

‘Protecting Water’

*Phil Jarvis
Voluntary Initiative Chair*

BCPC 9th Nov 2022



**The
Voluntary
Initiative**

**An industry led programme.
promoting the responsible use
of pesticides through an IPM-
based approach**

History

Set up in response to the threat of a pesticide tax, the VI started with a five year term, running from 2001 to 2006.

- **Planning**
- **Sprayer Testing**
- **Operator Training**
- **Adviser training & qualification**
- **Adoption of best practice**

Heightened level of professionalism has produced a clear level of accountability from the farming industry.



**The
Voluntary
Initiative**



NSTS
2011 saw the most number of sprayers ever tested under the NSTS, at over 14,200 machines. They represented 86% of the UK sprayed area and with over 62% of these machines requiring repair or rectification, the importance of tests is clear.

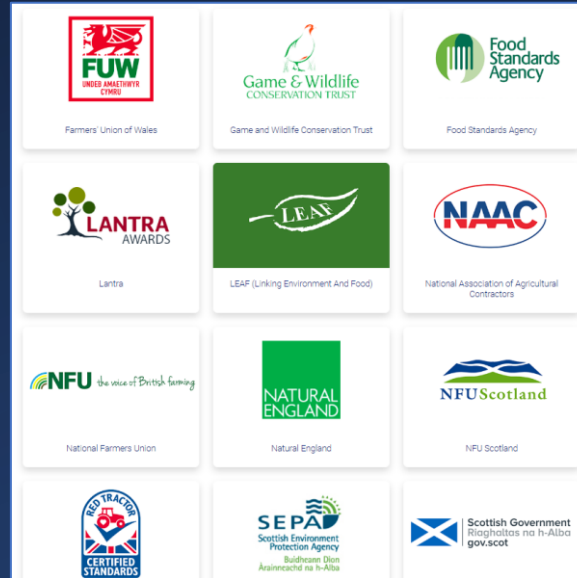
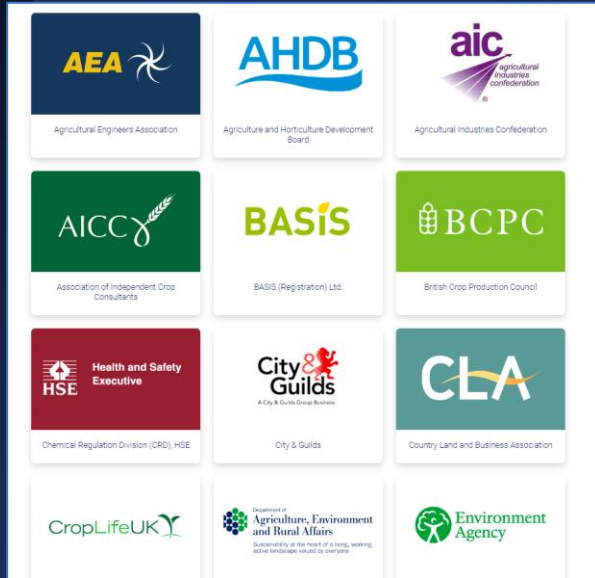
Water
An overall reduction of around 30% in levels of key indicator pesticides were observed from 2006/07 to 2010/11 in six water catchments where VI advice has been actively promoted.

NRSO
The National Register of Sprayer Operators has seen 29,371 members join the scheme over the eight years since it began in 2003. Active membership has exceeded 20,000 since January 2005, and currently stands at 20,359.

The VI at 21

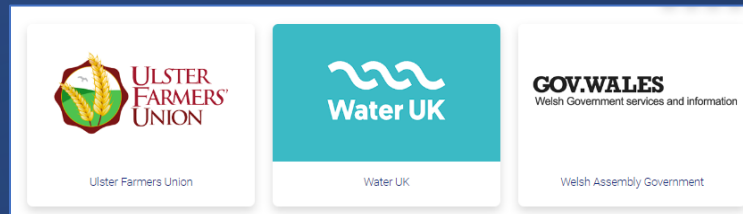
The Voluntary Initiative
Championing IPM
(2001 - 2022)

