Newark Monitor Farm

Program introduction, and soils & science into practice

02 November 2016

South Muskham Village Hall, Newark

Speakers:
John Miller, Monitor Farmer
Philip Wright, Cultivation specialist
Dr Jackie Stroud, Rothamsted Research.

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

John Miller, Newark Monitor Farmer

Meeting summary – key messages

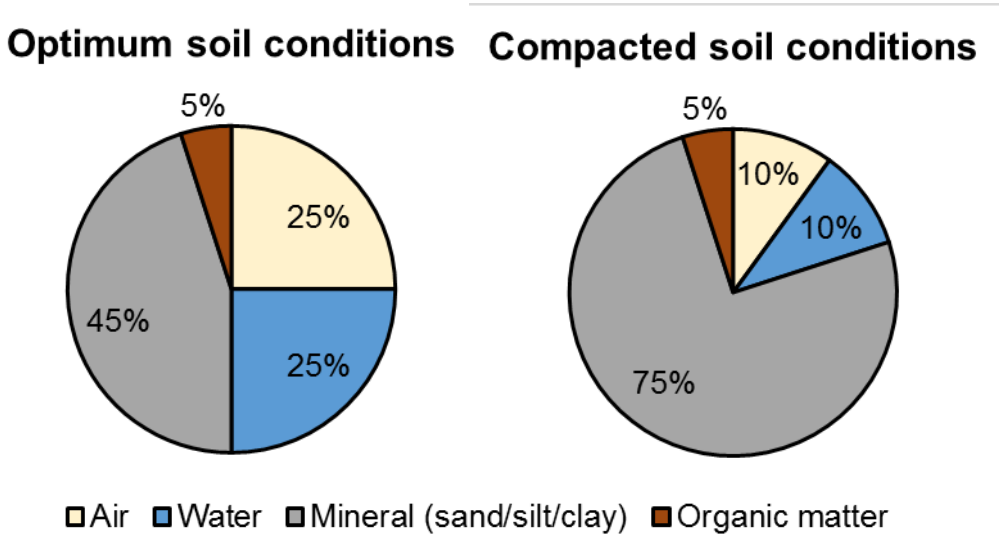
1. Take a hard look at your axle weights. Moist soils cannot support heavy machinery and yields will suffer.

2. Gain an understanding of your soils and their aggregate stability

3. Take time to better understand the drainage you have and how it works

Soil science theory

- In optimum conditions:
    - solid soil particles should represent 45 to 48%
    - air 25%
    - water 25%
    - organic matter 5%
- Compaction will squeeze out the air (10%) & water (10%) to limit crop yield
- Quick test: take a spade and run the edge along the soil. If it crumbs easily, good. If it smears and cuts a slot, bad. Watch this video for guidance on assessing soil structure
- Look for worm activity in the top 5cm of soil. AHDB guidance on earthworm sampling is available here



Problems with unstable soils

- Erosion - deposition of soil off field (most fertile soil)
- Fine particles carry pollutants with them
- Fine particles deposited in-field, blocking pore
- Sediment reaching rivers will need dredging, pollute fish farms
- Water cannot infiltrate blocked pores, may acquire kinetic energy and cause worse erosion
- Rain that runs off may cause flooding instead of controlled filling of reservoirs
- Soils that subsequently dry, set hard making it difficult for crops to establish i.e. capping
- Fine particles block routes to drainage systems
- Black-grass finds damp soils very favourable

Sustainability	**MWD (mm) MWD = mean weight diameter**
Highly sustainable	>2.5
Sustainable	2 – 2.5
Sustainable with high management input	1 – 2
Sustainable with another land use	0.5 – 1
Unsustainable	<0.5

Further information:

- Watch this video to find out more about soil, weights and pressures
- Visit the AHDB Cereals & Oilseeds soil management website to find out more on field drainage, soil management and assessing soil condition, tillage, crop establishment and soil biology.

Next meetings

Date	Topic
6 December 2016	Profit from your crops. Alternative crop options, rotations and varieties YEN Update.
11 January 2017	Future farming without subsides and making a profit. Machinery & grain storage - what can you do without?
8 February 2017	Regional agronomy meeting (more information available here). Nutrient management, weed management, cover crops, soil health.

Venue: South Muskham & Little Carlton Village Hall, Main Street, South Muskham, Newark, NG23 6EE

To attend a meeting, please contact your AHDB Cereals & Oilseeds Knowledge Exchange Manager:

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To find out more about AHDBs benchmarking tool, please contact:

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