



Crops,
Environment
and Land-Use
Research
Programme

Kildalton

CROPS COSTS AND RETURNS 2013

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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 $\frac{1}{2}$ 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 2013. 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 the value of 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.

2013 CEREAL CROP MARGINS

Variable Costs excl. VAT (€/ha)

	WHEAT		FEED BARLEY		MALTING	FEED OATS	
	Feed	Milling	Winter	Spring	BARLEY	Winter	Spring
	Winter	Spring					
MATERIALS	826	666	661	528	528	632	524
Seed	91	107	104	98	98	101	101
Fertilisers	441	369	344	301	301	375	292
Sprays:							
Herbicides	56	45	56	45	45	27	27
Fungicides	185	115	115	75	75	105	80
Insecticides	38	20	17	10	10	10	10
Growth Regulators	15	10	25	0	0	15	15
HIRE MACHINERY	452	433	414	395	395	414	414
Plough, Till, Sow & Roll	170	170	170	170	170	170	170
Spray	95	76	76	57	57	76	76
Fertiliser Spreading	57	57	38	38	38	38	38
Harvesting	130	130	130	130	130	130	130
MISCELLANEOUS	94	71	82	59	59	82	59
Interest (6%)	34	17	28	14	14	28	14
Transport (€ 6/Tonne)	60	54	54	45	45	54	45
TOTAL VARIABLE COSTS	1371	1170	1157	982	982	1128	997
Break-even yield (grain only)	7.6	6.2	6.8	5.8	4.9	6.6	5.9
Cost per tonne @target yields*	137	130	129	131	131	125	133
Net Price (€/Tonne)	180	190	170	170	200	170	170
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)

	WHEAT		FEED BARLEY		MALTING	FEED OATS	
	Feed	Milling	Winter	Spring	BARLEY	Winter	Spring
Tonnes/hectare	Winter	Spring					
6.0	-216	35	-12	128	308	-18	113
7.0	-36	225	158	298	508	152	283
7.5	54	320	243	383	608	237	368
9.0	324	605	498	638	908	492	623
10.0	504	795	668			662	
11.0	684						

*Crop margins are underlined for the various crop target yields.
Totals may not agree due to rounding-off.

EXPLANATORY NOTES

Fixed or Overhead Costs per Hectare

Scutch Control €17, Lime €17, Maintenance of Land and Fences, Car, Phone, ESB, professional fees and regular hired labour Total (€150/ha). Fixed costs and land land rental should be subtracted from gross margin.

Vat is excluded from input costs and outputs

A. INPUT COSTS: CEREAL CROPS

€/ha

Seed: €650 /t Blue Label

W. Wheat - 140 kg/ha; W. Barley - 160 kg/ha; W + S Oats - 155 kg/ha

S. Barley - 150 kg/ha; S. Wheat - 165 kg/ha

Fertiliser:	Total Fertiliser (kg/ha)			Fertiliser Bags (No. of 50 kg bags/ha)			
	N	P	K	CAN + S	Cmpnd*	50 % K	€/ha
W. Wheat	210	37	110	12.8	7.4	1.4	€441
W. Barley	160	37	75	9.1	7.4	-	€344
W. Oats	145	37	130	8.0	7.4	2.2	€375
S. Wheat	170	25	110	8.5	8.4	1.0	€369
S. Barley	135	25	85	5.9	8.4	-	€301
S. Oats	110	25	110	4.1	8.4	1.0	€292
CAN + S €350/t; *S. Cereals 13-6-20 €470/t; *W. Cereals 10-10-20 €500/t; 50% K €450/t							

Herbicides: W. Wheat & W. Barley €56/ha; S Wheat & S Barley €45/ha; Oats €27/ha

€/ha

Fungicides:

Winter Wheat: T0: Chlorothalonil (CTL)+/- Morph	€10	}	€185
T1: Eyespot + B.S. + CTL Growth Stage (G.S.) 31-32	€55		
T2: Broad Spectrum (B.S.) + CTL. G.S. 37-39	€70		
T3: B.S. (incl. triazole) Growth Stage 55-60	€50		
Spring Wheat:			
T1: 1/2 rate (B.S. + Morph. + CTL) GS 30-32	€25	}	€120
T2: B.S. + CTL. Growth Stage 37-39	€55		
T3: B.S. (incl. triazole) Growth Stage 55-60	€40		
S. Barley: T1: Red rate(Triazole + mildew); T2: Strob.+ triazole+ CTL			=€80
Winter Barley: 3 Fungicides G.S. 30/31, 32-37, 49			=€115
W. Oats: B.S. + morph at T1+T2, B.S. + Strob at T3			=€105
S. Oats: Reduced Rates W. Oats			=€80

