



Driving Farm Innovation through Knowledge Transfer

Applying the learning from the Agricultural Innovation
Support programme

What are the implications for agricultural extension?

Friday 23 October 2015

09.00-16.00

UCD, O'Brien Centre for Science

Web link to Conference Papers will be
circulated to all participants post-event.

Conference Programme

09.00	Registration and walkabout / viewing of posters with research findings		
09.30	Conference Opening: Professor Gerry Boyle, Director, Teagasc		
09.45	Keynote address: Teagasc Advisor Christy Watson on the challenges and opportunities facing Farm Advisors		
10.15	SESSION 1 Challenges and Opportunities to improve Farm management and Productivity Chair: Michael Brady, Agricultural Consultant	Teri Acheson based on her completed work on herd health planning	Paul Newman based on his ongoing study of understanding the stage in the adoption process when farmers 'give up' on grass measuring technology
		Kaitlynn Glover based on her completed work on pig record keeping	John Greaney based on his ongoing study of the use of farm financial tools by dairy farmers and advisors
		Sean Cooney based on his completed work on the use of performance recorded rams in the sheep sector	Q&A and Panel Discussion
11.00	Tea/Coffee		
11.30	SESSION 2 Can we categorise Farmers towards a better meeting of their needs? Chair: Professor Joe Mannion, Retired Dean of Agriculture, UCD	Zerlina Pratt based on her completed study to identify categories of KT need among populations of farmers	Conor Kavanagh based on his ongoing work on 'hard to reach' dairy farmers
		Eilish Burke based on her completed study on the KT needs of high profit dairy farmers	Tom Deane based on his ongoing work on 'hard to reach' drystock farmers
		James Dunne based on his completed study on the KT needs of drystock farmers at different levels of profitability	Joanne Masterson based on their ongoing work on 'hard to reach' drystock farmers
		Oisín Coakley based on his ongoing work on 'hard to reach' dairy farmers	Q&A and Panel Discussion
12.30	SESSION 3 Can we reach out more effectively to the broader population of farmers? Chair: Mark Moore, Teagasc Communications	Owen Kehoe based on his completed study on the use of Local Radio in knowledge transfer	Sean Mannion based on his ongoing research on the key ingredients for effective KT Events for farmer learning and adoption
			Q&A and Panel Discussion
13.00	Lunch Break		
14.00	SESSION 4 How can we better support the next generation of young farmers? Chair: Austin Finn, Land Mobility Programme Manager, Macra na Feirme	Tomas Russell based on his ongoing research on farm succession and inheritance	Colm Doran based on his completed work on Moodle based online teaching and developing distance training models in horticulture
		John Kelly based on his completed research on practical ways for Teagasc to engage with recent Agricultural College graduates from graduation to farm ownership	Michael Keane based on his completed work on practical supports for the promotion and support of non-family farm partnerships in Irish dairy farms
			Q&A and Panel Discussion
15.00	SESSION 5: How can we be more effective in securing Ireland's Environmental Credentials? Chair: Dr Helen Sheridan, UCD	Fergal Maguire based on his completed work on how to maintain commonage land in Co Wicklow in good agricultural and environmental condition	John Ryan on his ongoing work on Soil Fertility Knowledge Transfer initiatives to support achievement of high performance on farms
		Meabh O'Hagan based on her ongoing work on assessing farmers perception of green house gas (GHG) Emissions and effective KT interventions to support practice change and emissions reductions.	Q&A and Panel Discussion
15.45	Conference Close		

Background / Context: Prevention and control of animal disease at farm level is of major importance in agriculture. Previous studies show deficiencies in herd health and biosecurity on Irish farms. This study offers the chance to increase farmers awareness to key methods that will help improve understanding and participation in this area. Working with the Teagasc/Irish farmers journal BETTER farm beef programme provides the best transfer tool for these improvements in the sector.

Objectives

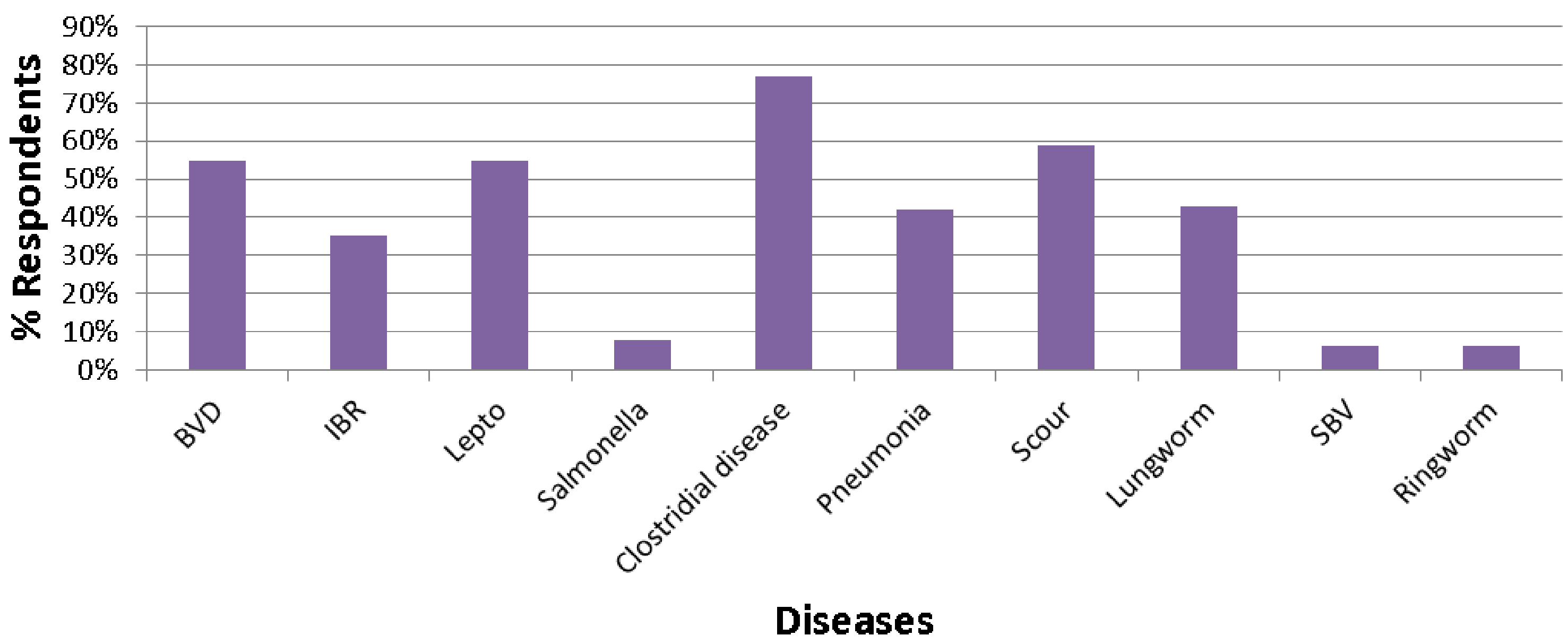
- Establish current uptake of bio-containment (BC) and herd health (HH) practices at farm level
- Explore the effectiveness of technology transfer through the BETTER farm programme
- Identify ways to improve uptake of main BC and HH practices
- Tailor make a method/model to improve knowledge transfer and thus provide recommendations to key stakeholders

Methodology

		BETTER farm discussion groups (Study group)	Non BETTER farm discussion groups (Control group)
<u>Sources of data</u>		18 groups (N=180)	18 groups (N=180)
		10 people selected (1 BETTER farm + 9 others)	10 people selected
<u>Methods of data collection</u>	Survey	Bio-containment and Vaccination	
	Booklet created	Vaccination & Bio-containment practices booklet	-
	Survey	Based on views of protocol	Identify any changes since previous survey

Key Findings (N=167)

Diseases vaccinated against

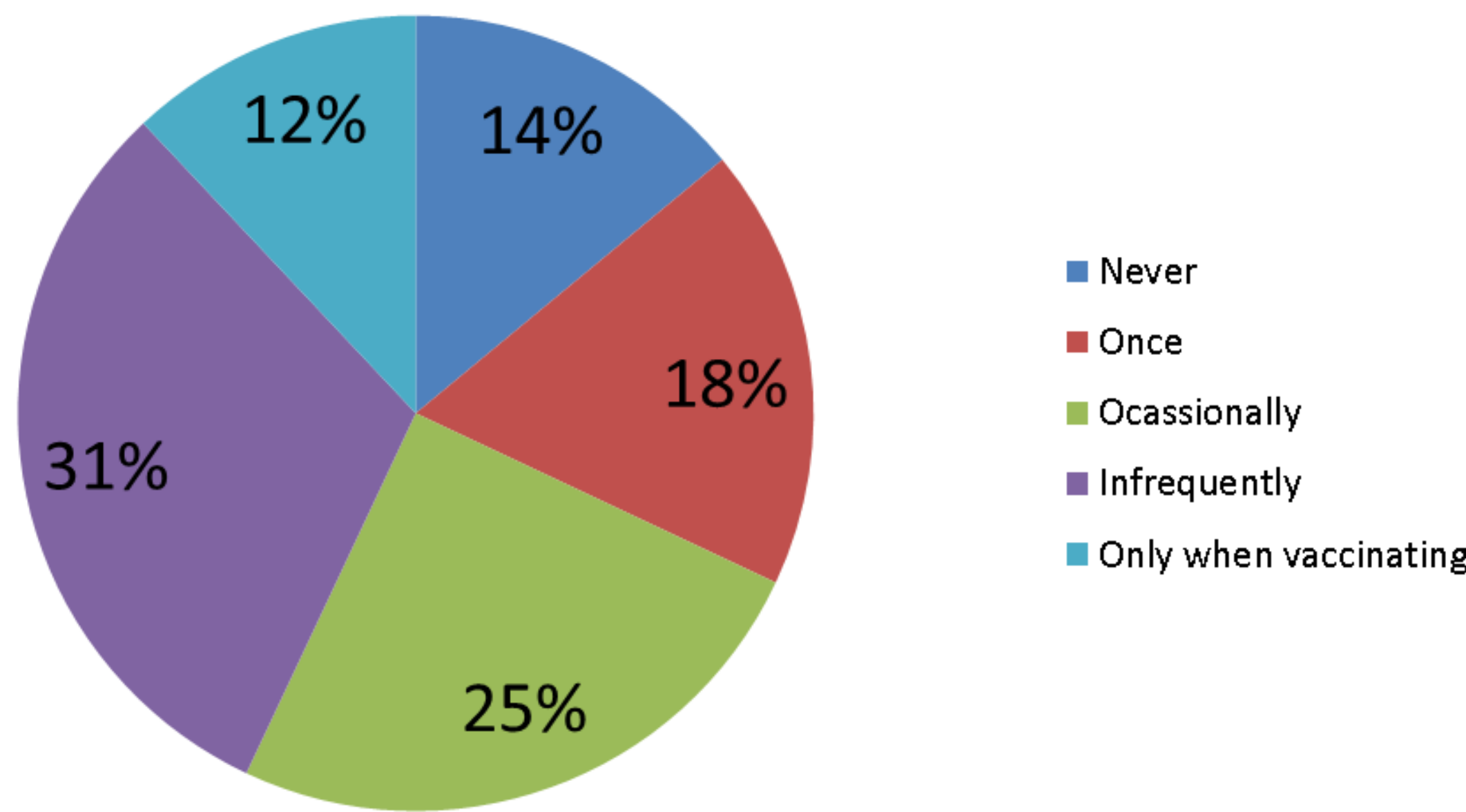


- ❑ 85% of respondents agreed that biosecurity and bio-containment are important in preventing disease outbreak at farm level.
- ❑ 63% respondents have no HH plan in place currently.
- ❑ "Unnecessary as no previous cases", is the main reason for not vaccinating: e.g. 42% respondents reported this for Lepto
- ❑ Skills such as booster vaccinations, correct timing and use of the correct equipment were identified as 'poor' by respondents
- ❑ Farmers with a HH plan had more BC practices in place.
- ❑ 'Good hygiene' and 'buying from herds with high HH status' were identified as the most useful BC practices.

Booklet (n=49):

- ❑ 86% consulted the booklet at some stage during the study.
- ❑ Fluke & Worm (51%), clostridial diseases (43%) and calf pneumonia (41%) were selected as the top three sections of the booklet to be used.
- ❑ A positive outcome to the booklet was achieved, as moderate (40%) to large (24%) increase in awareness of BC and vaccinations was documented by farmers who used the booklet.
- ❑ 32% felt it had increased their understanding of vaccines and simplified vaccination practice. .

Utilisation of the booklet by farmers



Key Conclusions

- ❑ Overall there is a positive approach to HH on beef farms in Ireland, however current practices in place did not match the optimal level that is needed to control and prevent disease spread.
- ❑ No significant difference in HH was found between the BETTER and non-BETTER farm groups, this indicated that although HH was a key component of the BETTER farm programme it had no impact on the level of uptake.
- ❑ A gap in the use of vaccination as a control method for disease spread was identified. This was principally due to a lack of clinical cases identified at farm level.
- ❑ Those with a HH plan in place were more pro-active with BC practices and vaccinations at farm level.
- ❑ The booklet was considered a beneficial knowledge transfer tool to have for sourcing information and for guidance when carrying out vaccinations. Overall it increased awareness of vaccinations and BC practices and encouraged uptake of practices at farm level.



Record Keeping in Irish Pig Production: Factors Affecting Enrolment in Teagasc PigSys/ePM Recording Programmes

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Context

Market factors and policy-driven regulations in the pig sector have significantly altered the profile of the typical Irish pig farm over the last decade. Production technology developments have made the sector more productive, but management technologies have failed to keep pace. Among them, record keeping technologies have undergone little amendment, prompting the necessity for significant review. Coupled with a renewed international interest in knowledge transfer (KT), this study seeks to examine the advisory role in management technology adoption and use, and other factors affecting on-farm adoption of recording tools.

1. Objectives

This study seeks to identify potential relationships between sociological and environmental factors and record keeping on Irish pig farms. The Teagasc PigSys recording system operates in an online platform (e-Profit Monitor) which stores and analyses quarterly data submitted by pig farmers to their Teagasc advisor. Utilising the Teagasc PigSys recording system as a basis of evaluation, three objectives are defined:

- Identify information sources affecting on-farm management of Irish pig units
- Assess information previously compiled through Teagasc PigSys system
- Identify factors influencing record keeping (RK) on pig farms
- Determine farmer-perceived outcomes of RK activities

2. Methodology

A.) Farm Visits

- Qualitative assessment of Teagasc advisor-producer interaction
 - Standardised advisor questionnaire to assess farmer-advisor history and record keeping patterns
 - Observation of farmer-advisor interaction and relationship

B.) Farmer Innovation Questionnaire (FIQ)

- 328 commercial pig farms in Ireland
 - 189 active PigSys clients (c. 79,000 sows – 55% of Irish national herd)
- 302 farmers – distributed questionnaires by post
 - 46% response rate (n=141)

C.) Questionnaire Follow-on Interviews

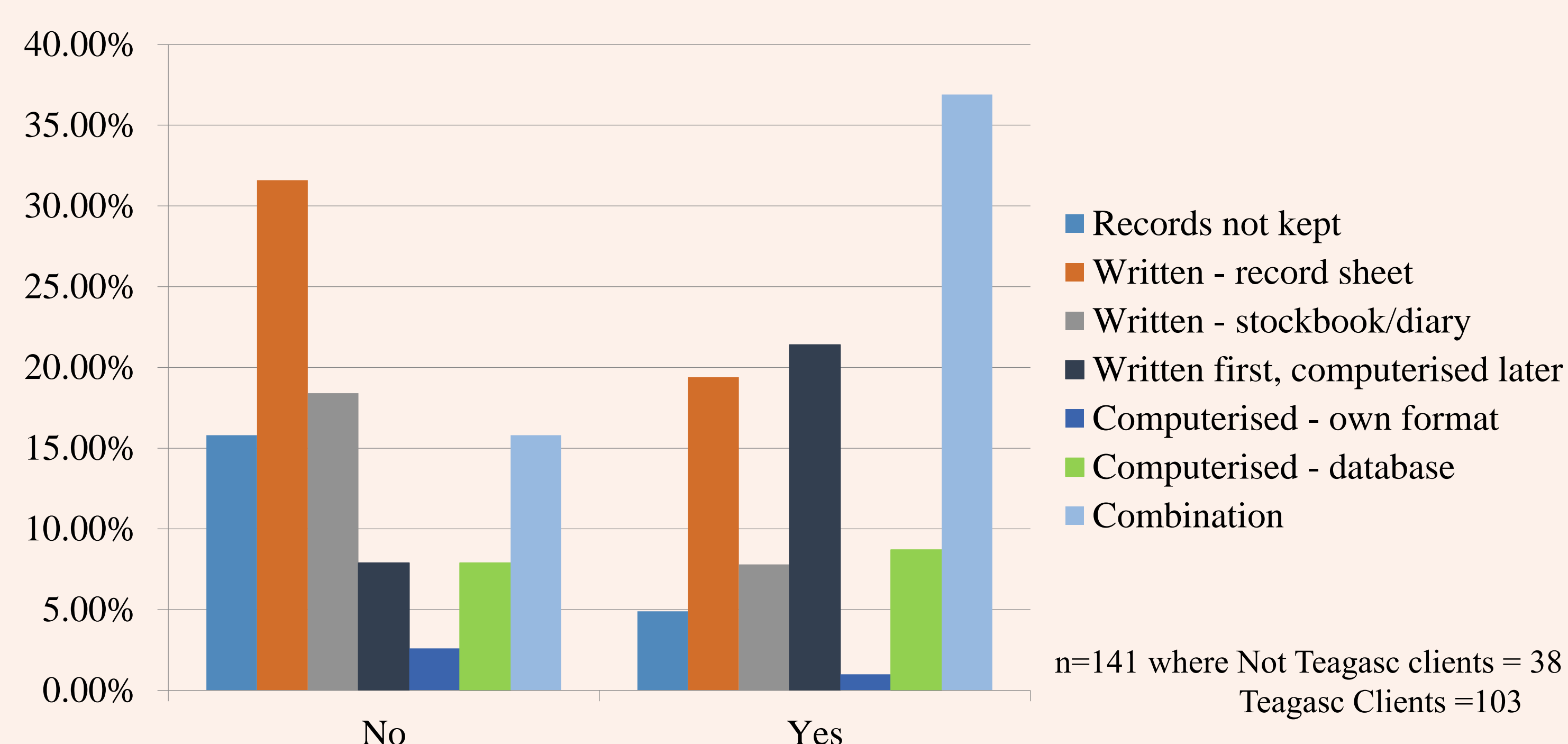
- Face-to-face interviews of 61 farmers who indicated willingness to participate with FIQ response
- Qualitative, narrative data collection through semi-structured queries based on FIQ responses

3. Preliminary Findings

Farm location and farmer age did **not** feature as significantly associated with RK, but were significantly associated with technology use (home computer) and unit size (# of sows).

- Average farmer age = 49 years
- Average number of sows = 588 sows

Figure 2: Relationship Between Teagasc Client Status and Type of Records Kept



Teagasc advisory services were widely used (77% farmers) while 'other' advisory services were used by just 23% farmers.

Teagasc client status was associated with the type of on-farm RK activities ($p=0.012$) with 58% of Teagasc clients reporting use of PigSys records.