Wider Strategy Group

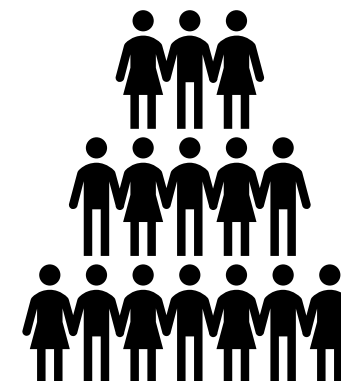


Community Interest Company

[Agricultural Engineers Association](#)
[Agricultural Industries Confederation](#)
[Country Land and Business Association](#)
[CropLife UK](#)
[National Association of Agricultural Contractors](#)
[National Farmers Union of England and Wales](#)
[National Farmers Union of Scotland](#)
[Ulster Farmers Union](#)



VI: facilitation across the sector



Holistic Picture

- Nutrients
- Other water contaminants
- Integrated water plans

- National Action Plan PPP, ELMS
- Defra engagement – Pesticide Forum and consultations

Key VI Aims

1. Integrated Pest Management
2. **Minimising the risks of pesticides to surface and ground water**
3. Minimising risks and impacts of pesticides to wildlife
4. Training and Education
 - **National Register of Spray Operators (NRoSO)**
 - **National Sprayer Testing Scheme**
 - **IPM Plans**





VI Dedicated Water Group



Websites & Webinars

Advice

Everything you need to help keep pesticides out of water.



Farming and Water Scotland Advice Page on Pesticides

Pesticides such as herbicides, fungicides, and insecticides can all cause problems for wildlife and water quality. Here's information on...



OSR Herbicides?: Think Water!

A VI Stewardship Scheme to build on existing best practice to protect water and avoid restrictions on these products



Check It Out

A VI tool to help farmers and sprayer operators review and improve spraying practices and so reduce the risk of pesticides reaching water.



H2OK? Best Practice Advice

A summary of best practice advice for keeping pesticides out of water.



Responsible Use

Responsible use means getting the basics right all the time.



WPAS

Water Protection Advice Sheets



Propyzamide, Product and Pest Management.

10 November 2021
Free Webinar – "Propyzamide, Product and Pest Management."



What's going on in my Farmyard

01 September 2021
Top Tips for Filling, Mixing and Maintenance



Let's talk Oilseed Rape IPM Seed, Site and Sprays

28 July 2021
This webinar outlined those challenges and discussed how an IPM-based approach can help mitigate some of those challenges.



IPM: Pests, Predators & Pollinators

16 June 2021
The second in our series of webinars was attended by ~70 attendees and resulted in some lively discussion. Copies of the presentations ca...



Protecting Water

26 May 2021
Protecting Water" attracted 80 attendees and produced a lively session. This was held on Zoom on Wednesday 26th May from 16.00-17.00.

Websites & Webinars

Oilseed Rape Herbicides / Information Sheet 1

What's the Problem?

Oilseed rape has a valuable role in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

The threat to water
Five key herbicides are not only available to oilseed rape producers, but they deliver benefits across arable rotations. But their detection in drinking water sources could result in restrictions on use and / or without the application of best practice to their possible withdrawal.

Think Water
Even used with care, minute amounts of pesticide have the potential to reach water courses. This in turn poses challenges to water companies striving to comply with the UK water quality legislation and Drinking Water Standards.

How pesticides reach water courses

Application - unsuitable weather and soil conditions

Drainage - run-off from fields into water courses

Run-off and erosion - pesticides in solution, or attached to soil particles are readily carried to water courses through run-off which in extreme conditions can involve erosion

Soil structure - especially soils with compacted or crusted surface or a plough can create a barrier to pesticides to water courses

Paying attention to all these factors will help protect water and prevent the use of Oilseed Rape Herbicides. Detailed further advice on key topics is available in other sheets in this series.



THE KEY HERBICIDES
carbetamide
clopralid
metazachlor
propyzamide
quinclorac



www.osrherbicides.org.uk

Oilseed Rape Herbicides / Information Sheet 3

Cropping Decisions and IPM

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

What is IPM? (Integrated Pest Management)
IPM is a way of using pest prevention methods, integrating appropriate techniques to discourage weeds, pests and diseases. In practice, this means using crop rotation, variety selection, cultivation, agronomy, forecasting and monitoring tools alongside the prudent use of pesticides.

Why does IPM matter?
The UK's Integrated Pest Management (IPM) is based on farms to overcome pesticides use by adopting other means to reduce the challenge from weeds, pests and diseases.

Do you need to grow winter oilseed rape?
A range of other crops, including field beans, peas, broad, maize or spring sown cereals, can be grown where the risk of oilseed rape herbicides reaching water is deemed high. Some crops also use of herbicides to tackle persistent weeds, such as black-grass. Others provide an extensive window for cultivations and other methods of reducing herbicides.

