

# Precision Agricultural Technology uptake



## The Challenge

Scottish farming is characterised by variation in efficiency and profitability. Seeking resource efficiency should help meet environmental and carbon targets for land use. Precision agriculture, sometimes called satellite farming, is a way to manage an enterprise based on responding to observed and measured in-field variation, and offers opportunities for managing at sub-field level in order to improve efficiency, save costs and manage environmental issues.

## Policy Implication

Awareness and adoption of PATs is high within Scottish agriculture. In general, wheat enterprises have adopted PAT more than potatoes. Non-adopters indicate specific barriers, including confidence in PAT to improve the farm enterprise to structural and financial constraints.

Farm size and age were the main characteristics which predict higher adoption. Adopters have a clear belief that costs would decline, thus creating a higher ROI. Non-adopters were sceptical about the application of PAT to their specific farm circumstances.

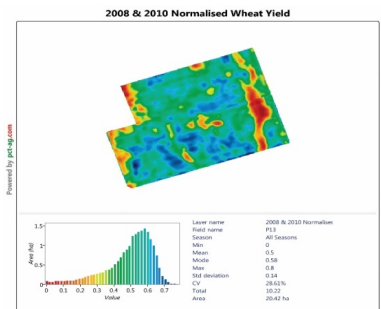
Farming networks and demonstration farms may help increase uptake. A lack of demonstration by neighbouring farms may be a constraint to more uptake. For most farmers, networks and commercial interests are the main motivators for adopting PAT. Opportunities to demonstrate PAT, through researchers, trade fairs and monitor/demonstration farms may prove an important for driving PAT uptake.

Preferred incentives infer directed subsidy support to encourage uptake. Scottish farmers seemed particularly favourable towards a variety of incentives, including creating greater confidence in PAT to funded training. PAT encouragement under future CAP support schemes could be used to meet environmental targets.

## Research

Using a survey of 249 farm businesses in Scotland we identified:

1. The costs and benefits of precision agricultural adoption for machine guidance and variable rate nutrient technology;
2. Barriers to uptake;
3. Incentives towards adoption.



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## Funding

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## About

The Land Economy, Environment and Society (LEES) Research Group is one of the largest groupings of economists and social scientists working in the rural, agricultural and land based sectors in the UK. Our vision is to be recognised as one of the leading centres for agricultural and wider rural economic and social research globally, benefiting the land use sector, the environment and rural communities.

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