



PUTTING UK GROWN PULSES BACK ON THE TABLE

May 2025

RECOMMENDATIONS

CONSIDER

policy interventions that increase production of homegrown protein crops.

INVEST

in breeding and agronomy research to boost the production of high-quality, high-yielding UK pulse crops.

INCENTIVISE

supply chain investment through public sector procurement of UK grown pulses.

INTEGRATE

campaigns to eat more pulses with support for whole school approaches to food.

Realising the potential of UK-grown beans and pulses to safeguard food security, improve diets and health, and to deliver planet-friendly farming will require a concerted effort to encourage farmers to grow more while, at the same time, encouraging people to eat more. Research across the Transforming UK Food Systems Programme is addressing barriers across the UK food system which 'lock-in' current supply and demand. This new evidence base aims to:

- increase confidence among farmers that UK-grown pulses are reliable and profitable crops
- support the case for investment in infrastructure and know-how across the value chain to store, process and manufacture more UK-grown pulses
- identify strategies to encourage consumption of more bean-based meals and their inclusion in a wider range of appealing food products in homes, public institutions and supermarkets.

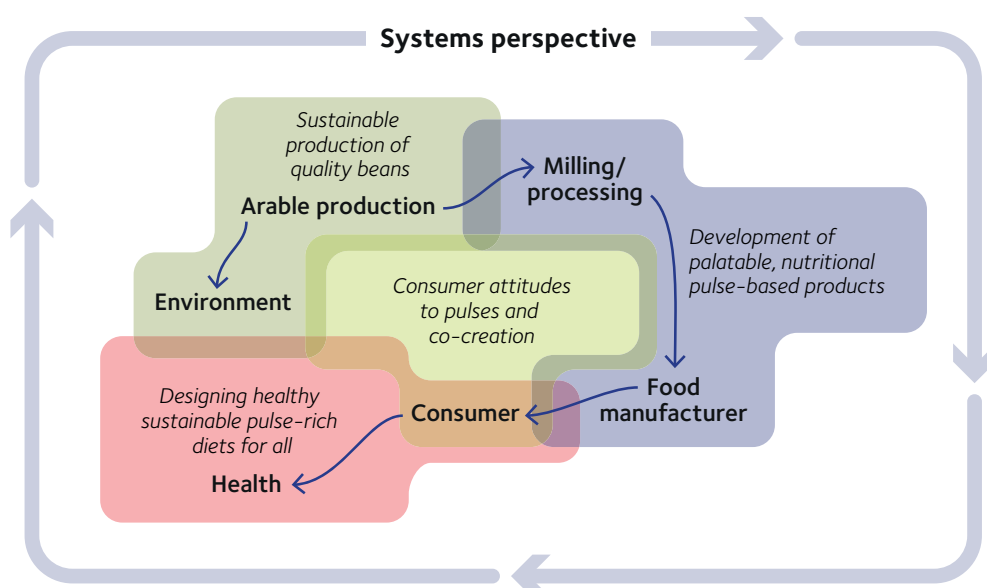


Figure 1: Food system overview with respect to the bean and pulse value chain^[5].

Challenge: UK diets are typically low in pulses

Diets rich in pulses are more sustainable and provide more optimal nutrient intake (including fibre and micronutrients) compared to those low in pulses^[1]. Pulse-rich diets are also associated with better weight management and reduced risk of chronic diseases such as diabetes^[2]. However, the average Brit consumes only 28g of pulses per day (equivalent to one tablespoon), much lower than the recommended 80g as one of your 5 A Day, and more than 40% of people in the UK eat no pulses at all^[3].

This wasn't always the case. Pulses used to be a staple food in Britain but became less popular between the 13th and 18th centuries as changes in farming made meat and dairy more affordable. Today, baked beans are synonymous with UK culture while traditional dishes using native pulses have been consigned to the history books. The result is that many people are unfamiliar with how to cook pulse-based meals from scratch and don't regard them as family favourites^[4]. This is a significant barrier to increasing consumption but one that TUKFS research has shown can be overcome, both overtly and covertly.



CASE STUDY

Since 2021, UK-based Bold Bean Co has hosted a premium range of jarred pulse products. Their product range and popularity has expanded rapidly, with chickpea and bean products now available across the UK.

