

# Business Management

## Managing Increasing Costs

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CAFRE Greenmount Campus

	Top 20%	The difference	Bottom 20%
Yield /acre (tonnes)	3.3	-0.90	2.4
<b><i>Machinery Costs/acre</i></b>	<b>£155</b>	<b>+£59</b>	<b>£214</b>
Total cost /acre*	£392	<b>+£103</b>	£495
Total cost /tonne (less straw sales)	£87	<b>+£85</b>	£172

**\*No allowance for family labour cost**

CAFRE Benchmarked Farms	2003	2007	2011
Total cost per acre	£257	£299	£414

## Nitrogen Fertiliser

	2002	2003	2005	2007	2009	2011
Cost/Tonne	£96	£124	£140	£150	£197	£286
Cost per acre *	<b>£24</b>	£31	£35	£38	£49	<b>£72</b>

\* assume 5 bags/acre (137 units)

## Red Diesel

	2002	2003	2005	2007	2009	2011
Cost/pence/litre	21.53	24.12	35.55	41.76	46.44	68.57
Cost per acre *	<b>£9</b>	£10	£14	£17	£19	<b>£28</b>

\* assume 40 litres/acre

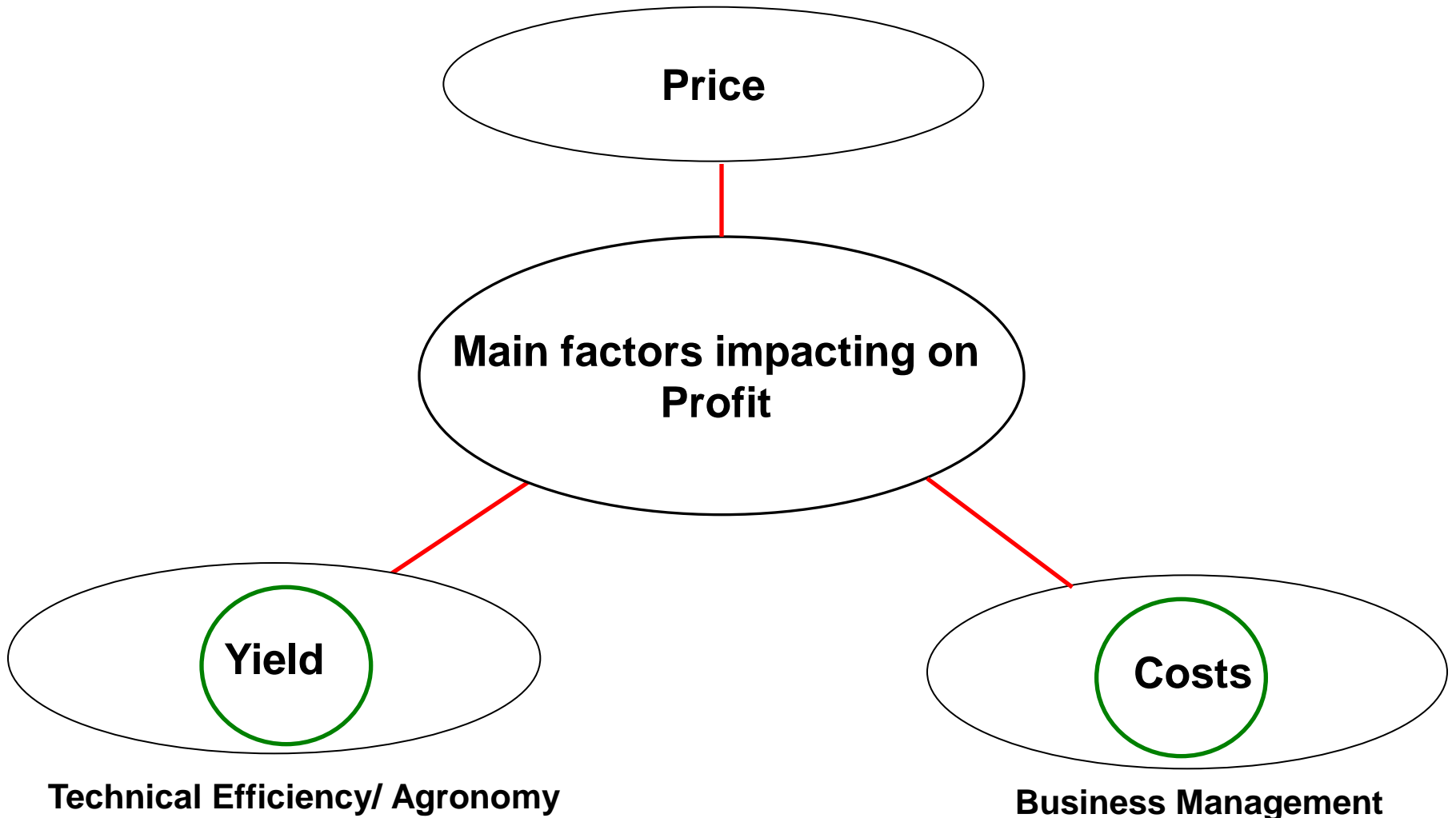
## Total machinery costs CAFRE Benchmarked farms