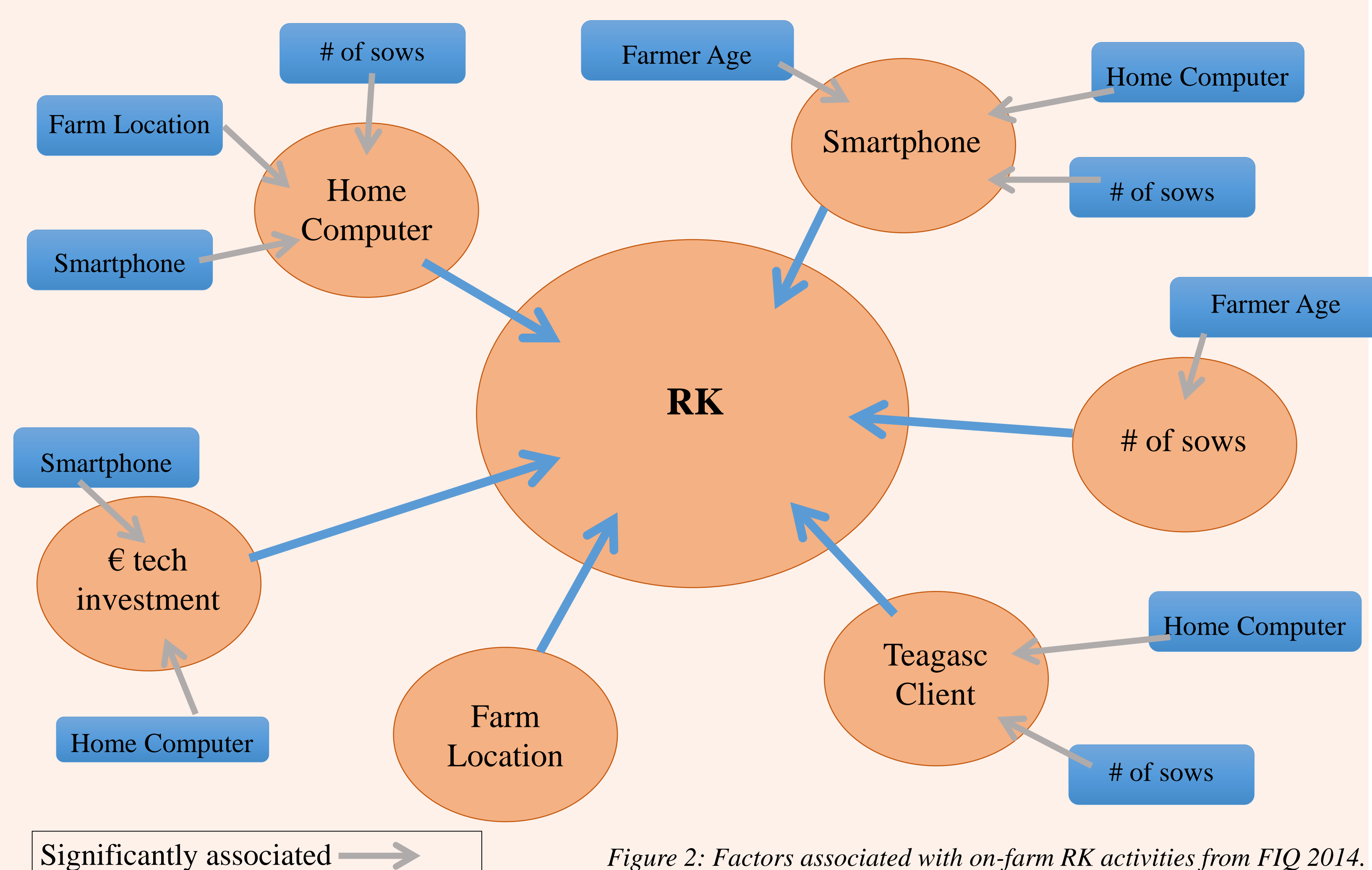


Figure 2: Factors associated with on-farm RK activities from FIQ 2014.

Empirical data and interviews with pig farm advisors assisted in the development of this study model, displaying factors which have the ability to affect on-farm RK activities.

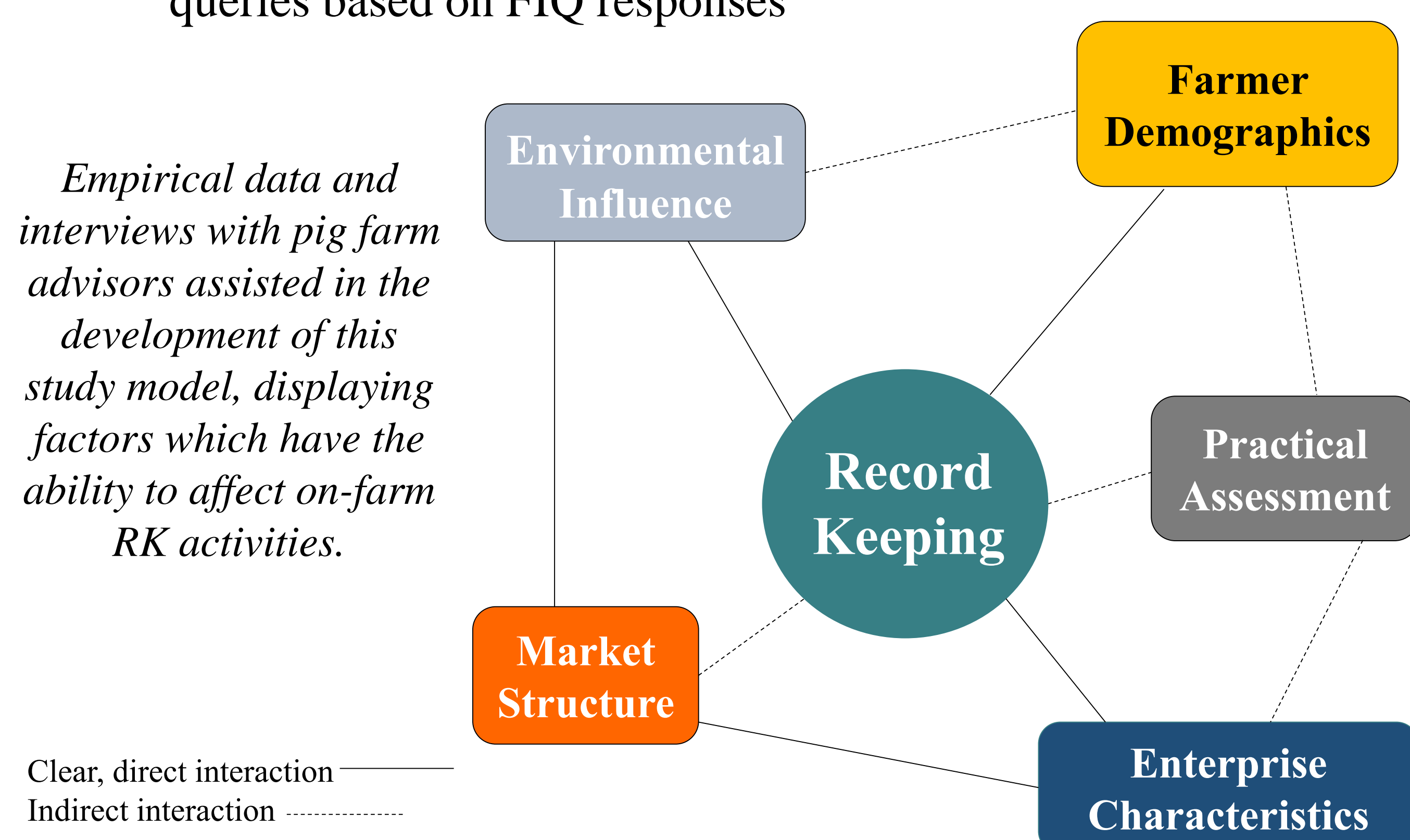


Figure 1: Irish Pig Production Record Keeping Study Model.

4. Conclusions

- Advisor-producer interactions no longer fit within 'Top-Down' KT/advisory approach
 - Collaborative KT involving all stakeholders is preferred approach of Irish pig farmers
 - Farmer-advisor relationships valued highly, exhibit great trust and longevity for Teagasc advisors
- Efficient Teagasc advisory services are important to success of farm management /RK regime
 - Pig producers have little interaction with external advisory sources; just 1 in 4 utilised a non-Teagasc advisor
 - Difference in RK type undertaken by Teagasc clients and non-clients
- Personal technology use similar across most Irish farms
 - Home computers more widespread than smartphones – reasons for technology use greatly varied
 - Expansion and innovation in technology is increasingly demanded among current technology users
- Varied motivations and influences to engage in on-farm RK
 - Many factors significantly intertwined; change in RK paradigm requires multifaceted approach (see Figure 2)

Background / Context

The Teagasc Better Sheep Farm Programme has found that progeny from genetically evaluated rams were 2.5kg heavier at weaning and 2 weeks earlier to slaughter. We need to understand why sheep farmers are not using genetically evaluated rams.



Objectives:

Determine the factors that affect farmer’s decisions to purchase (and to continue to purchase) genetically evaluated rams.

The identification of these factors will help to design extension programmes to improve the adoption of genetic improvement technologies in the Irish sheep industry

Methodology

Survey of Teagasc sheep farmers (n=258) and a random sample of pedigree sheep breeders (n=80) to determine the factors influencing their attitudes towards the adoption and usage of genetically evaluated rams.

Key Findings

Factors influencing sheep farmer’s decisions to purchase genetically evaluated rams

1. Farmers that did not have sheep handling facilities (sheep race) were less likely to purchase genetically evaluated rams (OR= 0.38,95% C.I = 0.22, 0.68)
2. Lowland sheep farmers were more likely to purchase a genetically evaluated ram with an OR of 3.50 (95%C.I = 1.93, 6.32)
3. Farmers who were unaware of the Sheep Ireland genetic star rating system were less likely to purchase genetically evaluated ram (OR=0.16, 95% C.I 0.03-0.75)
4. Non-pedigree sheep farmers were less likely to purchase genetically

Factors influencing sheep farmer’s decisions to continue purchasing genetically evaluated rams

1. Farmers who are unaware of the star rating index are less likely to continue purchasing genetically evaluated rams (OR = 0.17, 95% C.I =0.04,0.62)
2. Lowland sheep farmers are more likely to continue to purchasing genetically evaluated rams with an OR of 3.24 (95% C.I = 1.61, 6.52).
3. Farmers that did not have a spouse with off farm employment were less likely



Conclusion

While the study found a low level of adoption, it also found a very high level of awareness and interest among non-adoptees. Given the interest level among non-adoptees and the general satisfaction with the star rating system and that over half of those surveyed intended to performance record in the future it may be concluded that farmers are in the contemplation or persuasion stage of the technology adoption process.

1. Pedigree breeders were found to have higher levels of adoption.
2. Sheep farmers who had invested in sheep handling facilities were more likely to purchase genetically evaluated rams
3. The influence of STAP membership has yet to be evaluated but it appears to be positive.
4. Limited availability of performance recorded black face mountain rams restricts the opportunity of upland farmers to purchase genetically evaluated rams.

Recommendations

1. Extend STAP incentive to encourage farmers to continue to purchase genetically evaluated rams and increase the chance that non adoptees would purchase these rams.
2. Data collection amongst specific hill flocks needs to be intensified to allow the upland farmers improve the quality of mountain breeds.
3. As sheep farmers preferred source of information is from newspapers greater awareness of the benefits of this technology need to be vigorously promoted in the farming press.
4. Extension agents could place greater emphasis on highlighting the correlation between using genetically evaluated rams and the increased financial gains to be accrued.
5. More focused research on the perceptions, attitudes, behaviour and life stories of sheep farmers.



Using the innovation-decision process to understand reasons for the low uptake of grass measuring technology on dairy farms



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Background

Grazed grass is the cheapest feed source for milk production in Ireland (Teagasc, 2011). Ireland's competitive advantage is the potential of its pastures to grow up to 16 t of grass DM/ha (O'Donovan *et al.*, 2010). An increase in grass utilisation by 1 t/ha can increase net profit by €161/ha (Teagasc, 2015). Growth rates are seasonal with considerable variation observed between regions (Ramsbottom *et al.*, 2015). Computer programmes are available to farmers as a grassland management decision support tool. However, only a minority of farmers currently use new grassland management technologies.

Aim

The aim of the research is to identify dairy farmers stage within the adoption process and to assess their reasons for adoption or non-adoption of grass measuring technology.

Objectives

- Collecting a survey of Teagasc dairy farmers in county Carlow to identify their stage within the innovation-decision process.
- Evaluate their reasons for adoption or non-adoption of grass measuring technology.
- Identify and compare key characteristics associated with each stage of the innovation-decision process.
- Categorisation of non-adopters and development of more targeted and effective Knowledge Transfer initiatives

Methodology

Sources of Data

Population: 121 (specialist dairy farms)

Sample size: 92 (specialist dairy farms)

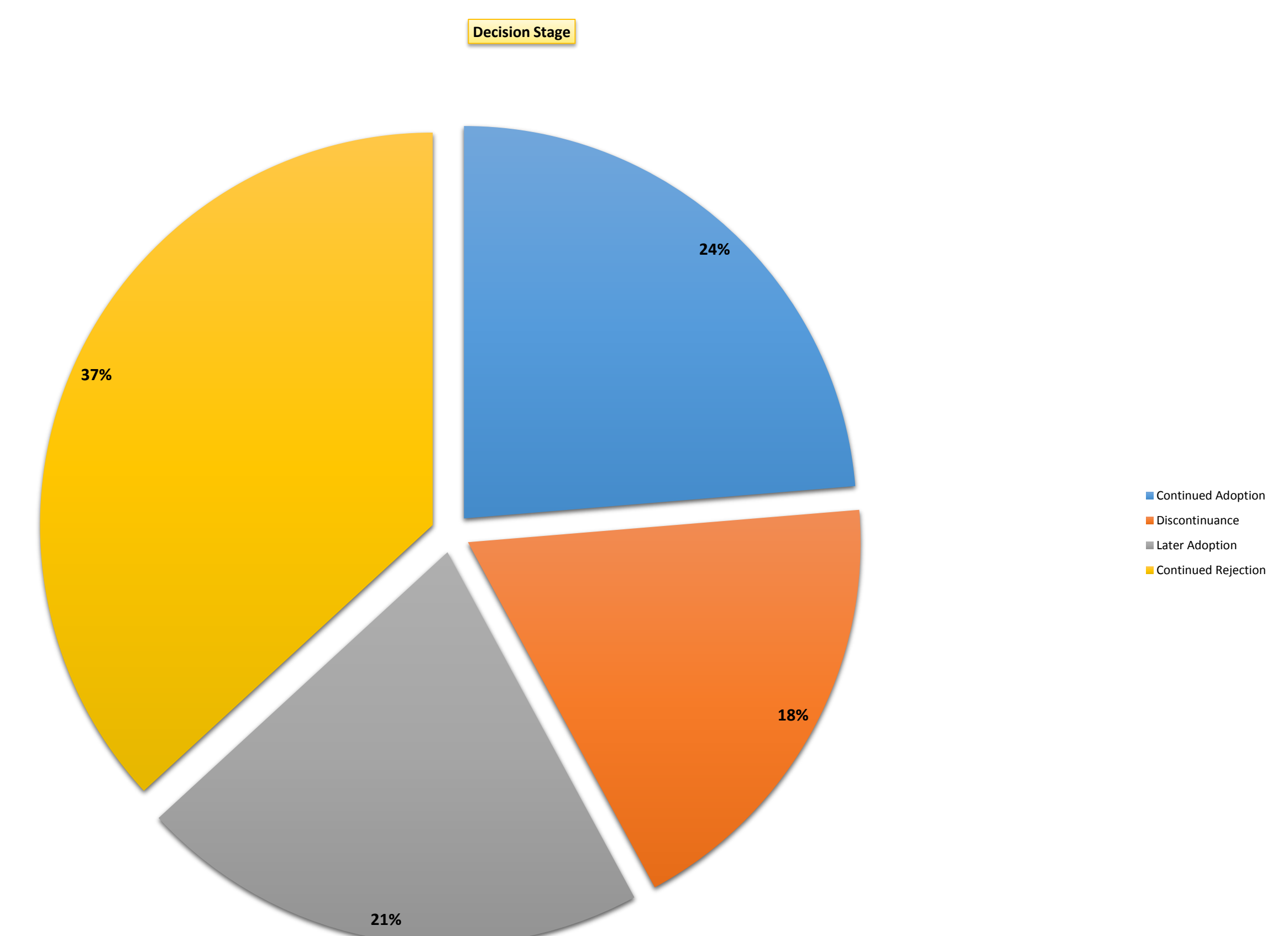
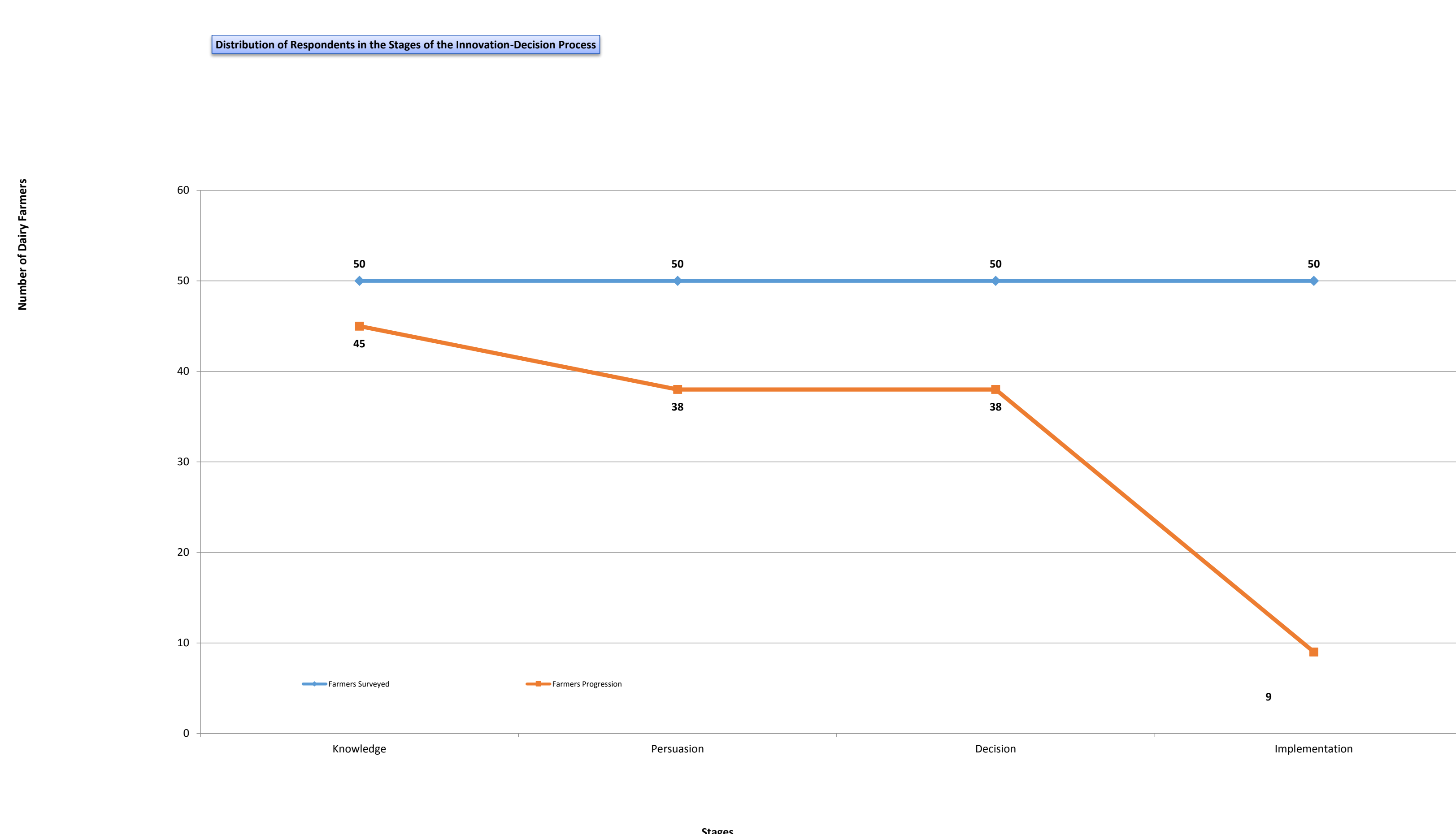
Location: County Carlow

Methods: Mixed methods (quantitative and qualitative)

Methods of Data Collection

- The use of a telephone survey to collect data for the study
- Interview Teagasc and Industry experts

Finding to Date



Conclusions

- To increase the adoption rate of grass measuring technology and for it to be successfully implemented on dairy farms as a grassland management decision support tool, more support must be provided to farmers.
- The formation of grassland discussion groups focused entirely on grassland management is one method to improve farmers skills and offer continued support.

This project is funded by Teagasc through its Walsh Fellowship Scheme

An Analysis of the Use of Financial Planning Tools by Dairy Farmers and Advisors



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2. Teagasc, Moorepark, Co. Cork
3. Teagasc Portlaoise, Co. Laois



Background / Context

There is a view that a significant number of recent entrants to dairying still do not appreciate fully the importance of managing risk around farm development planning and cash flow management. They need to be more aware of the impact of capital development and volatility on cash flow, as well as understanding the true cost of producing a litre of milk and how they can manage the factors that influence this cost.

Objectives

- Review and evaluate existing farm planning tools and approaches that are available to farmers and advisors
- Determine the extent to which financial planning tools are used to assist in the farmer's decision making process
- Examine the attitudes of farmers and advisors towards business planning and to determine the key influences, external sources of advice and intra-family responsibilities in relation to financial recording and planning within farm businesses
- Make recommendations about the development of new modes and tools to assist advisors and farmers in preparing, reviewing and updating farm plans

Cash Plan Programme

- In 2014, the Department of Agriculture, Food and the Marine (DAFM) supported the 'Cash Plan Programme 2014', highlighting the importance of managing risk around farm development planning and cash flow management
- The aim was to support new entrants into dairy farming (i.e. those who commenced supplying milk on or after 1 April 2008) to become familiar with the impact of capital development and volatility in cash flow, as well as understanding the true cost of producing a litre of milk
- Eligible participants were entitled to a sum of €1,000 for satisfactory participation in the programme and completion of three relevant tasks:
 1. Complete 'My Farm, My Plan- Planning for my Future' strategic planning workbook
 2. Record the monthly cash flow for 2014
 3. Prepare a monthly cash flow budget for 2015

Methodology

- Literature review
- Survey of 80 farmers in Cork East who took part in the 'Cash Plan Programme'. 55 of these farmers completed the course in full.
- Interviews with key industry stakeholders: Banks, Processors, Accountants, Feed Companies, Solicitors, Irish Farmers Journal, Bord Bia.