Bold Bean Co describe their mission as wanting to get everyone eating more beans by providing the best quality, and are successfully targeting the 'foodie' market niche. The product range repositions pulses as 'hero' ingredients central to dishes. While demonstrating the power of shifting consumer preferences through brand innovation, Bold Bean Co's operations also highlight some of the key barriers to upscaling the use of UK grown pulses.

The company's success depends on being able to source the best quality pulse varieties that appeal to customers, and access to the necessary manufacturing expertise and facilities, both of which are restricted in the UK.



Opportunity 1: Putting beans in toast

Researchers from the *Raising the Pulse* project have found a way to improve the nutritional content of everyday white bread. Substituting some of the white bread flour with faba bean flour produces a loaf that is higher in protein, fibre and key minerals, including iron, compared to white wheat flour alone^[5]. The approach has provided breadmakers with proof of concept that they can adapt their existing milling and baking processes to incorporate faba bean flour, and use it to manufacture healthier products. It also offers an opportunity to cut out imported soya, which is used as a stabiliser in white bread products, further increasing its sustainability credentials. However, rolling this out at scale will require a stable supply of faba bean flour for this potential new domestic market, and this requires investment.



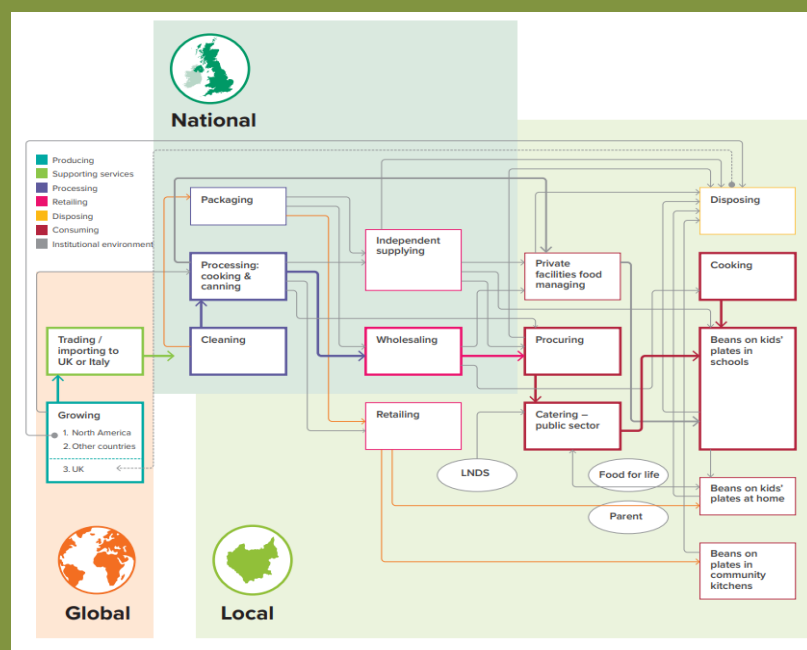
Opportunity 2: Growing appetites for global bean cuisine

The *BeanMeals* project ran cook and eat sessions with households in Leicester, both bean novices and bean experts. These sessions provided an opportunity to share recipes that drew on bean-eating cultures from around the world. While bean novices experienced challenges in cooking dried beans (lack of time and cooking facilities), they enjoyed experimenting with beans and pulses during cooking sessions to find meals that would meet their families' needs and palates^[6].



Challenge: Expanding the missing middle

Tackling supply and demand in isolation will not be enough to develop a thriving, scaled-up UK pulse value chain. It is also vital to consider how to support and grow the infrastructure of cleaning, preparing, storing, transporting, processing and manufacturing UK beans to get them to the consumer in a desirable form and at the right price, as well as the businesses that will underpin such undertakings.



Opportunity: Diverse approaches to scaling supply

BeanMeals research has highlighted three pathways to scaling supply:

- **Community Enterprise:** Values- and community-led entrepreneurship to get beans from farm to fork using short food supply chains and minimal processing and packaging.
- **Artisanal Entrepreneurs:** New and innovative brand-led companies focused on value-add bean products, tapping into growing market niches focused on taste, quality and health.
- **Food Giants:** Working with existing large-scale value chains for canned and processed foods to incorporate British grown-beans for mass-market consumers. community, artisanal, food giants.

All are needed to achieve wider co-benefits in terms of innovation, transformation, equity, place-based development and quality jobs^[7].

Figure 2: Mapping the bean value chain from fork to farm shows that it takes eight steps to get a bean from North America onto school plates in Leicestershire.

