



TRansition paths to sUstainable legume-based systems in Europe

Intercrops for food and feed

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Premiumisation of pulses

To improve on farm profitability of legume crops, brewing and distilling processes are to be utilised to produce high value, **novel alcoholic beverages** and **protein rich coproducts** whilst also supporting, via intercropping and biological nitrogen fixation, the growth of traditional cereal crops.

Novel Alcoholic Beverages

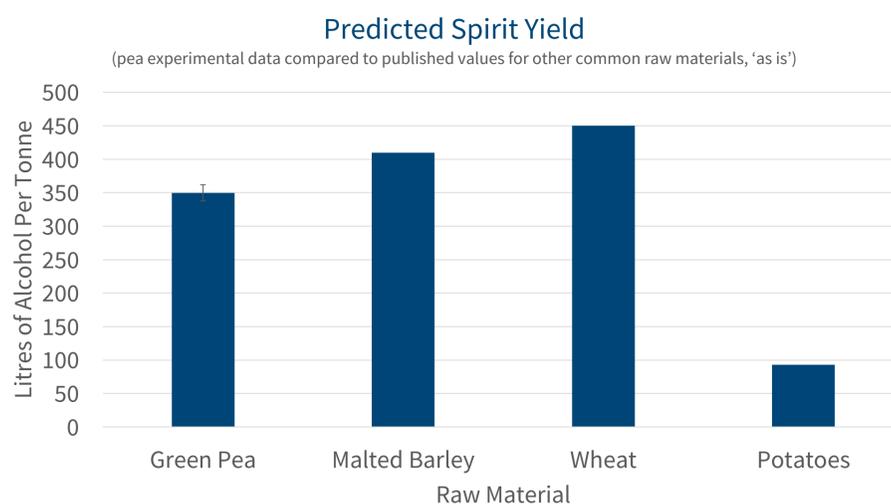
- Separation of starch via saccharification and fermentation found to be possible via standard beverage alcohol production techniques.

Brewing

- 50% faba bean beer brewed – Tundra IPA.
- 100% beer found to be challenging due to poor solid:liquid separation – processing aid trials are being conducted.

Distilling

- Trial yields found to be promising.
- Separation of non soluble materials, including protein, as a solid co-product found to be challenging.
- Post fermentation separation from the liquid co-product ‘pot ale’ being investigated.



Protein Co-Products

Both the solid and liquid co-products from the beverage alcohol industry to be assessed for their feed potential by comparing the below to current feed stuffs: -

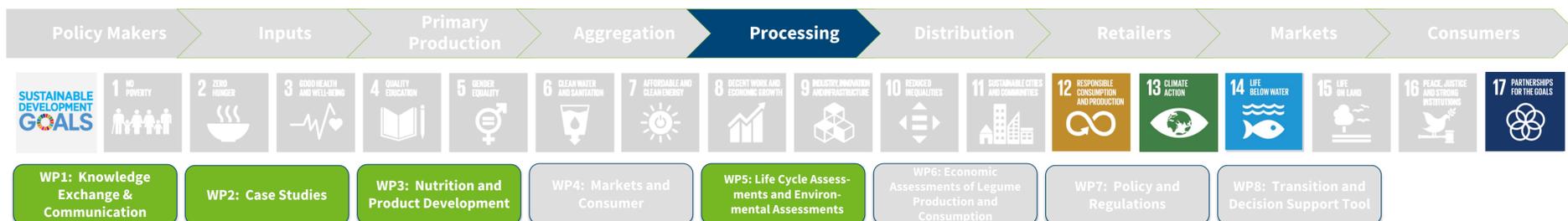
- Crude protein, fibre, fat
- Gross energy
- ASH
- Minerals



Intercropped Barley

Intercropped barley is undergoing assessment against alcohol industry quality parameters.

Malting trials currently ongoing.



Contact Information

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