

Duxford Monitor Farm Meeting Report

Meeting 2 – Crop establishment, seed rates & yield

16 November 2018

Fowlmere Village Hall

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



Key take-home messages

1. There is a direct relationship between biomass and yield – ensure that crops are making the most of light and water through biomass and rooting.
2. Monitor plant establishment and growth through the season as a key management tool.
3. Employ precision farming techniques, such as variable rate seed to encourage even establishment and increased yield.

Achieving yield potential, Bob Bulmer

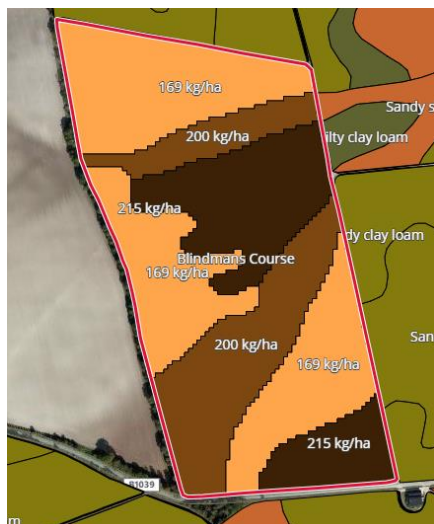
- YEN, the Yield Enhancement Network, run by ADAS with support from a wide range of industry sponsors aims to increase yield and achieve yield potential. It's participants include their reasons for joining as: technical knowledge, innovation, networking and the yield competition.
- The measurements through the season are collated into a report, which looks at the soil analysis, crop growth, grain analysis and inputs and provides a benchmark for your entry against national entries.
- The key to achieving yield potential is to maximise the use of light energy and water.
- Key measurements of yield include:
 - Grains/m² – AHDB Benchmark = 22080
 - Ear numbers - AHDB Benchmark = 460
 - Grains/ear - AHDB Benchmark = 48
 - Yieldt/ha - AHDB Benchmark = 11
- In order to achieve a high yielding crop, we need to think about seed rates, tillers, tiller survival, ears and grains per ear, eg, for a 15 t/ha crop:
 - 30 000 grains/m²
 - 45 grains/ear (average of YEN 2016)
 - 666 ears/m²
 - Assume 45% survival 1481 tillers/m²
 - Assume 3.5 tillers/plant = 423 plants/m²
 - Assume 80% establishment 528 seeds sown/m²
- Measure plant populations following establishment and after winter. There are two options: 1. Using a quadrat; 2. Count along the length of a row. Use the AHDB guide to do this and record your results. See the sheet at: cereals.ahdb.org.uk/duxford.
- Roots are very important in achieving yield – there is a correlation between root length and yield. Rooting = water capture, but can be affected by soil type.

High yielding crops on chalk, Bob Rowe

- Bob Rowe farms in Dorset through Chase Farming Ltd
- 3 different types of rotation used
 - 4 year: OSR; Winter wheat; winter barley/turnips; spring barley
 - 6 year: OSR; winter wheat/green cover; spring barley; peas; winter wheat; winter barley

- 7 year: OSR; winter wheat; winter barley/turnips; spring barley; peas; winter wheat; spring barley
- Rotational ploughing is used on the farm, along with min till and strip till. Vaderstad used for drilling
- Green waste and cover crops used to boost organic matter, along with sheep enterprise
- Variable rate seed is used – have seen a greater response from even crop establishment
- “If you get the root structure right, you get the whole job right”

Variable rate seed costs



Tom Mead and David Hurst costed out the cost of using variable rate seed on their farms. These were as follows:

LAW FARMING

- Total investment: £4483.50
- £4.71/ha over 5 years

MF MEAD AND SON

- Total investment: £3850
- £8.15/ha over 5 years

David already had the capability to do this using the kit that they already had on the farm and the group decided that he should employ using this across the area it was available. The group thought that updating the drill software and purchasing the GPS subscription was a worthy investment for Tom, in addition.

Further Information

YEN – Yield Enhancement Network

AHDB Farmbench - for benchmarking cost of production

Seed rate conversion tool - allows you to calculate the kg/ha of seed you require based on your planned seed rate/m² and the thousand grain weight.

Meetings and Contact Information

Winter Meeting Dates 2018 to 2019

All meetings will start at 9am with a bacon roll at Fowlmere Village Hall, Chrishall Road, Fowlmere, Cambridgeshire, SG8 7RY.

- Monday 17 December 2018 – Farm business accounts and benchmarking
- Friday 18 January 2019 – Lessons from outside our industry
- Friday 15 February 2018 – Spring cropping and the supply chain

For more information about the Duxford Monitor Farm, contact: Teresa Meadows

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To find out more about Farmbench, AHDB's benchmarking tool, contact: Holly Howsam

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