



COVER CROPS – INTERACTIONS WITH CULTIVATION

What is a cover crop?

A cover crop is grown primarily to 'protect or improve' soils between periods of regular crop production.

The New Farming Systems study, delivered through NIAB TAG, aims to explore ways of improving the sustainability, stability and output of conventional arable farming systems, with the research undertaken on a sandy loam soil at Morley in Norfolk.

The cover crop research examines the interaction of:

- **rotations** – a winter wheat and spring break-crop based rotation;
- **cultivation approaches** – comparing plough, deep (c. 20 cm) and shallow (<10 cm) non- inversion;
- **cover crops** – comparing approaches with and without a brassica cover crop.



Radish and oats



Phacelia mustard mix



Sainfoin

Key findings have shown:

There is potential for positive yield and financial responses associated with appropriate cover crop use in arable systems.

Think carefully about costs of cover crop establishment and management; consider limiting spend to < £50 per hectare.

Cover crops have positive impacts on soil quality (e.g. improved infiltration rates and soil bulk density).

The repeated use of a brassica cover crop resulted in a c. 6% yield loss in oilseed rape crops in the same rotation.

A brassica cover crop was more likely to give a positive yield response in this study when used in conjunction with a shallow non-inversion tillage system than with a plough-based system.

When growing cover crops think through what you want to achieve and plan the approach. Once the key objective is defined, important questions will include: how does the approach fit with the farming system; how, and when, is progress measured; and what are the routes for guidance and decision support?