Farmer Questionnaire

- Questioned on a one to one basis
- 53 questions - both open and closed questions
- Structured around capturing a detailed account of the following:
 - Farm Details- general background
 - Workload- Employment details, day-day running of farm
 - Education- Qualifications or level of education received
 - Farm IT- level of competency with computers
 - Business Planning- familiarity with Bus. Tools
 - Development and Investment- Level of investment/debt
 - Financial Management Tools and Practices- who carries out the financial management e.g. spouse
 - Future Plans- Increasing cow numbers etc...

Some Key Findings

Farm Details:

- Average No. Cows 96
- Average Farm Size 147 acres
- Average age 35
- 40% farming in partnerships (family)
- Average Milking Platform - 119acres

Workload

- 30% also working off farm
- 85% of farms are a 'one man show'
- 41.25% rely on family members to carry out daily tasks

Education

- 28.75% went to 3rd Level

Farm IT/Bus. Planning

- Only 26.25% of farmers felt very comfortable using laptops/computers
- 51.25% found the Teagasc eProfit Monitor useful
- 32.5% of respondents thought the workbook tool- My Farm My Plan to be of benefit to their business

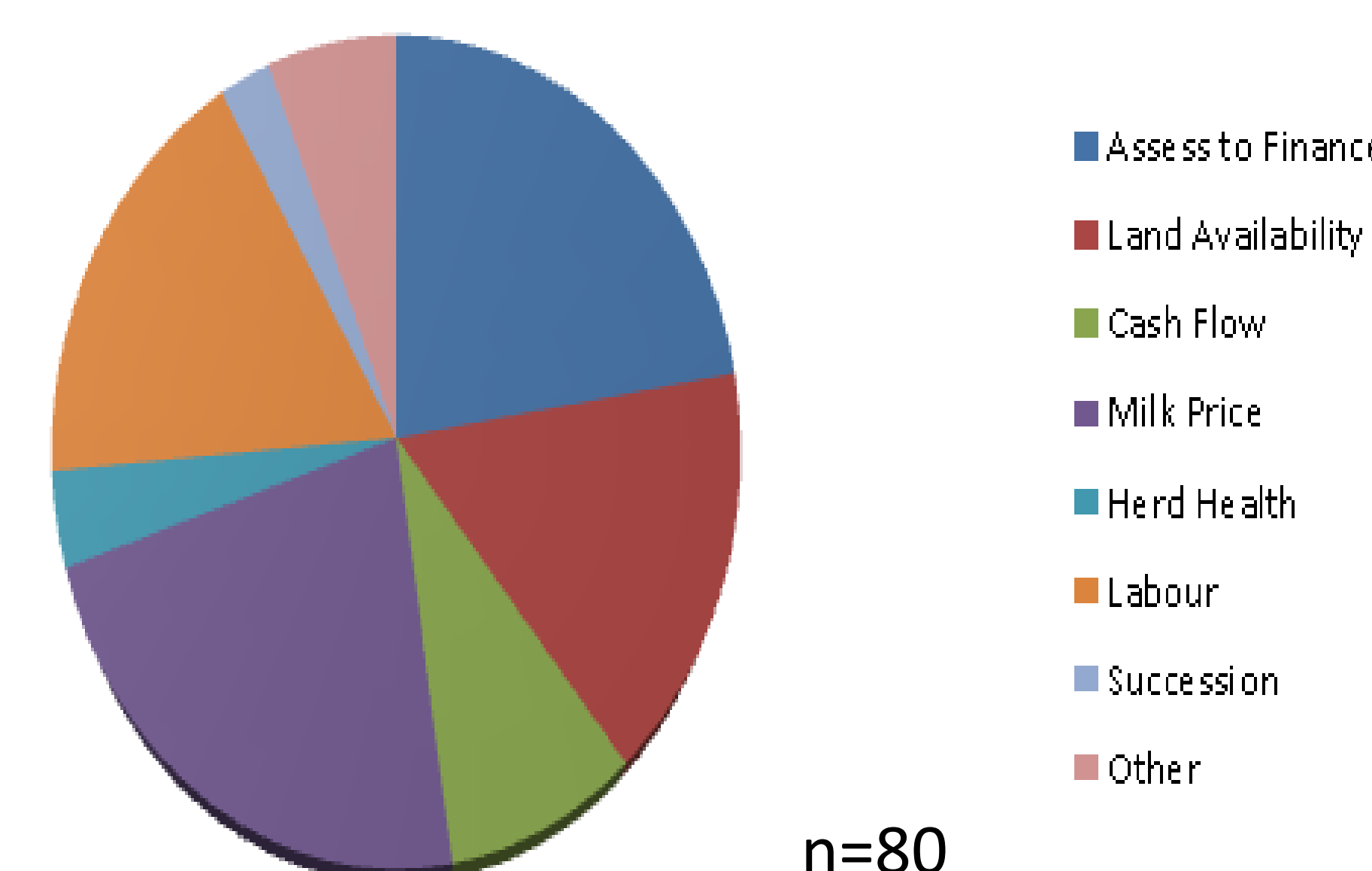
Financial Management

- 46.25% rely on their spouse to keep farm records.
- 50% have a farm office
- 80% calculate their costs of production
- Family proved to be the most influential factor when making major financial decisions on the farm

Future Plans

- 58.75% intend on expanding

What do you foresee as your biggest obstacle going forward



Conclusions/Recommendations to Date

- 60% of farmers surveyed approached Teagasc for advice before investing money in their business
- 61.25% of the sample believed they benefitted from participating in the 'Cash Plan Programme'
- There is scope there to run courses in the future with 68% of farmers expressing an interest in attending a number of annual training days again to help with cash flow budgeting/understanding finance/business planning
- 31% of the farmers interested in additional training days would be willing to pay for the training
- 87.5% farmers restructured their debt over the last 5 years but huge levels of debt exist on farms in East Cork
- For greater adoption of the Teagasc financial tools there must be further buy-in from the advisory staff

Developing a Targeted Marketing Tool Through Farmer Categorisation to Enhance the Efficiency of Knowledge Transfer

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²Teagasc Headquarters, Oakpark, Co. Carlow

³UCD, Belfield, Dublin 4



1. Background and Purpose of study

Knowledge transfer is of paramount importance to future sustainability of agriculture. With a drop in advisor numbers in Teagasc by over 36% since 2007, there is a demand for a better alignment of farmer needs with extension services. Targets contained in the Food Harvest 2020 also mean adoption of better practice on farms if these goals are to be met. Categorising farmers into groups based on similar needs may help enhance knowledge transfer efficiency.



2. Objectives

1. Evaluate current farmer characteristics used in Client Relationship Management (CRM) systems in Teagasc
2. Identify the most appropriate characteristics to develop a categorisation tool of farmers in Teagasc
3. Provide recommendations on the use and further development of a categorisation tool of farming clients in Teagasc

3. Methodology

- Selection of 120 farmers from Electoral Divisions in Carlow
- Identification of most suitable criteria for categorisation based on review of existing literature
- Data collection on specific characteristics of Teagasc farmers
- Analysis of characteristics of clients to determine their association with best practice adoption
- Interviews with advisors on behavioural traits of farmers

4. Key Findings

- Teagasc do not have a specific CRM system
- Teagasc CIMS (Client Information Management System) contains only basic information on individual farmers e.g. enterprise size, enterprise type

Insights from the literature:

- Farm size and farmer age were determinants of the variation in technical efficiency (Wilson et al, 2013)
- Farm type important in farmer categorisation (Funk et al, 1988)

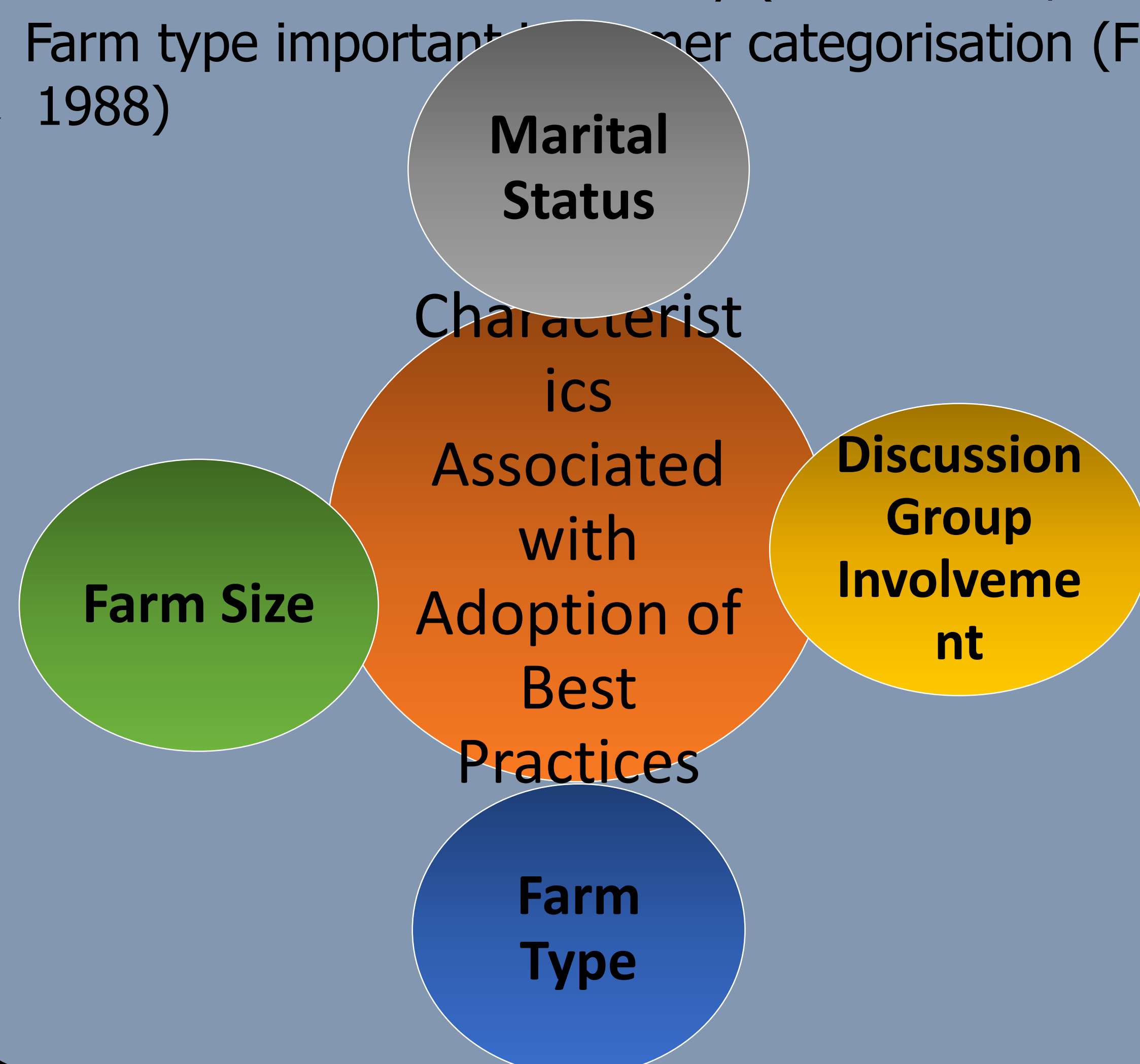
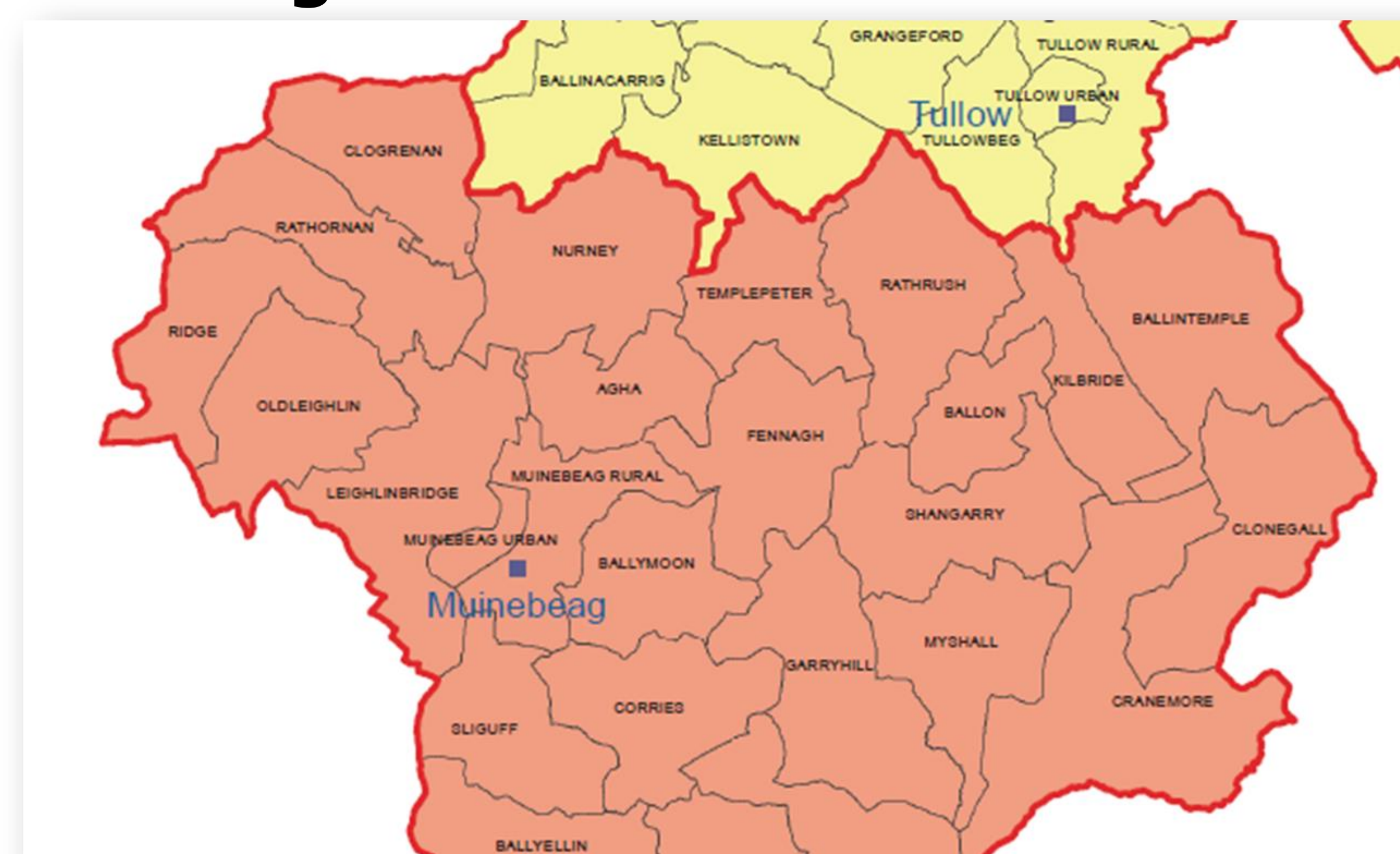


Fig.1. Carlow Electoral Divisions



Teagasc Advisor Interview Findings

- Advisors expressed their view of the positive relationship between younger farmers and the adoption of best practice
- Believed farm size had an influence on a farmer's decision to adopt best practice
- Advisors recommended inclusion of education as an aid to determine farmer's adoption of best practices
- Recommendations made to incorporate attitudes and behaviours of farmers when constructing categorisation tool in future research

5. Conclusions

- Teagasc CRM is primarily a financial tool
- Age did not have a statistical association with the adoption of best practice
- Marital status of farmers, presence of children, type of enterprise and discussion group involvement have association with adoption of best practices

6. Recommendations

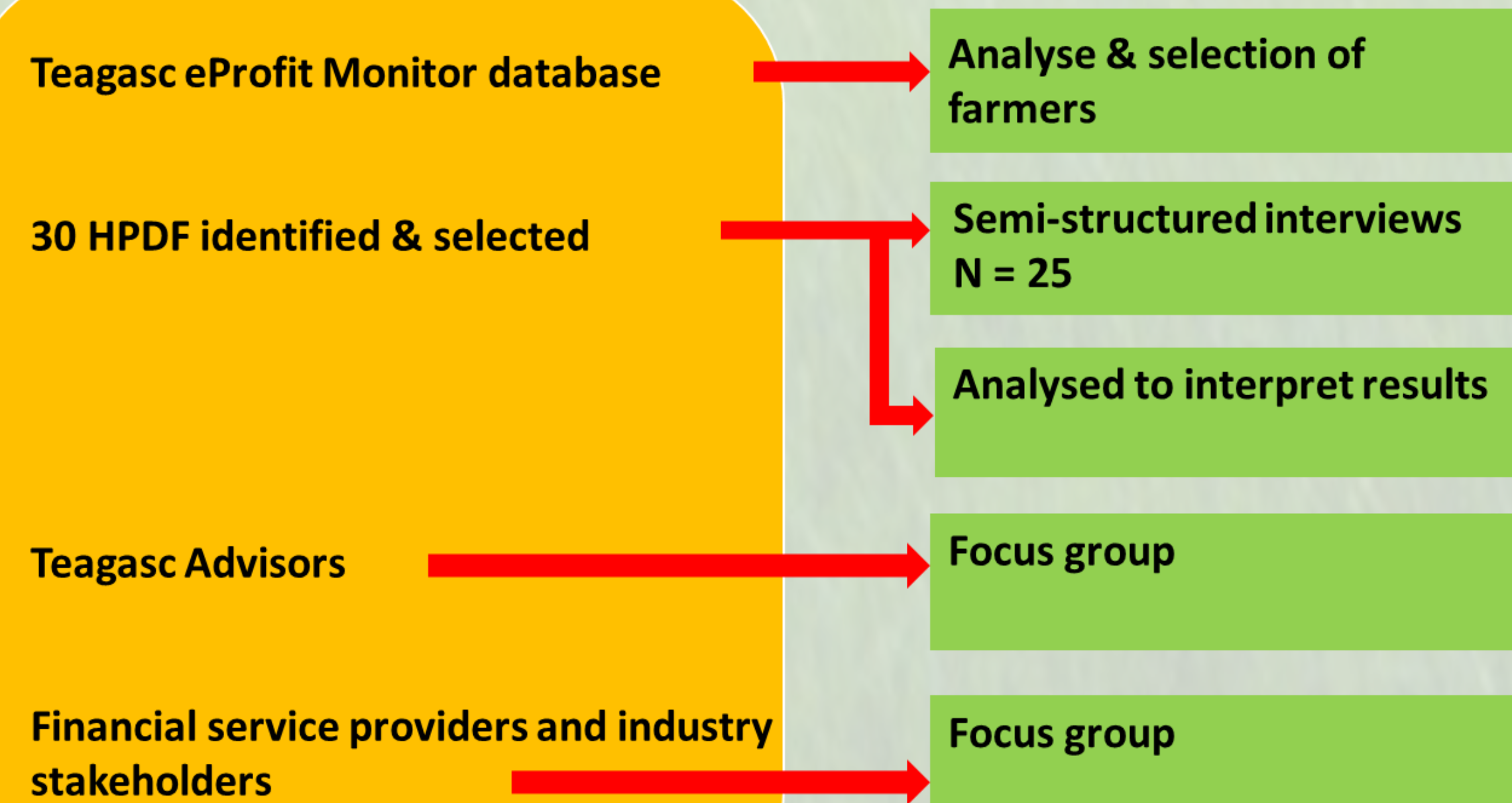
- Future studies should include behavioural characteristics to gain a better understanding of farmer KT needs
- Details of characteristics of non-Teagasc farming clients should be included in the categorisation tool

Aim: Identify the priority knowledge transfer (KT) supports required by high profitability dairy farmers (HPDF)

Background

Amongst Ireland's dairy farmers, some are achieving high levels of profitability. How this is being achieved is of interest to the Irish dairy industry, including other dairy farmers. Furthermore, changes in the Irish dairy sector following milk quota abolition this year has the potential to bring about new challenges for dairy farmers. Consequently, to address these changes in the dairy landscape, future KT tools & supports may need modification. Therefore, the future KT requirements of HPDF must be assessed to understand their requirements, to allow Teagasc and the wider industry to allocate resources more effectively to meet their needs in the undefined future of milk production in a non-quota environment.

