

# Key Principles to minimise the spread of Potato Cyst Nematode in Scotland



The potato industry in Scotland employs over **2000 people** and has a farmgate value of approximately **£300 million**. It has a worldwide reputation for seed health and quality, supplying 77% of the seed to a **GB potato industry** that is worth **£4.5 billion to the economy**.

However, the industry is under serious threat from potato cyst nematode (PCN) which has **infested over 13% of land** for growing potatoes and bulbs. The area of land infested with PCN is doubling every 7-8 years. This is already having a major impact on farm businesses, hitting the potato seed and flower bulb sectors, which require certified PCN-free land to grow their crops. PCN could end the Scottish potato industry if no action is taken to control this pest.

The following five **Key Principles** outline important steps to protect your land and crops from PCN:

1. SOURCE SEED POTATOES AND OTHER PLANTING MATERIAL WITH CARE
2. KEEP IT CLEAN
3. PLAN NOW FOR FUTURE CHALLENGES
4. EMBED PCN CONTROL IN POLICIES AND PRACTICES
5. INCREASE UNDERSTANDING AND AWARENESS OF PCN

## 1. SOURCE SEED POTATOES AND OTHER PLANTING MATERIAL WITH CARE

Moving potatoes and other plants with soil attached is a high-risk pathway for spreading pests such as PCN as they may hitchhike on plants, in seed, soil, and packaging. Starting with healthy plants is vital.

- **Only classified seed potatoes** should be planted. These are grown on land certified as free from PCN and are unlikely to introduce PCN to your land.
- **Home saved seed** should only be grown on land that is tested free from PCN. If home saved seed is being moved between holdings, the land must be tested by SASA and found to be clear of PCN.
- **Plant movements** such as bulbs and transplants, should be legally compliant, adhere to established quarantine and inspection protocols, and be free from contaminated soil.
- The **Safe Haven Scheme**<sup>1</sup> ensures production practices minimise the potential to spread non-indigenous diseases by promoting the use of responsibly sourced seed potatoes, again helping to reduce PCN spread.

<sup>1</sup> [Red Tractor Safe Haven Potatoes Standards – Red Tractor Assurance](#)

## 2. KEEP IT CLEAN

To help protect your potato crop and allow you to grow seed potatoes, it is important to keep your land free from PCN. In addition to clean planting material, following biosecurity best practices will also reduce the spread and establishment of many plant pests and diseases, including PCN. PCN can move with soil attached to machinery, vehicles, animals, people, and any other materials coming on to the land. It is important that others using the land, keep it clean to ensure the long-term future of the industry. A practical and workable biosecurity regime that manages such movements is key for all involved in potato production.

- **Best practice protocols** should be used to remove soil attached to machinery, wheels, and footwear between fields to minimise the risk of spreading PCN. Others using the land must also adhere to these protocols.
- **Risk assess materials** that are brought onto the farm to be spread on fields. PCN can spread in some composts, manures, and other waste products.
- **Good biosecurity practices** should be maintained when accessing land throughout the rotation to avoid spreading pests and diseases, including PCN.

More information about PCN hygiene can be found in the PCN Action Scotland [Hygiene Leaflet](#)

## 3. PLAN NOW FOR FUTURE CHALLENGES

PCN is difficult and expensive to control once established. Planning a production regime that reduces the chance of introduction is the best approach. However, if the pest becomes established, measures should be taken to ensure that populations remain sustainable and reduce the impact of PCN in the future. This regime will include choices over factors such as variety selection, rotation length, soil sampling, integrated pest management, and staff training.

- **Keep PCN-free land clean** – Where land is found to be free of PCN, aim to keep it that way.
- **Test your soils** on a regular basis to monitor for PCN to monitor your status and control programme.
- **Integrated pest management (IPM)** practices should be adopted to reduce PCN in the soil such as:
  - Ensure potato groundkeepers are controlled in and between potato crops.
  - Adopt a longer rotation between potato crops.
  - Grow varieties which are resistant to the species of PCN present.
- **Consider new and improved control options** as they become available.

## 4. EMBED PCN CONTROL IN POLICIES AND PRACTICES

Developing consistent practices, incentives, guidance, and regulations can minimise the risk of outbreaks and further spread of PCN and its consequences.

- **Embed PCN control principles** into wider management practices. An example would be removing excess soil that could be contaminated with PCN from farm machinery between fields.
- **Risk assess all activities** that could introduce PCN onto the farm, spread it around or affect the soil contamination level.
- Policy makers recognise the threat and have invested in programmes to ensure the future sustainability of the Scottish potato and bulb industries. However, individual actions are required to deliver the desired outcomes.

## 5. INCREASE UNDERSTANDING AND AWARENESS OF PCN

The threat and impact of PCN to potatoes can be reduced by informing individuals and businesses. Consistent messages and conversations across the supply chain will help encourage collective and individual actions. Scottish potato and bulb industries are renowned for their high-health status. To maintain that into the future, PCN must be controlled.

- **Discuss PCN** with individuals throughout the supply chain (including suppliers and customers) to ensure they are aware of the threat and the impact it has on the potato industry.
- **Help to raise awareness** with consumer and trade about the risk that PCN poses to the potato industry and the benefits of good biosecurity practice.

For information on all aspects of potato cyst nematodes, visit the PCN Action Scotland website: [www.pcnhub.ac.uk](http://www.pcnhub.ac.uk). This site has links to other sources of information, including SASA the regulatory body concerned with seed potatoes.

These Key Principles have been adapted from the Plant Health Centre's Key Principles which can be found at [Scotland's Plant Health Centre – Key principles to minimise plant health risks](#)

For information on all aspects of plant health threats, from diagnostics and control to outreach and education visit: [Knowledge Bank | Plant Health Centre](#)

The Scottish Government website has further information about PCN: [Potato Cyst Nematodes \(PCN\) | SASA \(Science & Advice for Scottish Agriculture\)](#)

To notify the appearance, or suspected appearance, of a harmful plant pest in Scotland, contact Horticultural and Marketing Unit (HMU): [hort.marketing@gov.scot](mailto:hort.marketing@gov.scot)

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