

On-farm forage protein production for sustainable livestock systems: the case for intercropping in the UK

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Issues associated with the traceability, sustainability and cost of bought-in protein have led to a closer examination of the home-grown protein sources in the UK. One method of achieving this goal is to intercrop maize (rich in starch) with protein forages, the aim being to produce a balanced forage diet requiring less concentrate supplementation.

A series of experiments at the University of Reading have been undertaken to evaluate the agronomic potential, silage quality, digestibility and financial viability of maize-sunflower (MS), maize- kale (MK) and maize runner bean (MRB) combinations in comparison to maize (M). MK (19.9t DM ha⁻¹) and

MRB (15.5 t DM ha⁻¹) combinations produced higher dry matter yields than M (15.4 t DM ha⁻¹) and MS (13.22 t DM ha⁻¹) combinations. All intercrop silages had higher crude protein levels (MS- 137 g kg⁻¹, MRB- 120 g kg⁻¹, MK- 105 g kg⁻¹) than maize (M- 81 g kg⁻¹). In feeding trials with sheep there were no significant differences in voluntary feed intake between the four silages. However, the fibre digestibility of the MS was significantly lower (p<.001) than that for maize. Conclusions are drawn about the potential for intercropping in sustainable livestock systems.

An evaluation of the Shropshire Hills ESA from the farm business perspective

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Agri-environmental payments are becoming increasingly important policy tools in the regulation of farm output and the protection of countryside features. The Environmentally Sensitive Areas (ESA) scheme set up in the UK in 1986 is an important land designation under European Union regulation 2078/92 which accompanied the Common Agricultural Policy reform in 1992. ESAs seek to enhance and protect landscape, geological and archaeological features by the adoption of more traditional or reduced intensity systems of farming in exchange for direct payments. There are currently 22 designated ESAs covering 1.15 million hectares or 10 per cent of the agricultural land in England.

In this study the participants and non-participants in the Shropshire Hills ESA were interviewed to explore the actual

and perceived implications of ESA membership on the farm business. In all 42 farmers were visited and questioned about their farming operations, participation in the scheme and future aspirations. Results of the study suggest that farmers who entered the scheme generally farmed at a more intensive level than non-participants. Reasons for non-participation included the perception that the scheme was bureaucratic and restrictive of farming operations. It was concluded that in the Shropshire Hills increased participation could be encouraged by higher payments, which would also enhance the viability of a group of farm businesses that appear to be increasingly at risk of failing, in what has always been an area of depressed farm incomes.