	2002	2003	2005	2007	2009	2011
Cost per acre *	n/a	<b>£98</b>	£96	£123	£158	<b>£187</b>

\*Includes: Contractor, Depreciation. R&M, Insurance and Fuel

# 3 Components of Profit

# What can you Control?



**Disease  
Control**

**Soil Fertility**

**Variety**

**Crop  
Rotation**



**Sowing date**

**Nitrogen  
Timing**

**Weed  
Control**

**Cultivation  
Technique**

	Past and Present	Future
Trading	<b>ACCOUNTS</b>  Management Accounts (Benchmarking) Tax Accounts	<b>BUDGETS</b>  Management Budgets (Profit and Loss a/c) Cash Flow Budgets
Capital	<b>BALANCE SHEETS</b>	<b>INVESTMENT APPRAISAL</b>

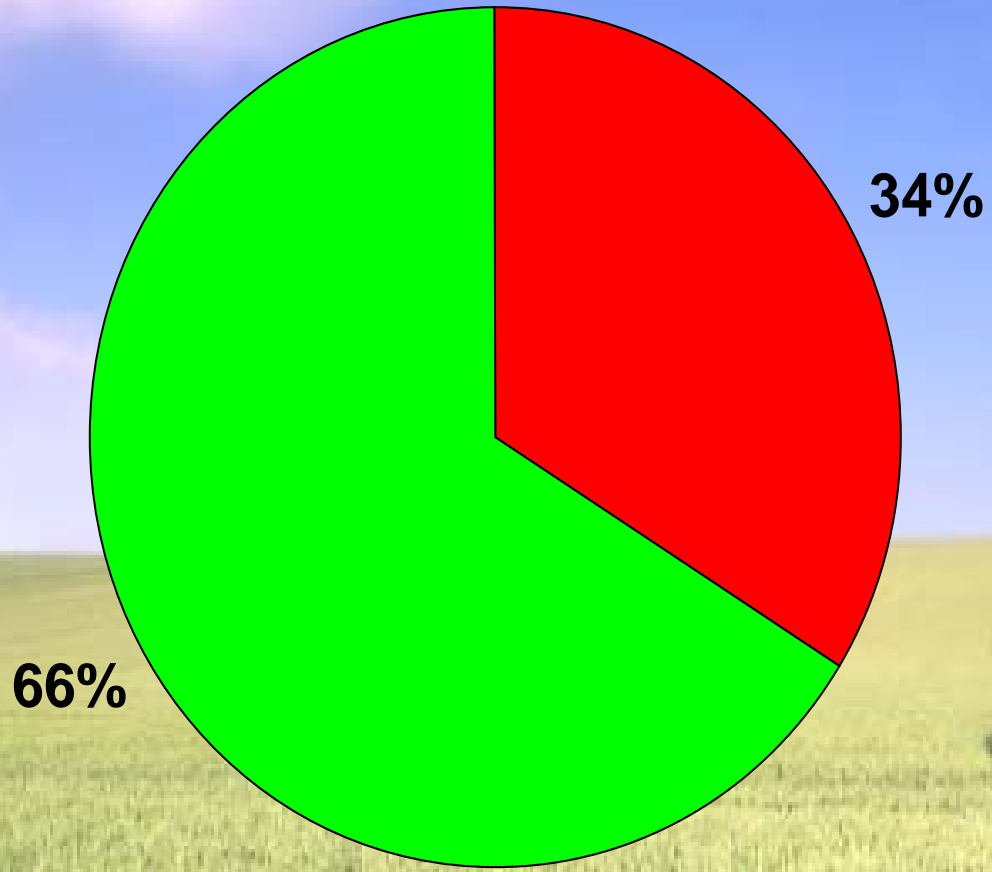
- Recording past performance
- Comparing the results with set standards and other farms
- Identifying where improvements can be made
- Setting realistic physical and financial performance targets for your farm