Soil management
Cultivation breaks field conditions, can improve drainage. However, careful attention must be paid to soil and water conditions to avoid damaging soil structure or causing compaction.

Pre-cultivation operations
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Oilseed Rape Herbicides / Information Sheet 2

Reducing drainflow losses

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

Why does drainflow matter?
When this is mainly an advantage for crop production, it also poses an increased risk of rapid movement of herbicides to water courses. Research suggests that over 90% of all herbicides can occur through drainflow. These losses may not always cause the toxicity associated with a spill or a run-off event, but through the sheer volume it is likely to reach water courses. Drainflow can also cause a 'leach-through' effect. Once in the water, herbicides are more likely to be washed and transported, thus reducing risk of run-off. However, where they do reach water courses, they pose a risk to grass can accelerate pesticide movement to watercourses.

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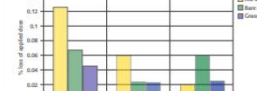
Oilseed Rape Herbicides / Information Sheet 5

Reducing run-off with grass buffer strips

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

Why do grass buffer strips matter?
Grass buffer strips are areas of land with permanent vegetation that slow run-off and allow time for drainage. Usually established beside watercourses, they can be effective when established in fields across slopes to restrict flow down long slopes. Grass buffer strips can reduce run-off losses by over 50%.

Effect of buffer strips on loss of applied propyzamide



For more information on energy, residue and management see:
https://www.voluntaryinitiative.org.uk/media/1210/propyzamide.pdf

For more information on energy, residue and management see:
https://www.voluntaryinitiative.org.uk/media/1210/propyzamide.pdf

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www.osrherbicides.org.uk

Oilseed Rape Herbicides / Information Sheet 10

Reducing run-off managing tramlines

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

Why does tramline management matter?
Up to 80% of pesticides run-off from arable fields can come from tramlines when soil is often compacted. Therefore managing tramlines to minimise compaction and reduce run-off is an important part of keeping herbicides out of watercourses.

Tramlines on moderate slopes:

Mechanical options
A series of shallow or a single line - a **tramline ditch** - operating in shallows behind the tractor can break up the soil surface and improve infiltration. Grants may be available to help fund such equipment.

For more information see:
https://www.voluntaryinitiative.org.uk/media/1210/propyzamide.pdf

For more information see:
https://www.voluntaryinitiative.org.uk/media/1210/propyzamide.pdf

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https://www.voluntaryinitiative.org.uk/media/1210/propyzamide.pdf



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Oilseed Rape Herbicides / Information Sheet 3

Herbicide application

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

Why does application matter?
Following best practice when applying herbicides to oilseed rape will ensure optimum performance from the products. However, paying attention to detail, especially weather and soil conditions, will also increase the risk of herbicide run-off from the field to watercourses.

Weather
Pay close attention to weather conditions both for optimal weed control and to minimise the risk of herbicides reaching water.

Local Risks
The Government Agency's 'What's in your Back Yard' (WBY) will identify if your farm is in a Drinking Water Protection Zone and if any oilseed rape herbicides are identified as 'high risk'.

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Oilseed Rape Herbicides / Information Sheet 2

Assessing the Risks

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

What are the risks?
The risks of oilseed rape herbicides affecting drinking water sources are more, including pest weeds, run-off after heavy rain, losses through steep soil erosion, field drains and accidental overspray of ditches.

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Oilseed Rape Herbicides / Information Sheet 6

Crop protection for arable and livestock farms

Oilseed rape plays a valuable part in many farm rotations as a break and 'cleansing' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.

Why does crop protection matter?
Crop protection is essential for ensuring that oilseed rape crops are able to reach their full potential. This involves a range of practices, including weed control, pest and disease management, and soil fertility management.

