

Brigg Monitor Farm meeting report

Meeting topic: Machinery and labour review

Speaker: Richard Means (Strutt & Parker Ltd)

Date: 22 February 2018

Location: Hibaldstow Village Hall, Brigg DN20 9DY

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



Key messages

- Efficient, well run unit, cost in the lowest 25%
- Combine strategy works from a financial point of view
- Age of machines are at 10 years but maintained at average repair costs

Data collection and methodology

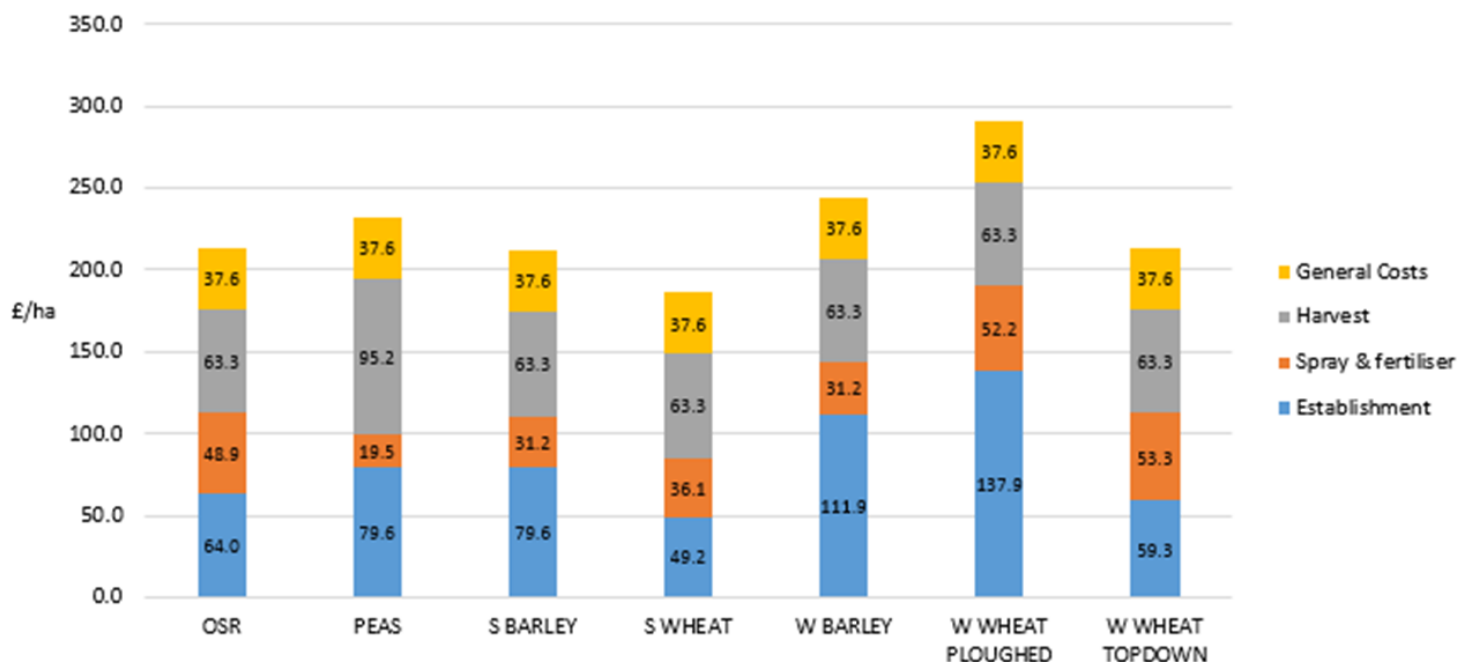
- 26 Monitor Farm’s machinery costs compared
- General information including arable cropping and yields
- Non-arable enterprises (beef) – separated out by % time spent by labour and machinery
- Detailed labour information – average cost per hour calculated inc. NI/pension, housing etc
- Machines and implements inventory – hours, age, value, fuel, repairs, insurance, depreciation (straight line)
- Create machine cost in £ per hour (based on annual hours)
- Create implement cost in £ per hectare (based on annual hectares covered)