- Gross Margin = Output – Variable costs
- Net profit = Output – Total Costs (Variable & Overhead)

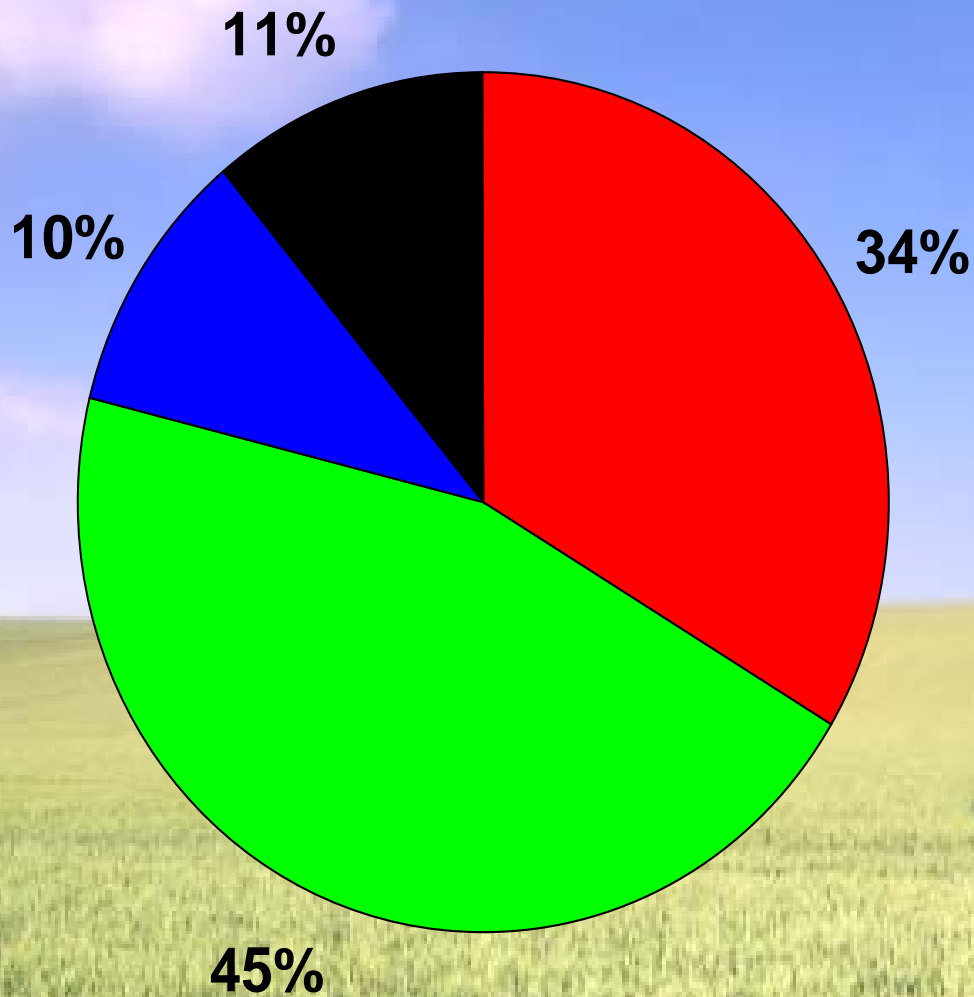
Variable costs	Overhead costs	Capital Costs
Seeds	<b><i>Machinery running costs</i></b>	Land
Fertiliser	<b><i>Contractor costs</i></b>	Buildings
Sprays	<b><i>Depreciation</i></b>	<b><i>Machinery</i></b>
	Property repairs	
	Miscellaneous	
	Labour	
	Conacre	
	<b><i>Finance / Interest</i></b>	