Insecticides: Winter wheat; Slug Pellets (€27/ha) + Aphicide (€11/ha)
Other Cereals: Aphicide (€5 - €10/ha) + /- Leatherjackets (€11/ha)

Growth Regulators: W. Wheat, W & S Oats = €15

Spring Wheat = €10

Winter Barley = €25

Hire Machinery: Plough (€80/ha), Till, Sow & Roll (€90/ha) = €170

Spraying (@ €19/ha):

W. Wheat: Weeds + Aphids, PGR, Fungicide x 3 = €95

S. Wheat: Weeds + Aphids, Fungicide x 3 = €57

W. Barley: Aphids + Weeds, Fungicide x 3 = €76

S. Barley: Weeds + Aphids, Fungicide x 2 = €57

W. Oats: Weeds Aphids, Fungicide x 3 = €76

Fertiliser Spreading (@€19/ha) = €38/57

Harvesting (€130/ha) = €130

Interest 6%: Seed + Fertiliser + 0.5 Sprays; Winter - 10 months; Spring - 6 months

2013 CEREAL CROP MARGINS

Variable Costs excl. VAT (€/ac)

	WHEAT		FEED BARLEY		MALTING	FEED OATS	
	Feed	Milling			BARLEY		
	Winter	Spring	Winter	Spring		Winter	Spring
<u>MATERIALS</u>	334	269	268	214	214	256	212
Seed	37	43	42	39	39	41	41
Fertilisers	178	149	139	122	122	152	118
Sprays:							
Herbicides	23	18	23	18	18	11	11
Fungicides	75	47	47	30	30	42	32
Insecticides	15	8	7	4	4	4	4
Growth Regulators	6	4	10	0	0	6	6
<u>HIRE MACHINERY</u>	183	175	168	160	160	168	168
Plough, Till, Sow & Roll	69	69	69	69	69	69	69
Spray	38	31	31	23	23	31	31
Fertiliser Spreading	23	23	15	15	15	15	15
Harvesting	53	53	53	53	53	53	53
<u>MISCELLANEOUS</u>	38	29	33	24	24	33	24
Interest (6%)	14	7	11	6	6	11	6
Transport (€ 6/Tonne)	24	22	22	18	18	22	18
TOTAL VARIABLE COSTS	555	474	468	397	397	456	404
Break-even yield (grain only)	3.1	2.5	2.8	2.3	2.0	2.7	2.4
Cost per tonne @ target yields*	137	130	129	131	131	125	133
Net Price (€/Tonne)	180	190	170	170	200	170	170
AID (SFP)=NOT included	0	0	0	0	0	0	0
Straw (€/ac)	30	26	51	36	36	36	36

Gross Margins (€/ac) (incl. straw)

	WHEAT		FEED BARLEY		MALTING	FEED OATS	
	Feed	Milling			BARLEY		
	Winter	Spring	Winter	Spring		Winter	Spring
Tonnes/acre							
2.4	-93	9	-10	47	119	-12	41
2.8	-21	85	58	115	199	56	109
3.0	15	123	92	149	239	90	143
3.6	123	237	194	251	359	192	245
4.0	195	313	262			260	
4.5	285						

*Crop margins are underlined for the various crop target yields.

Totals may not agree due to rounding-off.

