



ADOPT  
PREDICT. INFORM. ENGAGE.

## The adoption and diffusion outcome prediction tool

### Adoption report for:

UK - Norway follow-up: (6 participants) 4th October 2023 - Drone

### Report Authors:

Ann McLaren

5/10/2023

For more information about ADOPT contact [adopt@csiro.au](mailto:adopt@csiro.au)



# Project Details

---

## MODEL

Standard

## YOUR INNOVATION

Drone

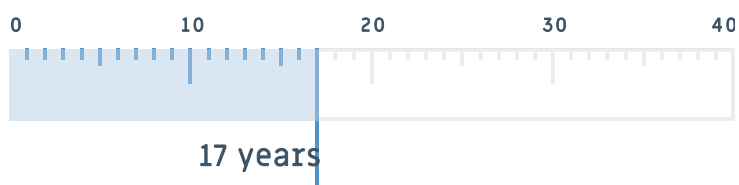
## YOUR POPULATION

UK sheep farmers Group answering (5 farmers & 1 advisor)

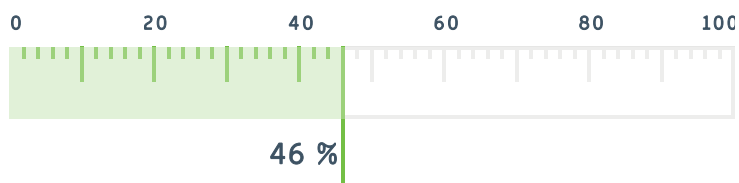
# Adoption Level

---

TIME TO NEAR-PEAK  
ADOPTION LEVEL  
(years)

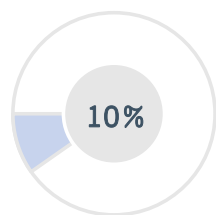


PEAK ADOPTION LEVEL  
(percent %)

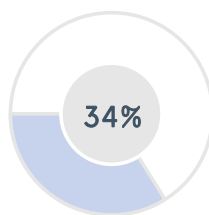


# Predicted adoption levels

---



IN 5 YEARS FROM START



IN 10 YEARS FROM START



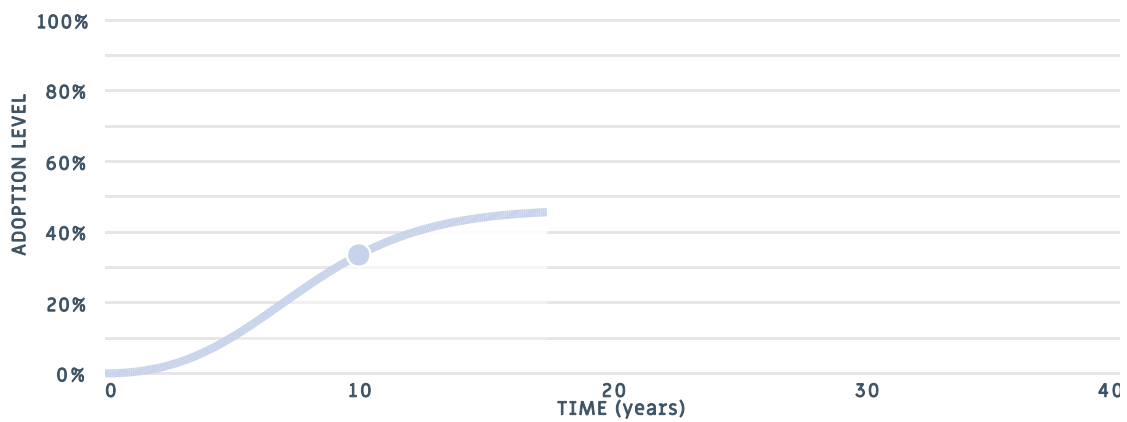
TIME TO 50% OF PEAK ADOPTION  
(years)

**NOTES:** The predictions of Peak Adoption Level and Time to Peak Adoption Level are numeric outputs that are provided to assist with insight and understanding and like any forecasts should be used with caution. Time to Near Peak Adoption represents the time to 99% of the maximum predicted adoption level.

## Adoption level S-Curve

---

The following chart shows how the level of adoption in the relevant population of farmers changes over time.



## Yearly Adoption Levels

---

Year	Adoption %
1	0
2	1
3	3
4	6
5	10
6	15
7	20
8	25
9	29
10	34
11	37
12	40
13	42
14	43
15	44
16	45
17	46

(Peak Adoption)

# Changing the adoption levels

Many of the factors can be changed by activities such as extension. Based on the data entered, the ADOPT model suggests that changing the following factors would have the biggest effect on adoption.

