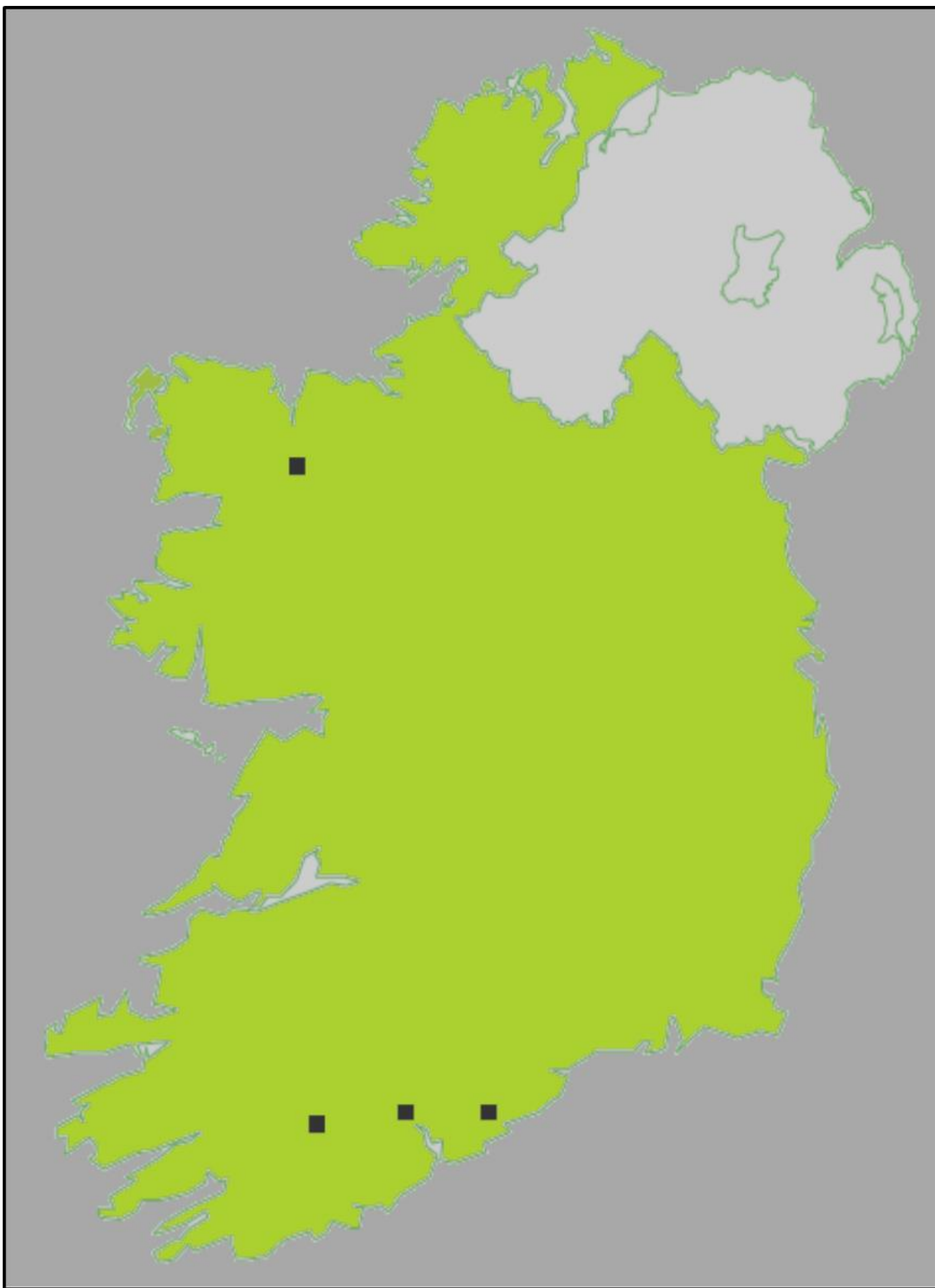