2013 NON CEREAL CROP MARGINS

Variable Costs excl. VAT (€/acre)

	BEET	Potatoes	MAIZE	PEAS	BEANS	OILSEED RAPE	
		Maincrop				Winter	Spring
MATERIALS	451	1040	311	202	202	269	165
Seed	57	421	77	74	74	32	32
Fertilisers	292	288	208	67	67	164	117
Sprays:							
Herbicides	71	57	26	28	28	38	12
Fungicides	12	223	0	29	29	24	0
Insecticides	20	53	0	3	3	10	3
HIRE MACHINERY	269	972	246	163	159	197	187
Plough, Till and Sow	101	304	101	69	69	69	69
Roll	0	0	0	7	7	7	7
Spray	31	161	8	23	23	32	23
Fertiliser Spreading	15	15	15	8	8	15	15
Swathing/Dessication	0	16	0	0	0	20	20
Harvesting	121	476	121	57	53	53	53
MISCELLANEOUS	174	158	157	24	21	24	14
Interest (6%)	16	36	11	5	6	9	4
Transport (€6/Tonne)	158	121	146	15	15	12	10
Bird Control	0	0	0	5	0	3	0
TOTAL VARIABLE COSTS	894	2170	713	390	382	490	366
Break-even yield	22.3	10.9	15.2	1.4	1.7	1.2	0.9
Net Price (€ /Tonne)	40	200	47	270	230	400	400
AID (SFP)=NOT included			0	0	0	0	0

Gross Margins (€/acre)

		BEET	Potatoes	MAIZE	PEAS	BEANS	OILSEED RAPE	
Tonnes/acre (Maize, beet & potatoes)	Pulses/ OSR		Maincrop				Winter	Spring
	1.0							34
12	1.2		230	-149			-10	114
14	1.6		630	-55	42	-14	150	274
16	2.0	-254	1030	39	150	78	310	434
20	2.2	-94	1830	227	204	124	390	
24	2.4	66		415	258	170		
26	2.6	146		509	312	216		
28		226						

Totals may not agree due to rounding-off.

GROWER'S OWN CROP BUDGET

Variable Costs excl. VAT (€/acre)

		WINTER WHEAT		SPRING BARLEY		ANOTHER CROP	
		Your Figures	Teagasc Figures	Your Figures	Teagasc Figures	Your Figures	Teagasc Figures
<u>MATERIALS</u>							
(A=B+C+D+E+F+G)	A		334		214		
Seed	B		37		39		
Fertilisers	C		178		122		
Sprays:							
Herbicides	D		23		18		
Fungicides	E		75		30		
Insecticides	F		15		4		
Growth Regulators	G		6		0		
<u>HIRE MACHINERY</u>							
(H=I+J+K+L)	H		183		160		
Plough, Till and Sow	I		69		69		
Spray	J		38		23		
Fertiliser Spreading	K		23		15		
Harvesting	L		53		53		
<u>MISCELLANEOUS</u>							
(M=N+O)	M		38		24		
Interest (6%)	N		14		6		
Transport (€6/Tonne)	O		24		18		
TOTAL VARIABLE COSTS (P=A+H+M)	P		555		397		
Tonnes to cover variable costs (Q=P/R)	Q		3.1		2.3		
Net Price (€/Tonne)	R		180		170		
AID (€/Acre)	S		0		0		
Straw (€/Acre)	T		30		36		
Projected yield	U		4.0		3.0		
(V = (R*U)+S+T-P)	V		203		149		
Gross Margins (€/Acre)							

An excel version of this calculator is available (free) from www.teagasc.ie/crops
Totals may not agree due to rounding-off.

Share Farming Crop Budget

Variable Costs excl. VAT (€/Acre)		Crop Budget (€/ac)	=	Land- owner Share (€/ac)	+	Share- farmer Share (€/ac)
<u>MATERIALS</u> (A=B+C+D+E+F+G)	A					
Seed	B					
Fertilisers	C					
Sprays:						
Herbicides	D					
Fungicides	E					
Insecticides	F					
Growth Regulators	G					
<u>MACHINERY COSTS</u> (H=I+J+K+L)	H					
Plough, Till and Sow	I					
Spray	J					
Fertiliser Spreading	K					
Harvesting	L					
<u>MISCELLANEOUS COSTS</u> (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		=		+	

2013 NON CEREAL CROP MARGINS

Variable Costs excl. VAT (€ /hectare)

