Agriculture and Food Development Authority

CROPS
COSTS AND RETURNS
2011

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CROP MARGINS

Awareness of crop margins is vitally important since under the decoupled regime the Single Farm Payment (SFP) will be paid irrespective of what crop is grown. Moreover, it makes no sense to produce the crop at a loss. The bottom line is that the land must be maintained in "good agricultural and environmental condition".

Note: **The margins shown here do not include the SFP. Prices of grain and fertilisers may vary considerably from those predicted under the present volatile market conditions.**

The margins given here should provide a useful guide to profits but land suitability, rotation, risk avoidance and convenience should also be considered. There is little difference in margins between spring and winter feed cereals. Bonuses for quality are important.

In the case of malting barley the availability of contracts and fulfilment of contract requirements may limit the attainment of these margins.

Stacking (consolidation) is a provision where Irish farmers can get their full Single Farm Payment without the need to farm all the land they farmed in the reference years 2000-2002. At least 50% of the allocated entitlements from the reference years must be farmed. Farmers can only stack if they dropped rented or leased land, afforested land since 2000 or lost land due to compulsory acquisition for public good (CPO). Stacking applies to all farming enterprises. As over ½ of arable land farmed is on rented ground this provision has major implications for the price of rented land for tillage.

Stacking is available in 2011. In future years the stacked grower may rent additional land (if profitable) without compromising his stacked (consolidated) entitlements.

Conacre appraisal

The following table will provide a transparent exposition for growers and land owners as to what price can be paid for conacre.

1	Entitlement Value	
2	Gross Margin achievable	
3	Land problems, fertility, pH, P, K, trace elements, weeds, scutch, wild oats, other grass weeds	
4	€ available for rent + farming	(1+2)-3

Costs

Level of yield has a major influence on profitability. Decisions on input strategies must be tailored for individual fields and farms.

Timeliness and attention to detail in carrying out all operations are vital to maintaining profitability in crop production. All costs (direct and fixed) need to be kept to a minimum, consistent with good husbandry practices. Fixed costs will need closer attention. In particular, investments in machinery and land/conacre will need thorough financial appraisal before a decision is taken. Labour efficiency must be scrutinised.

CEREAL CROP MARGINS 2011
Variable Costs excl. VAT (€/hectare)

	WHEAT		FEED BARLEY		MALTING BARLEY	FEED OATS	
	Feed Winter	Milling Spring	Winter	Spring		Winter	Spring
MATERIALS	**748**	**598**	**601**	**469**	**469**	**588**	**470**
Seed	69	81	76	74	74	76	76
Fertilisers	410	327	317	258	258	348	255
Sprays:							
Herbicides	56	45	56	45	45	27	27
Fungicides	160	115	110	75	75	105	80
Insecticides	38	20	22	17	17	17	17
Growth Regulators	15	10	20	0	0	15	15
HIRE MACHINERY	**429**	**393**	**393**	**375**	**375**	**393**	**393**
Plough, Till and Sow	155	155	155	155	155	155	155
Spray	90	54	72	54	54	72	72
Fertiliser Spreading	54	54	36	36	36	36	36
Harvesting	130	130	130	130	130	130	130
MISCELLANEOUS	**91**	**69**	**79**	**60**	**60**	**79**	**60**
Interest (6%)	31	15	25	12	12	25	12
Transport (€6/tonne)	60	54	54	48	48	54	48
TOTAL VARIABLE COSTS	**1268**	**1060**	**1073**	**904**	**904**	**1060**	**923**
Tonnes to cover variable costs (grain only)	7.9	6.2	7.2	6.0	5.3	7.1	6.2
Net Price (€/tonne)	160	170	150	150	170	150	150
AID (SFP)=NOT included	0	0	0	0	0	0	0
Straw (€/ha)	75	65	125	90	90	90	90

Gross Margins (€/hectare)
(incl straw)

Tonnes/Hectare	WHEAT		FEED BARLEY		MALTING BARLEY	FEED OATS	
	Feed Winter	Milling Spring	Winter	Spring		Winter	Spring
6.0	-232	25	-48	87	207	-70	67
7.0	-72	195	102	237	377	80	217
8.0	88	365	252	387	547	230	367
9.0	248	535	402	537	717	380	517
10.0	408	705	552			530	
11.0	568						

EXPLANATORY NOTES - CEREAL CROPS

Fixed or Overhead Costs per Hectare

Scutch Control €17, Lime €17, Maintenance of Land and Fences, Car, Phone, ESB and regular hired labour? Total €140+. Fixed costs have to be subtracted from gross margin to give income.

