



**LEGUMINOSE**

the way to a green transition



## **LEGUMINOSE 9<sup>th</sup> June 2023 Intercropping workshop report**

On 9<sup>th</sup> June 2023 we held a farm walk at Lower Farm near Bicester in Oxfordshire. The event was a [LEGUMINOSE](#) project event, as part of this we are running an [Innovative Farmers](#) field lab on intercropping. During the day we held a workshop looking at the barriers and opportunities for intercropping. The 47 attendees were split into 4 groups 1 being organic farmers, 2 being conventional and the fourth was a group made up of supply chain and advisors.

All were asked to complete a SWOT analysis highlighting the strengths, weaknesses, opportunities and threats for intercropping in the UK. Although the main highest ranked conclusions from each group were similar there were differences in the weight that the groups put on them.

**Strengths** The groups all highlighted the potential to reduce inputs through increasing soil health and diversity leading to increased resilience as a major strength, leading to increased yield or profitability with weed control (through rotational changes to spring cropping and different chemistry) as secondary considerations. Interestingly, although the organic farmers with more intercropping experience saw weed control as a strength of intercropping, both conventional farming groups highlighted weed control specifically due to chemical regulations as a weakness.

**Weaknesses** All groups saw separation of products, marketing and storage as weaknesses. The supply chain group highlighted an inconsistent product and a need for a testing and pricing structure to allow trading, but it did have a good sustainability appeal to feed companies. Lack of knowledge, time and on farm equipment (drilling depth, seed rate and combining issues specifically) were also noted. The conventional farmers were concerned about alignment of harvest dates, but it was less of a concern to organic farmers.

**Opportunities** The biggest opportunities for farmers were generally that through new products and new premiums, there is the potential to bring a higher value economically and environmentally into their farm. The ability to increase UK protein production to replace imported soya, either to earn a premium or as an additional marketable product as well as reducing input costs is seen as the main opportunity.

A big discussion in the organic group was around the potential uplift in protein in milling wheat, demonstrated experimentally and anecdotally, but disputed on the day as 'not possible'-highlighting a knowledge exchange and information gap that needs to be filled.

**Threats** Most groups saw threats related to time and labour particularly during harvest, but the conventional farmers also highlighted complication of rotations with more 'break crops' involved. There were concerns raised about possible contamination of food supply (for example gluten from wheat in intercropped pulses) and particularly where there were already milling wheat supply contracts. The supply chain group was less concerned as their experience showed that they could clean crops adequately, but admittedly so far at low volumes. They were however concerned that the market may not be able to accommodate bigger volumes of crops unless there was a clear route to market for the 3 separated products (2 monocultures and screenings) which allowed premium prices and not discounted prices for co-products.

**Strategies** Strategies to overcome barriers were also discussed with all groups highlighting that knowledge and advice was an important area that was lacking. Most attendees felt that there was a lack of knowledge in the farming and advice community for farmers to feel supported in making these changes. Specifically, questions relating to crop agronomy (pests, disease and weeds) although the



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organic experience was that these are not such an issue. One solution was more farm centred work, peer-to-peer knowledge sharing (such as the farm-walk following the workshop) and better communication with experienced inter-croppers.

The management of the combined product was also highlighted, separation was an issue, but the supply chain needs to have a consistent method to value a co-product/biproduct in order to have a premium for the high-quality main crop/s. Farmers were broadly happy to produce the crop and could see the need to separate to have a market, but the pricing structure needs to be obvious.

Many conventional farmers have been used to a structured system with drilling dates, drilling depths, fertiliser timings, harvest dates based around a one-size fits all advice system which is not always independent, or government funded in the UK, whilst organic farmers have tended to be more innovative and more flexible in their approach although often with a livestock system to supply. Allowing more off-label chemical use would be seen as a positive for conventional growers who seemed to be more risk averse, particularly for fungicides and those in high grass weed areas specifically.

One farmer's comment during the workshop was that we need to overcome the perception that intercropping is too complicated.

**Farmers are invited to complete a survey as part of the LEGUMINOSE project. The survey is hosted by Reading University and will help provide information to arrange events, farm walks and meetings to help break down these barriers. [Click here to complete.](#)**

This event was organised by Innovative Farmers for Soil Association. It is part of the LEGUMINOSE 'Legume-cereal intercropping for sustainable agriculture across Europe' which is a Horizon Europe project. For more about the project see <https://www.leguminose.eu/>.



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