

Saltburn Monitor Farm meeting report

Meeting 3: Controlling fixed costs

Speaker: Harry Henderson (AHDB), Robert Sullivan (GSC Grays)

Date: 12 December 2017

Location: Guisborough Rugby Club

For more information, visit: cereals.ahdb.org.uk/saltburn



Meeting summary – key messages

- Cereal production costs in the UK are high, and machinery costs account for a quarter of the total
- There is no right machinery policy and you should do what suits your farm but you can get ideas from what others are doing
- Don't be taken in by sales talk
- Benchmarking is essential if you want to find out how to do things better
- Keep records - you need accurate data to make accurate decisions
- Understand the true costs of each operation
- Calculations using your own figures can be a valuable aid to decision making

Machinery costs – comparing different systems

- On average machinery costs account for a quarter of the cost of growing a tonne of wheat
- Across farms, machinery policy varies widely – everyone is doing something different
- There is no one right way – you need a system that suits your farm
- Go and find what you need to do rather than getting something sold to you

Machinery economics

In the 1960s tractors were not far behind modern ones in terms of efficiency.



1960s compared with modern day – tractor horsepower has increased by 10 times and the drill by 2

Attitude to risk – understanding depreciation

Comparison of two systems:

High cost

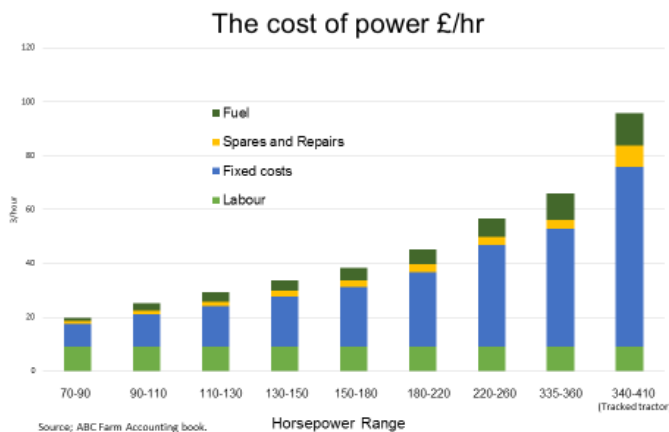
- Buys new tractors
- Able to rely on warranty
- Knows in advance what machinery costs will be over five years

Low cost

- Ageing machinery
- Reduced reliability, dependent on work force skilled in maintenance
- Doesn't know what's round the corner



What works for one farm wouldn't work for everyone – again, there is no "right" machinery policy



Buying a new tractor

- Be careful not to get taken in by advertising
- Discounts can look good but you should consider other aspects such as the deposit and the value of your trade-in

Cost of power

- Power costs increase as horsepower increases (see graph left)
- Of these the fixed costs increase the most

Common myths in tractor sales

“Adding optional extras will raise its trade in value”

You need to understand you might not need to buy new kit and the same applies to optional extras; they might tell you it is more saleable when you trade it in but you have already paid all the depreciation

“Buying a bigger tractor will reduce proportional fuel consumption”

No it won't

“Finding more work will reduce cost per hour”

It will reduce fixed costs per hour but it increases the cost to the business

“Using a contractor is unreliable and expensive”

Not necessarily – it can work well

“Fuel savings alone pay for the replacement”

No – this would only apply if you used it at a certain speed

“Regularly changing the tractor will keep equity within the business”

No it won't

“Regular investment in machinery keeps the tax bill low”

No it doesn't

Machinery capacity

What machinery capacity do you need?

- Depends largely on location, soil type and weather
- ADAS tables can give you averages for available work days in spring and autumn
- You can't plan the drilling season but you can plan how big a drill you need
- A high draft drill will need a much bigger tractor and more weight to pull it, eg strip till

How much power do you need per metre?

- Low draft drill 20hp/meter @ 50kg/hp
 - High draft drill 50hp/meter @ 50kg/hp
- eg:
- 3 meter low draft drill needs 60hp and weighs 3,000kg
 - 9 meter high draft drill needs 450hp and weighs 22,500kg

Note

- Soil compaction effects increase with axle load and are intensified in wet conditions
- Headlands are particularly prone to damage

Expected work rate per 10 hour day will depend on field efficiency of the drill (70% for grain only; 60% for grain + fertiliser)

At 10 kph:

- For a 3m drill, work rate would be 21ha/day for grain only and 18 ha/day for grain + fertiliser
- 9m drill, work rate 63 ha/day for grain and 54 ha/day for grain + fertiliser

