

Annual Project Report August 2018 to July 2019

Project title	Nitrogen and sulphur fertiliser management for yield and quality in winter and spring oats		
Project number	21140039		
Start date	1/8/2018	End date	31/5/2022

Project aim and objectives

Aim: To provide advice on the most appropriate nitrogen (N) rates and timings, and sulphur (S) applications, to optimise yield and milling quality of winter and spring oats

Objectives:

1. Collate and analyse recent data on the effect of nitrogen rate and timing, and sulphur, on winter and spring oats yield and quality.
2. Evaluate optimal nitrogen rates and timings, and sulphur applications, on winter oats yield.
3. Evaluate optimal nitrogen rates and timings, and sulphur applications, on spring oats yield.
4. Evaluate the impact of nitrogen and sulphur on the milling quality of oats. Specifically, specific weight, screenings, kernel content and hullability.
5. Produce guidelines and disseminate conclusions through AHDB and industry channels.

Key messages emerging from the project

The project is in its first year and no trial results are available. However, it is clear from grower, agronomist and industry survey responses that information on oats fertilisation is needed to give growers the confidence that they can grow oats with a good return.

Summary of results from the reporting year

A survey of growers (25 respondents) and agronomists (39 respondents) was carried out at the start of the project to understand current N and S practice in oats. It showed that advisors were recommending 138 kg N/ha for winter and 118 kg N/ha for spring oats. Generally, RB209 timings were recommended for winter oats. For spring oats, a significant amount of N was applied to the seedbed. Analysis of winter oat and spring oats timing trials found no consistent trends in optimum fertiliser timings. The difficulty of picking up trends was partly due to the different treatments in the different designs. However, it was possible to say that it was better (for yield) to split the N across at least two timings, rather than applying it all at once. This was true for both winter and spring oats. In the spring oats it was better to split applications, rather than applying it all in the seedbed.

The results described in this summary report are interim and relate to one year. In all cases, the reports refer to projects that extend over a number of years.

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Main trials examined the economic optimum N rates, the best N timings and the benefit of S on winter oats (Herefordshire and Nottinghamshire) and spring oats (South East Scotland and East Anglia). As well as these core sites, partner organisations established trials that mirrored the main trials, plus an S response.

Key issues to be addressed in the next year

In the next year of the project, the following activities will be carried out:

- Analyse yield results from the 2019 trials and undertake grain quality analyses
- Establish, manage and measure winter and spring oats trials, looking at optimum N rates and N timings, plus S
- Continue the programme of communication and knowledge exchange

Lead partner	ADAS
Scientific partners	IBERS, Aberystwyth University; Teagasc (Ireland); Seges (Denmark)
Industry partners	PepsiCo, Richardsons Milling, The Jordans & Ryvita Co., BOBMA, Saaten Union, Senova, KWS, RAGT Seeds, Camgrain, Gowlett Grain, Frontier, CF Fertilisers, Omex, Chadacre Agricultural Trust, Felix Thornley Cobbold Agricultural Trust
Government sponsor	n/a

Has your project featured in any of the following in the last year?

Events	Press articles
East Anglian Spring Oats Project (EASOP) workshop, Camgrain (9 Jan 2019) Oxford Monitor Farm meeting (Feb 2019) Cereals 2019 (12-13 June 2019) – poster on Just Oats stand ADAS Rosemaund Open Day (18 June 2019) – poster and oats plots	Farmers Weekly article (4 Jan 2019) CPM article (May 2019)
Conference presentations, papers or posters	Scientific papers

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