VAT is excluded from input costs and outputs

Input Costs:	Cereals	(€/hectare)
Seed:	€490/t Blue Label	
Rate:	W. Wheat – 140 kg/ha; W. Barley & Oats – 155 kg/ha; S. Barley – 150 kg/ha; S. Wheat – 165 kg/ha	
Fertiliser:	W. Cereals, 370 kg/ha 10-10-20 @ €455/t	=€168
210 kg N/ha	W. Wheat 640kg/haCAN (27% N + S) @ €330/t & 70 kg/ha 50% K	=€241
160 kg N/ha	W. Barley 450 kg/ha CAN + S	=€149
145 kg N/ha	W. Oats – 400 kg/ha CAN + S & 110 kg/ha 50% K@€430/t	=€179
	S. Cereals 370 kg/ha 13-6-20 @ €420/t	=€155
170 kg N/ha	Topdress S. Wheat – 430 kg/ha CAN + S & 70 kg/ha 50% K	=€172
135 kg N/ha	S. Barley – 310 kg/ha CAN + S	=€102
110 kg N/ha	S Oats – 210 kg/ha CAN + S & 70 kg/ha 50% K	=€ 99
Herbicides:	W. Wheat & W. Barley €56/ha; S. Wheat & S. Barley €45/ha; Oats €27/ha	
Fungicides:	**Winter Wheat**: Chlorothalonil (CTL) = €10 T1: Eyespot + B.S. + CTL Growth Stage 31-32 = €50 T2:.Broad Spectrum (B.S.) + CTL. Growth Stage 37-39 = €60 T3: B.S. (incl. triazole) Growth Stage 55-60 = €45	€165
	Spring Wheat: T1: ½ rate (B.S.+Morph.+CTL), Growth Stage 30-32 =€25 T2: B. S. + CTL. Growth Stage 37-39 =€50 T3: B.S. (incl. triazole) Growth Stage 55-60 =€40	€115
	S. Barley: T1: Red rate (Triazole + mildew); T2: Strob+triazole+CTL	= €75
	Winter Barley: 3 Fungicides – gs 31, 37, 49	= €110
	W. Oats: B.S. + morph at T1 + T2, B.S. + Strob at T3	= €105
	S. Oats: reduced rate W. Oats	= € 80
Insecticides:	Winter wheat; Slug Pellets (€27/ha) + Aphicide (€11/ha) Other Cereals: Leatherjackets €11/ha? + Aphicide (€5-€10/ha)	
Growth Regulators:	W. Wheat, W. & S. Oats; Spring Wheat Winter Barley	= €15 = €10 = €20
Hire Machinery:	Plough (€75), Till + Sow (€80)	= €155
	Spraying	= €18
	W. Wheat: Weeds + Aphids, PGR, Fungicide x 3	= €90
	S. Wheat: Weeds + Aphids, Fungicide x 3	= €54
	W. Barley: Aphids+ Weeds, Fungicide x 3	= €72
	S. Barley: Weeds + Aphids, Fungicide x 2	= €54
	W. Oats: Weeds Aphids, Fungicide x 3	= €72
	Fertiliser Spreading (@ €19/ha)	=€38-€57
Interest 6%:	Seed + Fertiliser + 0.5 Sprays; Winter - 10 months; Spring 6 months	

CEREAL CROP MARGINS 2011

Variable Costs excl. VAT (€/acre)

	WHEAT		FEED BARLEY		MALTING BARLEY	FEED OATS	
	Feed Winter	Milling Spring	Winter	Spring		Winter	Spring
MATERIALS	303	242	244	189	189	238	190
Seed	28	33	31	30	30	31	31
Fertilisers	166	132	128	104	104	141	103
Sprays:							
Herbicides	23	18	23	18	18	11	11
Fungicides	65	47	45	30	30	42	32
Insecticides	15	8	9	7	7	7	7
Growth Regulators	6	4	8	0	0	6	6
HIRE MACHINERY	174	160	160	153	153	160	160
Plough, Till and Sow	63	63	63	63	63	63	63
Spray	36	22	29	22	22	29	29
Fertiliser Spreading	22	22	15	15	15	15	15
Harvesting	53	53	53	53	53	53	53
MISCELLANEOUS	36	28	32	24	24	32	24
Interest (6%)	12	6	10	5	5	10	5
Transport (€ 6/tonne)	24	22	22	19	19	22	19
TOTAL VARIABLE COSTS	513	430	436	366	366	430	374
Tonnes to cover variable costs (grain only)	3.2	2.5	2.9	2.4	2.2	2.9	2.5
Net Price (€/tonne)	160	170	150	150	170	150	150
AID (SFP)=NOT included	0	0	0	0	0	0	0
Straw (€/ac)	30	26	51	36	36	36	36