Methodology



Objectives

- To determine how HPDF are so profitable
 - Technically
 - Financially
 - Socially.
- To establish how HPDF use the AKIS system
- To gain a clear understanding of priority KT needs of HPDF
- To make recommendations for the industry as a whole on prioritisation of use of resources for HPDF

Key Findings

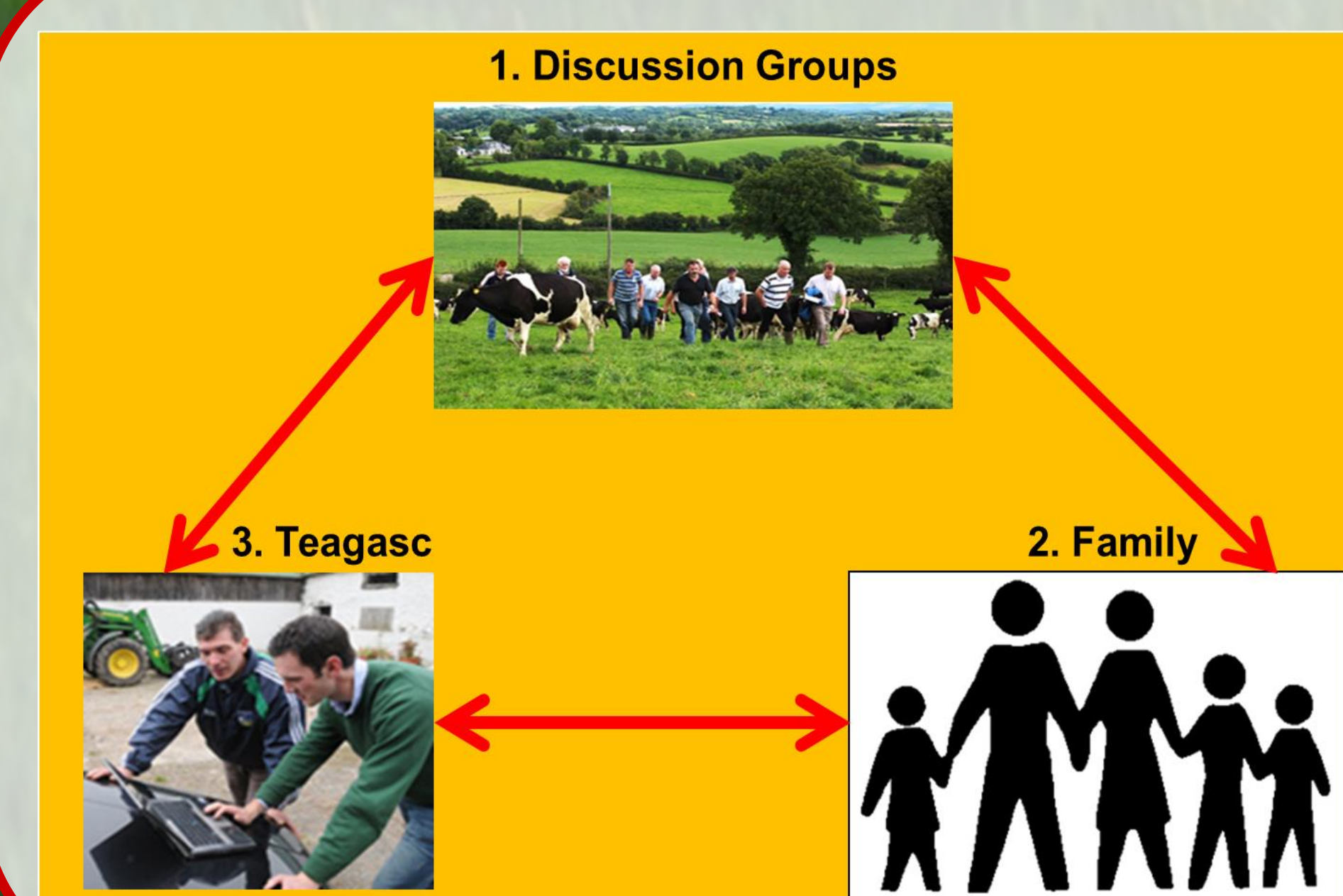
Technically

- 4.AI usage
- 5.Grazing plan
- 1.eProfit Monitor
- 2.ICBF information system
- 6.Breeding plan
- 3.Grass recording programmes

Financially

	HPDF Ave	ePM Ave
Study location: National		
Time frame: 2009 - 2013		
Net Profit (c/Litre)	19.82c/l	11.64c/l
Net Profit (€/Dairy Ha)	€2914/Ha	€1256/Ha
Yield (Kgs MS/cow)	446	385
Cow No.	96	89
Stocking Rate (LU/Ha)	2.5	2.09
		N=30

Socially



Conclusion

- The main focus for HPDF is to progress their farm business through the adoption of different farm business structures
- There is a distinct shift in KT focus among HPDF from technical to more organisational skills in the future
- To fulfil future KT needs HPDF will require increased reliance on a range of actors within the AKIS
- This study should be continued to further investigate/develop different KT tools & supports to meet the future requirements of HPDF

The influence of knowledge transfer uptake on the profitability of beef farms and the knowledge transfer requirements of beef farms with varying levels of profitability



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School of Agriculture and Food Science UCD, Belfield, Dublin 4. ²
Teagasc Grange, Dunsany, Co. Meath. ³



Project Aim

- To evaluate and document the relationship and influence KT and innovation uptake has on the profitability of beef farms
- What KT and innovation measures farmers feel they require and what they would be willing to adopt at farm level

Background

- 100,000 herds involved in beef farming nationally (CSO, 2012)
- Irish beef sector accounts for 30% of value of Irish agricultural outputs (Bord Bia 2015)
- Proportion of economically viable dry stock farms remains low, at about 15% and 22% for cattle rearing farms and non breeding farms respectively (NFS, 2015)
- Huge variability in the level of profits made from beef farming (Teagasc, 2015)

Project objectives

- Identify the current economic performance levels on Galway/Clare beef farms and distinguish why performance on these beef farms varies
- Identify the relationship between KT uptake and overall profitability of the enterprise
- Identify farmers' attitudes towards change and adoption of new practices and what have been the barriers in adopting new practices in the past
- Determine across differing farm profitabilities what farmers feel they require to progress and what KT/innovation practices they would be willing to implement

Methodology

- Galway/Clare Advisory Region
- Mixed methods study
- Analysis of 2012 & 2013 ePM dataset
- Top 10 , Average 10 and Bottom 10 Farmers Selected on Gross margin
- Semi-structured one to one interviews (n=30)



Key Findings (2012 & 2013 ePM Data)

	Farmer Profitability Category (Av. 2012 & 2013 ePM)			
	Top 10	Average 10	Bottom 10	Top v Bottom
Stocking Rate LU/ha	1.66	1.238	1.11	+ 0.58
Gross Output €/ha	1513	761	554	+ 959
Total Variable Costs €/ha	696	552	745	- 49
Liveweight (kg LW/ha)	624	371	261	+ 363
Gross Margin €/ha	817	208	-191	+ 1008

Key Findings (One to One Interview)

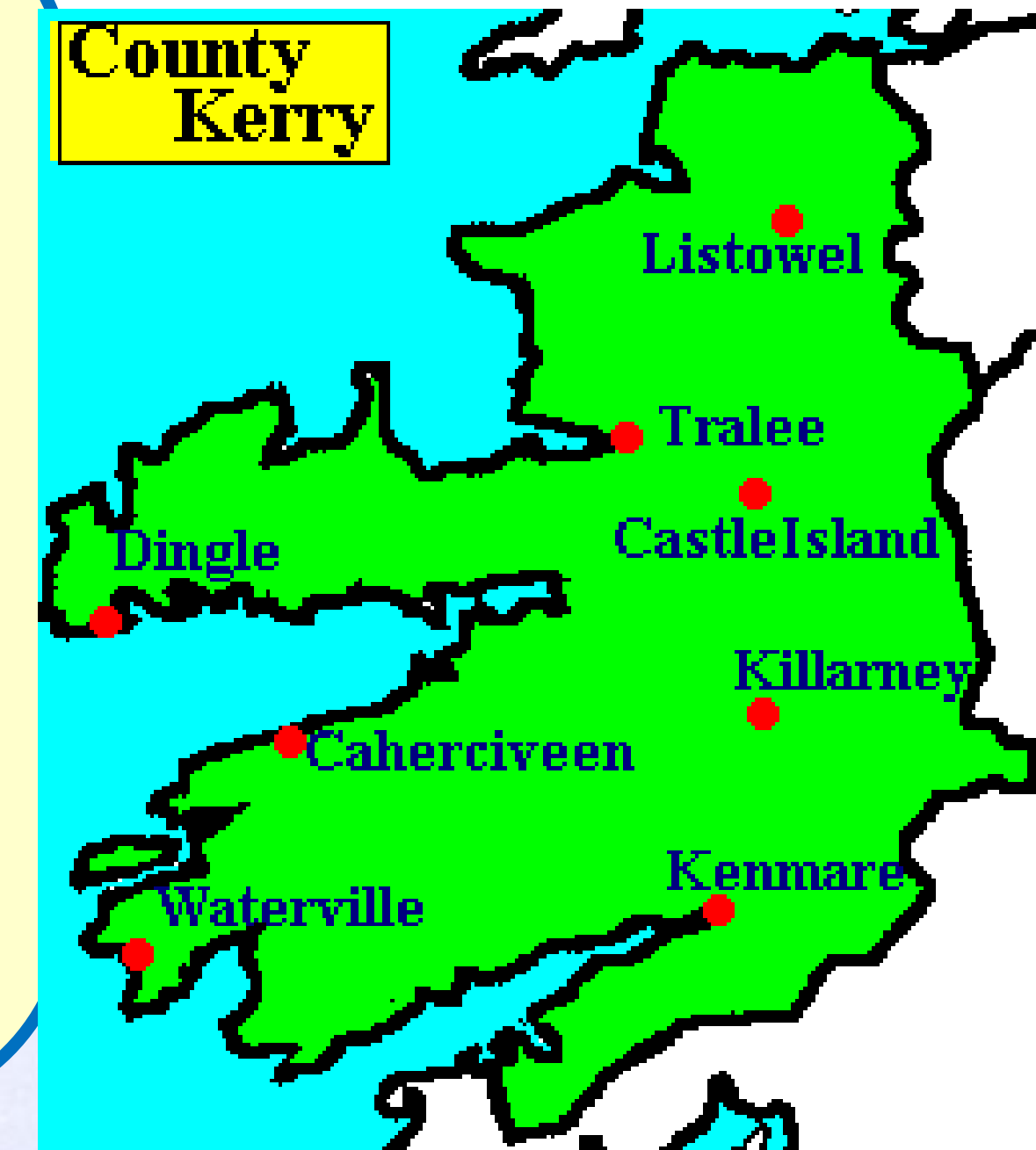
- The number of good farming practices completed on farm are higher as you move from the bottom performers through to the top performers, showing a direct relationship between KT uptake and profitability
- The main limitations in the adoption of new practices differed greatly within each group; land availability and farm infrastructure were seen as the biggest limitations in the top performers vs. motivation and lack of profitability in the bottom performing group
- Farmers have identified extension priorities they feel they need to improve profitability;
 - A separate KT model for each level of farmer
 - More one to one contact with advisors
 - Continuation of Better Farm Programme

References

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This project is funded by Teagasc through its Walsh Fellowship Scheme

Categorisation of farmers in groups has proven successful in previous research (Garforth and Rehman, 2006. Jansen et al 2010. Vanday, 2004. Wales Rural Observatory, 2011)



- FH2020 targets - future milk output depends on the rate of structural change and productivity growth. Relative to other regions, the south has the greatest expansion capacity. (Laepple and Hennessy, 2012)
- As the costs of production continue to increase it is essential to identify factors influencing farmers and advisors attitudes to new technologies
- According to Doherty *et al.* (2013) 14% of farms have never conducted soil analysis

Methodology

- Informed definition & criteria of an HTRDF
- Two stage sampling –
 - Adviser & Industry Survey (n=8)
 - In-depth Qualitative Interview (n=15)
- Explore findings – identifying main themes & sensitizing concepts
- Further categorise - into segments based on ways in which HTRDF's receive & trust information on soil fertility

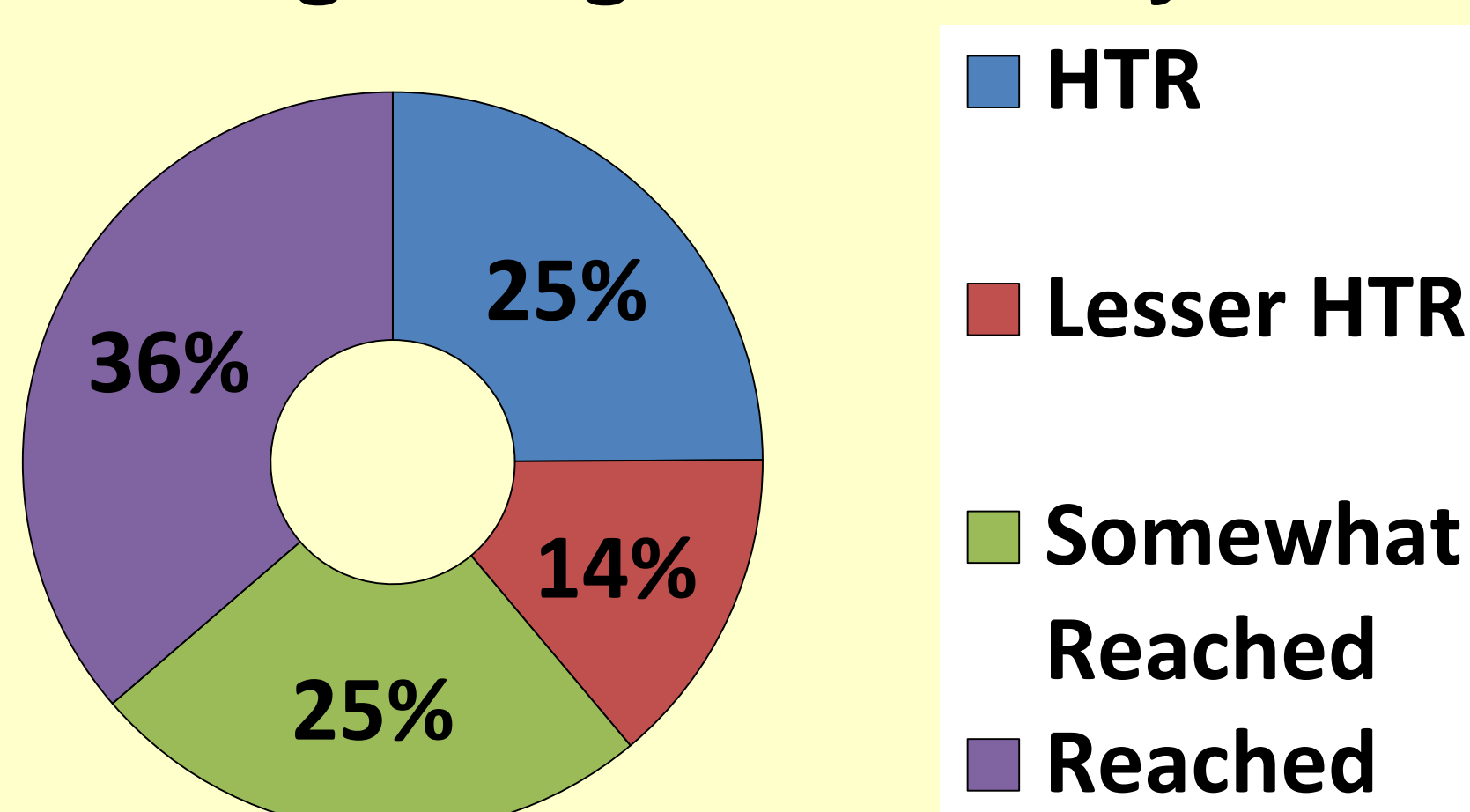
> Literature Review <

Research Objectives

- Define Hard To Reach Dairy Farmers
- Segment HTRDF's into categories based on their views of engagement with services & current knowledge
- Identify where the HTR dairy farmer acquires information relating to soil fertility management practices

4. Key Findings to date

Classification of clients (n=815) by adviser on a Scale of HTR (1) – (4) reached regarding Soil Fertility info



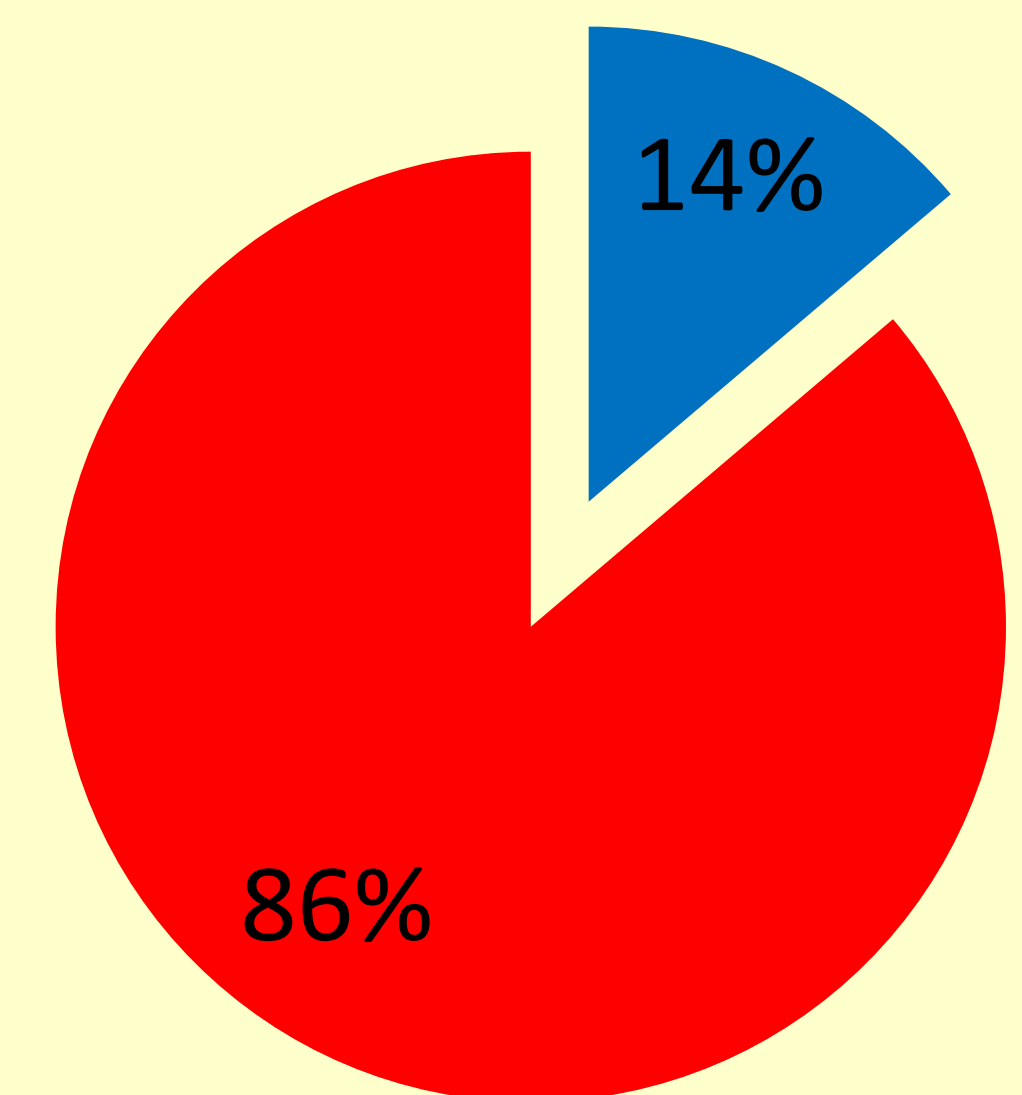
25% of farmers were identified by advisers as fitting into the target group (HTR) for current study

Soil Fertility

- HTRDFs: mostly very well versed in how to improve soil fertility e.g. Liming, compound fertiliser, soil sampling
- Some believe that it may not be financially viable to invest a lot of money in their particular soils – new research released from the Heavy Soils programme is beginning to change opinion

Age Classification of HTR farmer clients (n=203) identified by Advisers

- Young Farmer (<40)
- Over 40 yrs of age



86% of the HTRDF's identified are over 40, this is similar to the % of farm holders estimated as >40 in the 2010 Census of Agriculture (CSO, 2012)

Early Findings:

- Good soil fertility seen by HTRDFs as very important to their farm business, however most are conservatively applied
- Barriers: Poor soil (applicability to own farm) & weather conditions, ownership/lease issues, lack of finance or stress
- Incentive by initiative to conduct soil analysis in conjunction with Kerry-Agribusiness viewed positively
- Some previously in discussion groups felt they were not as "vocal" or "confident" as others in the group

Background

Many farmers have low levels of engagement with the advisory services, improving the level of engagement using different strategies and tools, which are known to be beneficial must be implemented to be beneficial (Jansen, 2010).

For the purpose of this study Hard to Reach (HTR) farmers are those farmers: with limited interaction with the farm advisory services due to a wide range of social, cultural and economic factors, often believed to be bound by trade, and suspicious of change, and therefore are the slowest to adopt a new idea or technology (Vanclay, 2004).

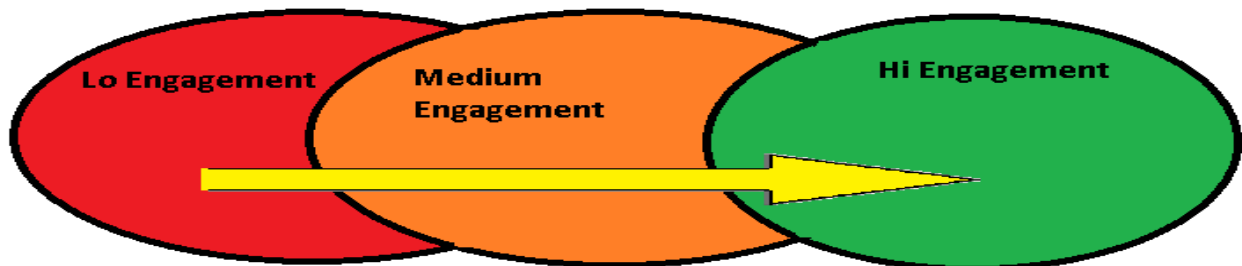
In the case of Irish dairy farmers these low levels of engagement with the advisory services limits their access to information and innovation support at a time when the sector is evolving to meet new opportunities and demands.

