

## Year 1 LEGUMINOSE trial results

The trial plot was planted in April 2023 as part of a whole field of intercropped beans and wheat. Although not organic, the plot was not treated with any herbicides or fungicides due to the requirements of the contracted purchaser.

The wheat was a 3-way blend of varieties, and the beans were lynx. Drilling rate was based around 60% of normal farm seed rate, with the same rate for the trial area.

Harvest was 19<sup>th</sup> August with grain samples taken from the combine and combine yield monitor used to record yield. Beans and wheat were separated out for analysis.

	sample			/ha Yield	
	dm adjust	%bean	%wheat	bean	wheat
Control Wheat	3.99			0.00	4.00
Control beans	2.71			2.60	0.00
Intercrop Wheat-tr	4.25	18.63	81.37	0.79	3.46

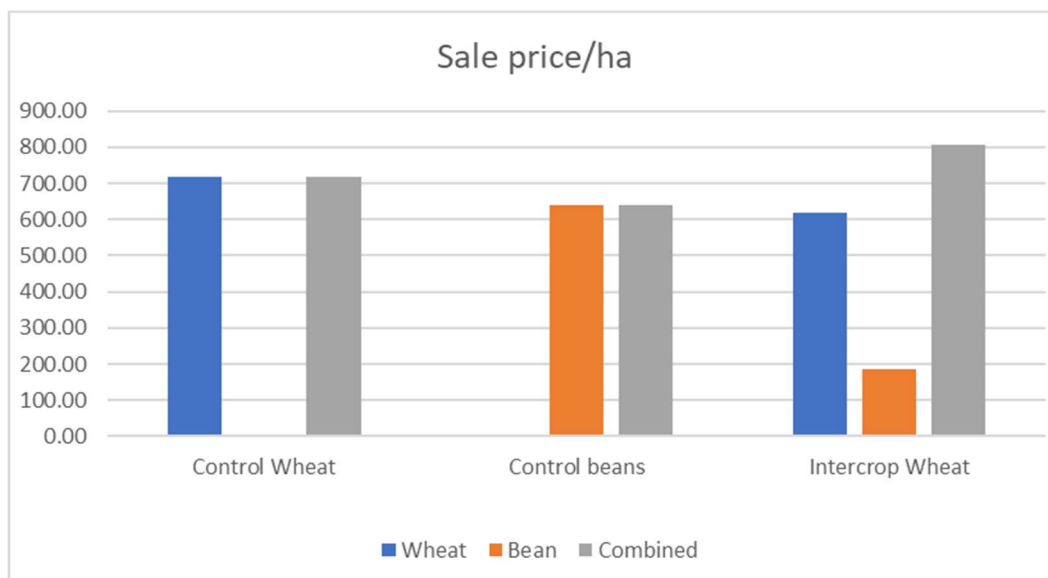
The intercropped area produced 6% more total yield with a Land Equivalent ratio of 1.16.

**Wheat Quality**-the wheat from both monocrop and intercropped plot were tested for protein with the following results.

	NIR protein
Control Wheat	11.43
Intercrop Wheat	11.88

Although not to milling specification, the intercropped results show that intercropping can lead to increases in grain protein. The combined wheat and bean mixture had a protein level of 14%

**Economics**-Sale price has been calculated based on Farmers Weekly price for non-organic crops on 18/12/23 with ex-farm prices of £179.33 for wheat and £236.08 for beans. Cost of separation and additional seed not accounted for.



### **Weed and Pest levels.**

Weed levels appeared higher in the monocultures, particularly phacelia which had self-seeded from a neighbouring cover crop margin. There was no phacelia in the intercrop plots, but small levels in both the wheat and beans although not at levels likely to affect yield.



There appeared to be a lower level of Bruchid beetle damage in beans from the intercropped section compared to that from the bean monoculture. There was more evidence of damage in a nearby whole field bean monoculture.

### **Conclusion**

The evidence from this trial is that intercropped mixes do increase net yield and the increases in protein level do indicate that there is a synergy between both species. The anecdotal evidence from the trial will be investigated further during the Leguminose project. We are still looking for more people to be part of the trial.

Separation or marketing of the crops is important area to investigate.