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Potato Cyst Nematode

Sampling to Aid Decisions

Resistance & Tolerance

Dr Ivan Grove (HAU)

The Sampling Dilemma



Trying to
avoid these
problems



Is like 'spotting
the ball'.



You know its
there but where
do you look?

What do we know?



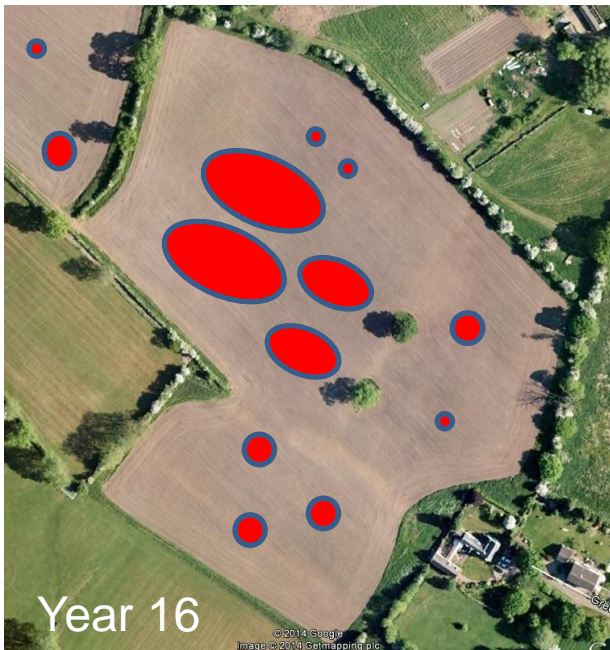
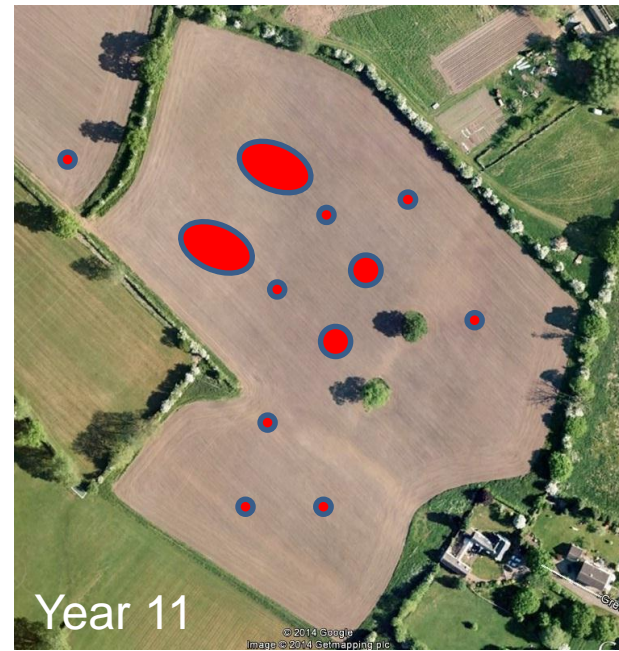
Population starts small
then expands

Can take 4-5 potato crops to
become evident (20 years)