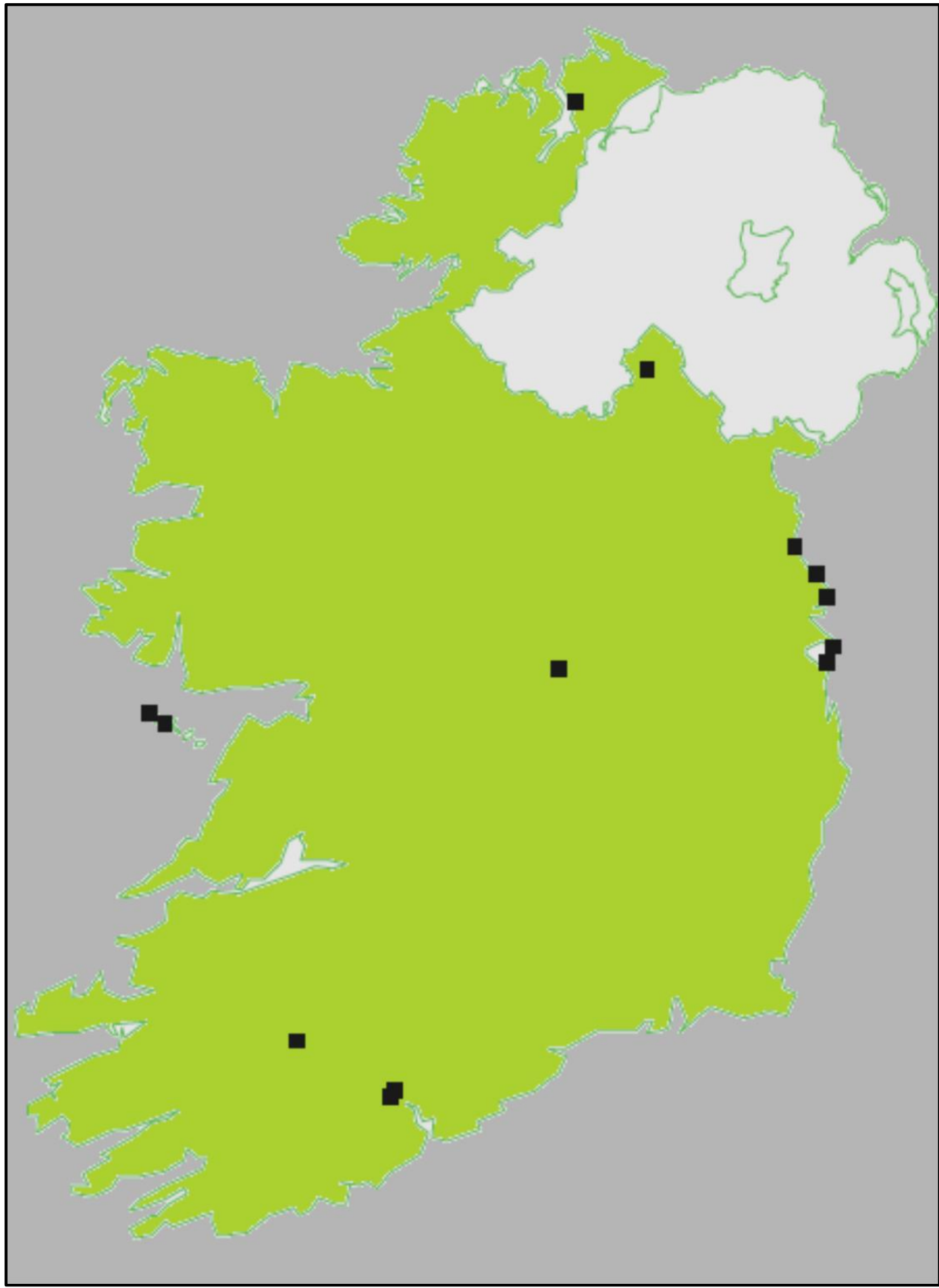


