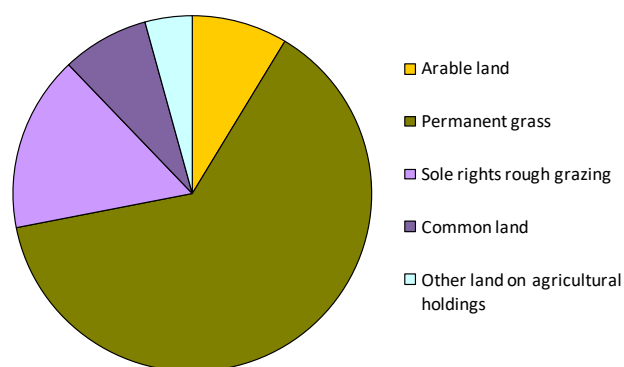


The agricultural productivity potential of Wales (Torri Tir Newydd)

Within Wales there is much potential to improve agricultural productivity within the sheep and beef sectors. The vast majority of agricultural land is currently classified as permanent pasture (Fig 1), i.e. pasture > 5 years old. Many of these grasslands were last reseeded 30-50 years ago. Over time, the grasses and legumes originally planted have been replaced by unsown grass species, leading to a notable decline in performance. Since the species and varieties of grass originally used were heavily reliant upon high nutrient inputs to remain competitive, this process has been exacerbated by reductions in application rates for fertiliser in recent years due to rising costs and environmental concerns. Thus, there is great potential for Welsh farming systems to improve both productivity and efficiency by exploiting the many advances made through grass and clover breeding since these pastures were last reseeded. Likewise, the costs, benefits and longevity of different methodologies for improving permanent pasture (from broadcast seeding existing swards to spraying out, ploughing and re-seeding) need to be considered in light of the knowledge gained since the last wave of large-scale land improvement



Agricultural land use in Wales

There is also scope to replace a proportion of permanent pasture with cereals or alternative crops. For example, oats are a versatile crop which will grow well in a variety of conditions, and recent breeding programmes at IBERS have produced a range of new varieties with enhanced nutritional characteristics for both stock and humans. Likewise, locally-produced or home-grown Miscanthus as a source of bedding could offer an opportunity for Welsh livestock farmers to reduce production costs and/or diversify income streams, and new crosses have been shown to establish and yield well in more marginal areas that are theoretically unsuitable for this crop - highlighting the need to re-evaluate current crop models.

This RDP-funded project generated opportunity maps for these different options. The maps included filters to allow constraints to be considered (e.g. designated sites), and predicted the impact of climate change. Complementary field work begun as part of this project is assessing the performance of key varieties of grasses, clovers and oats grown in upland conditions, giving more representative data than figures from National Recommended Lists testing (which is only carried out at sites with excellent growing conditions) and ground-truthing the mathematical models.

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