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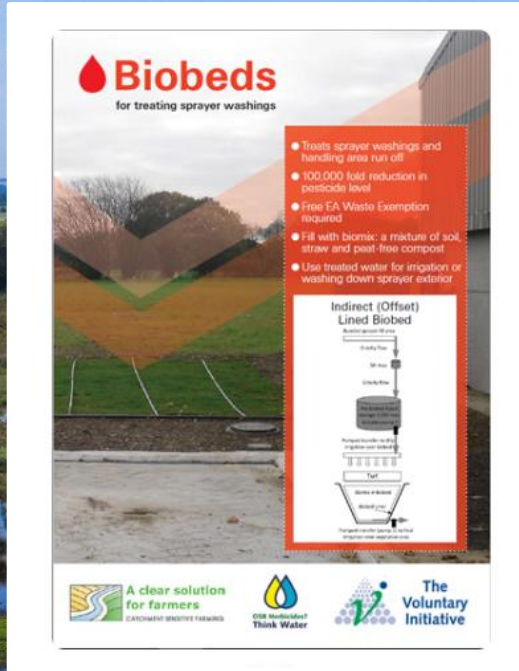
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Championing the

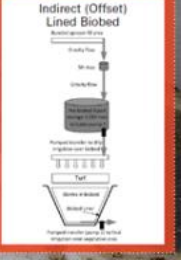
Websites & Webinars



Biobeds
for treating sprayer washings

- Treats sprayer washings and handling area run off
- 100,000 fold reduction in pesticide level
- Free EA Waste Exemption required
- Fill with biomic: a mixture of soil, straw and peat-free compost
- Use treated water for irrigation or washing down sprayer exterior

Indirect (Offset) Lined Biobed



A clear solution for farmers
SUSTAINABLE INNOVATIVE FARMING

OSR membership! Think Water

The Voluntary Initiative

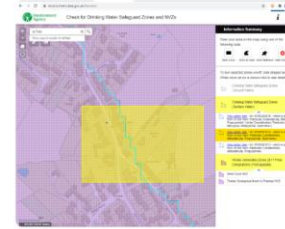
The Environment Agency's resources for farmer's page

The Environment Agency provides a useful tool that can be used to determine if your farm drains into a drinking water protected area safeguard zone.

The map has recently been re-designed to be easier to use and more informative. This should be consulted regularly to ascertain which, if any, pesticides are causing concerns in your area so that you can take steps to help address these.

To use the Water Safeguard Zone map, enter your location (postcode), draw a box (or shape) around your farm and then click on the highlighted actions on the right for any surface water protection zones and groundwater protection zones specific to your location. Check out this [handy guide](#) that highlights and takes you through some of the improvements.

You can visit the [EA's page here](#).



Protecting Water

- Jim Orson (NIAB and the VI Board) – How to stop water running downhill?
- Sarah Jones (Dwr Cymru/Welsh Water) – PestSmart and weed wiping for rush control in grassland.
- Danny Coffey (Affinity Water) – Reducing OSR herbicides in water
- Mark Buckingham (Bayer Crop Science) – Using Glyphosate successfully and responsibly for harvest management
- Jim Egan (Kings Crops) – Buffers and the Environment.

For NRoSO/BASIS points, email info@voluntaryinitiative.org.uk

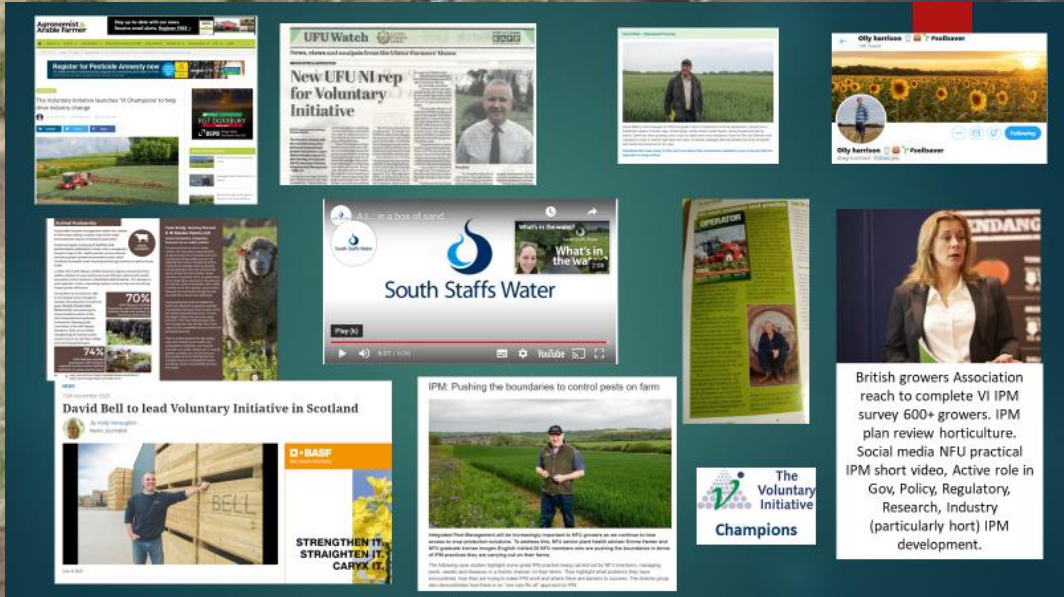


Catchment Sensitive Farming

Working together for a healthy environment



VI Champions - a resource for the Ag and Water industry



VI Champion speaking about IPM at Yorkshire Water Selby and Doncaster Catchment Event

