**VI/NFU IPM Plan - for farmers who grow grassland as a main crop**

Completing an IPM plan annually will help ensure that opportunities to improve productivity are not missed and also help meet the market demand to see more sustainable practices and reduced reliance on pesticides. It may also be necessary for compliance with farm assurance schemes.

Numbers completing the previous VI IPM Plan annually had risen to nearly 8,000 businesses, mainly in England and Wales. The structure of that plan meant that collating information to measure the industry’s progress in adopting IPM was impossible. In addition, it did not fully recognise that one key aspect of IPM is the need to evaluate regularly the approaches adopted. So, it has been revised in order that the increasing uptake of IPM can be demonstrated to the industry’s customers and to Government and its agencies.

IPM is a whole farm approach to pest management that maximises productivity whilst minimising negative impacts on the environment (<https://europa.eu/european-union/topics/environment_en>). Individual businesses can take many different but totally appropriate approaches to adopting IPM practices. The VI/NFU IPM Plan provides scores for the different components of IPM so enabling improvements to be measured.

Creissen et al. (2019) outline a validated scoring system, developed and refined by agricultural and social science specialists and field tested throughout the UK and Ireland. This system has statistical validity and has been subjected to peer review. We have adopted it for our VI/NFU IPM Plan and online completion of the form enables automatic collation. In answering individual questions and sub‑questions, scores are provided for individual farm or grower businesses as well as national scores or scores according to farm size and farming system. It will let individual businesses evaluate their practices and continue to improve and develop IPM planning.

Pesticide use in grassland is dominated by herbicides. Hence the VI/NFU IPM Plan for farm businesses with no other crop than grass only covers Integrated Weed Management (IWM).

The VI/NFU IPM Plan has been designed to be straight-forward and easy to complete. Data collected from individual businesses will not be published or allow businesses to be identified by inference. The VI/NFU IPM Plan is not concerned with, and does not collect data relating to, farm assurance schemes, farm support payments, Cross Compliance activities or Agri-Environment schemes. All data supplied will be treated in the strictest confidence and will be used solely for the purposes of measuring the uptake of IPM by the industry.

The VI would like to thank Henry Creissen and Fiona Burnett of SRUC and Philip Jones of the University of Reading for their help in compiling this IPM Plan. It has been based on “Measuring the unmeasurable? A method to quantify adoption of integrated pest management practices in temperate arable farming systems” by Creissen *et al.*, 2019, Pest Management Science, **75**, 3144-3152 with funding from Scottish Government Strategic Research programme, Rural Business Research (England), Department of Agriculture, Food and the Marine (Ireland) and Department of Agriculture, Environment and Rural Affairs (Northern Ireland) (https://doi.org/10.1002/ps.5428).

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*Please answer the questions as accurately as you can. Good data is needed to provide you with a realistic measure of the adoption of IPM by your business.*

* + *Please read question instructions carefully as the type of response required may vary from question to question.*
  + *Please complete the survey in full*
  + **Please email completed surveys to spencer.collins@nfu.org.uk**

**First Name:**

**Surname:**

**Email Address:**

**[1] How familiar are you with Integrated Pest (Weed) Management?** *Please tick one answer only.*

Not at all familiar

Somewhat unfamiliar

Moderately familiar

Familiar

Very familiar

**[2] What proportion of your grassland is** **annually treated with herbicide?**

      %

**[3] How important is soil, grass and stock management as part of your strategy to control weeds?** *Please**place one X per row.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Irrelevant | Not  important | Neither  important  or  unimportant | Important | Essential |
| Soil management (fertility, compaction, drainage) |  |  |  |  |  |
| Sward management (measuring growth, quality, species mix, reseeding) |  |  |  |  |  |
| Stock management (over/under grazing, poaching) |  |  |  |  |  |
| Integration of all of the above |  |  |  |  |  |

