



# Nitrogen use efficiency in *Brassica napus*

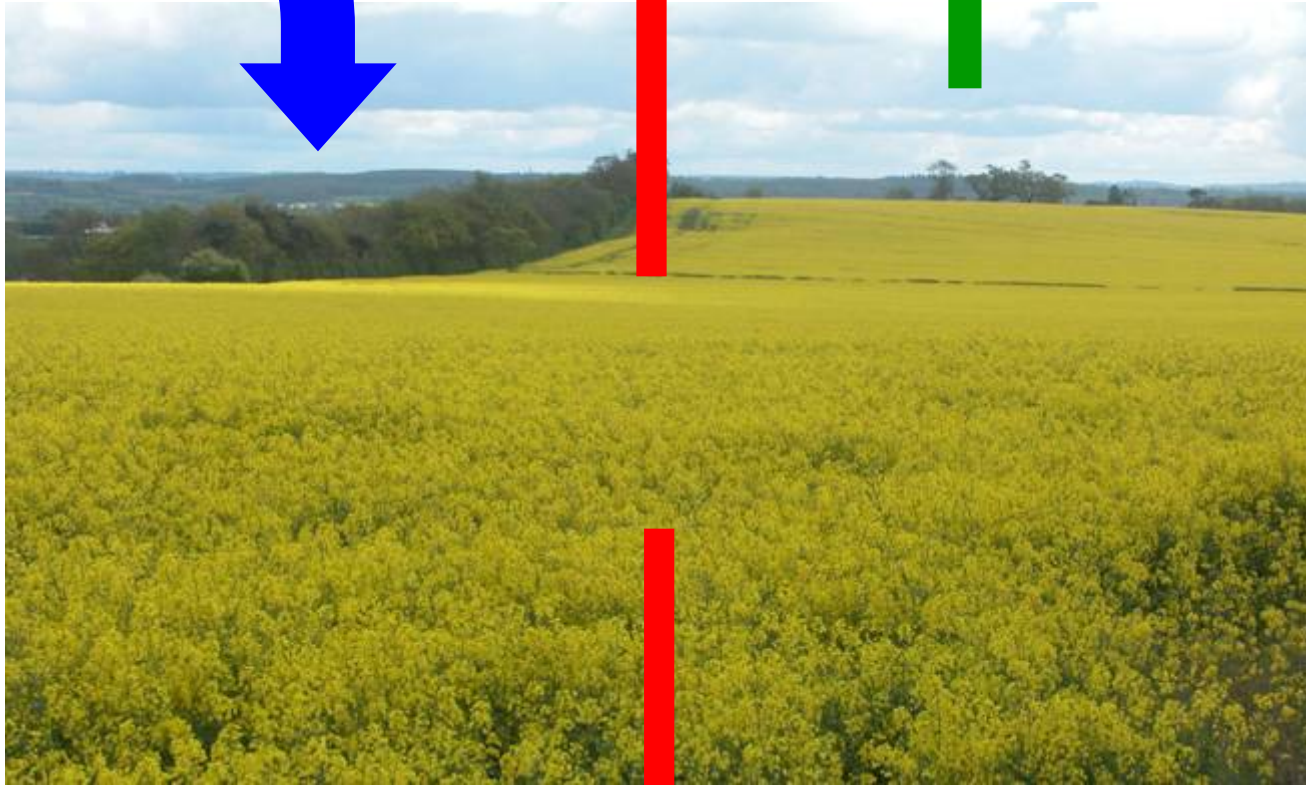
Graham Teakle  
Warwick HRI



N fertilizer  
(206 kg/ha)

GHG emissions  
 $N_2O$  and  $NH_3$

N offtake  
(96 kg/ha)



Pollution of water courses

83% of CO<sub>2</sub> equivalents  
associated with production  
due to N fertilisers



# Breeding oilseed rape with a low requirement for nitrogen fertiliser (Defra LINK LK0979)

Project leader - Peter Berry (ADAS)