	BEET	Potatoes	MAIZE	PEAS	Beans	OILSEED RAPE	
		Maincrop				Winter	Spring
MATERIALS	1116	2571	769	500	500	666	407
Seed	140	1040	190	184	184	80	80
Fertilisers	721	711	514	167	167	406	289
Sprays:							
Herbicides	175	140	65	70	70	95	30
Fungicides	30	550	0	72	72	60	0
Insecticides	50	130	0	7	7	25	8
HIRE MACHINERY	664	2402	607	404	394	486	463
Plough, Till and Sow	250	750	250	170	170	170	170
Roll	0	0	0	18	18	18	18
Spray	76	399	19	57	57	80	57
Fertiliser Spreading	38	38	38	19	19	38	38
Swathing/Dessication	0	40	0	0	0	50	50
Harvesting(grading into store)	300	1175	300	140	130	130	130
MISCELLANEOUS	429	390	387	60	51	60	34
Interest (6%)	39	90	27	12	15	23	10
Transport (€6/Tonne)	390	300	360	36	36	30	24
Bird Control	0	0	0	12	0	6	0
TOTAL VARIABLE COSTS	2209	5362	1762	964	944	1211	905
Break-even yield	55.2	26.8	37.5	3.6	4.1	3.0	2.3
Net Price (€/Tonne)	40	200	47	270	230	400	400
AID (SFP)=NOT included	0	0	0	0	0	0	0

Gross Margins (€ /ha)

	BEET	Potatoes	MAIZE	PEAS	BEANS	OILSEED RAPE	
		Maincrop				Winter	Spring
Tonnes/hectare	2.0						-105
(Maize, beet & potatoes)	2.5						95
30	3.0	638	-352			-11	295
35	4.0	1638	-117	116	-24	389	695
40	4.5	-609	2638	118	251	91	589
50	5.0	-209	4638	588	386	206	789
60	5.5	191		1058	521	321	
65	6.0	391		1293	656	436	
70		591					

Totals may not agree due to rounding-off.

EXPLANATORY NOTES - NON CEREALS

B. INPUT COSTS: NON CEREAL CROPS					€/ha
Fertilisers/ha					
Beet:	1,235 kg Beet cmpnd @	€490 /t	=	€605	}
	330 kg CAN + S @	€350 /t	=	€116	
Maize:	620 kg 0-7-30 @	€450 /t	=	€279	}
	670 kg CAN		=	€235	
					€514
Beans/Peas:	370 kg 0-7-30				€167
Winter OSR:	370 kg 10-10-20 @	€500 /t	=	€185	}
	250 kg Urea @	€480 /t	=	€120	
	280 kg ASN @	€360 /t	=	€101	
					€406
Spring OSR:	370 kg 13-6-20 @	€470 /t	=	€174	}
	330 kg CAN+S @	€350 /t	=	€116	
					€289

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

2013 FORAGE CROP MARGINS Variable Costs excl. VAT (€/hectare)

	F. BEET	SWEDES	KALE	RAPE	STUBBLE TURNIPS	MAIZE
MATERIALS	1116	518	553	309	238	769
Seed	140	80	102	30	78	190
Fertilisers	721	273	391	279	160	514
Sprays:						
Herbicides	175	105	60	0	0	65
Fungicides	30	35	0	0	0	0
Insecticides	50	25	0	0	0	0
HIRE MACHINERY	664	255	208	189	99	607
Seedbed Prep + sow	250	200	170	170	80	250
Spray	76	36	19	0	0	19
Fertiliser Spreading	38	19	19	19	19	38
Harvesting+COVERING	300	0	0	0	0	300
TOTAL VARIABLE COSTS	1780	773	761	498	337	1376
GREEN YIELD (Tonnes/hectare)						
Leaves(+roots)	124	74	37	42	25	55
DRY MATTER (Tonnes/hectare)						
UTILISED	13.0	5.2	6.0	3.5	2.5	12.5
COST (€/Tonne util DM)	137	149	127	142	135	110

Covering Maize with plastic mulch will cost an extra €300/ha but will improve quality and increase yield
Forage crops should be also evaluated on net energy, protein content etc. to discern
a more complete value

Totals may not agree due to rounding-off.

COMMENT ON FORAGE CROP COSTS

Grazed Grass is likely to continue to be the cheapest fodder at about €50/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 €130/tonne DM utilised. Grass silage costs vary considerably depending on yields. Second and third cut silage are more expensive forms of fodder (circa €150/t). 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 approximately €110 and whole crop wheat is €120. Fodder Beet roots are estimated to cost €137/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 €130 per tonne of DM utilised. Recent trial work in Moorepark has achieved high kale yields from excellent husbandry.

Maize produces a high yield of quality feed at lower costs than 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

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/DAFM 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 55ha 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 units but prices for grain are higher.

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

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