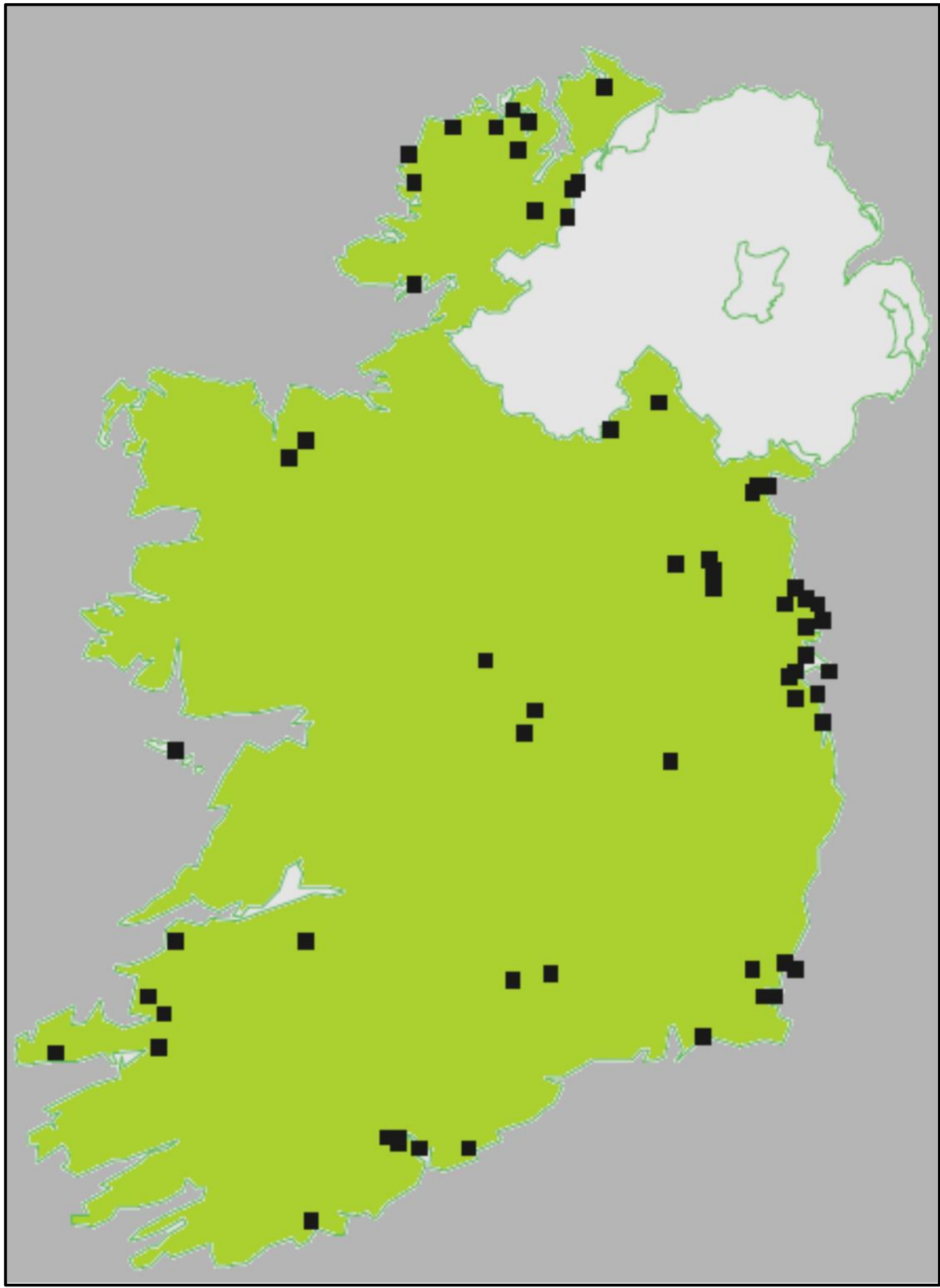
National PCN Survey 2002



Globodera pallida



Mixed Species



Globodera rostochiensis

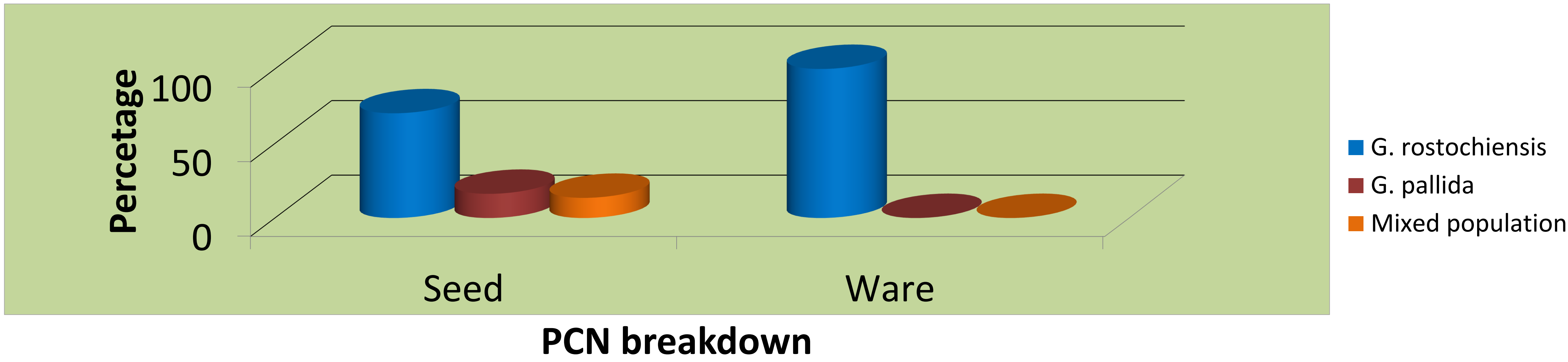
2010 to 2013 PCN Survey

Ware Potato

Year	Area Sampled (ha)	Total Infested Area (ha)	% Infested
2010	172	31	18
2011	63	19	30
2012	114	9	8
2013	72	7	10

Seed Potato

