Teagasc

Agriculture and Food Development Authority

CROP

COSTS AND RETURNS

1997

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CROP MARGINS

Tillage farmers confidence got a welcome boost from the very satisfactory harvests in 1995 & 1996. Unfortunately the fall in grain prices will put downward pressure on margins. The margins given here should provide a useful guide but land suitability, rotation and risk avoidance should also be considered.

The difference in margins between spring and winter cereals has narrowed as a consequence of CAP reform. However, winter wheat well done will continue to be more profitable than other feed cereals. Bonuses for quality will be more important than ever.

The "boxed" gross margins in the tables are achievable under good management and suitable soil conditions.

Margin per acre is influenced substantially (over 50%) by EU aid. Thus area aid for crops and livestock premia must be properly processed.

Costs

Level of yield has a major influence on profitability as can be seen from the gross margin tables which follow.

Wastage of inputs must be eliminated. Decisions on input strategies must be tailored for individual fields and farms. Timeliness and attention to detail in the carrying out of 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 than hitherto. In particular, investments in machinery and land/conacre will need thorough financial appraisal before a decision is taken.

Cereal Crops Margins 1997
Variable Costs inc. VAT (£/Acre)

	Wheat		Feed Barley		Malting Barley	Feed Oats	
	Feed Winter	Milling Spring	Winter	Spring		Winter	Spring
Materials	162	136	133	93	91	124	106
Seed	26	26	23	20	20	23	23
Fertilisers	54	43	45	34	32	45	34
Sprays:							
Herbicides	13	8	13	8	8	11	8
Fungicides	53	48	29	22	22	29	29
Insecticides	13	9	13	9	9	13	9
Growth Reg.	3	1	10	0	0	3	3
Hire Machinery	95	91	91	83	83	91	87
Plough, Till, Sow	38	38	38	38	38	38	38
Spray	16	16	12	8	8	12	12
Fert., Spreading	8	4	8	4	4	8	4
Harvesting	33	33	33	33	33	33	33
Miscellaneous	25	18	21	14	14	21	14
Interest (11%)	11	6	9	4	4	9	4
Transport (£4/tonne)	14	12	12	10	10	12	10
Total Variable Costs	282	245	245	190	188	236	207
Tons. to cover Variable costs	3.5	2.6	3.2	2.5	2.0	3.1	2.7
Net Price (£/ton)	81	93	76	76	94	76	76
AID (£/Acre)	111	111	111	111	111	111	111
Straw (£/Acre)	20	20	30	25	25	30	25

Gross Margin (£/Acre)

Tons/ Acre	Wheat		Feed Barley		Malting Barley	Feed Oats	
	Feed Winter	Milling Spring	Winter	Spring		Winter	Spring
2.00	11	72	48	98	136	57	81
2.50	52	119	86	136	183	95	119
2.75	72	142	105	155	207	114	138
3.00	92	165	124	174	230	133	157
3.25	112	189	143	193	254	152	176
3.50	133	212	162	212	277	171	
3.75	153	235	181			190	
4.00	173		200				

EXPLANATORY NOTES - CEREAL CROPS

Fixed or Overhead Costs per Acre
Scutch Control £5, Lime £5, Maintenance of Land and Fences, Car, Phone, ESB and regular hired labour? Total £40+. Fixed costs have to be subtracted from gross margin to give income.

Input Costs: **Cereals**

Seed: £330/t Blue Label

Rate: Wheat - 12.5 stone; W. Barley & Oats - 11 stone; S. Barley - 9.5 stone

Fertiliser:

W. Cereals, 3 bags 0-10-20 @ £136/t	= £20.40
W. Wheat 5.5 bags CAN (27.5% N) @ £122/t	= £33.60
W. Barley + Oats - 4 bags CAN	= £24.40
S. Cereals 3 bags 14-7-14 or 18-6-12 @ £167/t	= £25.10
Topdress S. Wheat - 3 CAN	= £18.30
S. Oats and S. Barley - 1.5 CAN	= £ 9.20

