A PhD studentship is available starting September 2022 for 3 years.

"**Identifying physiological and agronomical factors associated with high yield in Linseed"**

Linseed (*Linaceae usitatissimum L*.) is gaining popularity as an alternative break crop instead of oil seed rape, in addition to its high demand from the health sector. Yield varies considerably between seasons, depending on location and weather. It is therefore important to understand the main environmental causes of yield variation and to determine the most important agronomic and physiological factors that influence yield. Very little research has been conducted on linseed therefore there is a lack of information about how the crop responds to management decisions with potential to impact yield, such as sowing time and seed rates. Average yields of Linseed in the UK are 2.0t/ha, with higher yields where conditions are favourable. Crops are subjected to the vagaries of weather and the uncertainty of defined seasons due to climate change make it important to study how resilient the current germplasm is to cope with these variabilities in seasonality.

This PhD will investigate the effects of both the environment and soil properties on the yield of Linseed, with a particular focus on the genotype x environment interactions. The proposed study will also identify the genetic variation that currently exist in UK Linseed germplasm in order to improve future varieties that will be resilient to climate change. The research will involve a mixture of field trials and polytunnel pot experiments. Physiological and agronomical traits governing yield will be measured at the canopy and root level with the following objectives:

- To test whether there is genetic variation in existing UK linseed germplasm and scope for improvement
- To investigate the effects of soil properties and its association with roots on yield performance
- Understanding the physiological basis underpinning sowing time and density in the canopy

This project is in partnership with Premium Crops and Chadacre Agricultural Trust. The candidate will have opportunities to gain experience and exposure to the industry. Candidates should have a minimum of 2:1 in Agriculture, Crops Science or agriculture related areas. The studentship is open to home students.

Please contact Dr Oorbessy Gaju (ogaju@lincoln.ac.uk) for more information

Applications close – Friday 29th July 2022