



# A Guide for Managing PCN in Great Britain – Essential Facts



## Resistance vs Tolerance

1. A resistant variety is one that minimises the reproduction of PCN and may, if the resistance is high, reduce the PCN population.
2. Resistance in varieties is measured on a scale of 1 to 9 with 9 being the most resistant.
3. A tolerant variety is one that can tolerate any feeding damage by PCN without severely impacting upon the yield but, depending upon the level of resistance can multiply the PCN population.
4. Tolerance within varieties is usually described as degrees of tolerance/susceptibility E.g., *very tolerant*, *moderately tolerant*, *some tolerance*, *moderately susceptible* or *intolerant*.
5. Resistance and tolerance to PCN are two totally separate varietal characteristics. A variety can be resistant and intolerant (E.g., Innovator to *G. pallida*) or can exhibit no or little resistance but be extremely tolerant to feeding damage (E.g., Cara to *G. pallida*).
6. An ideal variety is one that exhibits both good resistance and tolerance to PCN.



## Control Options

1. **Variety Choice and Genetic Resistance:** Increasingly varietal resistance is being used as and when suitable varieties are available to minimise the PCN population increase whilst growing a potato crop.
2. **Seed:** Only plant certified seed potatoes or, if farm saved seed, from land tested and known to be free of PCN.
3. **Land Selection:** Only grow potatoes on land tested and found to have a low or zero count for PCN. (ideally less than 15 eggs g-1 soil). Extend the rotation if required. A short rotation will exacerbate the population density.
4. **Chemical:** Historically PCN populations could be controlled or managed using nematicides or a soil sterilant, but many of these have now been withdrawn from use. Those that remain, if correctly applied, can suppress PCN root invasion and therefore the impact to a potato crop.
5. **Trap Crops:** There are some Solanaceae species that will stimulate PCN eggs to hatch but because the nematodes are unable to complete their lifecycle on these species the PCN population is reduced more quickly than growing alternative crops.
6. **Hygiene:** Control volunteer potatoes within PCN contaminated fields. Machinery can spread cysts so clean all machinery to minimise soil transfer from contaminated fields into 'clean' fields. Do not spread waste soil from land known to be contaminated with PCN onto land on which potatoes will be grown.
7. **Biocontrol/Biofumigation:** The use of various plants e.g., Indian mustard and biological based products that are either antagonistic or created an antagonistic environment to PCN have been and continue to be trialled.

The full management guide can be accessed by members of GB Potatoes and CUPGRA at [www.gb-potatoes.co.uk](http://www.gb-potatoes.co.uk) and [www.cupgra.com](http://www.cupgra.com) where digital copies of this factsheet can also be downloaded by all.

CUPGRA, with over 40 years of supporting research and knowledge exchange in potatoes, and GB Potatoes, a unifying voice for the GB potato sector, are committed to ensuring the industry has access to the tools and knowledge it needs to thrive

With thanks to Gerard Croft, Matthew Back and Katarzyna Dybal.  
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