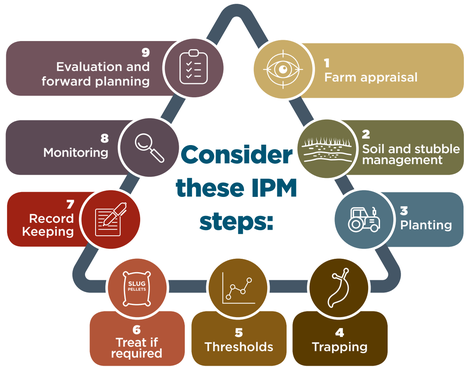

The above steps should be considered and adopted as part of an IPM programme for slug control.

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MAKE IPM A CORE PART OF YOUR SLUG CONTROL APPROACH

BASIS points

To claim 2 BASIS points for reading this IPM guide and answering a series of short questions, visit: www.surveymonkey.co.uk/r/MSG-BASIS

AHDB and integrated slug control

For more information on integrated slug control - refer to the AHDB Information Sheet 04 Spring 2016.

Get Pelletwise!

The Metaldehyde Stewardship Group

A guide to Integrated Pest Management (IPM) and slug control

Why use an IPM approach to slug control?

An Integrated Pest Management (IPM) approach to slug control is more effective than relying solely on slug pellets and will help ensure maximum protection to the environment, in particular water, birds and small mammals. It is also an effective tool to boost crop productivity.

This approach to slug control should therefore be a key consideration for all growers throughout the farming calendar.

What does an IPM approach to slug control involve?

- Identification and analysis of the potential risk factors associated with slug damage
- Consideration of the most suitable cultural control techniques that can be used to help reduce slug habitats and overall pressure
- Trapping and understanding of thresholds to help ensure treatment decisions are justified
- Monitoring of crops while they are most vulnerable and assessing if further applications are required
- Record keeping and forward planning to improve IPM programmes for the next year.

1. Farm appraisal

Understand the risks associated with slug pressure and attack

Soil type - slug pressure is often higher in heavy soils with high clay or silt content as they can move around more freely

Crop residues, organic matter and weeds - crop residues and weeds provide slugs with a source of food and shelter

Crop type – slow growing autumn crops are more prone to slug damage compared to spring-sown crops

Agronomic conditions – lack of nutrients and poor drainage can all result in slow crop growth which increases the risk of slug attack

Trapping and history of slug active areas on the farm – trapping should be carried out at this stage to assess the potential risk of slug pressure (refer to point 4 for more information)

Problem slug areas can also be pin-pointed using records and field history knowledge and can help make informed decisions on control techniques.

Cover crops - these can encourage slug populations, especially if they include brassica species.

2. Soil and stubble management

Create a slug-poor habitat to reduce pressure

Soil management

Ploughing to bury surface trash considerably reduces slug populations and risk of damage to crops.

Minimum tillage also gives a considerable reduction in slug populations compared to direct drilling.

Rolling after drilling is a fundamental cultural control technique. It will create a firm, fine seedbed which will help reduce slug activity by making it harder for them them to move around. It also reduces the availability of safe resting places for slugs.

Stubble management

Stubble infested with weeds or with a lot of crop debris can provide a feed source for slugs and should be removed.

3. Planting

Plant crops to deny slugs access to seed

At appropriate dates, drill seeds into fine, consolidated seedbeds at 3cm depth to deny slugs any access to seed.

If seedbeds are cloddy, sow seeds deeper at 4-5cm depth as this will help to prevent slugs from reaching seed.

4. Trapping

Trap slugs to assess thresholds

Trapping to assess slug threshold levels is key to understanding slug pressure and whether or not slug pellet applications are justified.

Trapping should be carried out during the farm appraisal, before cultivation, and while crops are most vulnerable to attack.

- **Traps should consist of a cover, about 25cm across, such as a plant pot saucer**
- **Place two heaped spoonfuls of chicken layers' mash or a cereal grain-based food under the trap (slug pellets should never be used)**
- **Place 9 traps in each field in a 'W' formation. For fields larger than 20 hectares, use 13 traps**
- **Leave traps overnight and examine early the following morning while the soil surface is still moist**
- **Count the number of slugs present and note any slime trails**
  - If slugs are found, refer to the next section, Thresholds, before making a decision on pelleting
  - If no slugs are found, continue to trap until the crops have passed their vulnerable stage

5. Thresholds

Understand and refer to trapping thresholds

The following trapping thresholds indicate a possible risk of attack and justify slug pellet treatments.

Crop	Threshold (average number of slugs/trap)
Winter cereal	4
Oilseed rape (standing cereals)	4
Oilseed rape (cereal stubble)	1
Potatoes	1

6. Treat if required

Apply pellets responsibly

If trapping thresholds justify slug pellet treatment they must be applied responsibly:

- **Apply pellets via broadcasting as this will kill slugs quicker than pellets that are drilled with seeds**
- **Apply pellets just after drilling or rolling if possible**
- **Ensure all applicator equipment is calibrated correctly and tested to the required standards for precise and safe applications**
- **Follow the Metaldehyde Stewardship Group (MSG) guidelines.**

7. Record keeping

Keep records up to date

It is important to keep records of treatment, results seen in the field and machinery used, as these are legal requirements and are useful for future IPM planning.

Record:

- Trapping results
- Date of treatment by field
- Growth stage at time of treatment
- High risk field areas
- Field observations and slug pressure according to weather conditions
- Machinery used for application.

8. Monitoring

Know when crops are most vulnerable to slug damage

Once pellets have been applied, crops should be monitored regularly for slug damage, particularly when they are most vulnerable.

Oilseed rape crops should be monitored to the four true leaf stage

Winter cereal crops should be monitored to first tillering (GS21)

Potatoes have two critical control periods, at 50% to 75% canopy closure and at the early stages of tuber bulking

Trapping should be repeated as part of the monitoring process.

9. Evaluation and forward planning

Evaluate and plan ahead

It is critical to review IPM programmes from the previous year and use records to highlight areas for improvement for the next year.

Seek advice from advisers as they will be able to help you refine and implement a sustainable IPM programme for your farm.