## Changing the peak adoption level

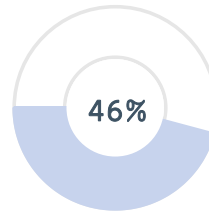
### MOST SENSITIVE QUESTION

- 16 Profit benefit in years that it is used

To what extent is the use of the innovation likely to affect the profitability of the farm business in the years that it is used?

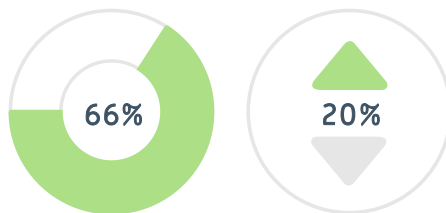
### YOUR RESPONSE

Small profit advantage in years that it is used



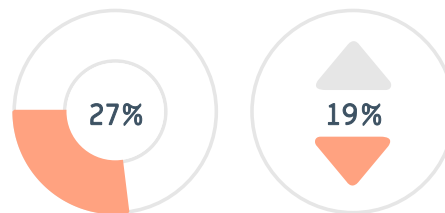
### STEP UP RESPONSE

Moderate profit advantage in years that it is used



### STEP DOWN RESPONSE

No profit advantage or disadvantage in years that it is used



## Changing the time to peak adoption level

### MOST SENSITIVE QUESTION

- 7 Trialable

How easily can the innovation (or significant components of it) be trialled on a limited basis before a decision is made to adopt it on a larger scale?

