Agricultural Advisory

Case Study

Advancing a Sustainable Scottish Supply Chain for Industrial Hemp and Co-Products

Industrial hemp is a fast-growing, low-input crop that has been cultivated globally for centuries. Its fibre and associated co-products are finding increasing value within multiple supply chains, not only within agriculture itself but in construction, textiles, bioenergy, and paper production.

IBioIC

Scottish Enterprise

In Scotland, where farming conditions have proved favourable for growing industrial hemp, the crop presents a significant opportunity not only for rotational crop diversification but also soil health improvement, and carbon sequestration. However, whilst manufacturing demand for the crop is growing, current production of the crop at field scale is limited, and the supply chain remains underdeveloped. Barriers such as onerous licensing requirements, limited processing infrastructure market uncertainties and an absence of national policy incentives have hindered large-scale adoption.

The customer challenge

A privately commissioned report in 2022 highlighted the need for further assessment of a viable industrial hemp supply chain in Scotland, including necessary infrastructure investments. To address this, SAC Consulting successfully secured funding from Scottish Enterprise and the Industrial Biotechnology Innovation Centre (IBioIC) in early 2024. This funding enabled collaboration with key industry partners - IndiNature, Elsoms Seeds, and the Scottish Agricultural Organisation Society (SAOS).

This partnership brought together industry expertise, research, and economic development support to explore the agronomic, economic, and market potential of industrial hemp. The study identified key barriers and opportunities for industrial hemp's commercialisation, ensuring that all stakeholders from farmers to manufacturers could benefit from its development.

Our solution

SAC Consulting explored business structures to support a sustainable industry, including grower co-operatives and decortication facility requirements. Technical and economic evaluations were also carried out, examining the most effective seed varieties, fertilisation strategies, and harvesting techniques to maximise yield and quality.

Field trials were conducted at two locations in eastern Scotland to assess how industrial hemp varieties performed under local soil and climate conditions. Study tours to existing processors and growers in Yorkshire and the Netherlands were organised, enabling the project team to learn from established industrial hemp cultivation and processing models both in England and in Europe.

The final report offered clear evidence that industrial hemp can thrive in Scotland, with trial results demonstrating strong yield potential. Market opportunities were also identified in the report, particularly in construction, insulation, and agriculture, where industrial hemp-based products could replace less sustainable alternatives, and financial models were developed to illustrate the feasibility of a grower co-op and decortication plant, outlining pathways for farmer-led value addition.

Industry engagement was a clear focus throughout, ensuring that farmers, processors, manufacturers and potential buyers could contribute to the project and benefit from the evolving supply chain. Another output of the final report was to provide policymakers with actionable recommendations on regulatory reform and investment strategies to accelerate industry growth.

Added value

The project successfully established a roadmap for scaling up industrial hemp cultivation in Scotland, outlining a pathway to reaching 2,000 hectares within five years. Farmer interest in industrial hemp increased significantly, particularly due to its strong environmental benefits and competitive net margins compared to other rotational crops. The study also pinpointed critical funding requirements for infrastructure, estimating that a decortication facility large enough to service 2000ha of crop annually would require an investment of £4.5–£5 million.

By leveraging Scotland's agricultural strengths and industrial expertise, industrial hemp can contribute to a sustainable and circular bioeconomy, fostering economic growth while supporting environmental objectives. As a result of the project, discussions around product development opportunities and integration into existing supply chains have begun and position Scotland as a potential leader in sustainable hemp production.

With a unique position in the industry as part of SRUC, SAC Consulting's expertise and engagement with its network of farmers and industry partners provided the guidance and pathways of communication to bring the project to life and ensured successful delivery.

Our customer says

"The project has been instrumental in highlighting the untapped potential of industrial hemp in Scotland. Through collaboration with SAC Consulting, we have brought together farmers, industry partners, and policymakers to develop a clear roadmap for a thriving hemp supply chain. With the right policy support and investment, hemp could become a cornerstone of Scotland's sustainable agriculture and bioeconomy."

Caroline Kewney,
Senior Business Engagement Manager,
Industrial Biotechnology Innovation Centre (IBioIC)