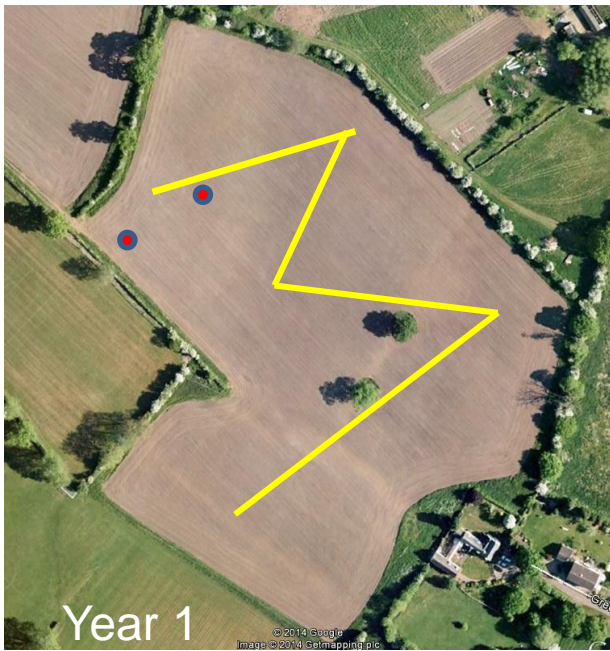
Will spread via
two main
methods

Cultivation paths &
harvester paths

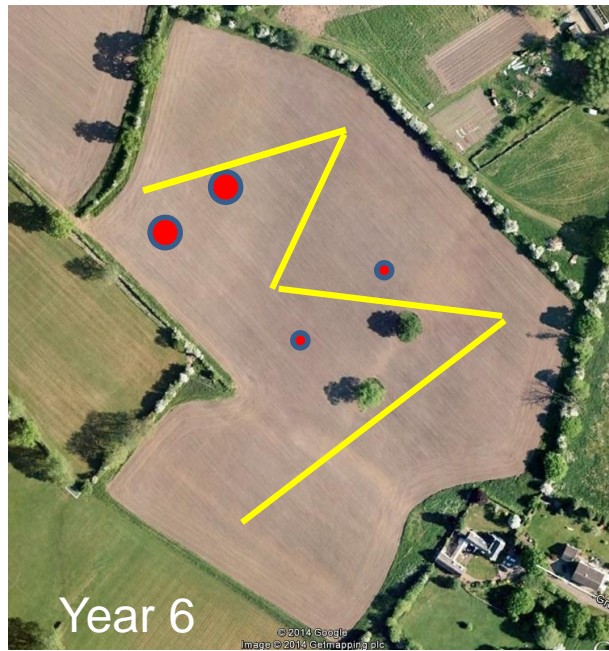
Spread is more likely in wet
years or irrigated crops



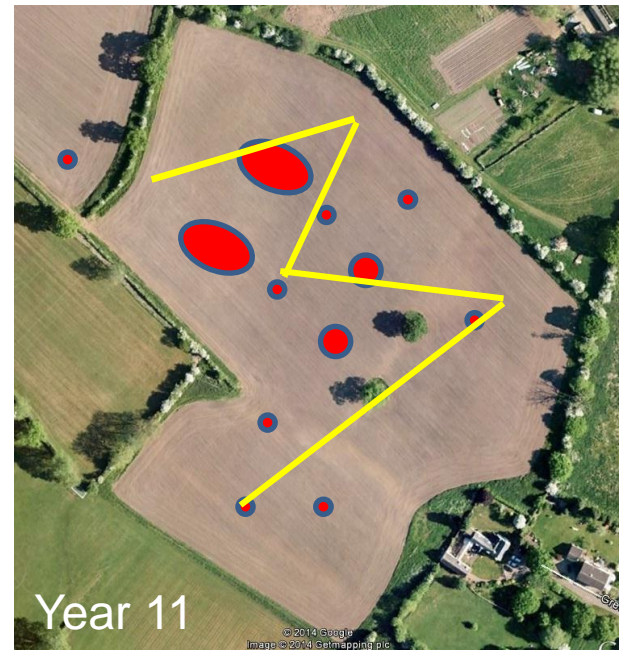
The potential of development on a 25 year period
With potatoes
1 in 5
Susceptible cultivars



