Increasing tree cover on Irish dairy and drystock farms: Main barriers and perceptions that impede agroforestry uptake

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Introduction:

- Current forest cover 11% in Ireland; target of 18% by 2046.
- ≈50% of forest cover is on farms
- Grassland cover is 58% (highest in EU; EU average = 17.4%)
- Current rates of afforestation low.
- Increasing agroforestry uptake may aid Ireland in reaching its afforestation targets.

Objective:

The aim of the research was to explore Irish dairy and drystock farmers' intentions to plant trees on their land within a five year period based on an extended Theory of Planned Behaviour (TPB).

Methods:

- Study 1: An elicitation study involving interviews with 33 farmers, followed by;
- Study 2: An online questionnaire with 395 farmers.
- Data were analysed using Nvivo, SPSS and PLS-SEM.

Results:

Over 85% of farmers stated they intended to plant trees on their farm in the next five years.

- Attitude (ATT) had the greatest effect on farmers' intention (INT) to plant trees on their farms in the next five years ($\beta = 0.52$), followed by moral norms (MN) ($\beta = 0.38$).

- Subjective norms (SN) had the greatest total effect on farmers intentions to plant ($\beta = 0.78$) through directly impacting attitude ($\beta = 0.76$), perceived behavioural control (PBC) ($\beta = 0.48$) and moral norms ($\beta = 0.74$).

- No significant effect of background factors nor past behaviour on intention was observed.
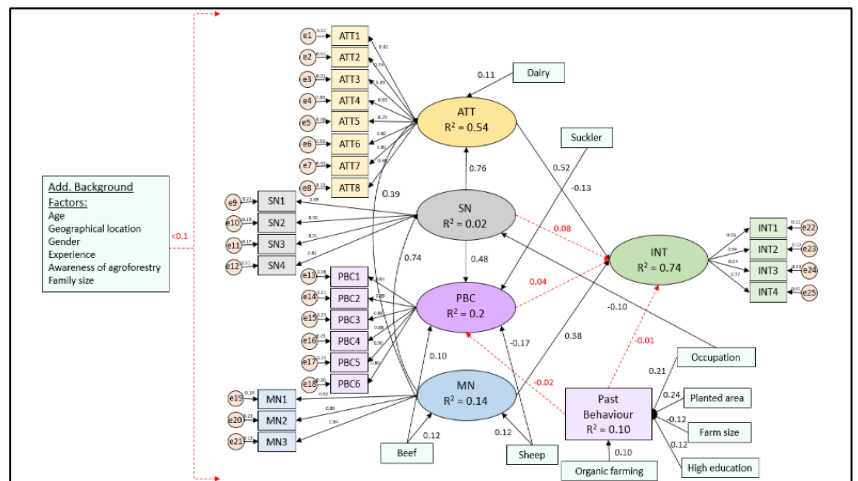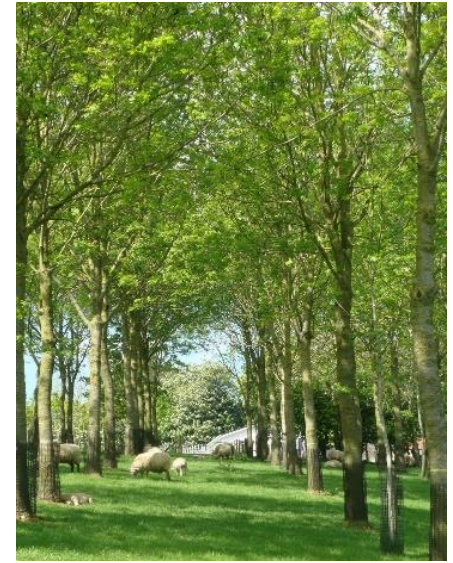

Fig 1: Structural model of farmers' intentions to plant trees on their farm in the next five years.

Subjective norms = influential people and motivation to comply with their views
Most influential people: Family, Teagasc and other farmers

Conclusions:

- Farmers are mainly driven by their attitude and moral norms, which in turn are shaped through the views of their influential people.

- The re-designation of land to forestry once planted is a major barrier to afforestation on farm land.

- Farmers have a positive attitude to trees on farms and are willing to plant on marginal land or along boundaries.

New methods to increase agroforestry uptake should focus on encouraging people of influential status within the farming community to promote agroforestry, and through promoting co-design and co-creative systems.

Future Research:

- Wider sector approach to identify barriers within the wider agricultural and forestry sectors in Ireland that are currently in place and impeding agroforestry uptake.

- Innovation system approach using a qualitative analysis involving interviews with key stakeholders.

Farmer focused approach

Wider sector approach