Year	Area Sampled (ha)	Total Infested Area (ha)	% Infested
2010	1869	55	3
2011	1203	116	10
2012	682	37	5
2013	568	48	8



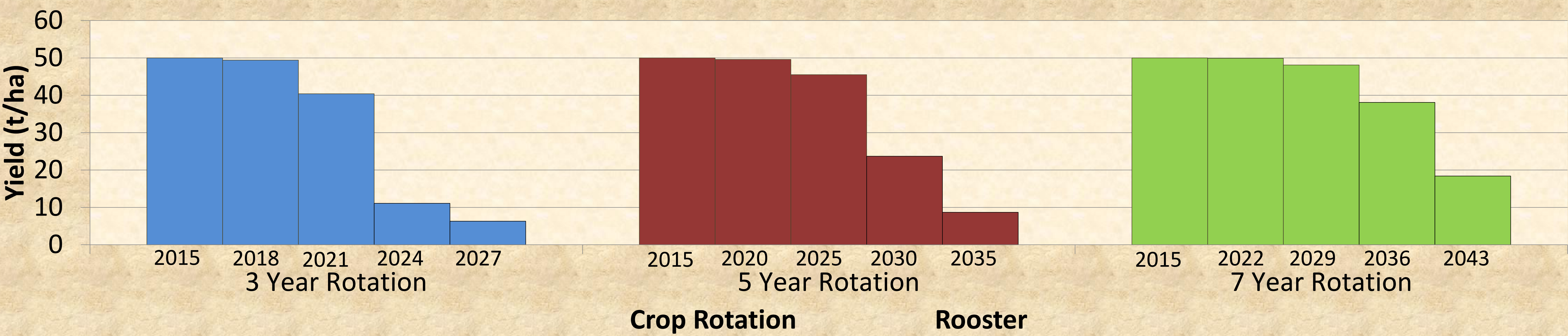
- Up to 15% land sampled in the Republic of Ireland is positive for PCN
- *Globodera rostochiensis* is currently the dominant species

Acknowledgements The work described in the 2002 survey was conducted at AFBI in Northern Ireland