**[4] Which of the following factors do you consider to be important components of Integrated Weed Management?** *Please**place one X per row.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Irrelevant | Not  important | Neither  important  or  unimportant | Important | Essential |
| **Prevent** |  |  |  |  |  |
| Adopting measures specifically to improve soil health in order to achieve effective grass competition to weeds (such as sward aeration, compaction removal) |  |  |  |  |  |
| Ensure, where possible and economic, that land is well drained to ensure good grass competition with weeds |  |  |  |  |  |
| Ensure that soil fertility and pH is optimised to ensure good grass competition with weeds |  |  |  |  |  |
| Preventing bare soil where weeds may establish (e.g. actively managing areas where stock may regularly congregate, where poaching occurs, management of farm tracks) |  |  |  |  |  |
| Avoiding where possible the introduction of weed seeds in forage and muck from within and without the farm |  |  |  |  |  |
| Using a programme of both grazing and cutting regimes and dates in the same field in order to prevent one weed becoming dominant |  |  |  |  |  |
| Reseeding leys when they become infested with perennial weeds |  |  |  |  |  |
| **Detect** |  |  |  |  |  |
| Monitoring and surveillance of weed populations in order to determine when control measures are necessary |  |  |  |  |  |
| **Control/ Intervene** |  |  |  |  |  |
| Using non-chemical control methods |  |  |  |  |  |
| Using herbicide products only when considered justified based on the weed burden |  |  |  |  |  |
| Grazing young leys as soon as feasible to remove competitive levels of annual weeds |  |  |  |  |  |
| **Assess/evaluate** |  |  |  |  |  |
| Regularly reviewing the effectiveness of methods used and considering alternative approaches |  |  |  |  |  |

**[5] Name the specific weeds which you see as being of the greatest concern to herbage production on the land that you farm or manage.** *Start with 1 = greatest concern. You do not need to fill in all boxes.*

|  |  |
| --- | --- |
|  |  |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

**[6] Which management measures do you currently employ to control the introduction and spread of weeds on the land that you farm or manage?** *Please tick all the boxes below that apply*

Take steps to ensure that imported manure, forage and straw is largely free of weed seeds

Destroying and reseeding unproductive leys that contain high populations of perennial weeds

Reduce poaching damage to keep bare areas in fields to a minimum

Optimal timing for weed control with herbicides

Patch or spot spraying of weeds with herbicides

Selective application of glyphosate with a weed-wiper/licker

Hand rogueing or hand removal of weeds

Grazing newly sown leys to control annual broad-leaved weeds (e.g. chickweed)

The use of post emergence herbicides to control weeds in new leys

Cutting perennial weeds when their root reserves are at their lowest (e.g. perennial thistles in June)

Weed destruction (e.g. cutting/topping) before weed seeds are viable

Preventing weed ingress from/to neighbouring areas e.g. ragwort

Avoiding oversupply of nutrients to reduce the dominance of docks

Improving land drainage

Matching herbicide product choice with weed species and burden

Use of glyphosate when reseeding to control perennial weeds in the following crop

Use of non-chemical approaches (e.g. rotavating, desiccating) when reseeding to control perennial weeds in the following crop

Specifically carry out inspections at appropriate timings to assess the need for weed control

Other *(please state)*

**[7] What factors do you consider when developing/evaluating your integrated weed**

**management plan, either alone or with an adviser prior to and during the season?** *Please tick those that apply.*

This is the first time I have completed a weed management plan

Farm data from previous seasons, used to assess the performance of various control measures

Technical research on the efficacy of non-chemical control measures

Availability of appropriate herbicides

Technical research on herbicide efficacy

Weed maps used and considered for changes between seasons

Cost-benefit analysis of management options (including environmental stewardship schemes)

Environmental protection of water catchment area

Soil health

Grass productivity

Sward composition

Animal health

None of the above

Other *(please state)*

**[8a] What factors influence your decision to adjust your spray programme (e.g. changes in timings, rates, products) throughout the season?** *Please place one X per row*

|  |  |  |  |
| --- | --- | --- | --- |
|  | No/low influence | Moderate influence | High influence |
| Growth stage of the sward |  |  |  |
| Growth stage of the weed |  |  |  |
| Sward growth potential |  |  |  |
| Calendar date |  |  |  |
| Weather conditions and forecasts |  |  |  |
| Predictions of Decision Support Systems (where available) |  |  |  |
| Lack of availability of herbicide products |  |  |  |
| Availability of herbicide product information |  |  |  |
| Price of herbicide products |  |  |  |
| Observed levels of weed presence in the field |  |  |  |
| Presence of clover |  |  |  |
| Qualified adviser recommendation |  |  |  |
| Actions of/advice from other farmers in the area |  |  |  |
| Availability of a contractor |  |  |  |
| None of the above, I operate a fixed spraying programme |  |  |  |
| Other *(please specify)* |  |  |  |