**Elsoms Seeds**



*GrowHow*



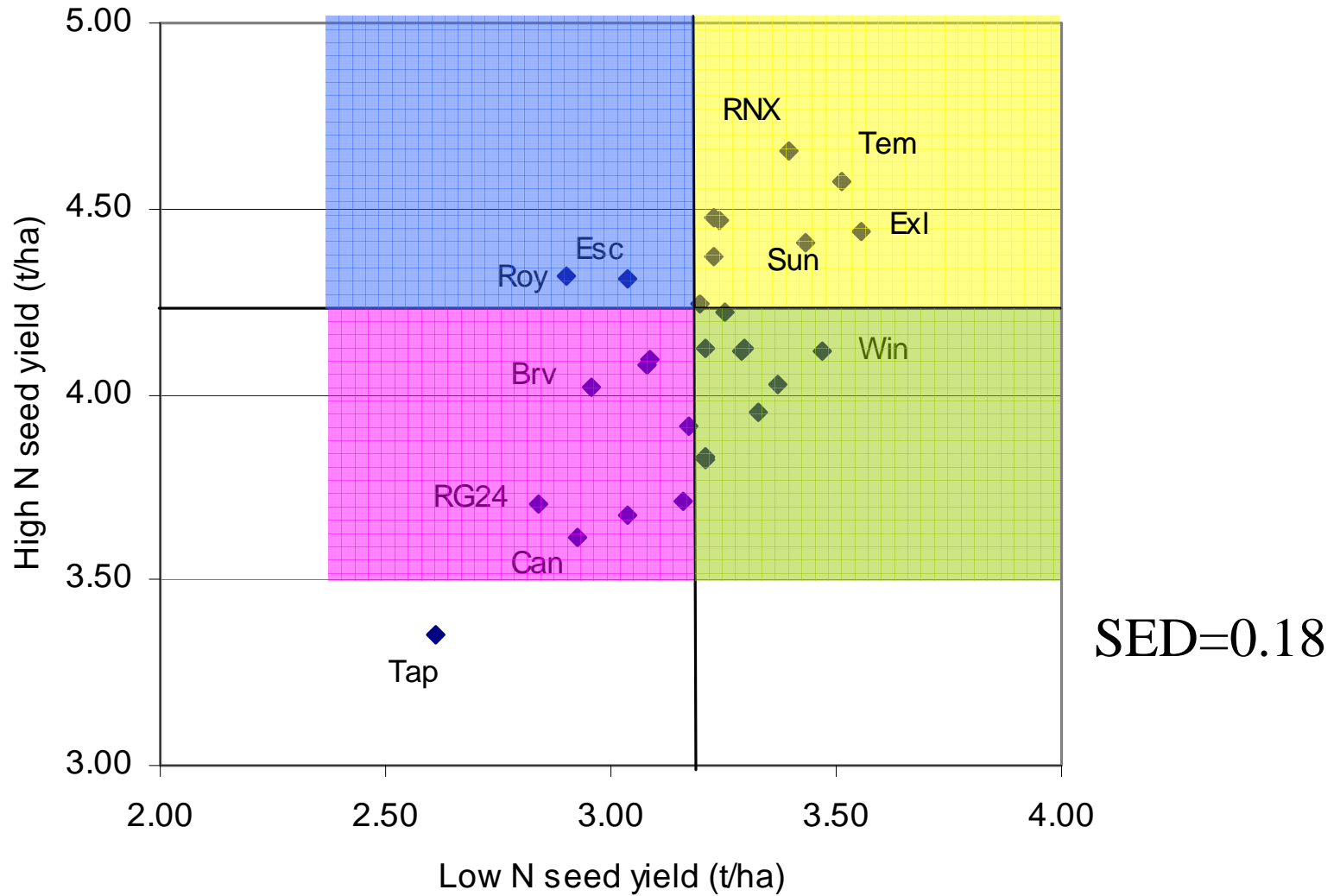
**Northeast Biofuels**



# Project Specific Objectives

1. Develop a mechanistic model of N requirement in oilseed rape
2. Identify traits associated with low N requirement in UK oilseed rape varieties
3. Develop phenotypic screens and genetic markers for rapidly assessing the traits
4. Quantify the impact of different varieties on pollution, energy balance and growing costs

