



The use of sustainable crop mixtures by the brewing and distilling industries: a review of findings from workshop discussions

Introduction to the SEAMS project:

SEAMS is a project focusing on crop mixtures that aims to develop, promote and implement crop species mixtures as a sustainable crop production system for Scotland. The project has six core sites and 17 network sites run by local farmers and is an Esmée Fairbairn Foundation funded project coordinated by the James Hutton Institute (JHI). The project partners of the SEAMS project include LEAF (Linking Environment and Farming), Buglife Scotland, Game and Wildlife Conservation Trust, NFU Scotland, NatureScot, Scottish Agronomy, Royal Highland Education Trust, Soil Association Scotland.

On the 8th of February 2023, LEAF and JHI organised and hosted a workshop to gather thoughts and insights on how sustainable crop mixtures might link to the brewing and distilling industry. The workshop was attended by four brewing, maltster and distilling representatives. A previous SEAMS workshop on barriers and opportunities in intercropping supply chains identified the potential benefits of focussing further business-orientated activities on the brewing and distilling sector.

The first part of the workshop consisted of an introduction to the project by Rob Brooker (JHI), followed by a presentation about use of the products from intercrops by Kirsty Black (Arbikie Distillery¹). The small group facilitated meaningful discussions alongside a question-and-answer session. The outcomes of these discussions are summarised below.

Question 1: Have you heard about crop mixtures before this meeting?

Awareness of crop mixtures:

Of the four participants, two were unaware of crop mixtures before the workshop, whilst two had heard of crop mixtures. One participant commented that they were aware of crop mixtures being used in the United States but not in the United Kingdom.

Perception of crop mixtures:

Of those that had heard about crop mixtures before the meeting, two expressed that they were already thinking about growing and harvesting grains such as oats, rye, and bere barley to make a grain whiskey. However, they had not previously considered legumes. Legumes were of particular interest to the participants, with discussions about the potential of using legumes and crop mixtures to compensate for low bere yields.

¹ <https://arbikie.com/>



Question 2: Having heard about crop mixtures, would you be interested in using the products from crop mixtures?

Opportunities for sustainability:

Participants showed a keen interest in using products from crop mixtures and learning more about their potential. In particular, opportunities to increase business sustainability were discussed as a potential benefit and may result in an uptake of crop mixture usage in the distilling sector. Interestingly, participants representing smaller distilleries may have more flexibility in trialling crop mixtures with a particular interest in heritage varieties as opposed to modern varieties.

Market opportunities:

Opportunities for food products such as malt extract were also noted as a potential use of sustainable crop mixtures, if nutritional and/or flavour benefits could be identified. Although there is a small market for barley, there are potential exporting opportunities and practical benefits, such as eliminating the need for separating grains and superior production quality. Overall, there was a positive response to integrating sustainable crop mixtures into the distilling supply chain, but specific issues must be addressed to encourage uptake in the distilling sector.

Question 3: What are the barriers you perceive from using the products of crop mixtures?

Large-scale breweries:

A key barrier for large-scale breweries in Scotland is the land required for cropping mixtures. In the discussion, the small amount of land available was highlighted as a potential barrier, as well as the impact of increased land use on distilling operations. In response to this potential barrier, it was suggested that shifting the land already in use from monocultures to sustainable crop mixtures could be a potential solution. However, the feasibility of maintaining yields and grain quality should be considered. It was also noted that this might be related to the Scottish subsidy mechanisms for farmers in relation to grain quality subsidy issues.

Small-scale breweries:

A key barrier for the smaller-scale breweries in the uptake of crop mixtures is shifting farmers from growing barley for feed to growing for distilling. Additionally, issues with infrastructure, such as the availability of harvesting, cleaning and drying facilities, were identified as barriers to the uptake of crop mixtures.

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Overall takeaway messages and next steps:

- For larger-scale brewers and distillers, shifting to sustainable crop mixtures must consider the requirement to increase yields in terms of large-scale production.
- Additionally, consideration about whether it is feasible to shift production from monocultures such as standard malting barley to crop mixtures whilst maintaining yields and grain quality. This may be related to the Scottish subsidy mechanisms for farmers in relation to grain quality subsidy issues.
- For small-scale brewers and distillers, it may be beneficial to provide bespoke advice about which crop mixtures may work for distilling and opportunities to trial the mixtures.

For more information on the SEAMS project please contact SEAMS@hutton.ac.uk or visit the [SEAMS webpage](#).