Crop / Block	Operation	Operation (Standard)	No. of passes	Machine	Implement	Area (ha) covered	Machine Cost (£ per hour)	Labour Cost (£ per hour)	Rate of operation (ha per hour)	Implement Cost (£ per ha)	Total Operation Cost (£ per ha)
W WHEAT PLOUGHED	Plough	Establishment	1	Case Magnum 230	Kverneland Plough 6 Furrow	78.12	£22.26	£9.09	0.80	£6.22	£45.40

Costs found at Brigg

Table 1: Headline Operation Costs for the Brigg Monitor Farm, compared to Monitor Farm Average, CAAV and NAAC

Operation	Machine	Implement	Brigg Cost £/ha	Monitor Farm Average Cost £/ha	CAAV ⁸ Cost £/ha	NAAC ⁹ Charge £/ha
Drilling	Case Puma 180	Kuhn Combination 4.8m	28.1 ¹⁰	31.7	73.1	61.8
Ploughing	Case Magnum 230	KV 6 Furrow Plough	45.4	57.2	62.7	63.6
Pressing	Case Max. 140/ Puma 180	Simba Cultipress 4.6m	13.3	19.8	27.1	35.8
Cultivating	Case Magnum 230	Vaderstad TopDown 3m	25.1	29.5	41.5	65.5
Subsoiling	Case Mag. 230/ Puma 180	3 Leg Subsoiler 2.8m	42.9	41.2	49.5	59.3
Rolling	Case Maxxum 140	Edlington Rolls 7m	6.1	9.1	14.8	19.8
Spraying	Househam 3000 S/P 24m		4.9	6.1	7.4	11.9
Fertilising (solid)	Case Maxxum 140	Kuhn MDS 24m	1.9 ¹¹	4.5	8.6	12.4
Combining	NH CX860 7.3m	(+/-) Pea header	41.0	66.3	79.4	86.5
Carting grain to store	Case Maxxum 140/ Puma 180	16T Stewart + 14T Stewart + 12T A&H	26.3	31.2	23.6	33.6 ¹²



- **The Combine harvester came under particular focus;**
 - New Holland CX860, conventional 6 walker with Rotary Separator and 330hp. Yearly hire cost £16,000

- Hire means fuel, oil, driver and accidental damage are paid by the farm. Service and maintenance costs are included in the £16,000 annual rental cost
- This equates to some of the most cost effective harvesting across the Monitor Farm network

Hire charge	Av, work rate (ha/hr)	Cylinder hours	Fuel consumption	All up cost per hectare
£16,000	3.05 ha/hr	187	36 lt/hr	£41

Observations and recommendations

- A well run arable unit with labour and machinery costs below the Monitor Farm benchmark average. The farm achieves good yields with operational costs in the lowest 25% for wheat, OSR, winter barley and spring barley
- The combining cost per hectare is in the lowest 25% of the group average, in part due to the relatively large area cut for the size of the combine and partly due to the contract hire deal removing any repair cost
- The average age of machines is relatively high at 10 years, which results in low annual depreciation costs on a straight line basis. This has been achieved with repair costs still in line with the group average (18%). This creates a low cost per hour for the machines which follows through to low operation costs
- The employment of an apprentice to assist the Manager complements the business well and lowers the employment cost. The farm could consider a structured bonus scheme for the staff whereby farm yields, machine maintenance and timeliness of drilling/cultivations are incentivised
- A new JD7310 has been purchased to replace the Magnum 230 after the 2017 harvest, which will increase the operation costs. This can be mitigated by maintaining regular servicing and keeping the machine for more seasons than the 8 years the Magnum was kept for, hence reducing the annual flat line depreciation cost
- Establishment of wheat by plough more than doubles the establishment cost and uses three times the fuel. Ploughing should therefore be used sparingly to reset the blackgrass seed bank every 4-5 years or to allow weathering for a spring crop seedbed
- Due to the soil type, implements are currently kept for 20+ years, with relatively low repair costs. Consideration could be given to a lower disturbance drill at the next replacement which will both reduce fuel usage and chit of blackgrass at the time of drilling

Find out more – Links to AHDB information sheets or research

[AHDB Cereals & Oilseeds machinery cost calculator](#)

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

[Don't buy new kit until you know the costs](#)

Next meeting

Date: 26 June 2018

Topic: Summer field walk

Time: 10.00

Location: Gander Farm, Hibaldstow, DN20 9PJ

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To find out more about Farmbench, AHDB's benchmarking tool, contact: Thomas Wells

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