

**Supplementary Information (SI.)**

**(SI.1) The Use and Perception of Cover Crops Survey**

Please tick the most, or as many relevant options and feel free to add comments on the dotted lines.

1. What is your occupation?

- |                                      |   |
|--------------------------------------|---|
| <input type="radio"/> <i>Grower</i>  | <input type="radio"/> <i>Agronomist</i> |
| <input type="radio"/> <i>Advisor</i> | <input type="radio"/> <i>Other</i>      |
| <input type="radio"/> <i>Student</i> |   |

*(ROI Q1.1) What County are you from? .....*

2. What do you understand the function/ benefits of cover crops (catch crop, green manure) to be?

- |   |   |
|---|---|
| <input type="radio"/> <i>Grown to improve soil fertility</i>                | <input type="radio"/> <i>Grown to improve soil structure</i>            |
| <input type="radio"/> <i>Manage weeds, pests &amp; diseases</i>             | <input type="radio"/> <i>Provide winter grazing in arable rotations</i> |
| <input type="radio"/> <i>Captures residual nutrients that are leachable</i> | <input type="radio"/> <i>No benefit</i>                                 |

3. Have you considered growing a cover crop?

- |                                  |                                 |
|----------------------------------|---------------------------------|
| <input type="radio"/> <i>Yes</i> | <input type="radio"/> <i>No</i> |
|----------------------------------|---------------------------------|

4. Have you ever grown a cover crop?

- |                                  |                                 |
|----------------------------------|---------------------------------|
| <input type="radio"/> <i>Yes</i> | <input type="radio"/> <i>No</i> |
|----------------------------------|---------------------------------|

**If you haven't planted a cover crop please skip to question 10.**

5. If you have, what species have you planted?

- |  |   |
|--|---|
| <input type="radio"/> <i>Fodder radish</i>               | <input type="radio"/> <i>Buckwheat</i>      |
| <input type="radio"/> <i>Crimson clover</i>              | <input type="radio"/> <i>Berseem clover</i> |
| <input type="radio"/> <i>Stubble turnips</i>             | <input type="radio"/> <i>Vetch</i>          |
| <input type="radio"/> <i>Tillage radish</i>              | <input type="radio"/> <i>Phacelia</i>       |
| <input type="radio"/> <i>Mustard</i>                     | <input type="radio"/> <i>Black oats</i>     |
| <input type="radio"/> <i>Lucerne</i>                     | <input type="radio"/> <i>Forage rye</i>     |
| <input type="radio"/> <i>Beans</i>                       | <input type="radio"/> <i>Fodder rape</i>    |
| <input type="radio"/> <i>Grass (any type)</i>            | <input type="radio"/> <i>Red clover</i>     |
| <input type="radio"/> <i>Peas</i>                        | <input type="radio"/> <i>White clover</i>   |
| <input type="radio"/> <i>Other - please specify.....</i> |   |

6. How did you grow them?

- Mixture*
- Monoculture*

8. Why do you (did you) grow cover crops?

- Manage weeds, pests & diseases*
- Improve soil health and structure*
- Capture residual nutrients to reduce leaching*
- Provide nutrients through biological fixation*
- Provide forage for livestock*
- Increase soil organic matter*
- Integrated crop management*
- Other* – *please specify*.....

9. How did you establish it?

- Plough and sow*
- Scratch and drill*
- Scratch and broadcast*
- Direct drill*
- Broadcast*
- Other* – *please specify*.....

10. If you have grown a cover crop, what benefits (if any) did you see in the subsequent crop?

- Increased yield*
- Reduction in fertiliser input*
- Healthier crop*
- Other – please specify*.....
- No difference but an investment in soil health and sustainability*
- No difference and not worth it*

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11. Cover crops are grown as part of integrated crop management. What problems in particular do you have on your arable land that cover crops could contribute to resolving, improving/mitigating?

- Low/ no organic matter return*
- Poor/ highly restricted rotation requiring diversity*
- Decline in yield*
- Nitrogen and phosphorous leaching overwinter (loss of nutrients)*
- Weeds, pests & diseases*
- Soil erosion*
- Soil structure concerns*
- No problems*
- Soil health concerns*
- Other* – *please specify*.....
- Compaction*

12. Do you think that cover crops could be a more profitable way to return organic matter compared to chopping straw given the high price of straw?

- Yes
- No

13. Do you use manures or slurries in your cereal/vegetable rotation?

- Yes
- No

*What types? Estimated rates (please give quantities/ area e.g. gallons/ acre) on arable rotations annually.*

- Pig .....*
- Cattle.....*
- Chicken.....*
- Digestate.....*

14. If you spread organic manures, do you take account of their nutrient values and what they provide to the subsequent crop?

- Yes
- No

15. What crops do you grow?

- Wheat*
- Winter barley*
- Spring barley*
- Potatoes*
- Spring oats*
- Other* – *please specify.....*
- Winter oats*
- Maize*
- Beans*
- Carrots*
- Oilseed rape*

16. Between which crops would you consider or have grown a cover crop?

- Winter barley – Spring crop*
- Winter wheat – Spring crop*
- Spring barley – Spring crop*
- Oats – Spring crop*
- Any cereal - Vegetables*
- Other* – *please specify.....*
- Vegetables – Spring crop*
- Over summer as part of a fallow rotation*
- Maize – Spring crop*

17. How much would you be willing to pay for cover crop seed per acre or have spent?

- >£10/acre*
- £10-15/acre*
- £15-20/acre*
- <£20/acre*
- Whatever provides the greatest economic return*

18. If you plan to grow a cover crop in the future, how do you plan to sow it, in terms of the machinery you currently have (making the most of what you've got)?

- Plough and sow*
  - Scratch and drill*
  - Scratch and broadcast*
  - Other*
  - Direct drill*
  - Broadcast*
  - Contractor*
- 
- please specify.....*

19. How do you plan to destroy and incorporate the crop?

- Herbicide*
  - Plough straight in*
  - Other*
  - Flail*
  - Disc*
- 
- please specify.....*

20. Growing cover crops is much more widely adopted in mainland Great Britain compared to Northern Ireland. What are the biggest limitations we have? (Removed from ROI survey)

- Shorter growing season to establish a successful cover crop*
- Higher autumn rainfall*
- Less knowledge about the practice*
- Less localised research on the subject*
- Lack of subsidies*
- Less machinery capable of adopting the practice*
- Better rotations with grass in NI means they aren't required.*

(Q.19.1 ROI) Do you receive subsidies for growing cover crops?

- Yes*
- No*

(Q.19.2 ROI) If subsidies were removed, would you still grow cover crops?

- Yes*
- No*

21. Are cover crops something you want to know more about?

- Yes*
- No*

If so, what would you like to have more information on?

- Effects on yield of subsequent crop*
- Identification of optimal species to local conditions and rotations*
- Species characteristics – (biomass yields, root yield, height, speed of decay, nutrient supply to subsequent crop)*
- Effect on soil health (organic matter, earthworm numbers and fertility)*
- Effect on soil structure (bulk density, infiltration rates and ability to relieve compaction)*
- Most cost efficient method of sowing for each species*
- When and how to destroy and incorporate*

- **Economics of growing them**
- **Other** — **please**  
**specify.....**