[Leicester City Council Compass Report, December 2024, BeanMeals, <https://www.eci.ox.ac.uk/sites/default/files/2024-12/Leicester%20City%20food%20compass-compressed.pdf>]

Challenge: Beans and pulses are (perceived as) less profitable than other break crops

The UK climate is well suited to growing a variety of pea and bean crops, with a combined 968,000 tonnes produced in 2023^[8]. Faba beans are the predominant UK pulse crop (685,000 tonnes in 2023) and the UK is one of the world's biggest exporters^[9]. Currently, there is little to no domestic market for UK grown faba beans other than for animal feed. Although, increasing the proportion of beans grown for human consumption could fetch a higher price for farmers.

The potential to grow more faba beans in the UK is recognised by the Processors and Growers Research Organisation with Chief Executive Roger Vicker stating previously: "We're looking at the possibility of up to a fivefold increase in the cropping of faba beans in the UK"^[10]. However, encouraging farmers to grow more faba for a potential new domestic market is predicated on having a reliable, high quality, high yielding crop. Average yields for pulses are comparable to other break crops such as oilseed rape – both in the region of 3 to 3.2 tonnes per hectare^[8]. However, pulse yields on some UK farms can be as high as 9t/ha highlighting a large gap between 'potential' and 'on-farm' yields^[11]. A lack of investment in agronomy and breeding over past decades means that nutrient requirements for pulses are poorly understood compared to other crops, pest management is a concern and there are insufficient new entrants to the approved varieties lists to cope with variable growing conditions or that would be more profitable in new and different markets.



Opportunity: Breeding and agronomy-based solutions for farmers

Raising the Pulse field trials have shown that high temperature has detrimental impacts on legume yield: beans do better in wetter, cooler years. Conversely, they found that protein content can be higher when yields are lower. This research will inform future recommendations for faba varieties that can help growers to judge trade offs between traits such as yield, protein quality, and micronutrients. The trials are also suggesting potential soil treatments that can improve yield and quality.



Harnessing public procurement power

Transforming the food served in schools, universities, hospitals and prisons offers a huge opportunity to deliver healthier diets and more sustainable UK food production.

But even small changes can make a big difference: the TUKFS-funded SNEAK project has shown that strategically rearranging dishes within a weekly menu (to change the competition between dishes served each day) can influence the frequency with which individual dishes are selected^[12]. This approach can achieve 30.7% and 6.3% reductions in carbon footprint and saturated fatty acid intake, respectively without altering the dishes themselves. This could be applied in conjunction with more targeted interventions to increase pulses in canteen meals. The Raising the Pulse team has shown that enriching meals with pulses in catered student Halls of Residence on the University of Reading campus, and providing information on the health and environmental benefits, can increase the selection of pulses-based dishes by over 50% (on average)^[13].

Public sector catering represents a sizable potential new market for UK pulse growers as well as providing a strong demand signal that could open the door to wider investment across the pulse supply chain. However, significant challenges need to be overcome in order to get more homegrown, sustainable produce (including pulses) onto the menu. For example BeanMeals research in schools^[14] has found:

Challenge	Opportunities
Weakly integrated supply chains	<ul style="list-style-type: none"> To work with Local Authorities and in-house caterers to influence (and develop) sustainable local sourcing policy To broker relationships with local suppliers
Barriers in the tendering process	<ul style="list-style-type: none"> To break down tenders into smaller lots (by area, by specific produce) so smaller suppliers can fulfill the requirements, To support suppliers to write bids; To work with wholesale suppliers and contract holders to list more local produce on their frameworks e.g. using innovative software such as AgileChain
Lack of training for catering teams	<ul style="list-style-type: none"> To provide focussed training that gives cooks the confidence to cook with dried beans
Moving tastes beyond baked beans takes time and effort	<ul style="list-style-type: none"> To incorporate beans into familiar meals eg in pizza sauce to increase acceptance To integrate catering changes with wider school activities in order to enhance exposure and increase knowledge and curiosity around pulses

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About TUKFS The £47.5M 'Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme' is delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, PHE, Innovate UK and FSA. It aims to fundamentally transform the UK food system by placing healthy people and a healthy natural environment at its centre, addressing questions around what we should eat, produce and manufacture and what we should import, taking into account the complex interactions between health, environment and socioeconomic factors.

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