 **Variable Costs**

 **Overhead Costs**



 Variable Costs

 Machinery

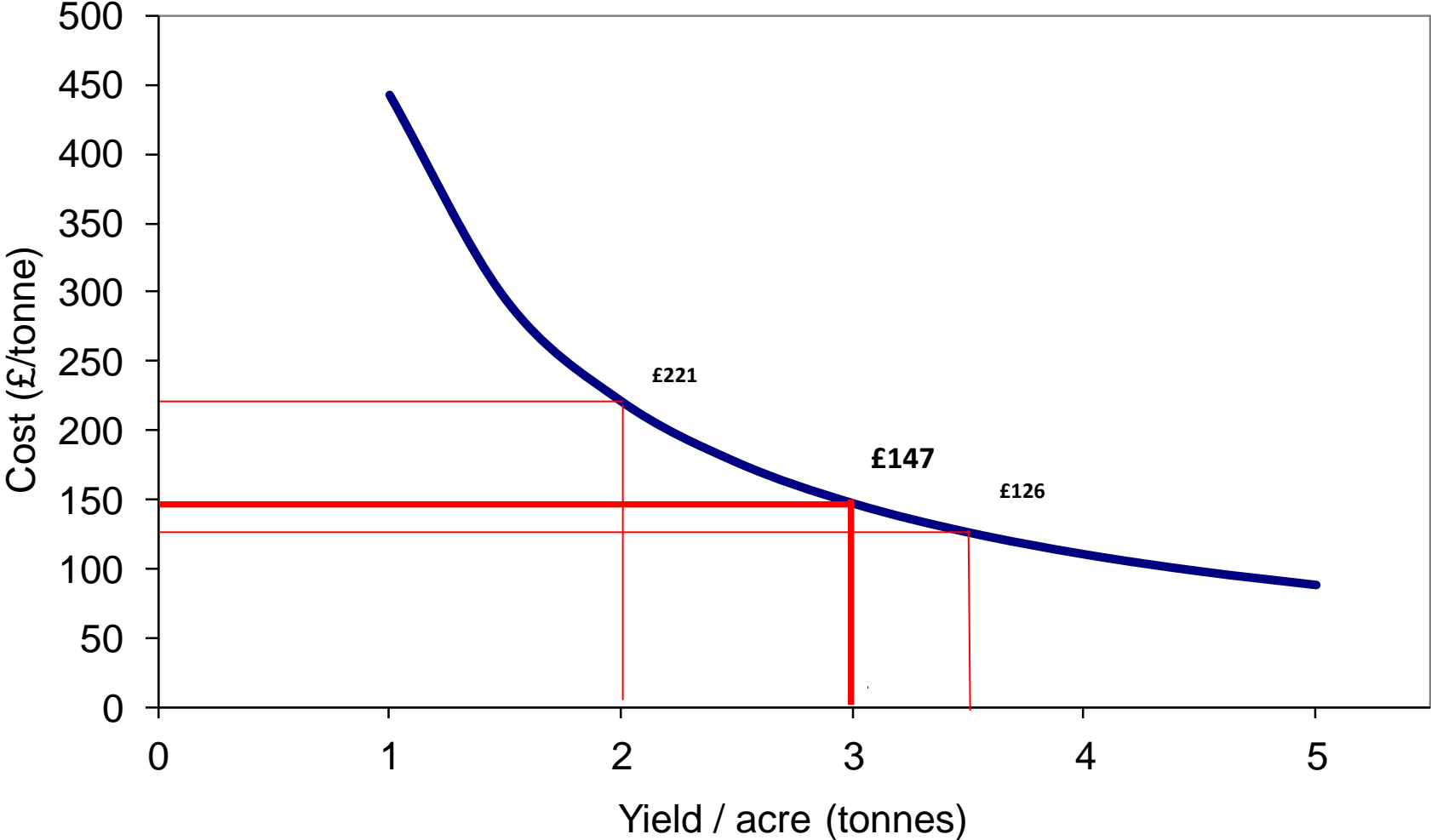
 Labour, Conacre & Finance

 General Overheads

## Example Winter Wheat 2011 Harvest

	Cost/acre
Variable costs	£177
Machinery Costs	£176
Other Overheads	£77
Own labour	£100
<b>Total costs</b>	<b>£530</b>
Straw Sales	£87
<b>Total Cost less Straw sales</b>	<b>£443</b>

Total cost less straw sales = £443/acre



Review of results all crops Benchmarked (60 farms)  
**(No allowance for family labour cost)**

	<i>Top 25%</i>	<b>Average</b>	<i>Bottom 25%</i>
Yield /acre (tonnes)	3.2	2.7	2.4
Variable cost/acre	£156	£139	£152
<b><i>Machinery costs / acre</i></b>	<b>£161</b>	<b>£187</b>	<b>£206</b>
Other overheads/acre	£71	£88	£114
Total cost /acre	£388	£414	£472
Value of straw/acre	£107	£92	£81
Total cost/acre less straw sales	£281	£322	£391
Total cost /tonne	£88	£119	£163

## Average results all crops Benchmarked (60 farms)

Combination of owned and contractor use

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	<i>Top 25%</i>	<b>Average</b>	<i>Bottom 25%</i>
Contractor cost/acre	<i>£69</i>	<i>£89</i>	<i>£101</i>
Depreciation/acre	<i>£47</i>	<i>£48</i>	<i>£49</i>
Repairs and insurance/acre	<i>£26</i>	<i>£24</i>	<i>£27</i>
Fuel/acre	<i>£19</i>	<i>£26</i>	<i>£28</i>
<b>Total machinery cost /acre</b>	<b>£161</b>	<b>£187</b>	<b>£205</b>
Area of Cereals Grown (acres)	185	124	62

- Variation in profitability between the top and bottom 25% of farms - due to efficiency differences.
- Top 25% continue to increase their margins whereas the bottom 25% of producers margins continue to decline.
- Farmers in the top 25% generally obtain better yields from similar soils
- They make best use of technology and training and focus on timeliness
- They are prepared to adapt to change
- SFP, and CMS are not included

## Striking the right balance between Ownership and Contractor

<b>Contractor costs 2012</b>	<b>£/acre</b>
Plough	£26
Power Harrow & Sow	£25
Fertiliser application (3 x £4)	£12
Spray (4 x £8)	£32
Combine Harvest	£38
Bale	£24
Grain Haulage	£10
Grain dry (2.7 t/acre @20%MC)	£47
<b>Total Machinery costs (Using all Contractor)</b>	<b>£214</b>
<b>Average machinery cost 2011 CAFRE Benchmarking Cereal Crops</b>	<b>£187</b>



	<b>Capital Outlay</b>	<b>Cash Flow</b>	<b>Repairs &amp; Maintenance</b>
<b>Ownership</b>			
Cash Purchase	Full Cash cost	Operating Costs	Full cost
Credit Purchase Term Bank Loan Asset Finance	Down Payment or trade in	Operating Costs & Loan Repayment	Full cost
<b>Contractor</b>	N/A	Contract Cost	No cost
<b>Contract Hire</b>	N/A	Operating Costs & Hire Fee	Limited cost