13 October 2022

Featuring speakers from the Farming Advice Service, Catchment Sensitive Farming and Yorkshire Water, as well as Richard Bramley of the Voluntary Initiative and Angus Gowthorpe of Approach Farm, Yorkshire.

With an introduction to the free one-to-one advice on offer from Yorkshire Water and other partners, hear how **soil health, nutrient management and pesticide stewardship** can benefit your farm business whilst protecting water quality in your catchment.

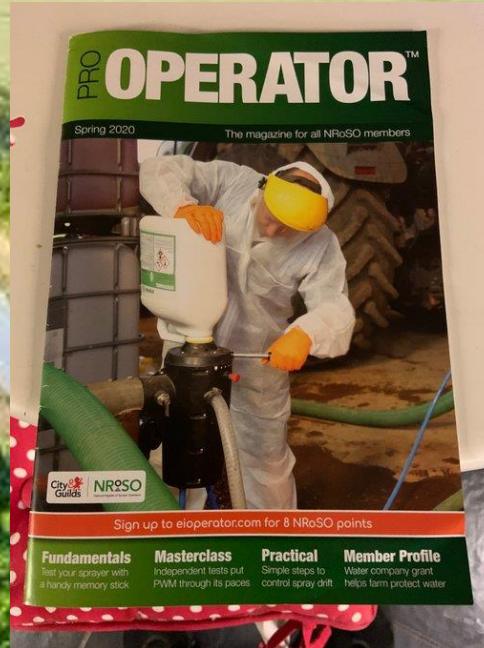
The event will include a number of **short indoor presentations** followed by a **hot buffet** and opportunity to discuss the project and how you can benefit from getting involved.













Doncaster, Thurs 20th Oct, 16.00-19.00. To book a ticket and find out more, see here:

<http://ow.ly/htsc50L4iLp>



Knowledge and CPD



 <p>BeeConnected NR2SO Points voluntaryinitiative.org.uk</p>	 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>	 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>
 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>	 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>	 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>
 <p>NR2SO - Farmers Weekly fwi.co.uk</p>	 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>	 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>
 <p>NR2SO CPD Point Sources Vo... voluntaryinitiative.org.uk</p>	 <p>NR2SO and BASIS points on Ei... eioperator.com</p>	 <p>BASIS / NR2SO CPD Points P...</p>



On the Farm



Greenway Training's
NRoSO workshop
welcomes VI
Director of
Operations



New IPM Plans

- Based on research of Henry Creissen *et al.*, 2019
- Based on Agronomic and Social Science
- IPM Score 0-100
- Arable (Broad acre) IPM Plan launched Dec 2020
- Grassland IPM Plan launched Jan 2021
- Horticulture plan launched in April 2022
- Scottish version developed



Pest Management Science 

Research Article

Measuring the unmeasurable? A method to quantify adoption of integrated pest management practices in temperate arable farming systems

Henry E Creissen, Philip Jones, Richard B Tranter, Robbie D Girling, Stephen Jess, Fiona J Burnett, Michael Gaffney, Fiona S Thorne, Steven Kildea

First published 29 March 2019 | <https://doi.org/10.1002/ps.5428> | Citations: 2

Read the full text >   

Abstract

BACKGROUND

The impetus to adopt integrated pest management (IPM) practices has re-emerged in the last decade, mainly as a result of legislative and environmental drivers. However, a significant deficit exists in the ability to practically monitor and measure IPM adoption across arable farms; therefore, the aim of the project reported here was to establish a universal metric for quantifying adoption of IPM in temperate arable farming. This was achieved by: (i) identifying a set of key activities that contribute to IPM; (ii) weighting these in terms of their importance to the achievement of IPM using panels of expert stakeholders to create the metric (scoring system from 0 to 100 indicating level of IPM