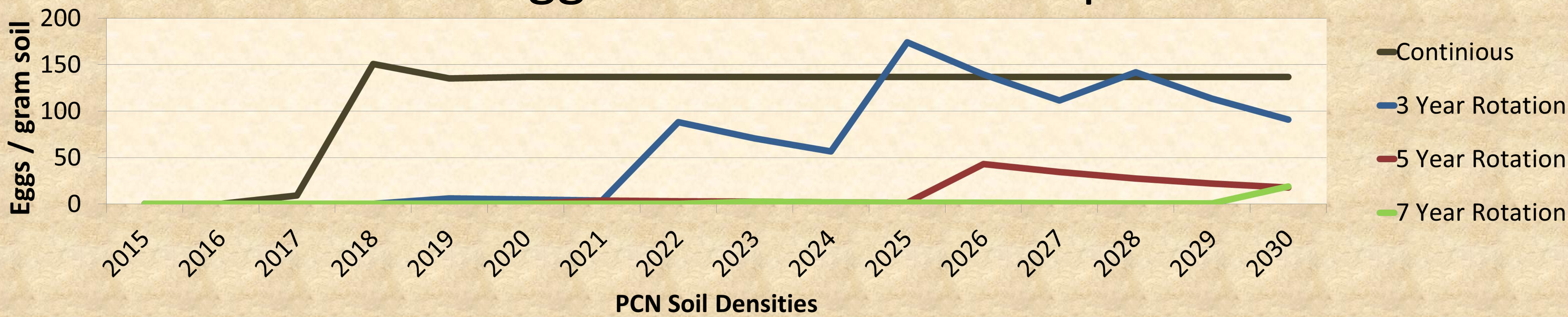
Modelling the impact of PCN infestation



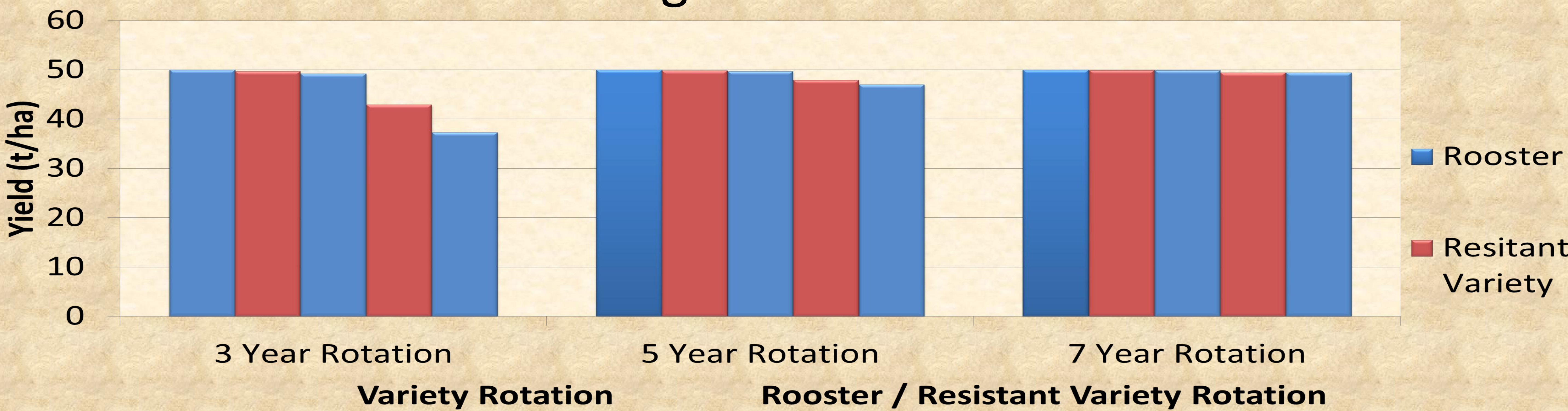
Yield impact in infested patch



Egg number in infested patch



Rotating Resistant Varieties



- Crop rotation is important but not a cure
- Long rotations with resistant varieties protect yields

Acknowledgements The work described in poster was calculated using data extrapolated from British Potato Council

Best Management Practices for PCN



Minimise soil movement

- Avoid sharing farm equipment
- Only return tare soil to field of origin
- Never re-use boxes unless soil free
- Be sure commercial vehicles are soil free



Best practice for potatoes

- Plant certified seed material
- Practice long crop rotations (7+ years)
- Care should be taken with discard soil, wash water, and tubers
- Segregate potatoes in storage by field
- Rotate with a resistant variety



Keep farm equipment clean

- Clean and disinfect farm machinery before going between fields
- Collect waste water, to minimise spread of PCN to clean land



Best Practice when PCN present

- Grass over land positive for PCN
- Test after 6 years
- Maintain good rotation records

Developing new varieties with natural resistance to PCN

Globodera rostochiensis

Resistance conferred by a single gene (*H1*)