## **Compare Annual Percentage Rate (APR)**

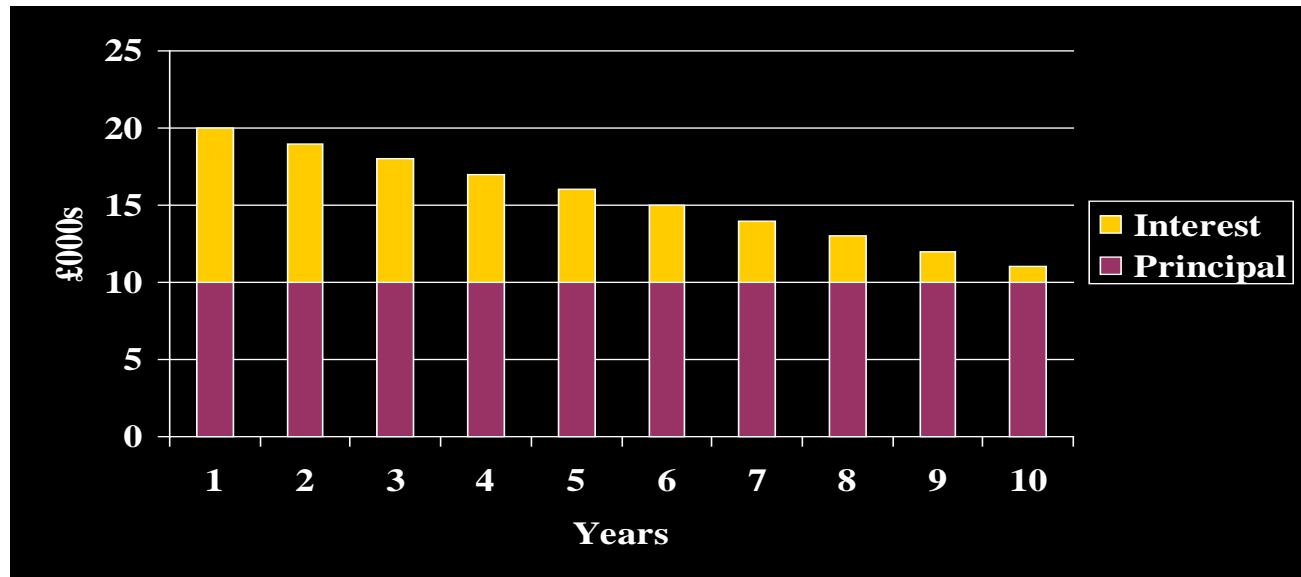
- APR allows you to evaluate the cost of the finance in terms of a percentage.
- APR means the interest rate only applies to the outstanding capital amount (some non APR loans may apply interest on all the capital over the loan term).
- All other things being equal, you simply want the loan with the lowest APR.

# Straight repayment

Loan repaid in equal instalments of capital but with reducing interest payments. Therefore larger payments at the start