Aim, Objectives and Methods

The study aims to understand why HTR dairy farmers in Limerick do not use certain available farm advisory services and to test a new knowledge transfer intervention which can increase their engagement with the advisory services.

Objectives:

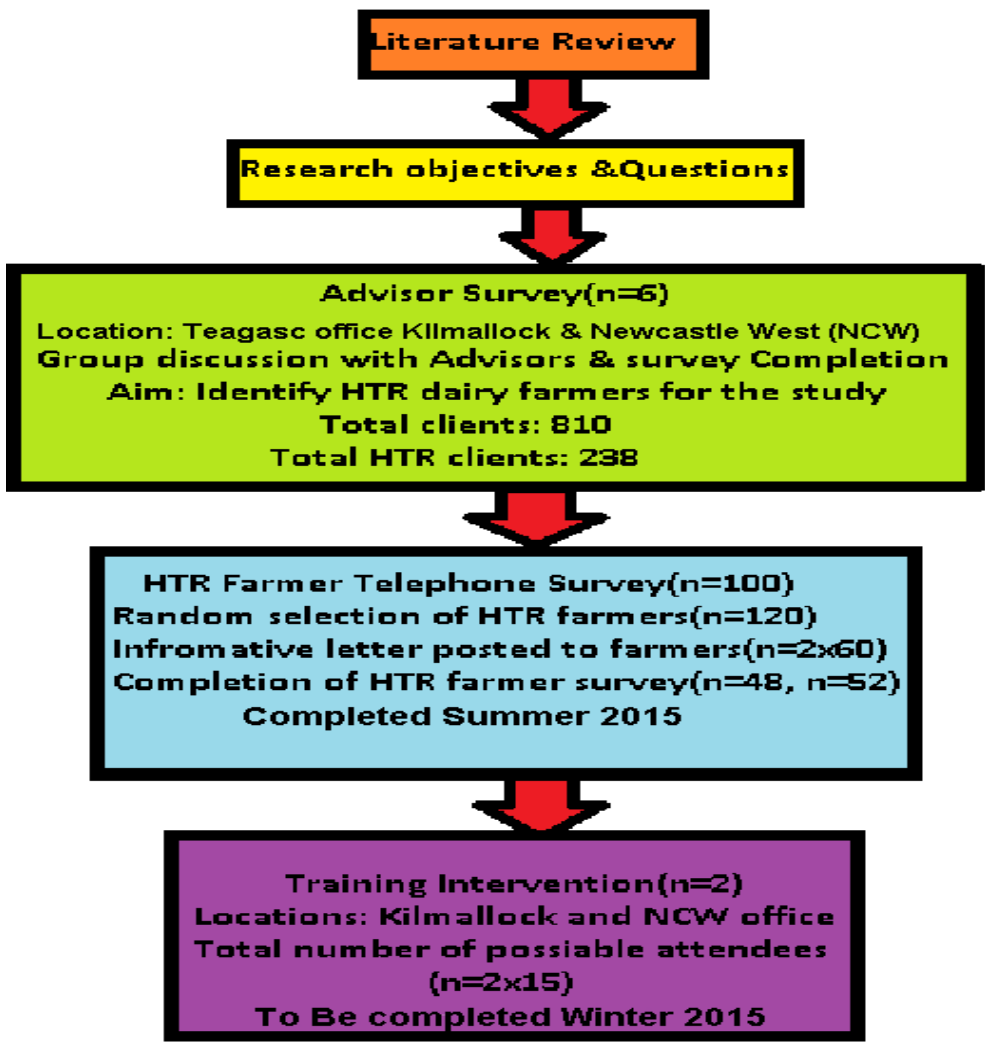
- To establish the reasons why HTR dairy farmers in Limerick use little or no farm advisory services which could benefit their farm businesses.
- To determine HTR dairy farmers' advisory service needs and their opinion of the different advisory technologies.
- To identify extension methods that can increase the uptake of advisory support by HTR farmers.



HTR dairy farmers were identified by Dairy Advisors in Co. Limerick based on the level of engagement and use of advisory services in 2015. The criteria for selection were:

- Actively milking cows in 2015
- Have no involvement in a dairy discussion group
- Do not attend more than 2 dairy related events/ year (open days, farm walks, training courses, joint programme events etc.)
- May be in contact with an adviser in relation to getting Single Farm Payments and possibly Nutrient Management Plans completed.
- Not using certain dairy related technologies that Teagasc dairy advisors promote, namely: Profit monitors, Grass measuring; and Breeding techniques.

Methodology



Key Findings

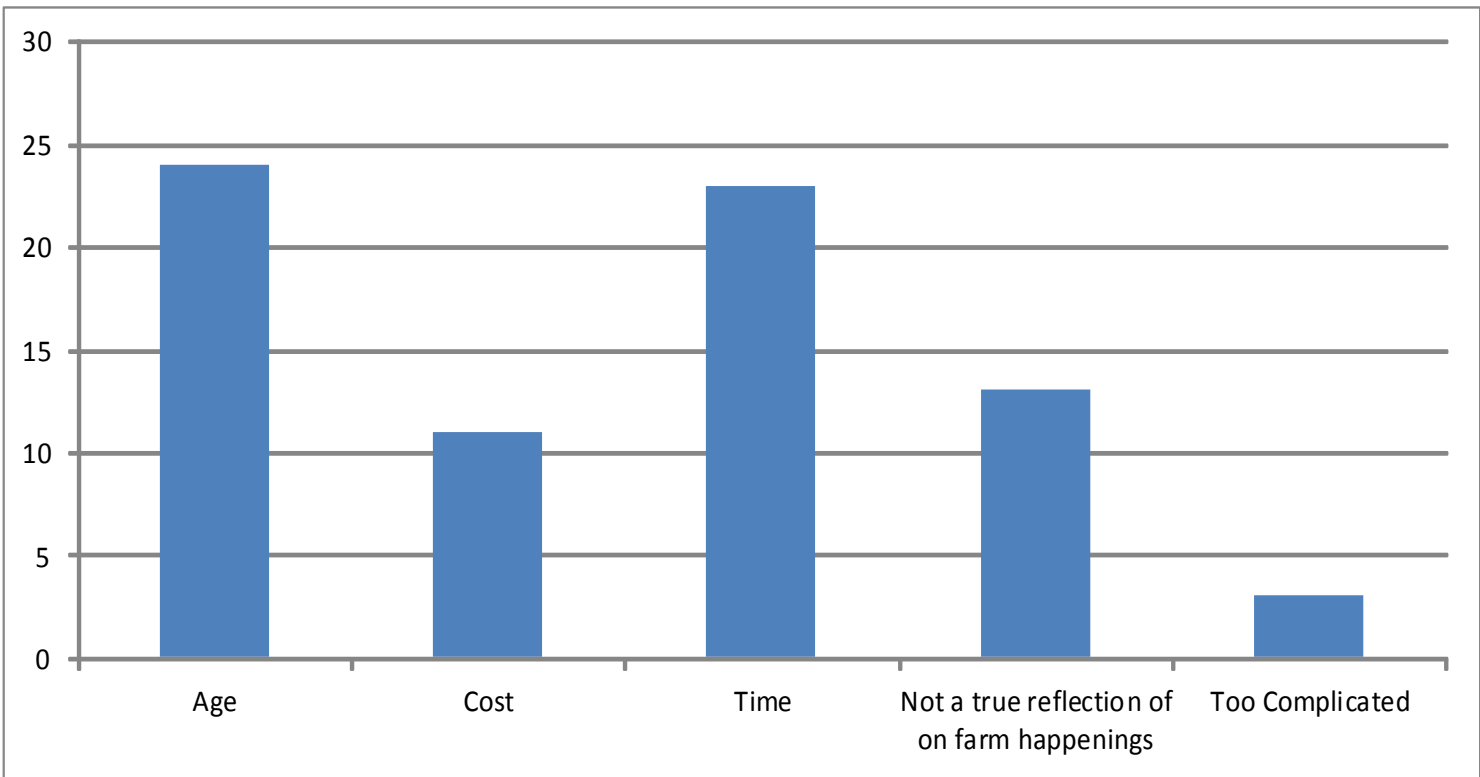
Table 1: Distribution of HTR Dairy Farmers by self-rated performance in key areas of farm management (n=100)

Performance	Financial	Grassland	Stock	People
Very Poor	2	0	0	0
Poor	26	7	2	3
Adequate	53	36	31	36
Good	19	53	63	56
Very Good	0	4	4	5

Table 2: Distribution of HTR Farmers by their self-rated level of needed improvement in key areas of farm management (n=100)

Level of Improvement Needed	Financial Management	Grassland Management	Stock Management	People Management
None	18	43	56	68
Most important	56	26	15	3
Second most important	23	22	16	16
Third most important	2	9	11	7
Fourth most important	1	0	2	5

Figure 3: Distribution of HTR Farmers by Reasons given for lack of uptake of advisory services (n=74 as 26 farmers provided no reason)



Conclusions and Recommendations

- Of the HTR farmers surveyed 30% were interested in increasing their engagement with Teagasc through attendance at workshops and or training days, indicating there is a market for advisory services.
- As age was the most commonly given reason for lack of engagement and use of farm advisory services (Figure 3), there is potential for more advisory services to support decisions on transferring the family farm, succession and inheritance.
- Time was the second most common reason behind the lack of engagement from labour intense farmers, recommendations from advisors and encouragement from neighbouring farmers to join discussion groups, could increase their engagement with Teagasc.
- The use of workshops and/or training days for knowledge transfer have been beneficial in the past. The 30% of HTR farmers willing to attend such events could improve their knowledge uptake, uptake of specific advisory technologies and over all engagement with the advisory service.

Categorisation of hard to reach drystock farmers according to their aspirations, intentions and motivations

1. Tom Deane , 2. Karen Keaveney , 3. Aidan Murray
 1. Teagasc/UCD MAgSc Innovation Support Student (2014-2016)
 2. School of Agriculture and Food Science, UCD, Belfield, Dublin 4
 3. Teagasc Beef Specialist, Ballybofey, Co. Donegal

Aim: To explore the perspectives of the ‘hard to reach’ farmers in the Roscommon/Longford advisory region in terms of how they utilise information that is available to them and what motivates them to utilise it.

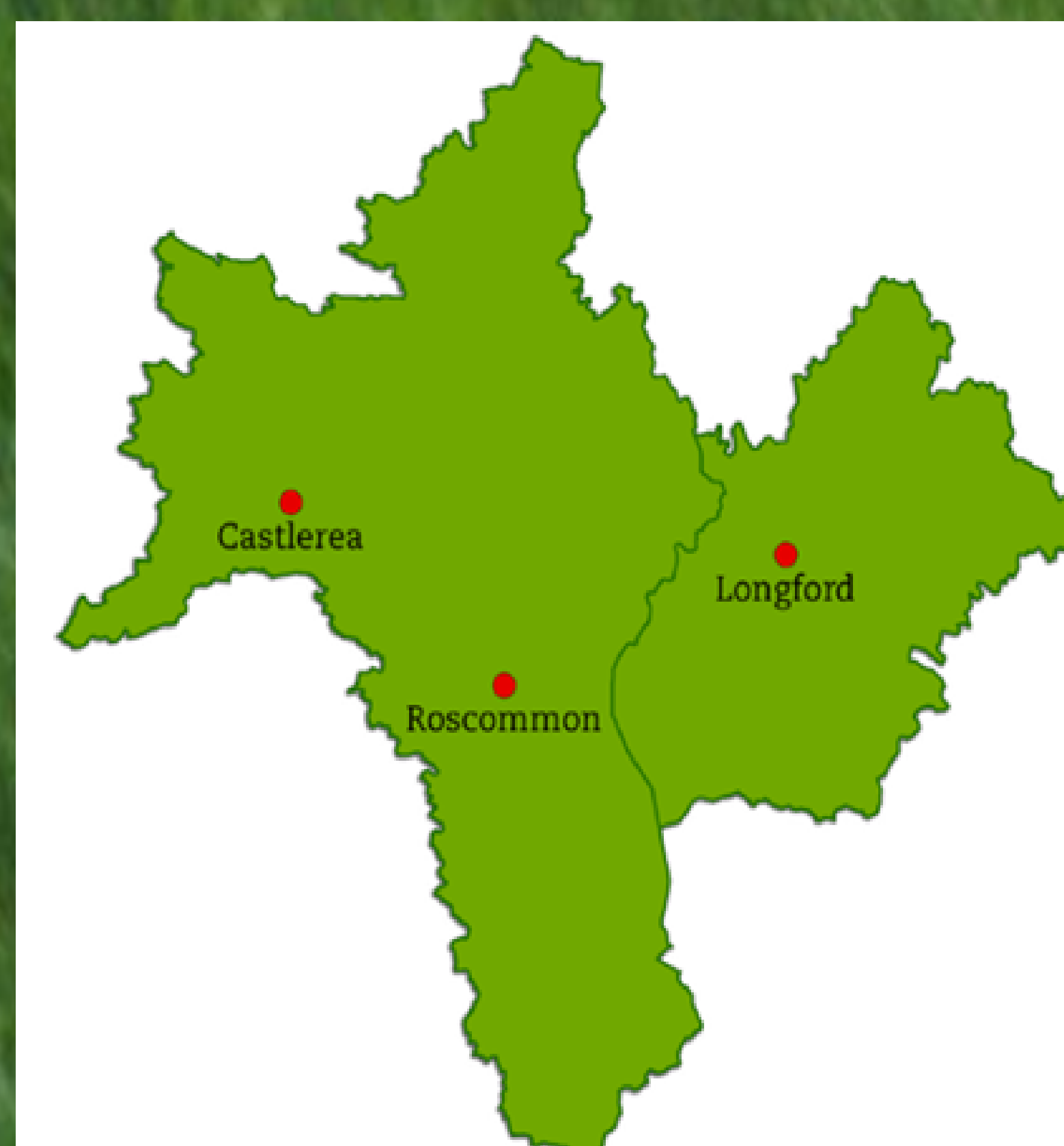
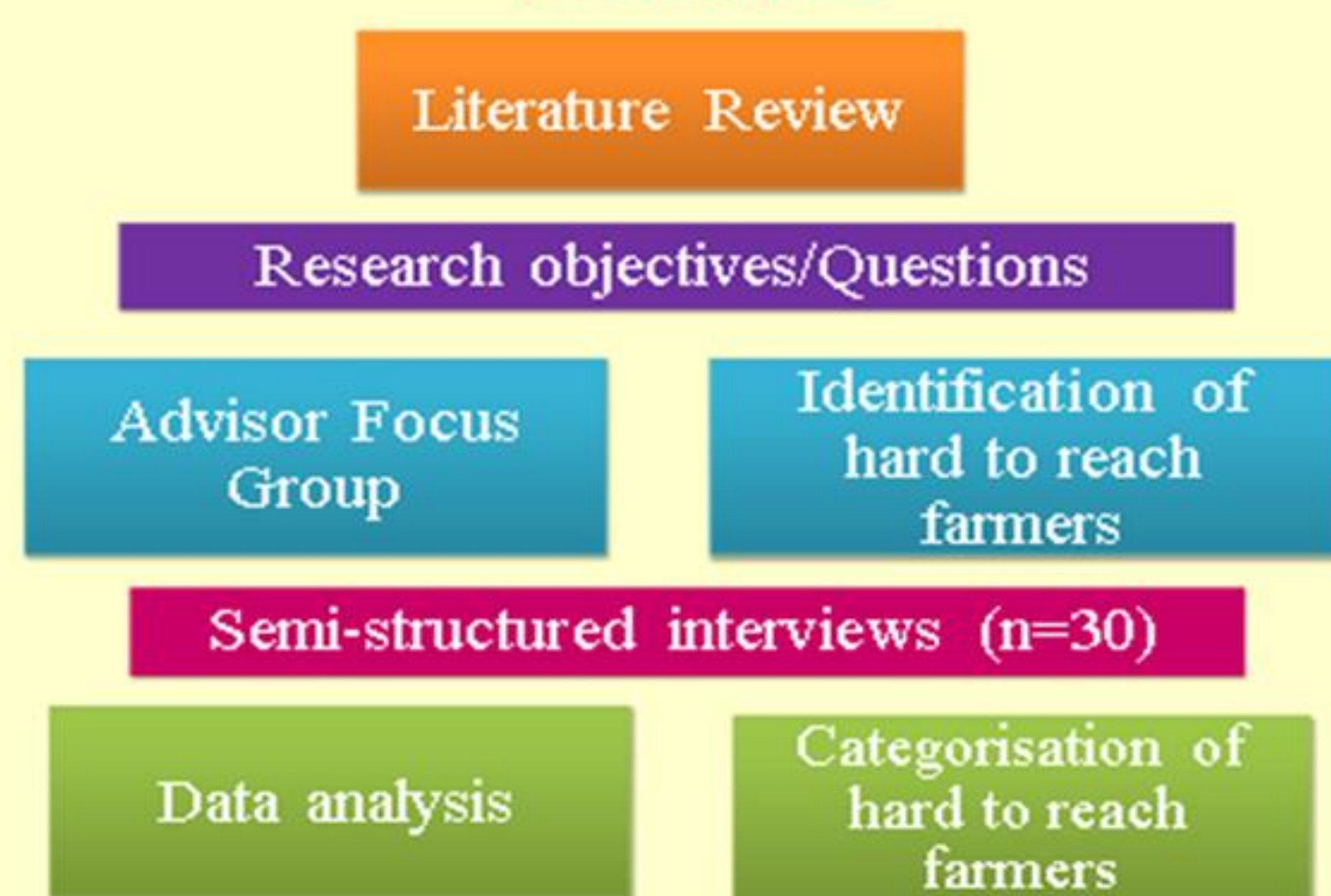


1. Background

- Drystock farms (beef and sheep) account for 68% of all farms in Ireland (Renwick, 2013)
- Food Harvest 2020 aims for a 20% increase in the value of Ireland’s beef and sheep sectors.
- This is to be achieved through ‘enhance knowledge transfer to drive farm efficiencies’



2. Methods



3. Objectives of research

1. Define what is meant by the term ‘hard to reach’
2. Identify the aspirations, intentions and motivations of the ‘hard to reach’ drystock farmers.
3. Produce recommendations on how to reach these farmers with the aid of an effective categorisation system.

4. Research questions

1. What are the perspectives of ‘hard to reach’ drystock farmers?
2. How can assumptions about ‘hard to reach’ drystock farmers be addressed in order to help understand the factors surrounding their uptake of potentially useful information?
3. What is the best way to categorise ‘hard to reach’ drystock farmers according to their aspirations, intentions and motivations?



What is a hard to reach farmer?

- No agreed definition of the term in available literature
- Farmers can be hard to reach with potentially useful information (Jansen, 2010)

Research Findings on what a hard to reach farmer is:

- Contact made but does not apply information provided
- No desire to seek out and utilise technical information
- Mainly interested in scheme work
- Reluctant to change: ‘entrenched in their own ways’

5. Findings to date

- Hard to reach farmers largely depend on their farm advisors to notify and advise them about upcoming schemes as well as with relevant technical information.
- Those hard to reach farmers that have limited or no contact with a farm advisor or don’t actively seek information largely avoid joining farm schemes e.g. GLAS
- These farmers are highly influenced by their neighbours regarding the decisions they make in relation to schemes to join.
- Time restrictions arising from working off-farm mean many farmers do not have time to get involved with participatory forms of agricultural extension such as discussion group participation
- The majority (80%) of the hard to reach farmers interviewed had not completed any form of agricultural education which is limiting their access to information
- Most hard to reach farmers unclear as to how they can become involved, or increase their involvement with advisory services

Review of advisory tools and methodologies to engage with 'hard to reach' drystock farmers

Joanne Masterson, Dr. Bridget Lynch, James Keane

Teagasc Advisory Office, Co. Longford

School of Agriculture and Food Science UCD, Belfield, Dublin 4

Teagasc Advisory Office, Mohill, Co. Leitrim

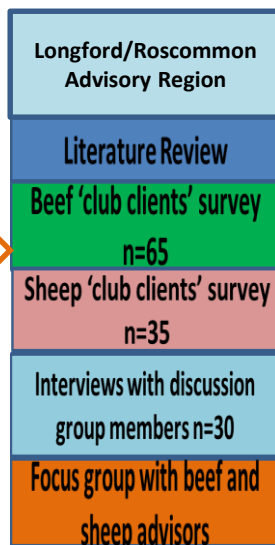


Aim: To assess if advisory services are engaging with 'hard to reach' drystock farmers

Background

- Teagasc – 45,000 clients
- 14,000 Discussion Group members
- 18,733 Club Contract Clients
- Potential to increase profitability and efficiency on Irish farms
- Output from cattle & sheep sectors over past 5 years - €1.9 billion

Methods



Objectives

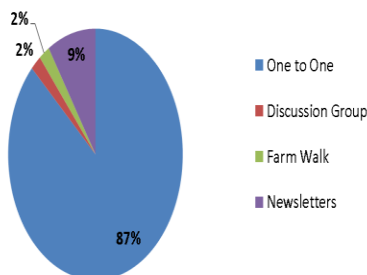
- Identify why key K.T. programmes may not be engaging with farmers
- Identify where farmers source information on farm topics & what technologies are being adopted
- Establish the impact of the BETTER Farm Programme in a local area
- Establish what services need to be provided to increase and maintain the level of engagement with K.T. programmes
- Identify the supports that are required by advisors in order to facilitate delivering K.T. programmes

Key Findings

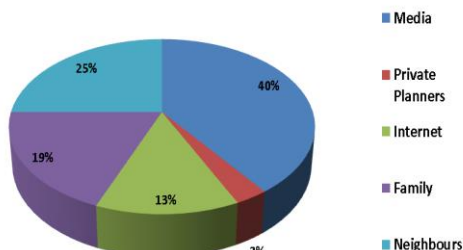
Interviews: BETTER Farm impact

- Advisor has influence on farmers in discussion groups
- Reseeding & drainage practices adopted in satellite group and surrounding area
- Farmers learn & get advice from BETTER Farm participant

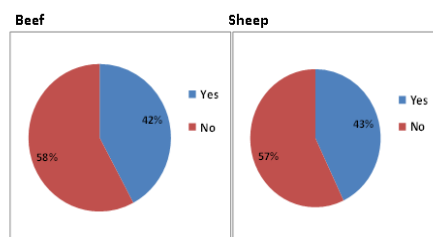
Preferred method of learning (Beef)



Source of Information on farm topics (Sheep)



Attended BETTER Farm walk



Owen Keogh^{1,2} Monica Gorman¹ Pat Clarke²
1. School of Agriculture and Food Science UCD, Belfield, Dublin 4.
2. Teagasc, Athenry

Radio, as a mass media communicator, is one of the most effective in Ireland. Teagasc in Mayo has a well established relationship with Mid-West Radio on which it broadcasts a daily 5 minute programme (Farming Scene) and a weekly 10 minute programme (Farming Matters) each Wednesday evening. Recognising the need for research and advisory services to stimulate farm innovation and technology adoption, can the potential of radio be further exploited?

