



TRansition paths to sUstainable legume-based systems in Europe

Intercropping for high productivity low input systems

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Cereal-legume crops for biomass

We are experimenting with combinations of mainly winter-sown cereals and legumes to produce biomass for use in low-input arable systems¹ in a northern UK context. The biomass is wilted then either baled, wrapped and stored for feed, or it could be ensiled for later use as feed or anaerobic digestion. We will make comparisons with spring² cereal-legume cropping for biomass and for seed production in trial and on-farm. Consideration will be given to quality traits for different uses and the legacy effects on subsequent crops.

¹Scottish Government funded trials. ²EU DIVERSify funded trials.

Factors

Cereals: wheat, barley, oats, rye, triticale (and ryegrass)

Legumes: peas, faba beans, vetch

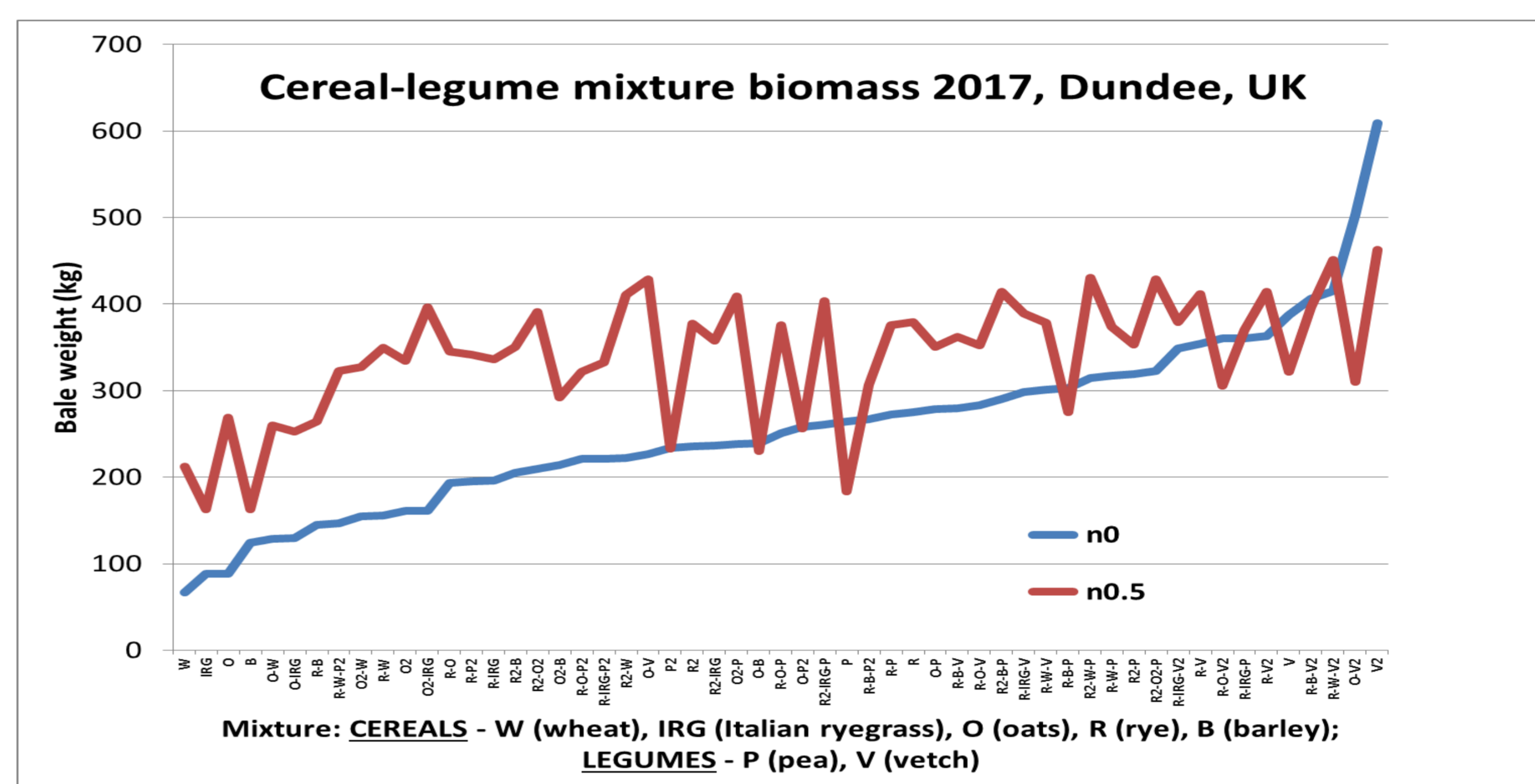
Nitrogen: x0.0, x0.25, x0.5 & x1.0 cereal component norm

Proportions: various...

Varieties: of cereals and legumes

Measuring

Biomass (fresh wt.), protein, dry matter, digestibility, ash...

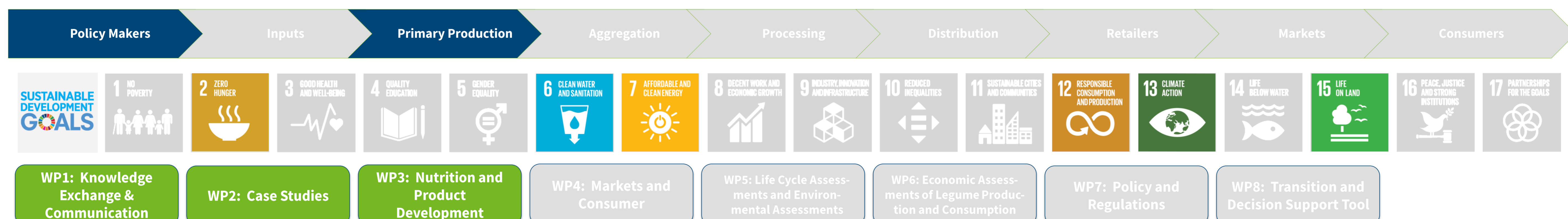


Supply chain, SDGs and Work Package links

These studies inform the short supply chain of predominantly on-farm use as the outputs are high bulk and the effects on the land and environment are local.

More efficient, environmentally-benign crop production impacts at least five Sustainable Development Goals:

Links with Case study 3 (Arbikie Distillery), WP3 (Quality analysis) and EU project DIVERSify (Intercropping).



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