**Interest rate may be varied but not in this example**

Example: £100,000 for 10 years at 10%

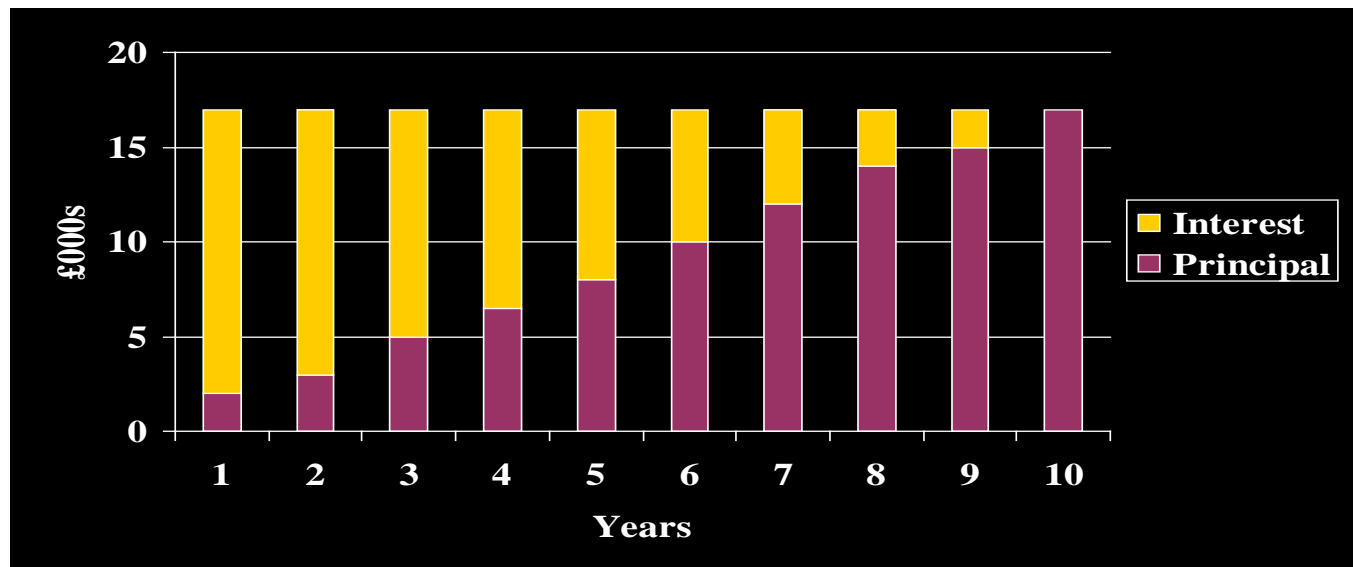


# Amortised repayment

Loan repaid in equal instalments which combine principal and interest

Interest rate can be **varied or fixed**

example: £100,000 for 10 years at 10%



Total repayments for a £50,000 loan fixed at 6% interest over various time periods.

Repayment period (years)	Annual Repayment (£) inc Interest
3	17,448
4	13,272
5	11,550
6	10,150
7	8,950
8	8,050

The more years the loan is taken over the smaller the repayments.

Total repayments for a £50,000 loan fixed at 6% interest over various time periods.