Objectives

- To identify characteristics for effective agricultural radio
- To profile & analyse the listenership and attitudes of farmers in Mayo for Teagasc radio programmes broadcast by Midwest Radio.
- To investigate and map the potential for increased agricultural radio in other regions.
- To assess the interest & potential for increased use of podcasts as a means of KT support.

Methodology

A mixed methodology approach was used with triangulation to validate the results. This included:

- Literature Review
- Face to face listenership survey of farmers in Mayo
- Discussion Group meetings
- Internal Focus Groups with Teagasc radio staff
- Mapping agricultural radio countrywide
- Elite Interviews with key informants in the research area
- Podcasting the Teagasc newsletter and monitoring downloads

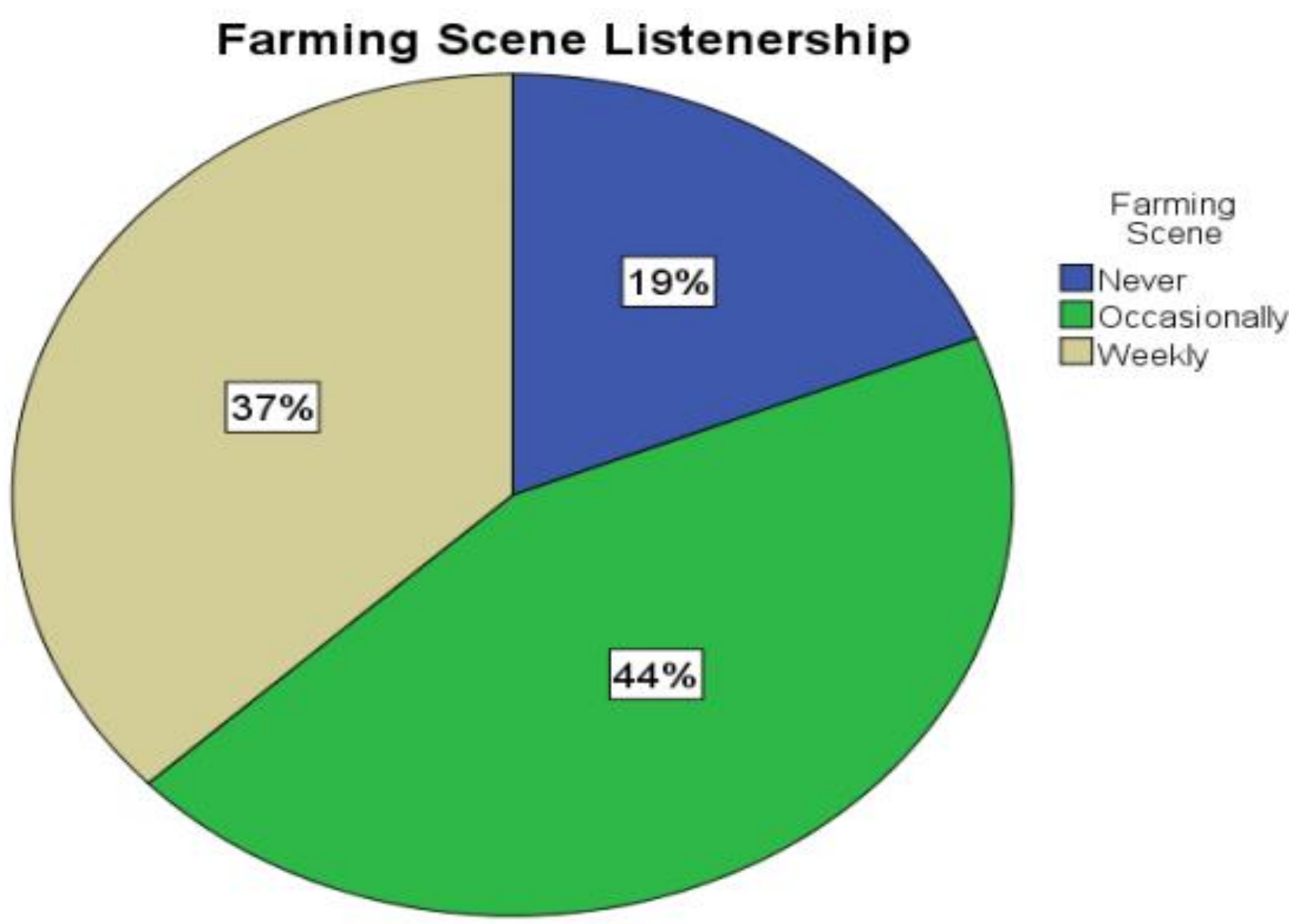


Figure 3: Distribution of Farming Scene Listenership (n=127)

Key Findings

Farmer Survey Findings (N=127)

- 81% of farmers surveyed listen to the 'Farming Scene'
- 72% of the respondents listen to 'Farming Matters' with 23% listening every week.
- Details and deadlines for Events/schemes were the most popular subject with rural development next
- < 12% of farmers under 30 listened to the Farming Scene weekly while 43% of farmers over 50 listened weekly
- Almost 70% of respondents said they would like to see a stronger focus on the experience of local farmers in the programmes

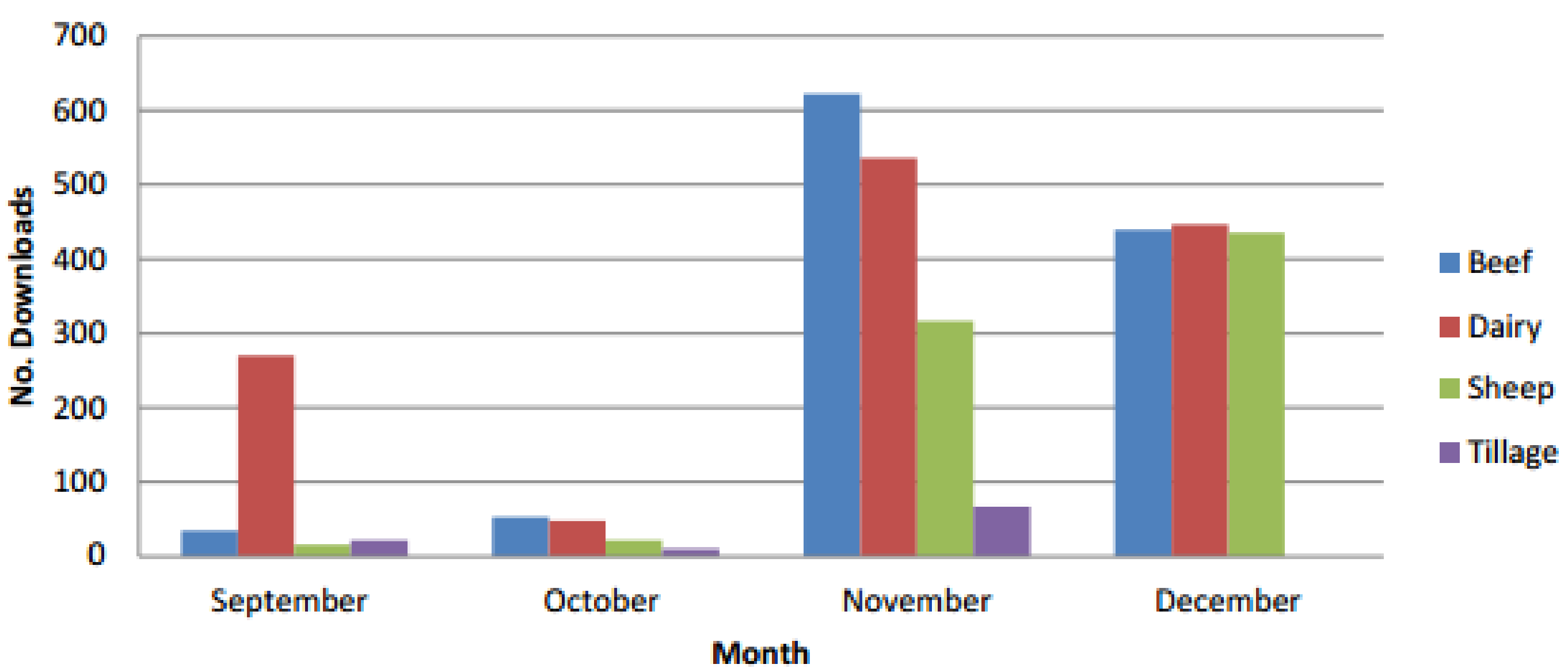
Podcast of the Teagasc Newsletter

- September 14 – May 15 total podcast hits = 6,322
- Dairy podcasts were the most popular podcasts with 1,300 hits over the test period (September – December)
- Podcast listenership increased hugely when coupled with social media promotion
- 75% of farmers surveyed would welcome podcasts on the Teagasc website

Other Research Findings

- Farmer discussion group members said that radio would not have a direct influence on decisions but would trigger certain actions e.g. selling livestock, event attendance or farm scheme deadlines.
- There is scope to develop agri-radio further – building on current agri programmes across local radio stations and with enthusiasm from Teagasc regional managers and staff.
- A checklist of criteria for effective agricultural broadcasting was developed by Teagasc radio staff. Being well prepared and structured and knowing the audience were two of the key criteria.

Podcast Downloads September - December 2014



Conclusions:

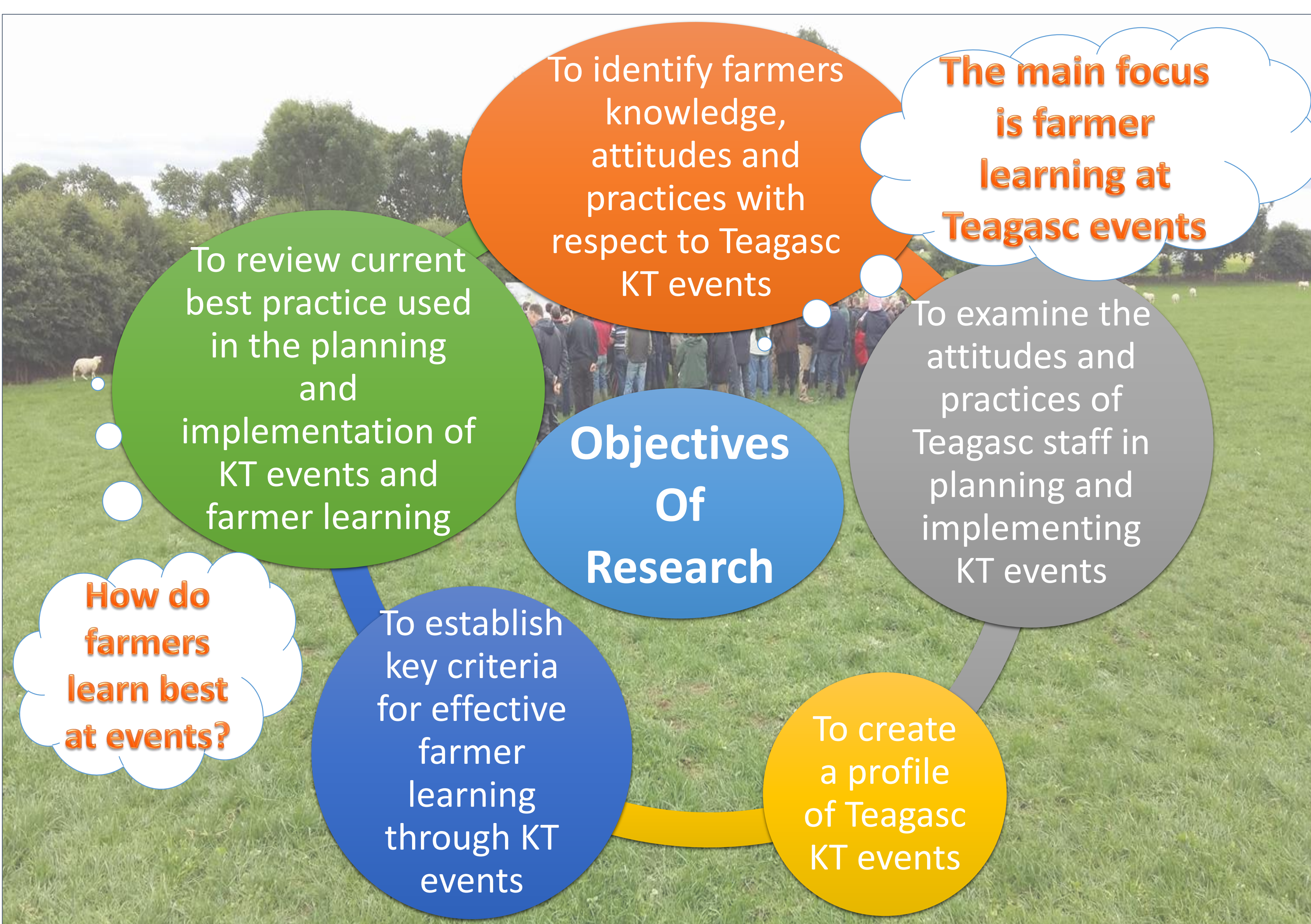
- There is a high awareness and a wide listenership to the farming programmes in Co Mayo, that extends beyond Teagasc clients.
- Farmers use the information from radio programmes in a specific way – usually as a prompt for further research or a reminder for action.
- Farmers appreciate information and news that are specific to their own local area and relate experiences of farmers in similar situations to theirs.
- Radio could be further utilized in the specific area of promoting knowledge transfer events
- The Teagasc Podcast experiment showed farming based podcasts as popular downloads particularly when promoted through social media.

Project Aim

- To determine the key ingredients for effective farmer learning through knowledge transfer events organised by Teagasc

Background

- In 2014 Teagasc carried out 991 Knowledge Transfer (KT) events, categorised as open days/Farm Walks/ Demonstrations (42%) and Meetings/Seminars (58%)
- The challenge and future direction of Teagasc is to improve and innovate knowledge transfer systems
- There is a lot of research conducted by Teagasc with some 500 research staff, however technical research must be complemented by research into effective knowledge transfer systems



Exit-poll surveys & follow up interviews

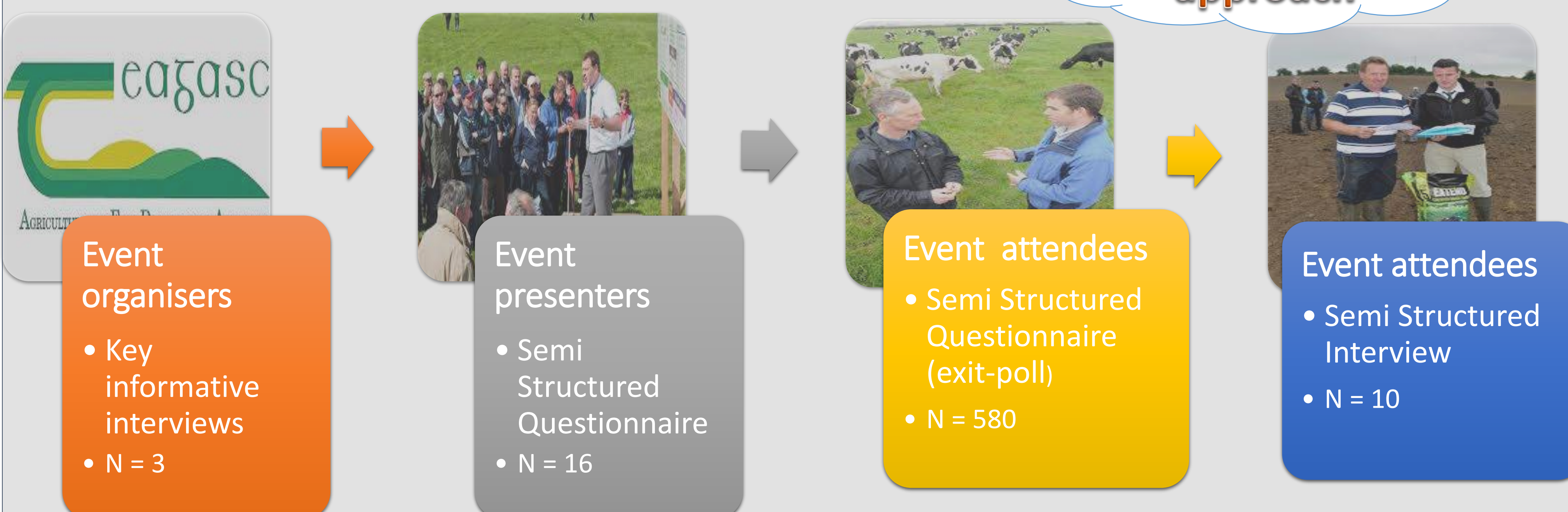
- Major Sheep Event (National)** (N=181)
Att.= 12,000
- Major Dairy Event (National)** (N=228)
Att.= 15,000
- Regional Sheep Events** (N=71)
Att.= 750
- Regional Beef Events** (N=49)
Att.= 400
- Regional Dairy Events** (TBC)

Study Location



Methodology

Mixed method approach



Key Findings

- 97.7% stated that the event **met** or **exceeded** their expectations
- Farmers who are **not part** of a discussion group learn more at events
- 67% stated that there were **no improvements** that they would recommend to the way information was presented
- Visually seeing a **practice in action** and being able to **ask questions** was regarded as being very important, and the preference for many farmers
- According to respondents **peer to peer communication** is very important for learning
- Greater attendance at discussion group approved events

Expected Outputs:

- Assist Teagasc building best practice for KT events within Sheep, Dairy and Beef enterprises
- Provide insights for event organisers and presenters on how farmers learn best at KT events
- Identify barriers for effective learning

Key findings from event attendees: (529 surveys & Interviews)

Profile of attendees

- From 30 Counties
- 85% are the main decision makers on their farm
- 66% are/have been in a discussion group
- 79 Ha is the average farm size
- 71% are full time farming
- 87% of attendees were <65 years of age
- There was 9% more young farmers (<35 yrs.) at major events
- Attendees at the regional events had smaller farm holdings

Decision Making by Farmers on Succession & Inheritance

T. Russell^{1,2}, J. Breen², J. McDonnell³, K. Heanue³, M. Gorman² & P. Wims²

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²UCD, Belfield, Dublin 4

³Farm Management & Rural Development Department, Teagasc, Oakpark, Carlow

⁴Rural Economy & Development Programme, Teagasc Athenry, Galway



Development of a “Guide to Succession & Farm Transfer”

Rationale

- Currently in Ireland only 6.2% of farm holders under the age of 35 (CSO, 2012)
- Succession & Inheritance are the main mechanisms for increasing the number of young farmers
- Lack of information & support for agricultural advisors, farmers & successors on succession and inheritance (Results from this study to date)
- One of the main issues is the lack of communication and starting the conversation