Herbicides: Winter - £13/acre; Spring £8/acre

Fungicides:

Winter Wheat:		
Eyespot + ½ rate B.S. Growth Stage 31-32	= £21.00	£53
Broad Spectrum, Growth Stage 37	= £16.00	
Broad Spectrum, Growth Stage 55-60	= £16.00	
Spring Wheat:		
Eyespot + Morph., Growth Stage 30-32	= £16.00	£48
Broad Spectrum, Growth Stage 37-39	= £16.00	
Broad Spectrum, Growth Stage 55-60	= £16.00	
Spring Barley: 1.5 Fungicide	= £22/acre	
Winter Barley & Oats: 2 Fungicides	= £29/acre	

Insecticides: Winter Cereals; Slug Pellets (£9.00) + Aphicide (£4.00)
Spring Cereals: Leatherjackets £7/acre + Aphicide (£2.00)

Growth Regulators:

W. Wheat - W. & S. Oats; 2.5 pints 46% CCC	= £3.0/acre
Spring Wheat; 0.75 pints/acre @ £1.3/pint Winter Barley	= £10.0/acre

Hire Machinery:

Plough (£15.00), Till (£15.00), Sow (£8.00)	= £38.00
Spraying	= £4.00/acre
W. Wheat: Weeds, Fungicide x 3	= £16.00
S. Wheat: Weeds, Fungicide x 3	= £16.00
W. Barley: Weeds, Fungicide x 2	= £12.00
S. Barley: Weeds + Fungicide, Fungicide	= £ 8.00
Oats: Weeds, Fungicide x 2	= £12.00
Fertiliser Spreading - Winter Cereals	= £ 8.00
(@ £4.00/acre) - Spring Cereals	= £ 4.00

Interest 11%: Seed + Fertiliser + 0.5 Sprays; Winter - 10 months; Spring 6 months

Non Cereal Crop Margins 1997
Variable Costs inc. VAT (£/Acre)

	Sugar Beet	Peas		Beans		Oilseed Rape		Linseed	Grass Seed
		BATCH	Vining	Winter	Spring	Winter	Spring		
Materials	214	129	118	96	101	146	89	76	103
Seed	31	45	75	35	35	12	12	20	20
Fertilisers	88	21	21	21	21	75	55	32	42
Sprays:									
Herbicides	63	38	20	7	20	28	7	24	25
Fungicides	12	23	0	28	23	25	0	0	14
Insecticides	20	2	2	5	2	6	15	0	2
Hire Machinery	149	101	54	91	87	125	93	99	141
Plough, Till & Sow	55	38	38	38	38	38	38	38	38
Roll	0	4	4	0	0	4	4	4	4
Spray	16	12	8	16	12	16	12	8	12
Fertiliser Spreading	8	4	4	4	4	12	4	4	12
Swathing	0	0	0	0	0	20	0	0	0
Harvesting	70	43	0	33	33	35	35	45	75
Misc.	74	16	8	18	14	20	10	10	14
Interest (11%)	14	6	5	5	3	9	4	6	8
Transport (£3/ton)	60	7	0	10	8	6	4	4	6
Bird Control	0	3	3	3	3	5	2	0	0
Total Var. Costs	430	246	180	205	202	291	192	185	258
Output to cover var. costs tons/acre	11.3	1.2	1.6	2.3	2.2	2.0	1.3	2.1	0.4
Net Price(£/ton)	38	200	115	91	91	145	145	90	720
Area Aid (£/acre)	0	160	111	160	160	203	203	214	0

Gross Margins (£/Acre)

Tonnes/Acre		Sugar Beet	Peas Batch	Peas Vining	Beans Winter	Beans Spring	Oilseed Rape Winter	Oilseed Rape Spring	Linseed	Grass Seed
S. Beet Only	0.50							84	74	102
	0.75							120	97	282
	1.00		114		46	49	57	156	119	462
(14)	1.25	102	164		69	72	93	192	142	642
(16)	1.50	178	214	104	92	95	130	229	164	822
(18)	1.75	254	264	132	114	117	166	265		1002
(20)	2.00	330	314	161	137	140	202	301		
(22)	2.50	406	414	219	183	186				

N.B. Value of beet tops is not included in margin. These could have a grazing value of at least £20/acre. Value of hay (£30/acre) is not included in grass seed margin.