**[8b] What factors influence your decision to adjust your cultural control programme (e.g. method, timing, frequency) throughout the season?** *Please place one X per row*

|  |  |  |  |
| --- | --- | --- | --- |
|  | No/low influence | Moderate influence | High influence |
| Development of the sward |  |  |  |
| Growth stage of the weed |  |  |  |
| Sward growth potential |  |  |  |
| Calendar date |  |  |  |
| Weather conditions and forecasts |  |  |  |
| Predictions of Decision Support Systems (where available) |  |  |  |
| Availability of machinery, equipment, labour |  |  |  |
| Lack of availability of suitable and effective methods |  |  |  |
| Observed levels of weed presence in the field |  |  |  |
| Presence of clover |  |  |  |
| Qualified adviser recommendation |  |  |  |
| Actions of/advice from other farmers in the area |  |  |  |
| Availability of a contractor |  |  |  |
| Other *(please specify)* |  |  |  |

**[9] How valuable are the following sources of IWM advice?** *Please rank the top 3 sources of weed advice starting with 1 being the most valuable. After listing the top 3, please leave the rest blank.*

|  |  |
| --- | --- |
| Open days/crop walks |  |
| Farmer discussion groups |  |
| Other farmers (not including discussion groups) |  |
| Independent (e.g. AICC member) or in-house agronomist |  |
| Agronomist employed by a distributor |  |
| Product manufacturer information |  |
| Contractors |  |
| Past experience |  |
| Farming press |  |
| Social media (Twitter, Facebook etc.) |  |
| Decision support tool (phone apps etc.) |  |
| Information and updates from membership, levy and research organisations |  |
| Other *(please specify)* |  |

**[10] Which of the following statements best describes your relationship with your main adviser.** *Please tick one only.*

I rely on them and act on their recommendations

I tell them what I want from them and they respond to meet my wishes

We decide on the weed management strategy together

I listen to their advice but will always consult other sources of information

I listen to their advice but adjust recommendations if needed when in the field

I don't use a qualified adviser

Other *(please specify)*

**[11] Are you a member of a farmer discussion group?** *Please tick.*

Yes

No

*If Yes, please specify type of group:*

**[12] Do you employ a contractor to apply herbicides to the land you farm or manage?** *Where applicable please tick the appropriate box*

A contractor applies all the herbicides

A contractor applies some of the herbicides

A contractor is not used to apply herbicides

No herbicides are used

**[13] Have you adopted specific facilities or procedures to minimise herbicide movement to watercourses or to groundwater in groundwater source protection zones?** *Where applicable please tick the appropriate box or boxes*

During filling and cleaning out the sprayer

I am involved in a water company scheme to protect water quality

There are no groundwater source protection zones (SPZ) on the land farmed

There are no watercourses on or immediately adjoining the land farmed

The land is in a water protection zone other than SPZ

Field operations:

Choice of herbicide product

Buffer strips

Weed-wiper/licker

Fencing of watercourses

**Are there any other examples of best practice that you do to protect water quality?** If so, please state here:

**[14] What is your position on the farm?** *More than one box may be ticked.*

Owner

Tenant

Farm worker/ sprayer operator

Contractor

Farm manager

**[15] How much land do you farm or manage and what is the predominate soil type?**

|  |  |
| --- | --- |
| Predominate soil type (place an X in only one box) | Medium  Organic/Peat  Clay  Silt  Sand  Other *(please state)* |
|  |  |
| % Certified organic grassland | % |
| Livestock on farm | Dairy  Beef  Deer  Sheep  Other *(please state)* |
| Grassland less than 5 years old | Ha |
| Permanent pasture (over 5 years old) | Ha |
| Rough grazing | Ha |
| Common grazing | Ha |
| Biodiversity scheme | Ha |
|  |  |
| Land owned? | Ha |
| Land rented/leased? | Ha |
| Land contract farmed? | Ha |

**[16] Your age?** *Please state (optional)*

**[17] Please state your county**

**[18] Do you have a farming qualification?** *Where applicable please tick the appropriate box or boxes*

None

NRoSO

BASIS/ FACTS

National Diploma

Bachelor’s degree

Higher degree

Other *(please state)*

**[19] Are you involved in a scheme/ initiative that promotes biodiversity e.g. Countryside Stewardship, supply chain initiatives, LEAF, CFE, EFS, Glastir, AECS etc.** *Please tick.*

Yes *(please state)*

No

**[20] To what extent do you feel you can improve your grassland productivity through improved Integrated Weed Management (IWM)?**

      %

**[21] If there are any examples of good IWM practice that you consider to be particularly effective to highlight, please state below:**

**If you are happy to be contacted when this plan is being reviewed, please tick here**

The NFU is the Data Controller and will process and use all personal data supplied in accordance with the NFU privacy policy which is available at NFUOnline or on request from NFU CallFirst on 0370 845 8458.

**Please email completed surveys to spencer.collins@nfu.org.uk**