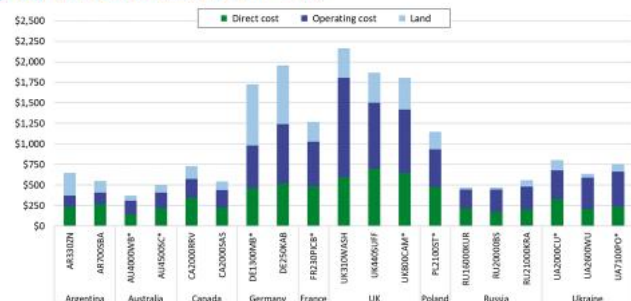
Something else to think about

The cost of a bigger combine compared with a smaller combine and higher drying costs

Understanding machinery costs

- For wheat yields, the UK compares well on the world stage but the cost of production is relatively high
- This is due especially to high operating costs
- Producers in the UK need to be as efficient per tonne as everyone else across the world

Wheat key costs in USD/ha (avg. 2014 – 2016)



- European countries with higher costs (per ha) but also much higher yields

Exploring international competitiveness in grain and oilseed production
Balloire, 2017

agri benchmark

Some questions to ask yourself

- Do you know how much one of your machines costs to run?
- Do you carry out an investment appraisal before making a major machinery purchase? Remember – even if a machine is bought and paid for it is still costing you money
- How could you reduce cost and time for establishing & managing combinable crops?
- Is there a more efficient system of establishing a crop or spraying or fertilising than the one you are already using? eg conservation agriculture; liquid vs. solid fertiliser

The cost of running a tractor

- Do you know the costs of depreciation, spares and repairs, fuel, and finance for every hour the tractor works?
- The more hours a tractor does in a year, the greater the running costs (although also the lower the cost per hour)
- The most costly parts of owning a tractor: **Depreciation** and **fuel**

What can you do to reduce depreciation and fuel costs?

- Record fuel use
- Work out fuel use per operation
- Make sure you know how much time each operation takes and roughly how many hectares an hour can be covered (taking soil types into account)
- Calculate which machines are most cost effective for each operation

| Tractor costs | JD8410 |
|--|--------|
| Purchase price (£) | 45,000 |
| Hours worked per year | 115 |
| Number of years to be kept | 10 |
| Estimated value at sale (£) | 40,000 |
| Depreciation per year (£) | 500 |
| Interest % | 5 |
| Price of fuel (ppl) | 45 |
| Interest (on average value of tractor) | 1,700 |
| Insurance | 834 |
| Fuel 18.00 l/hr for 125hp @ 45p/l | 1,207 |
| Spares and repairs | 1,392 |
| Labour @ £10 per hour | 1,150 |

| Tractor costs | JD8410 |
|-----------------------------------|--------------|
| Total costs per annum (£) | 6,783 |
| Total cost per hour (£) | 58.99 |
| Hours worked | 174 |
| Cost per hour (£) | 56 |
| Total tractor cost (£) | 9,665 |
| Land area worked (ha) | 567 |
| Total cost per hectare (£) | 17 |

If you do a similar calculation for a drill and add this to the tractor cost, you can work out the total cost of drilling.

Establishment costs at Saltburn Monitor Farm

| | |
|---|-------|
| Standard establishment cost (£/ha) | 85.1 |
| NAAC equivalent establishment cost (£/ha) | 109.9 |
| Trial area establishment cost (£/ha) | 54.9 |
| NAAC equivalent cost (£/ha) | 74.1 |

How can you use these figures?

- Compare your costs against others (benchmarking) and against contractor rates
- Compare the cost of different establishment techniques
- Help in purchasing decisions
- Make decisions about contract hire vs. short term, hire vs. purchase
- Rationalise your machinery pool

Benchmarking

What is benchmarking?

- At its simplest, it tells you how good you are compared with everyone else
- It “opens your eyes”
- Means of comparison
- Starting point and guide to the performance of your business
- Can give you a better understanding of how efficient and profitable you are
- A means of helping to improve profitability (depending on how you use it)
- Shows how you can make changes to your farming business
- “You can learn a lot from other people”
- “Every farm is different so no one system is right.”

Summary of benchmarking process

Measure – Compare – Identify – Analyse – React

Farm records can give you a year on year comparison within your business and are a valuable decision aid

Farm Business Survey has the advantage of a large sample size but data is out of date (can be by as much as 18 months)

Advantages of group benchmarking

- Consistent methods for data recording are set at the outset
- Works through trust and openness between members
- Allows comparison of performance with others as well as over time
- Allows regional comparison with similar businesses

Find out more

Machinery

[Getting the most from your machinery](#)

[Webinar: Machinery for farming or farming for machinery?](#)

[Machinery cost calculator](#)

Benchmarking

[Farmbench \(AHDB's benchmarking tool\)](#)

[The benefits of benchmarking video](#)



Next meeting

Date: 23 January 2018

Topic: Marketing and varieties ([register to attend](#))

Time: 11.30

Location: GRUFC, Belmangate, North Yorkshire TS14 7BB

For more information or to find out more about Farmbench, AHDB's benchmarking tool, contact: Judith Stafford

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