ADVANCED SCIENCE 

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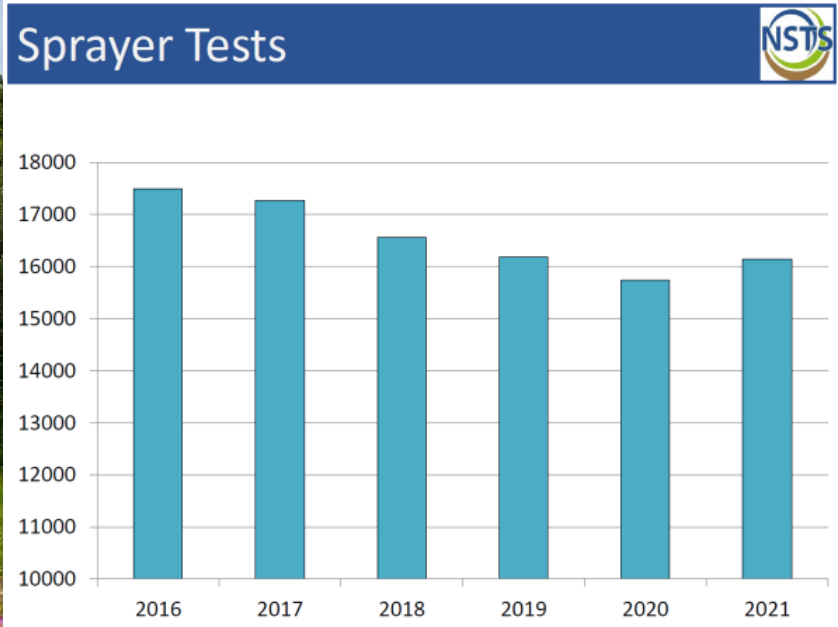
Related 

Metrics

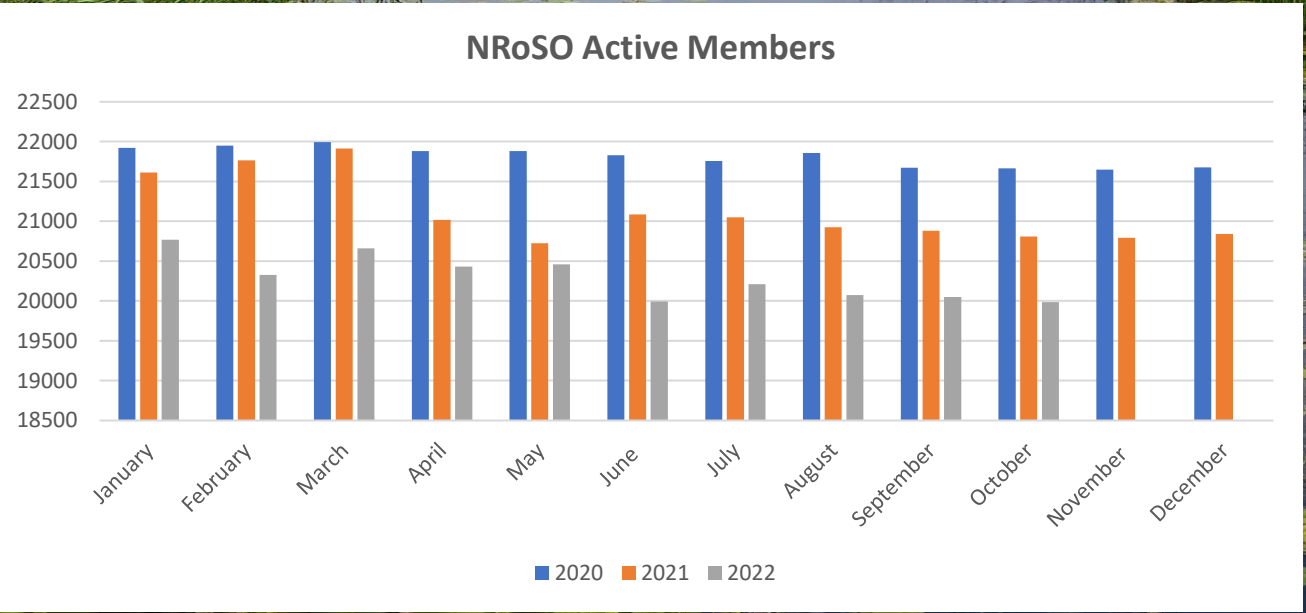
Citations: 2



KPI's



Year	IPM type	Respondents
2022	Arable	4560
2022	Grassland	307
2022	Hort/Potato	136
2021	Arable	4372
2021	Grassland	269



Summary



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