# Cross site analysis



# NFT Nitrogen uptake diversity experiment



24 Sept



19 Oct



26 Oct

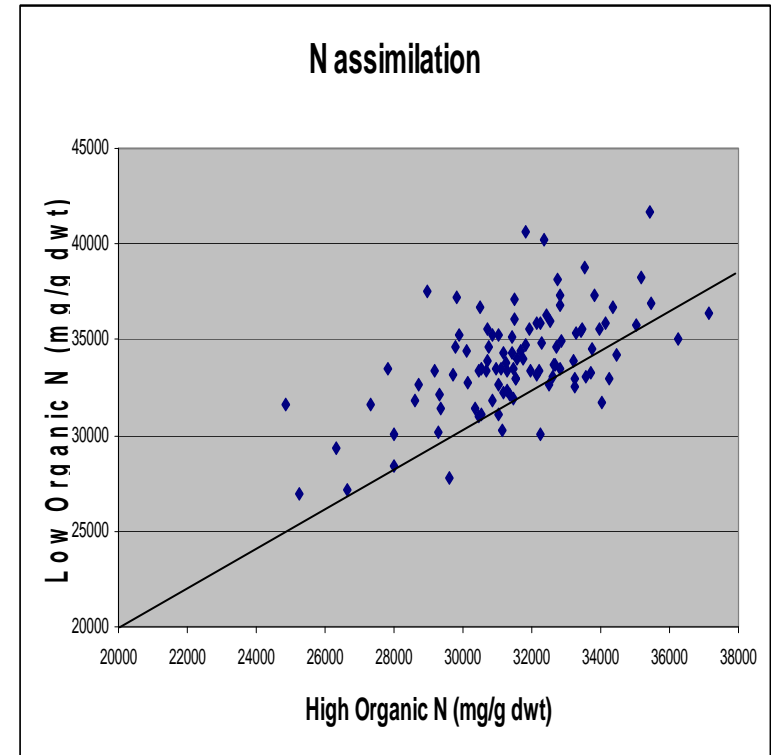
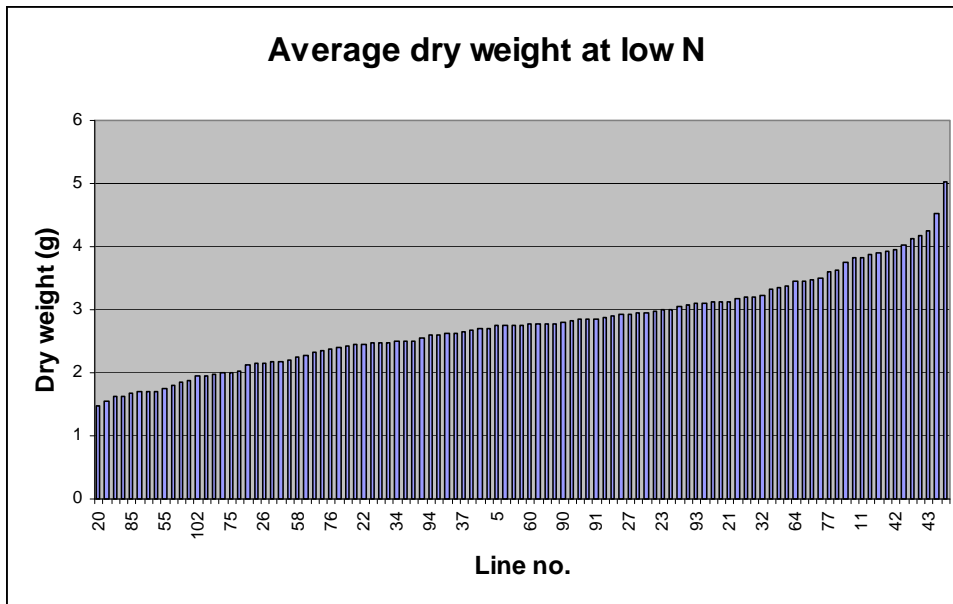


11 Nov

# OREGIN project



## BnaDFS



## OREGIN: future

- Community field trial of BnaDFFS at high and low NUE