### YOUR RESPONSE

Moderately triable



### STEP UP RESPONSE

Easily triable



### STEP DOWN RESPONSE

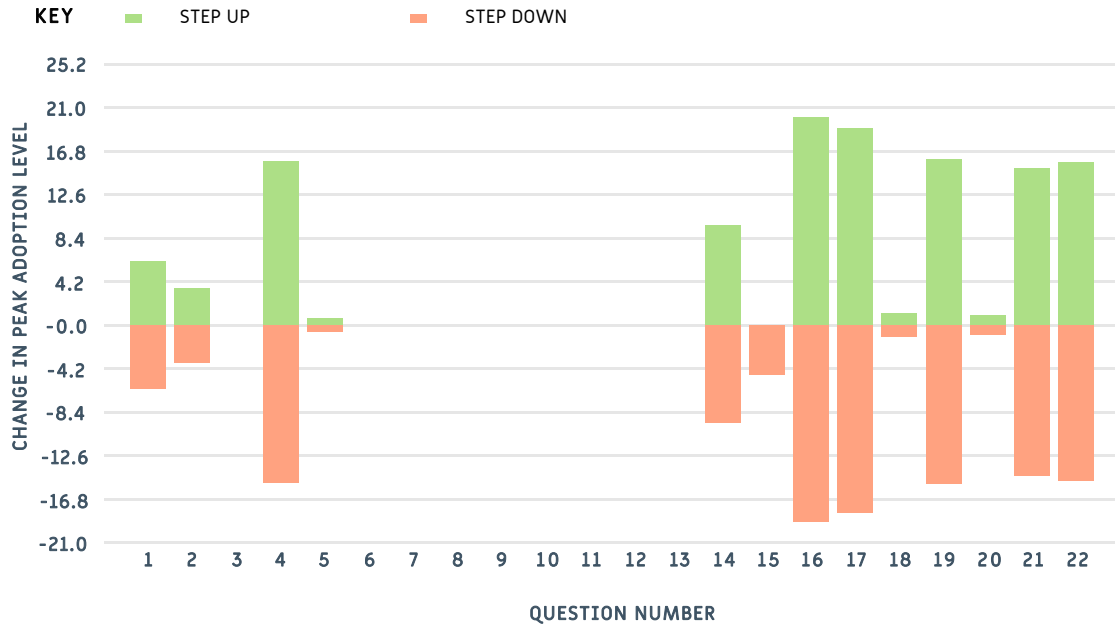
Difficult to trial



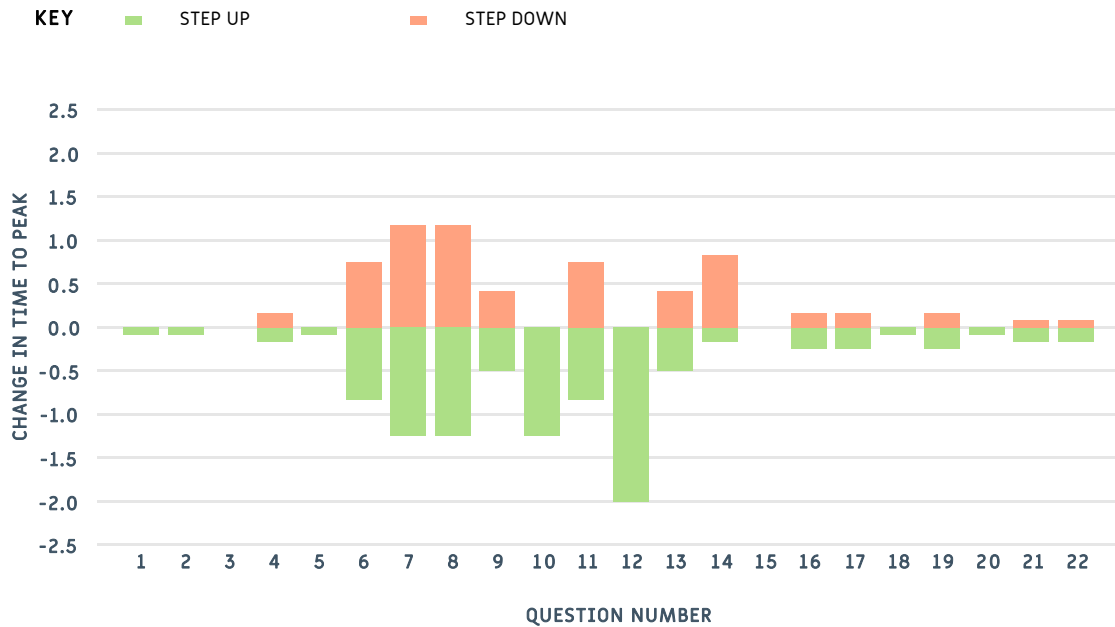
# Sensitivity Analysis

The following charts show the effects on Peak Adoption Level and Time to Peak Adoption of single step changes up and down for all questions.