Gross Margins (€/acre)

(incl straw)

	WHEAT		FEED BARLEY		MALTING BARLEY	FEED OATS	
Tonnes/acre	Feed Winter	Milling Spring	Winter	Spring		Winter	Spring
2.4	-94	10	-19	35	84	-28	27
2.8	-29	79	41	96	152	32	88
3.2	36	148	102	157	221	93	149
3.6	100	216	163	217	290	154	209
4.0	165	285	224			215	
4.5	230						

NON CEREAL MARGINS 2011

Variable Costs excl. VAT (€/acre)

	BEET	Potatoes Maincrop	MAIZE	PEAS	BEANS	OILSEED RAPE	
						Winter	Spring
MATERIALS	410	1016	297	210	162	243	152
Seed	52	421	81	65	45	30	30
Fertilisers	242	288	190	60	60	147	107
Sprays:							
Herbicides	77	63	26	53	25	38	12
Fungicides	15	193	0	29	29	20	0
Insecticides	24	51	0	3	3	8	3
HIRE MACHINERY	256	864	228	156	145	189	174
Plough, Till and Sow	85	291	85	63	63	63	63
Roll	0	0	0	7	0	7	7
Spray	29	153	7	22	22	29	22
Fertiliser Spreading	15	15	15	7	7	15	7
Swathing/Dessication	0	0	0	0	0	20	20
Harvesting	127	405	121	57	53	55	55
MISCELLANEOUS	172	133	156	25	20	24	14
Interest (6%)	14	36	10	5	5	9	4
Transport (€6/tonne)	158	97	146	15	15	12	10
Bird Control	0	0	0	5	0	3	0
TOTAL VARIABLE COSTS	838	2013	681	391	327	456	340
Output to cover variable costs tonnes/acre	20.9	9.1	15.1	1.6	1.7	1.1	0.9
Net Price (€/tonne)	40	220	45	250	190	400	400
AID (SFP)=NOT included			0	22	22	0	0

Gross Margins (€/acre)

Tonnes/acre		BEET	Potatoes Maincrop	MAIZE	PEAS	BEANS	OILSEED RAPE	
							Winter	Spring
(Maize, beet & potatoes)	0.8							-16
12	1.2		659	-135			30	145
14	1.6		1104	-44	37	4	191	307
16	2.0	-190	1549	47	139	81	353	469
20	2.2	-28	2439	229	189	119	434	
24	2.4	133		411	240	157		
26	2.6	214		502	290	196		
28	2.8	295						

CEREAL CROP BUDGETS

Variable Costs excl. VAT (€/acre)

		WINTER WHEAT		SPRING BARLEY		ANOTHER CROP	
		Actual	**Budget**	**Actual**	**Budget**	**Actual**	**Budget**
MATERIALS (**A**=B+C+D+E+F+G)	**A**	**0**	303	**0**	**189**	**0**	**0**
Seed	**B**		28		30		
Fertilisers	**C**		166		104		
Sprays:							
Herbicides	**D**		23		18		
Fungicides	**E**		65		30		
Insecticides	**F**		15		7		
Growth Regulators	**G**		6		0		
HIRE MACHINERY (**H**=I+J+K+L)	**H**	**0**	174	**0**	153	**0**	**0**
Plough, Till and Sow	**I**		63		63		
Spray	**J**		36		22		
Fertiliser Spreading	**K**		22		15		
Harvesting	**L**		53		53		
MISCELLANEOUS (**M**=N+O)	**M**	**0**	36	**0**	**24**	**0**	**0**
Interest (6%)	**N**		12		5		
Transport (€6/tonne)	**O**		24		19		
TOTAL VARIABLE COSTS (**P**=A+H+M)	**P**	0	513	0	366	0	0
Tonnes to cover variable costs (**Q**=P/R)	**Q**		3.2		2.4		
Net Price (€/tonne)	**R**		160		150		
AID (€/acre)	**S**		0		0		
Straw (€/acre)	**T**		30		36		
Projected yield	U						
Gross Margins (€/acre) (V = (R*U)+S+T-P)	V						