H1 gene present in majority of new varieties



T5233/7

Globodera pallida

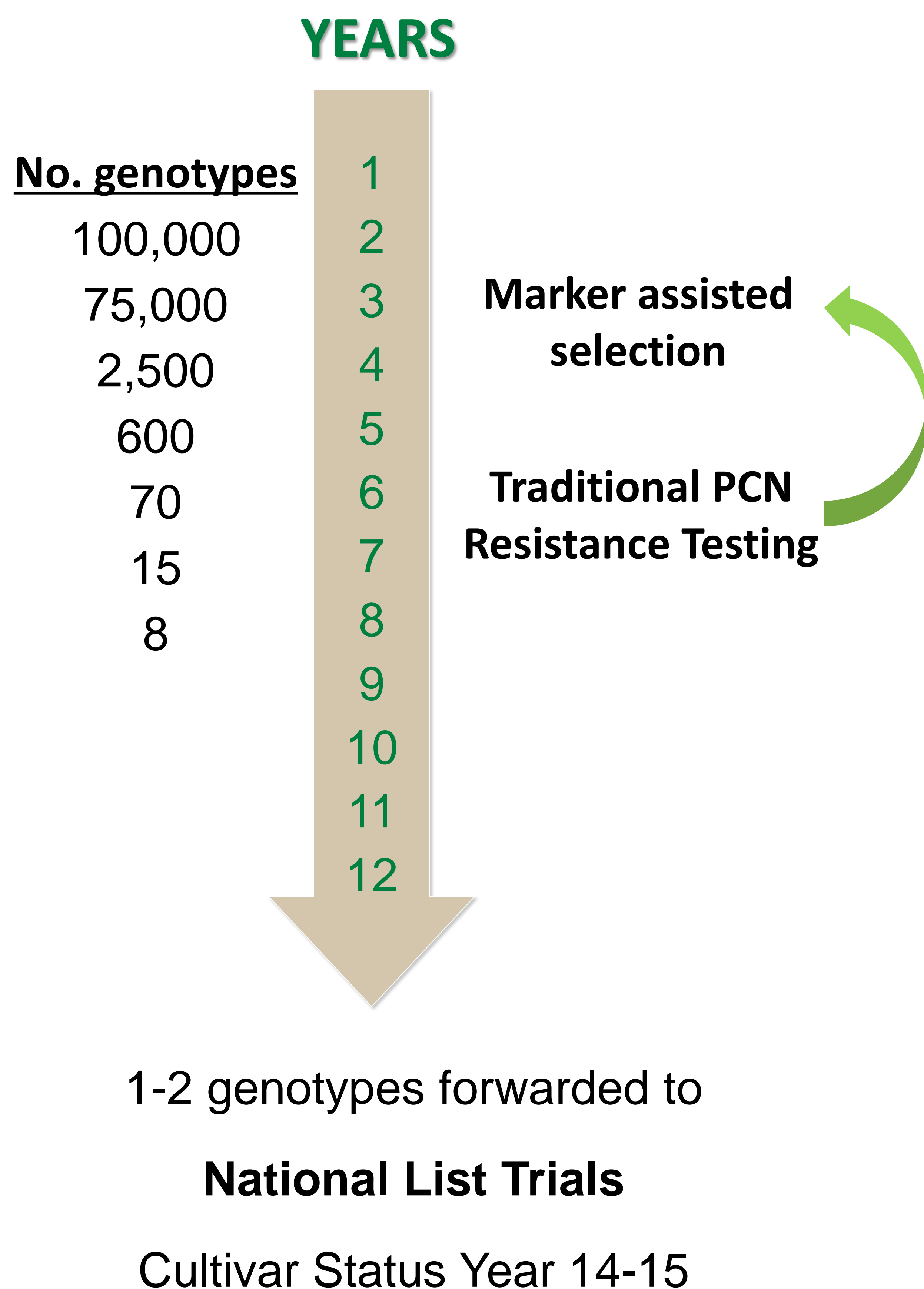
No single gene confers complete resistance