Aim

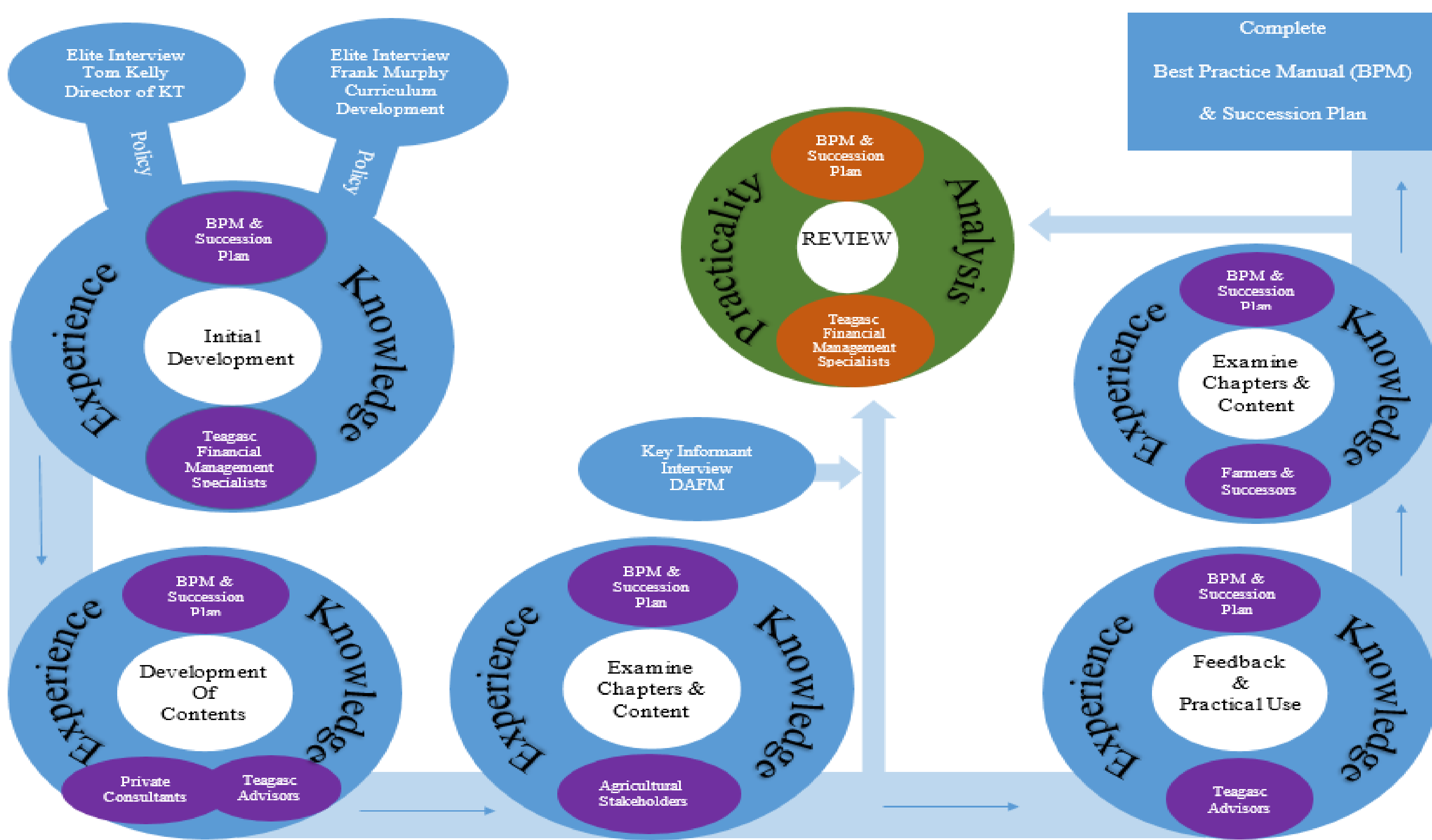
Develop a tool in the form of a book to support farmers in making decisions on succession and inheritance

Objectives

- Light, user friendly, graphical book
- Self complete workbook
- Deal with the emotional and interpersonal issues
- Focus on succession

Method

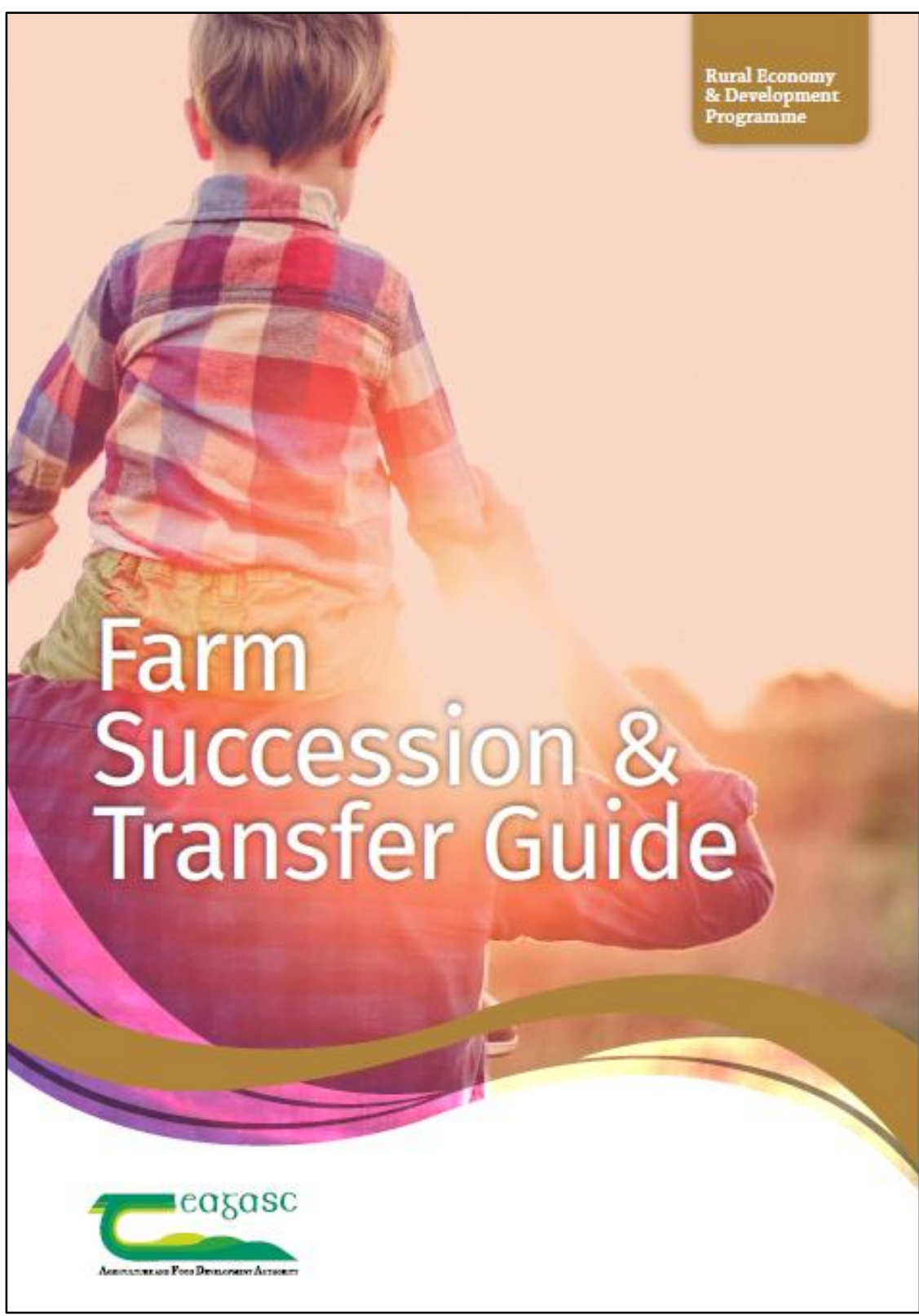
- Co-creation/Co-Design – The practice of developing systems, products, or services through collaboration with end users, managers, facilitators, and other stakeholders
- Facilitated interactive consultation sessions
- Experience & Knowledge of Stakeholders, Providers and End Users



Result

Through 8 chapters with information & self complete exercises this guide:

1. Outlines the processes of Succession and Farm Transfer
2. Outlines the profile of the farm
3. Defines the profile of the farm family
4. The steps of communicating with the family about the future of the farm
5. Defines and takes the farmer through the steps in sharing management responsibility on the farm
6. Outlines the next steps for the farmer to take when they have started the conversation and if they cant reach a decision
7. Identifies the key professionals involved in the transfer of the farm and their key roles and responsibilities
8. Provides a formal “Succession Plan” document for use by the farmer to outline the future plans for the farm business



Acknowledgements

This research has been funded through the Teagasc Walsh Fellowship Scheme

References

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A Study of Communication Methods for Teagasc to Engage with Agricultural College



Graduates from Graduation to Farm Ownership

John W Kelly¹ Padraig Wims² Kevin Connolly³

1. Teagasc Ballyhaise Agricultural College, Co. Cavan.
2. School of Agriculture and Food Science UCD, Belfield, Dublin 4.
3. Teagasc Coolshannagh, Co. Monaghan.



1. Background / Context

- Currently no existing method for Teagasc to keep in contact with Agricultural College Graduates.
- It is important that Teagasc maintain contact with them until they assume management of their home farms.

2. Objectives

1. Identify what communication methods agricultural graduates would like from an extension organisation.
2. Assess and identify the characteristics of recent agricultural college graduates and their experience of agricultural college.
3. Develop and evaluate methods of communication for agricultural advisors to engage with agricultural college graduates.
4. Evaluate contact between a Teagasc advisor and existing agricultural college students.

3. Methodology

Population

All Level 6 Ag College graduates since 2008

Sample

Graduates from Ballyhaise Agricultural College since 2008 (n=464)

Research Methods

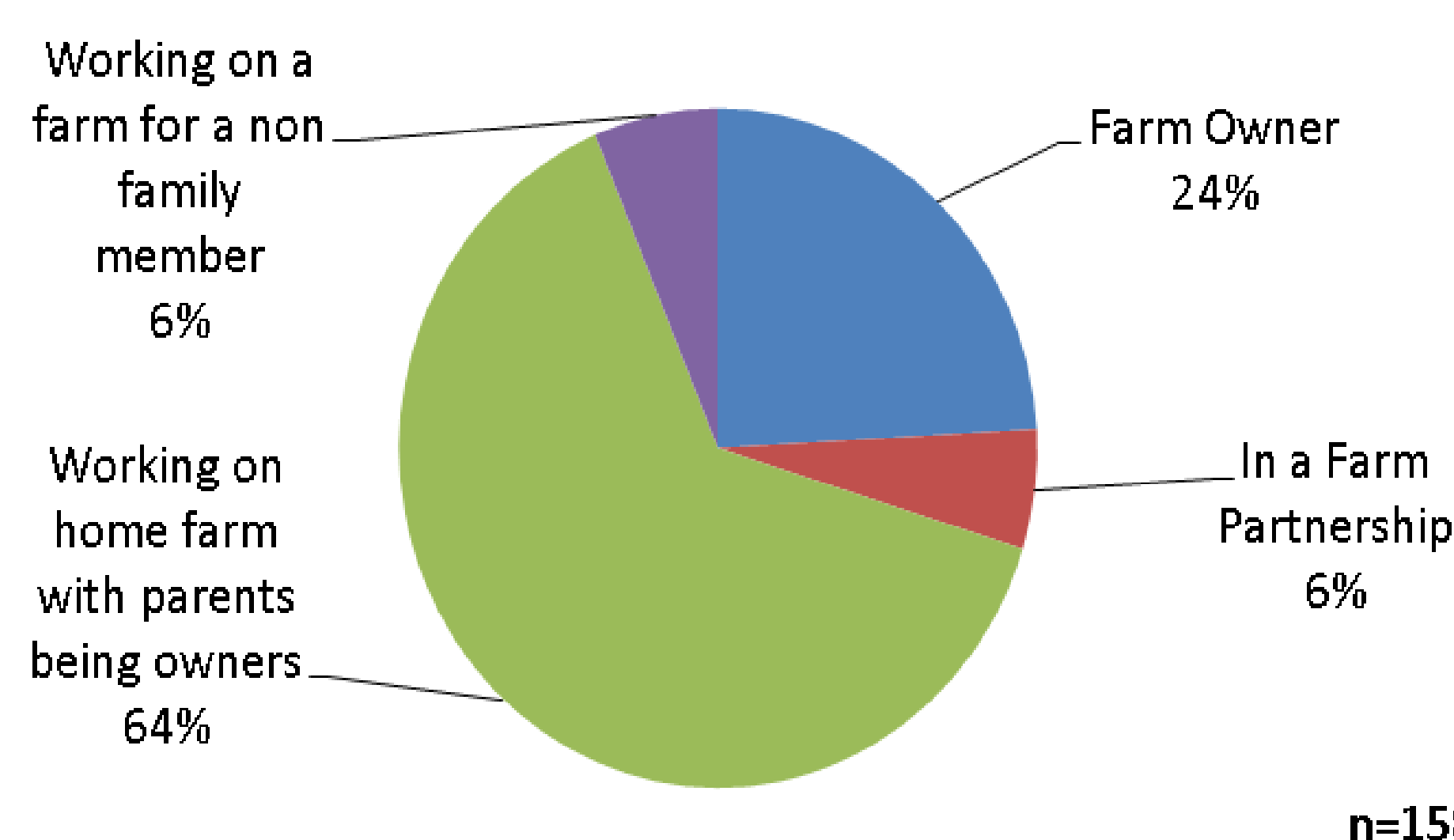
- A postal survey Ballyhaise Agricultural College graduates since 2008 (n=464)
- Identified methods of communication to be used between graduates and Teagasc advisors.
- Methods piloted with sample and evaluated to identify the most successful methods.
- Evaluations of contact between students and advisors by a farm walk and guest lecture.

4. Findings

Survey of Ballyhaise Graduates (n=166)

- 82% wanted to receive updates about the College farm
- 60% of respondents were users of Facebook.
- 77% wanted to engage with Teagasc
- 86% wanted to attend events for recent graduates.

Farming Status



Identified Methods of Communication

- Monthly newsletter from Ballyhaise College
- Text message updates to graduates about Ballyhaise College farm
- Facebook group page for graduates



Facebook Page

- Received over 2000 likes during research
- Video of Autumn grass management had over 1200 hits.
- 43% of respondents checked into the Teagasc Ballyhaise Facebook page two – three times a week

Newsletter

- Circulated via email, Teagasc Website and college Facebook Page
- Included farm management tips and enterprise performance from college farm
- All respondents found the content interesting and 94.3% wanted to continue receiving it.
- 73% used the newsletter to measure their farm performance
- 48.8% changed their farming practices as a result of its content

Text Message

- All respondents read the text messages
- 93.6% had a smartphone.
- 97.3% of respondents said that they would like to continue to receive text messages

5. Key Conclusions

Conclusions

- Graduates were very interested in college farm updates and in maintaining contact with Teagasc.
- Facebook proved to be the most efficient and interactive method.
- Most graduates prefer to use electronic methods of communication.
- Newsletter was found to be an excellent source of technical information.

Recommendations

- Teagasc advisors need to be introduced to students while in college.
- The advisory regions in Teagasc and advisors themselves with an interest in contacting graduates should also establish Facebook pages.
- Graduates could be integrated into existing discussion groups.
- Each college should consider developing their own newsletter.

This project is funded by Teagasc through its Walsh Fellowship Scheme



Moodle based online teaching – the potential for distance training models in horticulture



Name: Colm Óg Doran

Supervisors: Dr. Monica Gorman (UCD), Mr. John Mulhern (Teagasc)

Background / Context

Moodle is a web-based learning platform used for course management and the sharing of course materials with students. It was adopted by Teagasc in 2008
This study looked at how Moodle could be developed within a Teagasc college to support full-time courses and to examine how it could potentially support distance education.



Objectives

Assess the use of Moodle and its future potential in Teagasc Botanic Gardens;

Identify how a module in horticulture can be adapted for online learning.

Methodology

- Observation of faculty use of Moodle in current teaching
- Focus Group discussions
- Survey with full-time students
- Support students and faculty with Moodle use over 2014/15 term
- Evaluate progress

- Pesticide Application 3-day course
- Pre-recorded classes uploaded as videos onto Moodle
- Students learned theory independently
- Practical instruction and examination delivered by College technicians

In 2014, only 3% of students agreed that all teachers used Moodle effectively
This rose to 25% in 2015

92% of teachers were keen to explore how Moodle can be used to enhance and improve their teaching

85% of teachers stated they had not received enough training in using Moodle

RESULTS

Students who took the online course performed similarly to students who had previously sat the traditional course

Those who had the lowest level of prior education performed poorest in written assessments

All students that took the course would consider doing another in an online format in the future

Conclusions

Improvements were made in the use of Moodle over the course of this study in the Botanic Gardens,
However teachers need further support in their use of the technology to utilise Moodle fully.
The Pesticide Application online course showed that short courses can be adapted for online delivery,
But more research and evaluation into this potential must take place.

Develop and Pilot a practical tool to support Non-Family Farm Partnerships in Irish Dairying



Michael Keane¹ Dr. David Stead² Mr. Thomas Curran³

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2. School of Agriculture and Food Science UCD, Belfield, Dublin 4.
3. Teagasc, Farm Management, REDP, Moorepark Fermoy. Co. Cork



Background

Defects in Irish farm structures such as small farm sizes, an elderly age profile of farmers and a lack of land mobility are hampering agricultural productivity. Farm partnerships have the capacity to deliver significant economic, social and cultural benefits to farmers. Hence the rationale of this study is to foster knowledge transfer (KT) and innovation by developing a KT tools to support non-family milk production partnerships (MPP's).

Objectives

1. Review theoretical & empirical literatures on KT issues and MPP's
2. Review models of KT regarding collaborative farming arrangements in Ireland, UK & USA
3. Determine the KT needs & supports of farmers in MPP's
4. Develop & pilot a practical tool for farmers in MPP's



Literature Review:
reviewing
knowledge transfer
issues in
agriculture
nationally and
internationally

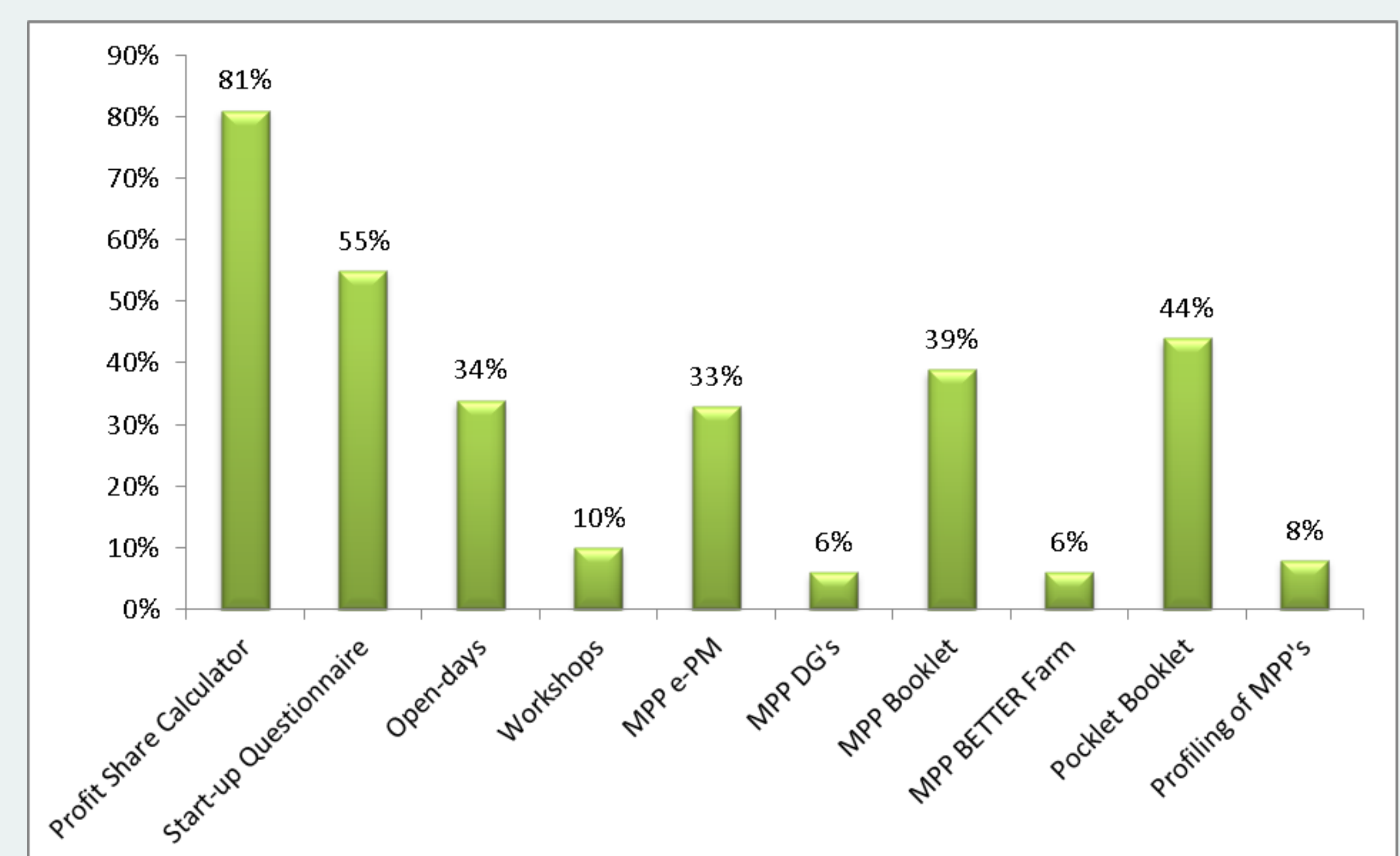
Methodology

Piloting of the new
KT tool on Teagasc
farm structure
specialists & 3
farmers through
semi-structured
interviews /
questionnaires

Study population
and sampling
methods:
Conducted semi-
structured
interviews with a
short questionnaire

Some Key Findings

- Limited literature on MPPs in Ireland, the awareness of and clarity on MPPs needs fuller evaluation & the concept of collaborative arrangements such as MPPs needs promotion to the wider farming community
- Benefits of being in a non-family MPP; pooled resources (90%), access to additional milk quota (83%), farm efficiency (64%), better lifestyle (79%)
- The mean age of a non-family MPP farmer was 47 years, average farm size was 124 ha, average herd size of 207 dairy cows in 2014
- Graph shows the KT tools/supports that respondents requested to see developed
- The most dominant KT tool desired was the profit share calculator (81%)
- 3.5% of farmers in the UK are involved in Joint Ventures
- KT Case Studies: Fresh Start initiative in the UK and Sharemilk in the USA
- KT tools/supports developed in the UK and USA are adopted by young entrants and existing farmers although their success is generally limited



Some Key Conclusions

- By conducting a bottom-up approach to capture the experiences and knowledge of non-family MPP farmers led to the successful development of a new Teagasc profit share calculator
- 9 other KT tools/supports were found from the interview/questionnaire, thus this study can provide foundations for further development of practical KT tools for MPPs in Ireland
- Farm partnerships offer a mechanism for dairy expansion in the post quota era and can sustain farm viability in regard to volatile world markets
- In the post quota era much more emphasis needs to be placed on promoting the lifestyle and labour benefits of being in a MPP

This project is funded by Teagasc through its Walsh Fellowship Scheme

Farmers attributes, management practices and attitudes associated with Commonage usage.

