layer and stimulating plant growth.
Prevent nutrient leaching (N, P)		Manure application can substantially increase N and P losses (both immediately and over time due to building soil nutrient pools), which necessitates proper application with appropriate quantities and techniques as well as timing.
Reduce soil emissions (nitrous oxide and ammonia)		Depends on application and type of manure, but nitrous oxide emissions may be 1) enhanced due to more degradable C that fuels denitrification or 2) decreased over the long term due to improved soil structure.
Promote above ground biodiversity		No significant effect observed for manure, but adding compost increases the microbial community that may help with nutrient provision as well as disease and pest suppression.

Legend: ++ maximum positive effect, + positive effect, 0 no effect, - negative effect, -- maximum negative effect