Repayment period (years)	Total amount repayable (£)
3	52,334
4	53,080
5	57,750
6	60,900
7	62,650
8	64,400

The more years the loan is taken over the larger the total cost in interest.

## Example real cost: Combine Harvester costing £90,000

### Assuming :

- Combine sold at 20% of original price at 10 years
- Annual repairs cost 3% of new price
- Insurance is 1% of current value
- Fuel cost 65ppl with a 5% allowance for oil
- Fuel consumption is 10 litres per acre
- Work rate 3.5 acres per hour including field change time
- Labour cost £10



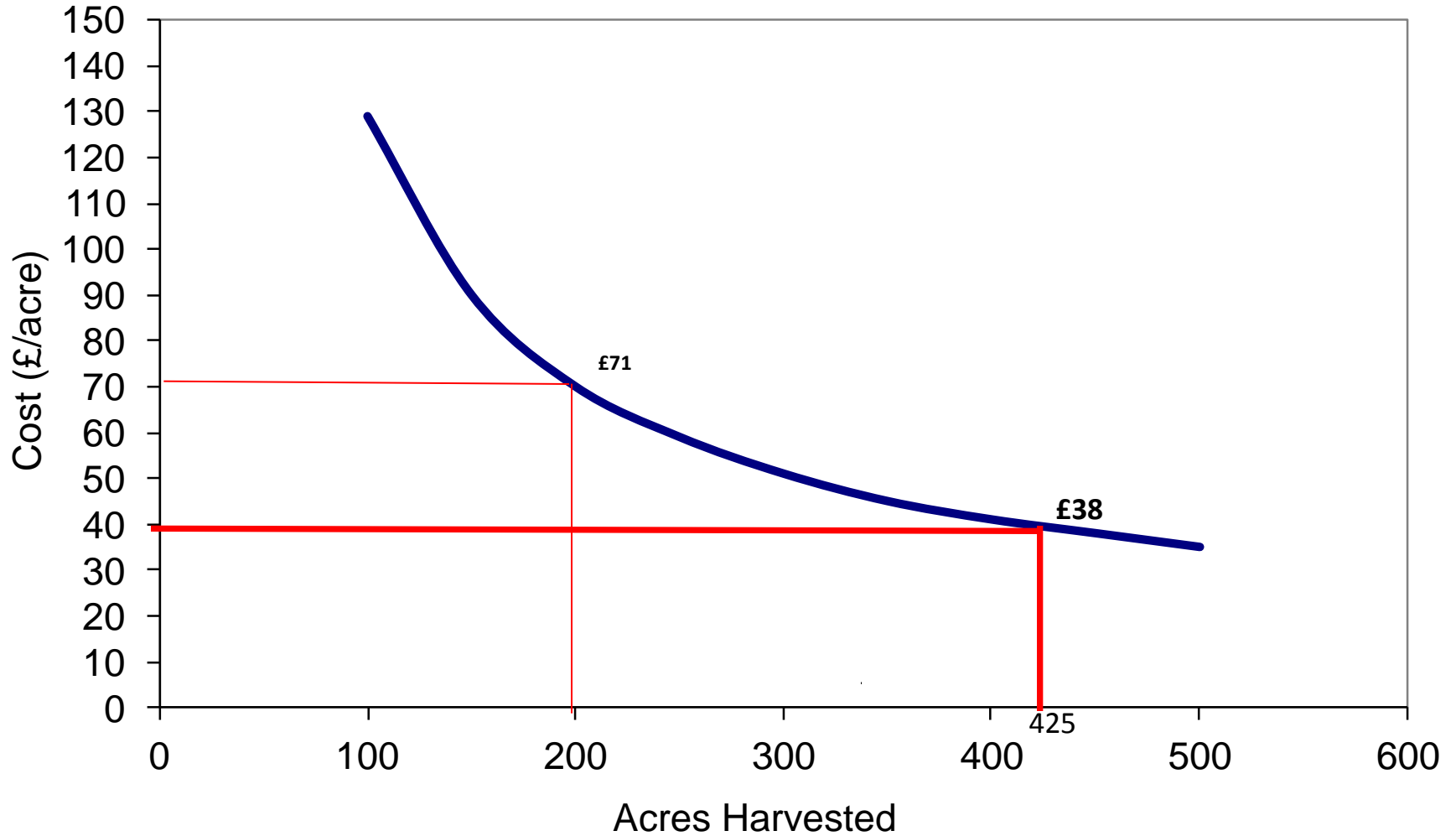
## Example: Real cost Combine Harvester costing £90,000