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Background To This Study

- In Ireland there are 4500 separate commonages covering 422,400 hectares of land.
- 11,837 farms have access to a commonage.
- 90% of SACs, 60% of NHAs and 10% of SPAs are situated on commonage land.
- Traditional farming systems have contributed to creating these High Nature Value areas.
- Traditional farming systems in commonage areas have changed dramatically.
- Sheep numbers have been in decline, leading to undergrazing of some commonages.
- Shareholders rarely meet to discuss management issues, therefore commonages are a common resource managed by individuals.

Objectives

Establish how Commonage land is used today and what can be done to get farmers back using the commonage.

Determine the main reasons that prevent farmers from continuing to use their commonage

Assess the relationship between sheep production levels and usage of commonage.

Identify the factors that may affect farmers establishing and joining commonage groups.

Methodology

Approach: Cross sectional study carried out in summer and autumn 2014

Farmer Survey Methodology:

Semi-Structured Interviews with 60 farmers who have access to commonage land

Mixed method approach:

Open-ended questions on how commonages are currently being used, on how these practices are currently affecting the commonages, and their opinions on setting up commonages associations.

Closed Questions on establishing production levels on the farm, labour units and land base

Commonage Group Study:

A commonage group was established to elucidate the opinions of shareholders with regard to commonage management.

Qualitative approach:

All shareholders on two commonages were invited to participate in a commonage group. Attendance of shareholders, level of interest and proceedings were observed and recorded. A follow up call was made to see how they individually felt that the association went.

Findings

Findings from Farmer Survey

- Pattern of usage has changed dramatically on commonages in the last 15 years
- 41% of participants grazed livestock on their commonage in 2014
- A small minority of farmers graze sheep on commonage between November and July.
- Farmers who are putting ewes and lambs on to the commonage are weaning .9 lambs per ewe, farmers who are no longer putting any sheep to the commonage are weaning 1.36 lambs per ewe.
- The only factor that was clearly found to be associated with non-use of the commonage was off-farm employment.
- 70% of farmers agree that setting up a group where shareholders would meet to discuss commonage issues would be beneficial for their commonage

Findings from Commonage Group Study.

- 100% of active and inactive shareholders attended.
- All present agreed that it was essential for them to come together to discuss management issues of commonage.
- Topics discussed included getting stock numbers back up to reach minimum stocking rates, controlling vegetation and collectively joining agri environmental schemes on their commonage.

Assessing farmers perceptions of greenhouse gas emissions and developing effective knowledge transfer interventions to support practice change and emissions reductions

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Background

Concern regarding global warming and climate change has led to an increase in focus on greenhouse gas(GHG) emissions in recent years. Agriculture accounts for nearly 30% of Irelands GHG emissions. Food Harvest 2020 has set out a number of targets focusing on smart, green and sustainable growth in the production of food in Ireland which, if met, would lead to a further increase in emissions. However, EU leaders have set out ambitious targets for all EU member states to reduce GHG emissions by 40% versus 1990 levels by 2030. In order for Ireland to reach Food Harvest 2020 targets and the EUs emissions targets, there must be a significant uptake of GHG mitigating technologies in agriculture.

Objectives

1. To assess the current level of knowledge among Irish beef and dairy farmers with regards to agricultural GHG emissions.
2. To identify which GHG mitigating technologies are most likely, and least likely to be adopted by Irish beef and dairy farmers.
3. To identify the most effective method of roll-out for the Carbon Navigator tool, and provide Teagasc with recommendations on how to proceed with the roll-out.

Methodology

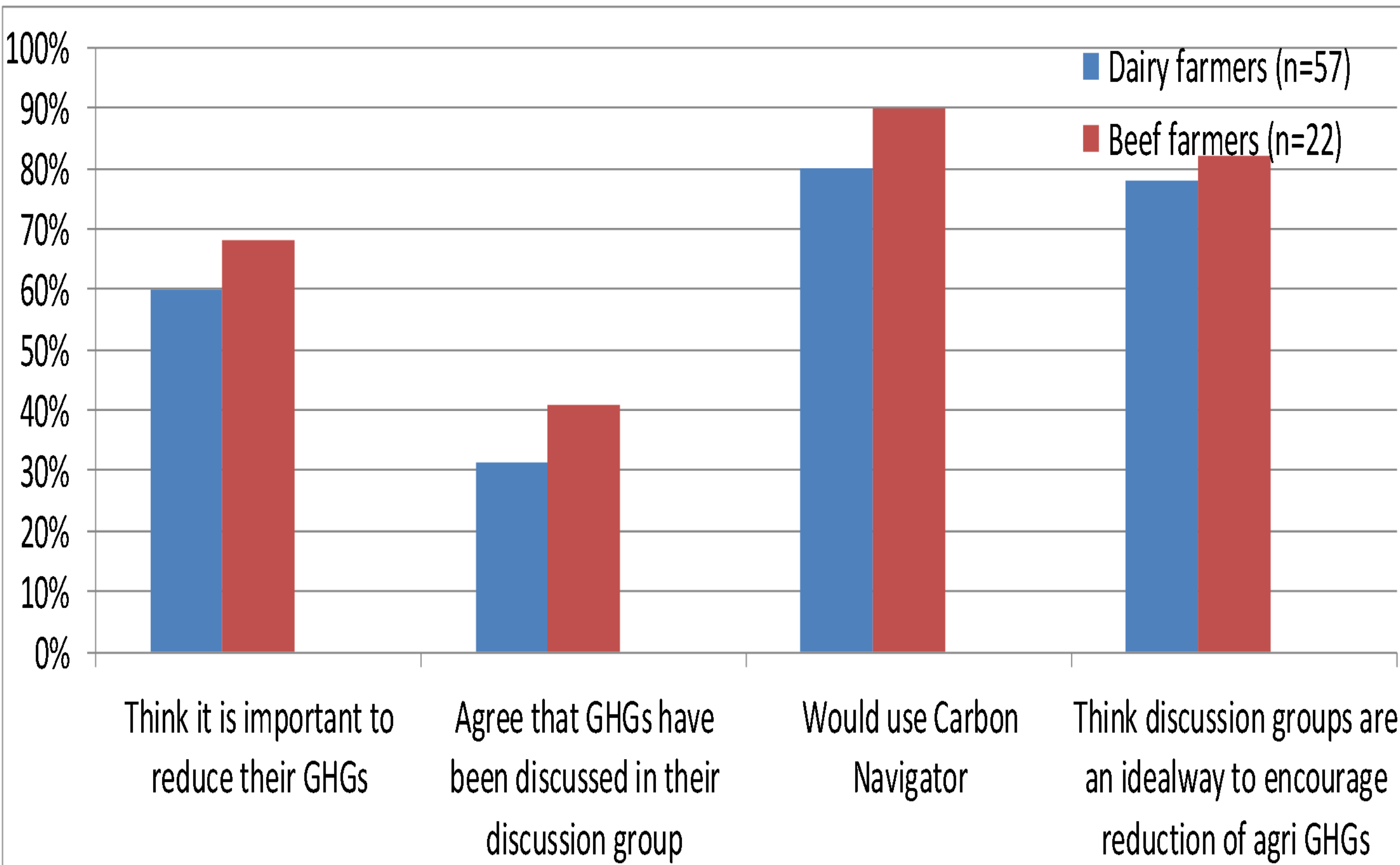
- Structured questionnaires were carried out with beef and dairy discussion group members to assess knowledge about GHG emissions.
- A list of 11 mitigating technologies was provided and farmers were asked to rate these in order of preference.
- Potential methods for roll-out of the Carbon Navigator tool will be evaluated through the use of focus groups.

Carbon Navigator

	Current	Target	Chart	GHG change	€ benefit
Turnout Date	1/4/2010	15/03/2012	Grazing Season Suckler Cows 	-1.5%	+€524
Housing Date	1/11/2010	1/11/2012			
Age at first calving (months)	33.5	30.0	Age At First Calving 	-1.1%	+€703
System	Steers & Heifers	Steers & Heifers	Live Weight Performance 	-0.6%	+€1285
Lifetime live weight per day of age (g)	640.00	760.0			

- A tool developed by Teagasc and Bord Bia to reduce greenhouse gas emissions from livestock production systems.
- Online decision support system which evaluates the adoption of GHG mitigating technologies on a farm.
- Rates farmer adoption of technologies against other farmers in the area.
- Allows farmers to set targets and displays the resulting reduction in GHG emissions and the financial benefit to the farmer.

Key Findings To Date



Graph 1. Respondent attitudes and opinions towards GHGs.

Most popular mitigation technologies

Dairy: - Extending of grazing season length

Beef: - Improve live-weight gain
- Slurry application in spring and in suitable weather conditions

Least popular mitigation technologies

Dairy: - Dietary additives to reduce methane emissions
- Planting of forestry/coppicing of trees, planting of hedgerows

Beef: - Use of urea treated to reduce emissions and losses to air.
- Planting of forestry/coppicing of trees, planting of hedgerows

Next Steps

1. Identify discussion groups to test methods of Carbon Navigator roll-out and assign methods to each.
2. Identify farmers from these groups to participate in focus groups.
3. Hold focus groups to assess the effectiveness of each roll-out method.
4. Analyse the data gathered from these focus groups to identify most effective roll-out method.

Key Conclusions to Date

Conclusions

- GHG emissions isn't being included as a topic in many discussion groups.
- Both dairy and beef farmers would be willing to use a tool like the Carbon Navigator.
- More information may need to be made available on some of the less popular or less known mitigation technologies.

Recommendations

- Include agricultural GHG emissions as a topic in all beef and dairy discussion groups.
- Promote adoption of most popular mitigation technologies immediately.
- Provide more information and support for least popular and lesser known mitigation technologies.



A new nutrient management software tool: the view from farmers and advisors

By: John Ryan Teagasc/UCD MAgSc Innovation Support Student (2014-2016)

Supervisors: Dr Paul Murphy, UCD and Tim Hyde, Teagasc

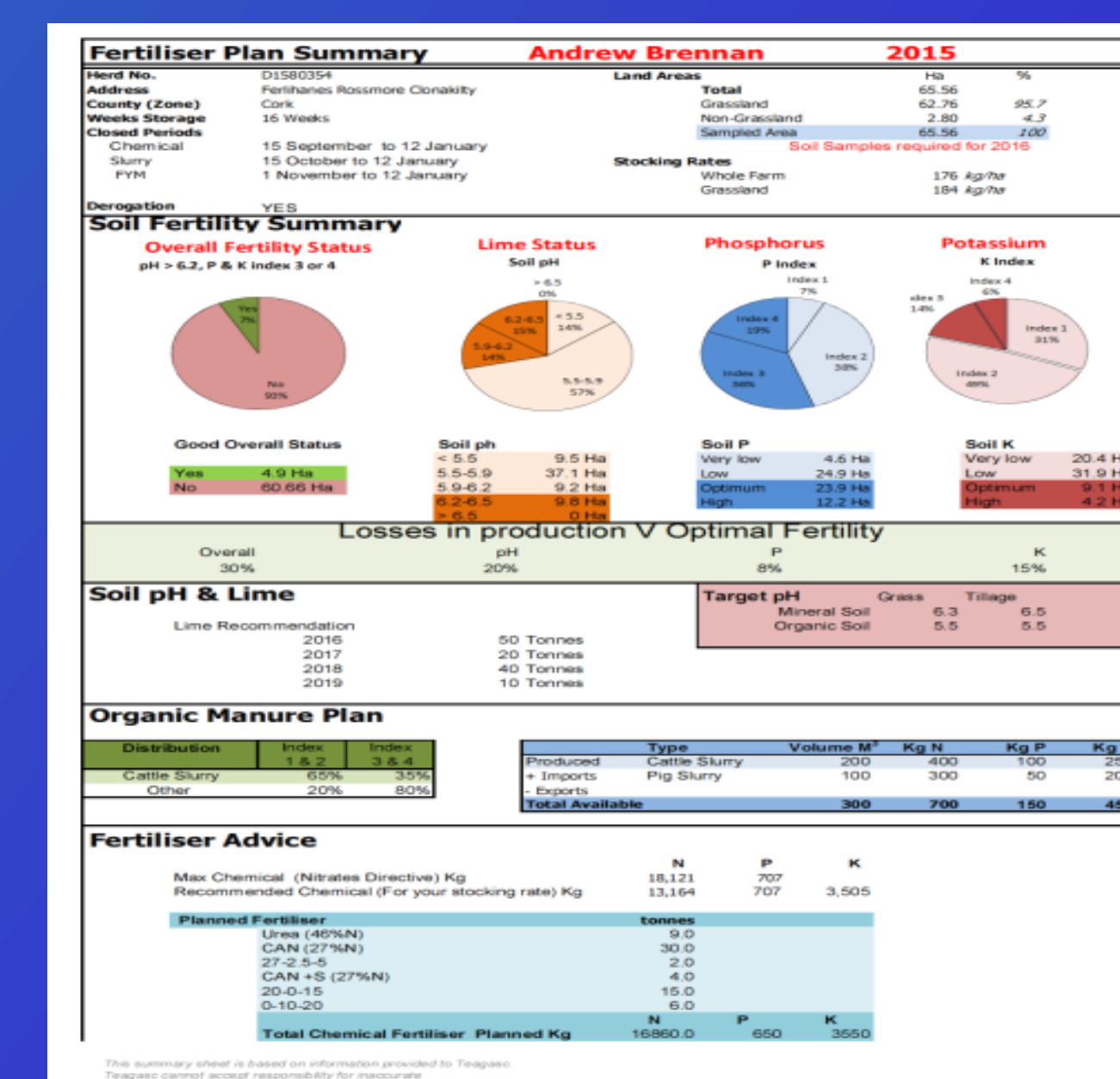
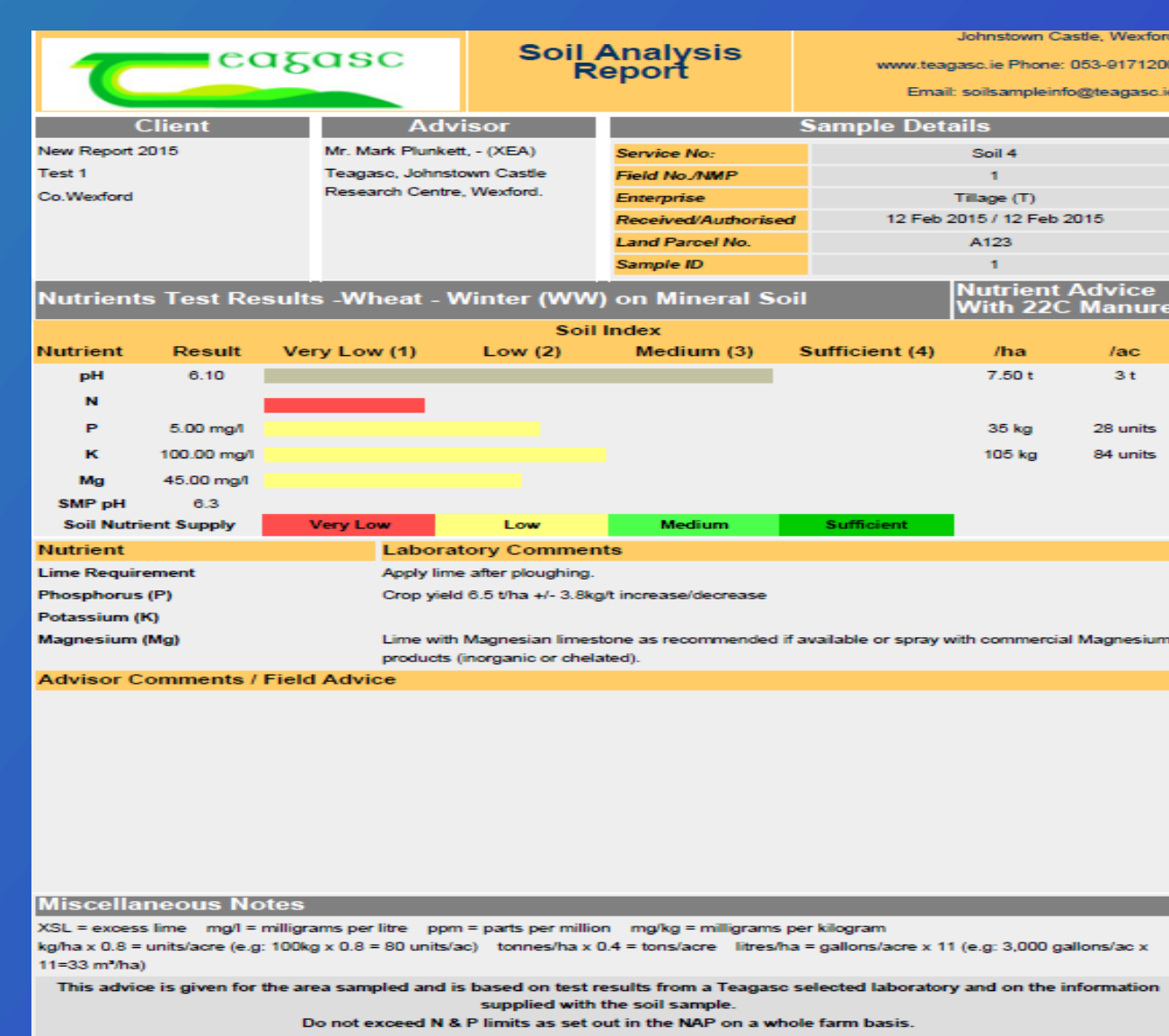


Introduction

- Productive soils are the foundation of any successful farming system, the interpretation of soil test results and the task of nutrient management planning(NMP) are two important elements in the correction of soil fertility.
- Teagasc have recently launched a new nutrient management tool which will generate outputs for farmers such as easy to read farmer friendly land maps, along with updated soil reports and fertiliser plan layouts.
- This study is assessing existing knowledge transfer (KT) soil fertility tools, and assessing how the new NMP on-line tool can be improved to increase the adoption of best practice in relation to soil fertility.

Objectives

- Assess farmer's opinions on the new Soil Reports, Fertiliser Plans & Maps
- Identify key changes needed so this new nutrient management software will have lasting benefits into the future



Methods

- Survey of beef and dairy farmers (25)
- On-line survey of Teagasc staff (164).
- Designed to gather opinions on current NMP tools and what changes they would like to see in future.

Some Results to date

Teagasc staff survey

- Software should include option to pick the farmers preferred method of measurement e.g. Units/acre/ha, Kgs/acre/ha. etc.
- 'Lack of knowledge' was outlined as the main barrier to farmers adopting soil fertility best practices by 67% of Teagasc respondents
- Problem areas were identified in the soil test reports, summary sheets, fertiliser plans and in the new colour land management maps

Farmer survey

- Farmers were very pleased with new coloured maps detailing fertiliser, slurry and lime applications needed, while also suggesting improvements/changes they would like to see made to these.
- Farmers want results presented in a non-scientific fashion(High/Medium/Low rather than "X" Mg/l)
- Farmers want slurry calculations to be presented in gallons/acre/ha rather than cubic metres as it is now.
- Only 56% of farmers knew the correct pH for grassland, while only 24% understood their soil analysis report fully.

Conclusions to date

- The new Teagasc nutrient management tools are good but there is room for further small improvements
- Farmers knowledge on soil fertility needs to be improved, be it through soil fertility campaigns, newsletters or some other medium
- Soil fertility needs to become the primary topic of discussion when trying to maximise grass growth