## Peak level, sensitivity analysis

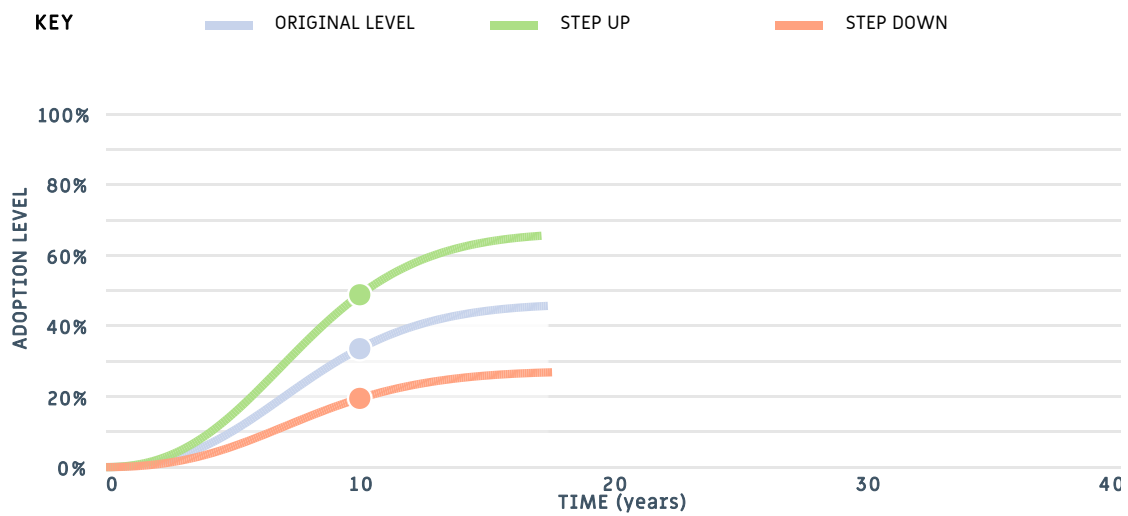


## Time to peak, sensitivity analysis

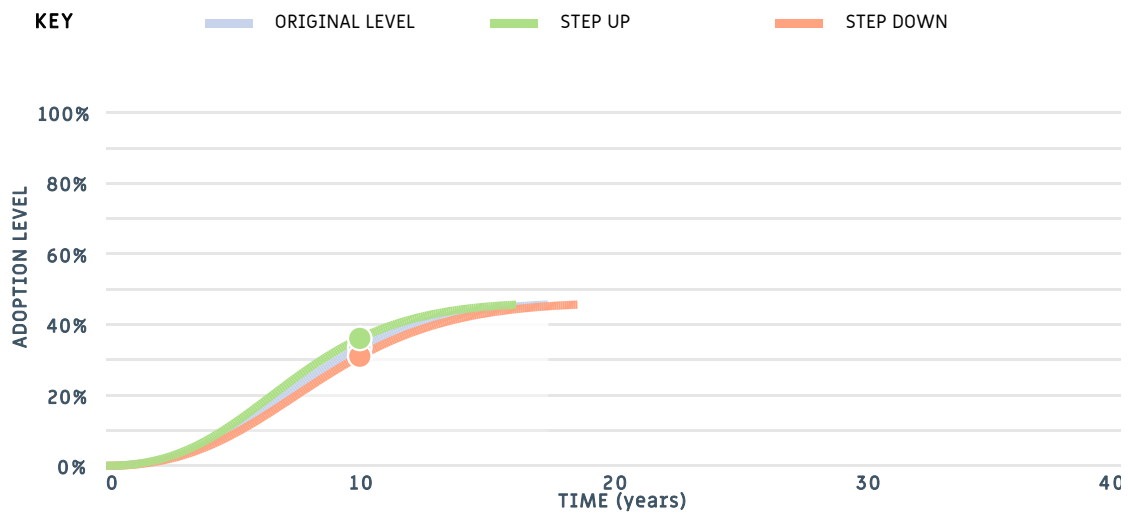


# S-Curve Sensitivity

The following chart shows how the S-Curve is predicted to change when a single step change is made to the most sensitive question(s) with respect to Peak Adoption Level



The following chart shows how the S-Curve is predicted to change when a single step change is made to the most sensitive question(s) with respect to Time to Near Peak Adoption.



# Responses

Question	Response	Reasoning
<b>Relative Advantage for the Population</b>		
1. Profit orientation	A majority have maximising profit as a strong motivation	
2. Environmental orientation	A minority have protection of the environment as a strong motivation	
3. Risk orientation	About half have risk minimisation as a strong motivation	
4. Enterprise scale	About half of the target farms have a major enterprise that could benefit	
5. Management horizon	About half have a long-term management horizon	
6. Short term constraints	A majority currently have a severe short-term financial constraint	
<b>Learnability Characteristics of the Innovation</b>		
7. Trialable	Moderately trialable	
8. Innovation complexity	Slightly difficult to evaluate effects of use due to complexity	
9. Observability	Moderately observable	
<b>Learnability of Population</b>		
10. Advisory support	Almost none use a relevant advisor	
11. Group involvement	A minority are involved with a group that discusses farming	
12. Relevant existing skills & knowledge	Almost all need new skills and knowledge	
13. Innovation awareness	About half are aware that it has been used or trialed in their district	

---

## Relative Advantage of the Innovation

---

14. Relative upfront cost of the project	Moderate initial investment
15. Reversibility of the innovation	Very easily reversed
16. Profit benefit in years that it is used	Small profit advantage in years that it is used
17. Future profit benefit	Small profit advantage in the future
18. Time until any future profit benefits are likely to be realised	Immediately
19. Environmental costs & benefits	Small environmental advantage
20. Time to environmental benefit	Immediately
21. Risk exposure	No increase in risk
22. Ease and convenience	Moderate increase in ease and convenience

ADOPT can be cited as: Kuehne G, Llewellyn R, Pannell D, Wilkinson R, Dolling P, Ouzman J, Ewing M (2017) Predicting farmer uptake of new agricultural practices: A tool for research, extension and policy, *Agricultural Systems* 156:115-125  
<https://doi.org/10.1016/j.agsy.2017.06.007>

While CSIRO makes every effort to ensure that the information on this site (including the ADOPT tool and associated materials) is accurate, current and complete, CSIRO makes no representations, conditions or warranties of any kind, express or implied, as to the operation or results of this site, or accuracy, correctness or reliability of the information available on this site. The information provided is subject to the usual uncertainties of research and does not constitute expert advice. Users should not rely solely on any of the information provided. To the maximum extent permitted by law, CSIRO does not guarantee the completeness or accuracy of any of the information contained on or accessed through this site and excludes all liability to any person arising directly or indirectly from using this site and any information or material available on it.



# ADOPT: Adoption and Diffusion Outcome Prediction Tool.

