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Climate Neutral Farms

ClieNFarms Practice Abstracts

Reducing scope 3 emissions from pig feed

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The largest source of emissions from pig farming is feed production. These emissions come from crop production (e.g., fertiliser manufacture, fuel use and nitrous oxide emissions from soil), and from transport. Imported soya, especially from South America, often causes high emissions from land use change: when forested land is cleared, large amounts of CO₂ are released. Emissions can be reduced by using sustainably produce soya (causing no land use change) and replacing soya with lower impact protein. At the University of Leeds farm, all soya used is now sustainably sourced. To reduce emissions further, we tested replacing soya with other protein sources and monitored the costs and impacts for finishing pigs, the stage during which they eat most contribute most to emissions.

We replaced the usual finishing pigs (35kg+) feed with feed free of soya bean protein, with protein being provided by rapeseed, sunflower, beans and peas with some amino acid supplementation. This slightly increased the feed conversion ratio from 2.29 to 2.35 and average daily feed intake from 2.157kg to 2.289kg (between 68-82 days). There was no difference in final weight or average daily gain between pigs fed different diets. Overall, the cost of feeding the finishing pigs increased by 6.19% while the global warming potential associated with feed including land use change was reduced by 19.68%. Next, we will trial feeds containing some soya but formulated to deliver the lowest possible greenhouse gas emission.



Figure 1 : Pig farming, in United Kingdom.



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