<b>Option 1. 400 acres</b>	
Depreciation	£7200
Interest	£1800
Insurance	£800
Repairs and maintenance	£2700
Fuel and oil	£2750
Labour	£1000
<b>Total</b>	<b>£16,250</b>
<b>Cost per acre</b>	<b>£41</b>

<b>Option 2. 200 acres</b>	
Depreciation	£7200
Interest	£1800
Insurance	£800
Repairs and maintenance	£2500
Fuel and oil	£1368
Labour	£500
<b>Total</b>	<b>£14,168</b>
<b>Cost per acre</b>	<b>£71</b>



## Break even acreage equivalent to contractor cost



- Be aware of the cost of land fragmentation and distance travelled to Conacre
  - Fuel use
  - Labour cost
  - Wear and tear/damage during road transport
  
- Use machinery efficiently to reduce running costs
  - Match equipment to the right horse power
  - Tyre pressure
  - Regular service and maintenance
  
- Reduce real depreciation
  - Store machinery undercover
  - Wash, clean, service and lubricate after seasonal use
  - Keep regular service and maintenance records
  
- Work closely with your contractor to plan harvesting and sowing dates
  
- Consider co-operation with neighbouring farmers to justify cost of the larger machine

- Machinery costs account for a significant proportion of all production costs.
- You must know your costs.
- Determine the correct balance of owned and contracted machinery to suit your business.
- Cash flow is distinct from profit and it is essential that you plan well ahead to meet all payments.
- Compare sources of finance using Annual Percentage Rate and total interest paid.
- The decision to purchase new machinery must be based on sound cost benefit analysis.
- It is essential that you continually review the running costs of all farm machinery.



- Thin and patchy crops  
Key decisions, re-establishment v nurturing
- Interrupted crop rotation  
OSR planting in 2013?
- Reduced Cash Flow  
Liaise closely with your bank
- Tax bill relating to the 2011/12 year  
Liaise closely with your accountant

- Good prospects for grain prices despite volatility
- Input costs will remain high or further increase
- There is scope to improve overall agronomy on most crop farms in order to improve yield
- The top 50% of Northern Ireland cereal farmers have a profitable and sustainable future
- You must know your costs of production
- Benchmark your business to make key decisions