Share Farming Crop Budget

Variable Costs excl. VAT (€/acre)		Crop Budget (€/acre)	=	Landowner Share	+	Share-farmer Share
MATERIALS (**A**=B+C+D+E+F+G)	**A**					
Seed	**B**					
Fertilisers	**C**					
Sprays:						
Herbicides	**D**					
Fungicides	**E**					
Insecticides	**F**					
Growth Regulators	**G**					
MACHINERY COSTS (**H**=I+J+K+L)	**H**					
Plough, Till and Sow	**I**					
Spray	**J**					
Fertiliser Spreading	**K**					
Harvesting	**L**					
MISCELLANEOUS COSTS (M=N+O)	**M**					
Interest	**N**					
Transport	**O**					
TOTAL VARIABLE COSTS (**P**=A+H+M)	**P**					
Tonnes to cover variable costs (**Q**=P/R)	**Q**					
Net Price (€/tonne)	**R**					
AID (€/acre)	**S**					
REPS €/acre)	**T**					
Straw (€/acre)	**U**					
Projected yield	**V**					
Gross Margins (€/acre) (W = (R*V)+S+T+U-P)	**W**		=		+	

NON CEREAL MARGINS 2011
Variable Costs excl. VAT (€ /hectare)

	BEET	Potatoes Maincrop	Maize			OILSEED RAPE	
				Peas	Beans	Winter	Spring
MATERIALS	**1012**	**2511**	**734**	**517**	**402**	**604**	**377**
Seed	128	1040	200	160	112	75	75
Fertilisers	597	712	469	148	148	364	264
Sprays:							
Herbicides	190	157	65	130	63	95	30
Fungicides	37	477	0	72	72	50	0
Insecticides	60	125	0	7	7	20	8
HIRE MACHINERY	**633**	**2134**	**564**	**385**	**357**	**466**	**430**
Plough, Till and Sow	210	720	210	155	155	155	155
Roll	0	0	0	18	0	18	18
Spray	72	378	18	54	54	72	54
Fertiliser Spreading	36	36	36	18	18	36	18
Swathing/Desiccation	0	0	0	0	0	50	50
Harvesting (grading into store)	315	1000	300	140	130	135	135
MISCELLANEOUS	**425**	**328**	**386**	**61**	**48**	**57**	**33**
Interest (6%)	35	88	26	13	12	21	9
Transport (€6/tonne)	390	240	360	36	36	30	24
Bird Control	0	0	0	12	0	6	0
TOTAL VARIABLE COSTS	**2070**	**4973**	**1684**	**963**	**807**	**1127**	**840**
Output to cover variable costs							
Tonnes/ha	51.8	22.6	37.4	3.9	4.2	2.8	2.1
Net Price (€/tonne)	40	220	45	250	190	400	400
AID (SFP) = NOT included	0	0	0	55.57	55.57	0	0

Gross Margins (€/hectare)

Tonnes/hectare		BEET	Potatoes Maincrop	Maize			OILSEED RAPE	
					Peas	Beans	Winter	Spring
(Maize, Beet, potatoes	2.0							-41
30	3.0		1628	-334			73	359
35	4.0		2728	-109	93	9	473	759
40	5.0	-470	3828	116	343	199	873	1159
50	5.5	-70	6028	566	468	294	1073	
60	6.0	330		1016	593	389		
65	6.5	530		1241	718	484		
70	7.0	730						

N.B. Value of beet tops is not included in margin. These could have a grazing value of at least €60/ha.
Costings for potatoes include production (not irrigated) and grading into store only. Ware price assumed is €220/t in store in October/Nov. Value added by further grading and washing is up to growers

EXPLANATORY NOTES - NON CEREALS

	Fertilisers/hectare	€/ha	€ Total
Beet	1,235 kg beet compound @ €450/t	556	
	+ 125 kg CAN @ €330/t	41	597
Maize	620 kg 0-7-30 @ €400/t	248	
	670 kg/ha CAN	221	469
Beans/Peas	370 kg 0-7-30	148	148
Winter Oilseed Rape	370 kg 10-10-20 @ €455/t	168	
	250 kg Urea @ €400/t	100	364
	280 kg ASN @ €340/t	95	
Spring Oilseed Rape	370 kg 13-6-20 @ €420/t	155	
	330 kg CAN + S @ €330/t	109	264

Interest 6%: Beet, Maize, WOSR & Potatoes = 7 months; Beans = 6 months; SOSR & Peas = 5 months

FORAGE CROPS 2011
Variable Costs excl. VAT (€/hectare)