Only partially resistant varieties available

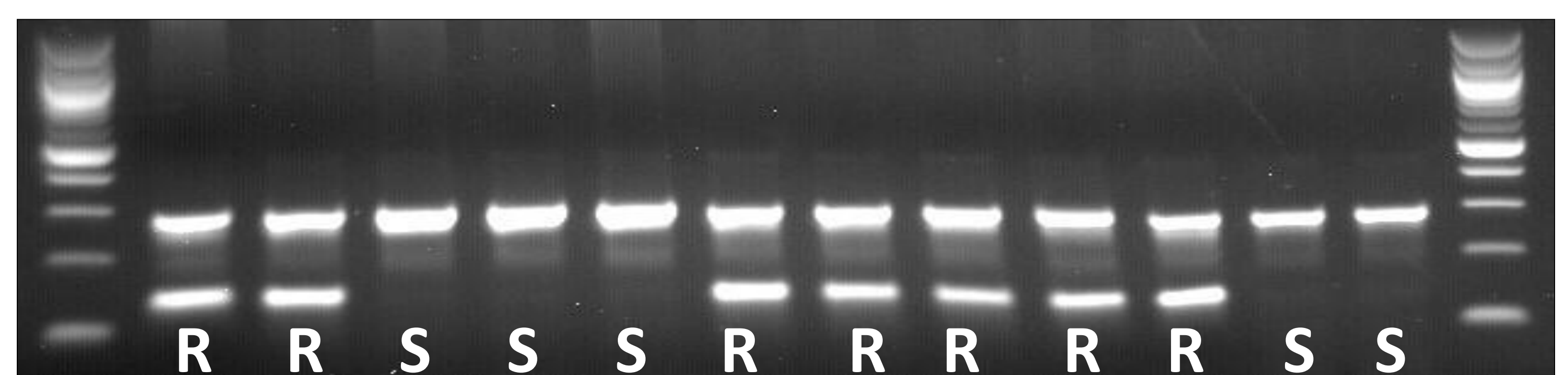


T5343/5

Marker assisted breeding (MAB)

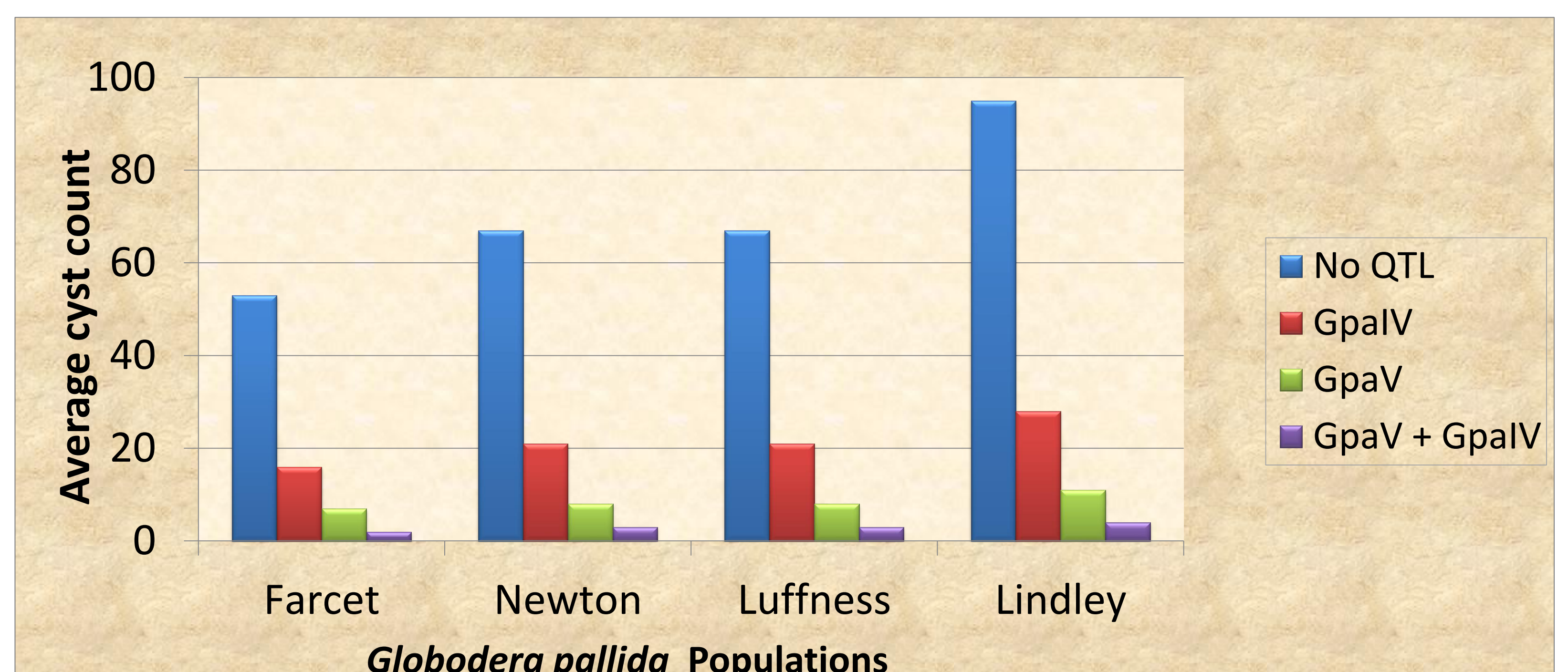


MAB allows earlier and more efficient selection for PCN in breeding programme



Outcome: More PCN resistant varieties

MAB allows us to develop varieties with multiple partially effective *G.pallida* resistance genes



Outcome: Highly *G. pallida* resistant varieties