Explanatory Notes - Non Cereals

	Fertilisers	Interest 11%
S. Beet	9 bags beet compound + bag CAN	Materials 7 months
Peas	3 bags 0-10-20 @ £140/t	Materials 5 months
Beans	3 bags 0-7-30 @ £140/t	Materials 6 months
Oilseed Rape		
Winter	3 bags 10-10-20 + 4 bags Urea + S + B	Materials 7 months
Spring	3 bags 9-7-23 + 4 bags CAN	Materials 5 months
Linseed	3 bags 10-10-20 + 1 bag CAN	Materials 6 months
Grass Seed	3 bags 10 - 10 -20 + 2.5 bags CAN	Materials 8 months

Forage Crops 1997
Variable Costs inc. VAT (£/Acre)

	F. Beet	Swedes	Kale	Rape	Stubble Turnips	Maize
Materials	241	116	62	48	46	147
Seed	40	18	24	12	11	60
Fertilisers	103	50	38	36	35	60
Sprays:						
Herbicides	63	30	0	0	0	15
Fungicides	13	11	0	0	0	0
Insecticides	22	7	0	0	0	12
Hire Machinery	154	68	37	37	37	147
Seedbed Preparation	55	48	33	33	33	50
Spray	16	16	0	0	0	8
Fertiliser Spreading	8	4	4	4	4	4
Harvesting + Covering	75	0	0	0	0	85
Total Var. Costs	395	184	99	85	83	294
Green Yield (Tons/Acre)						
Leaves (+roots)	50	30	15	17	10	20
Dry Matter (Tons/Acre)						
Utilised	5.3	2.1	1.5	1.4	1.0	4.8
Cost (£/ton DM)	75	88	66	61	83	61*

***N.B.** Area aid at £105.8/acre in general scheme (31.10.91 in Simplified Scheme) may be paid on maize grown on eligible land. In this scenario, the cost of maize DM is £39/tonne approx.

Covering with plastic will increase yield by 1.5 tonnes DM/acre approx. and improve quality. Extra cost is about £100/acre.

Comment on Forage Crop Costs

Grazed Grass is and will continue to be the cheapest fodder at about £30/tonne DM utilised. It will also produce 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 £60/tonne DM utilised approx. Grass silage costs vary considerably depending on yields. Second and third cut silage are expensive forms of fodder (over £80/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 fodder beet and maize.

Non Grass Silage: The estimated cost per tonne dry matter of silage produced on eligible land is Arable silage £40, Whole Crop Wheat £44 & Maize £39. These figures compare favourably with grazed grass at around £30/tonne DM utilised and first cut grass silage at £60. On ineligible land the cost per tonne dry matter of silage produced is estimated at £85 for arable silage, £66 for Whole Crops Wheat & £61 for Maize. Fodder Beet roots are estimated to cost £75/tonne DM utilised.

Production from Brassicas such as swedes, kale and rape will not match the main fodder crops. Rape and kale have a reasonable cost at £61 and £66 per tonne of DM utilised respectively. Production from swedes can be quite variable and costs are high.

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.

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

REPS FOR TILLAGE FARMERS

REPS may add a further £50/acre to the margins in the tables. REPS will play a vital role in maintaining the viability of medium and small scale tillage farmers. REPS constraints on straw burning, P utilisation and the uncultivated field margin will not cause a problem for tillage farmers. However, the restrictions on N application and plant growth regulators will need to be considered.

At an early stage a cost benefit analysis for each farm will be needed. The scale of operation will have a major influence on the outcome. A financial assessment is essential but quality of lifestyle considerations should not be ignored. Crop choice is also important as some crops e.g. spring barley are more suitable than others to the REPS regime.

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