	FODDER BEET	SWEDES	KALE	RAPE	STUBBLE TURNIP	MAIZE
MATERIALS	**1012**	**496**	**460**	**289**	**225**	**734**
Seed	128	80	102	30	78	200
Fertilisers	597	251	358	259	147	469
Sprays:						
Herbicides	190	105	0	0	0	65
Fungicides	37	35	0	0	0	0
Insecticides	60	25	0	0	0	0
HIRE MACHINERY	**633**	**229**	**158**	**158**	**143**	**564**
Seedbed Prep + sow	210	175	140	140	125	210
Spray	72	36	0	0	0	18
Fertiliser Spreading	36	18	18	18	18	36
Harvesting + COVERING	315	0	0	0	0	300
TOTAL VARIABLE COSTS	**1645**	**725**	**618**	**447**	**368**	**1298**
GREEN YIELD (tonnes/hectare)						
Leaves(+roots)	124	74	37	42	25	55
DRY MATTER (tonnes/hectare)						
UTILISED	13.0	5.2	4.5	3.5	2.5	12.5
COST (€/tonne util. DM)	127	139	137	128	147	104

Covering maize with plastic mulch will cost an extra €300/ha but will improve quality and may increase yield.

COMMENT ON FORAGE CROP COSTS

Grazed Grass is likely to continue to be the cheapest fodder at about €45/tonne DM utilised. It has the advantage of producing very good yields in most locations and of course is extremely convenient to produce and utilise.

Grass Silage: First cut grass silage can be produced at reasonable costs - approximately €120/tonne DM utilised. Grass silage costs vary considerably depending on yields. Second and third cut silage are more expensive forms of fodder (circa €135/t) where machinery has to be hired. Moreover, the variability in yield and quality of second and third cut silage has forced many farmers to consider alternatives such as maize, whole crop wheat and fodder beet.

Non Grass Silage: The cost per tonne dry matter utilised for maize is close on €104 and whole crop wheat is €120. Fodder Beet roots are estimated to cost €127/tonne DM utilised.

Production from Brassicas such as swedes, kale and stubble turnips will not match the main fodder crops and have a reasonable cost at around €140 - €150 per tonne of DM utilised.

Maize produces a high yield of quality feed at lower costs than second or third cut grass silage giving improved animal performance. It is convenient as sowing and harvesting are done by contractor. Feeding can be done with existing grass silage facilities. Moreover, there are no rotational constraints and it utilises slurry very efficiently.

The convenience of growing, storing and feeding as well as animal performance are important considerations when deciding which fodder crop to grow.

The opportunity cost of land needs to be taken into account when making comparisons of fodder and bought in feed. Thus a rental charge of €350/ha may be applied for a full year in the case of grazed grass but somewhat less in the case of grass silage and brassicas.

Share farming

Teagasc has recently launched a new format for farmers to co-operate in business called Share Farming. Share Farming is an agreement between two individuals (or two businesses) to jointly manage a farming operation. This legal agreement allows both the grower and the landowner to farm as separate legal entities but share in the risks and rewards of growing crops. As both individuals remain separate business entities, they can continue to claim the Single Farm Payment, REPS etc in their own name as normal.

Key points:

- Share Farming is fully compliant with EU/DAFF schemes (incl. REPS)
- The agreement is not land rental or a Partnership agreement
- The output generated from the land are to reward the
    - Landowner for the land, labour and inputs supplied
    - Share farmer for labour, expertise and inputs supplied
- Both parties are separate business entities and must not open or operate joint accounts to run the farming operation

All tillage growers and landowners who are currently involved in land rental should familiarise themselves with this agreement and assess whether it is a viable option for the future.

A template of a Share Farm Agreement is available (www.teagasc.ie) and sets out how an example agreement can operate. Contact your local advisor for more details.

Organic Tillage

Organic tillage has been a profitable enterprise over the last number of years. A stockless tillage system can be practised; however a mixed stock and tillage organic system is most sustainable due to the availability of slurry and farmyard manure. There is a strong demand for organic cereals both for livestock and human consumption. The demand for organic cereals is expected to continue for the foreseeable future.

The Organic Farming Scheme is a support payment that may be claimed by Organic farmers. In the five year scheme farmers will receive €212 per hectare per year up to 55 ha during the two year in-conversion period. Crops sown over 12 months after initial conversion date are deemed to have in-conversion status. In-conversion crops can be worth almost as much as full symbol crops. Full symbol growers will receive €106 per ha per year. Direct payments for organic production are paid yearly, based on a five year plan.

Growers can partially convert a holding and continue to farm the remaining conventionally subject to certain restrictions.

Non REPS growers in stockless rotations can receive additional payments of €240 per hectare for the two years in conversion to build fertility. Additional capital grants for buildings, machinery and equipment at a 40% rate are also available. Output is lower than conventional unit but prices for grain are higher.

Further information on organic farming can be obtained from the Teagasc organic specialist advisers.