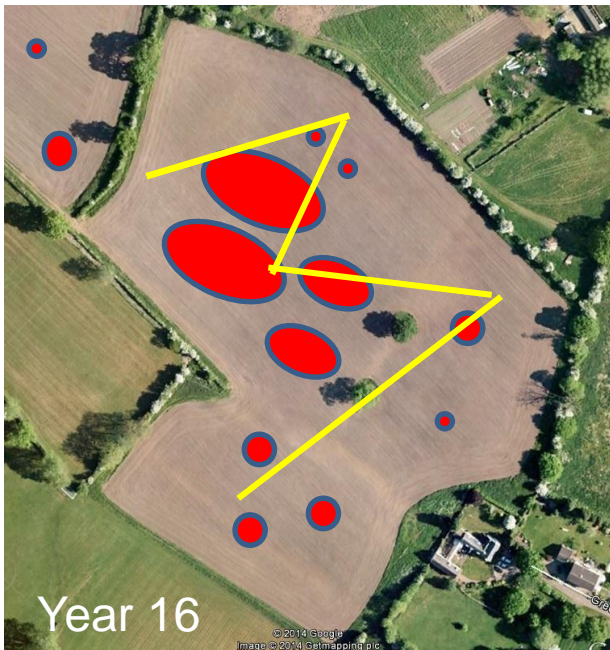
Year 1



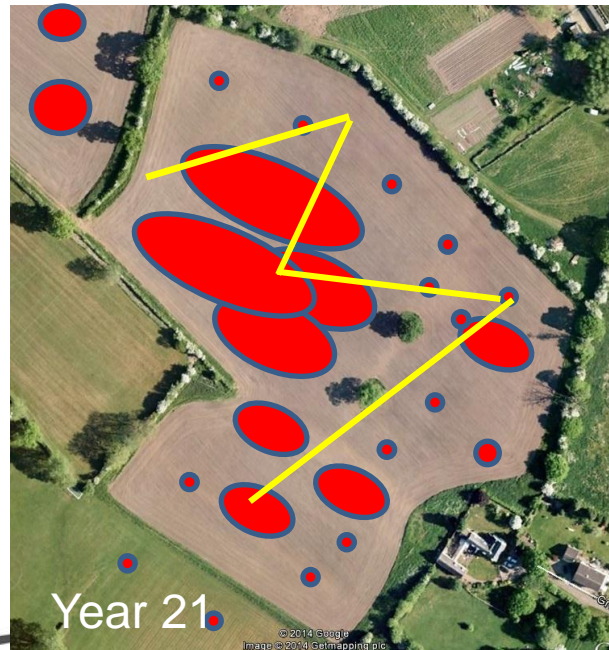
Year 6



Year 11



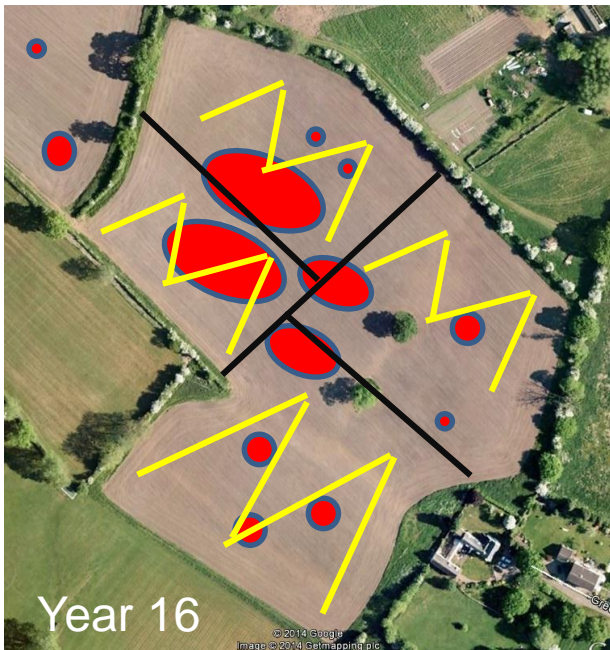
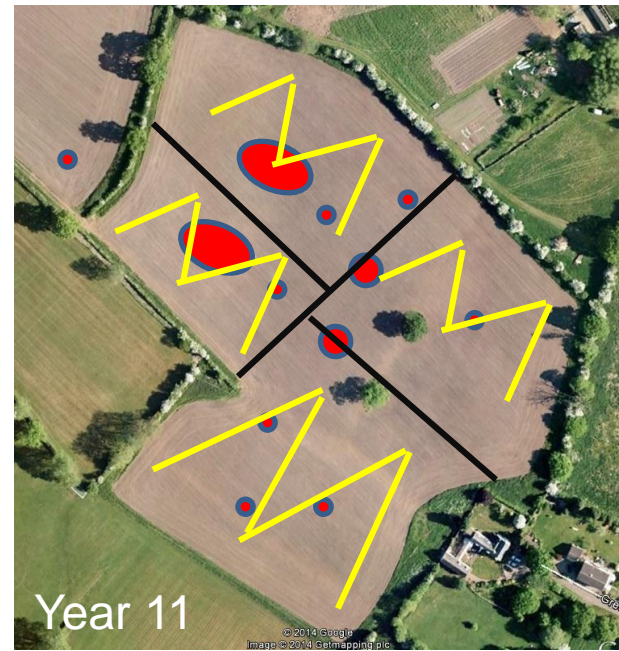
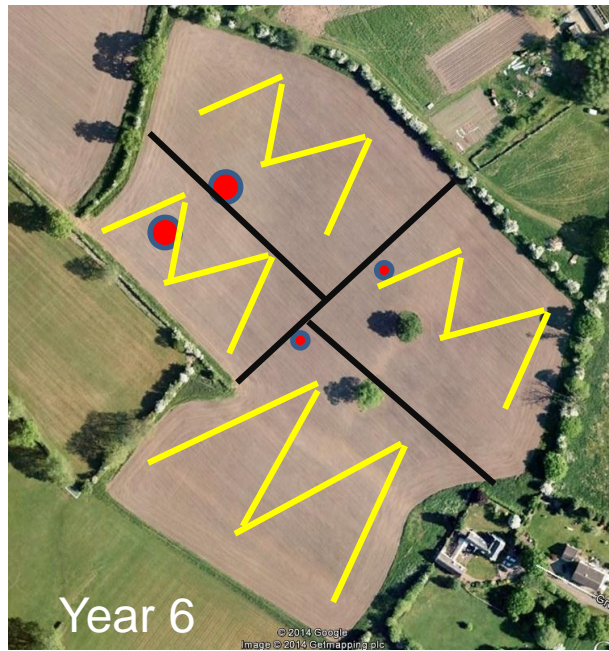
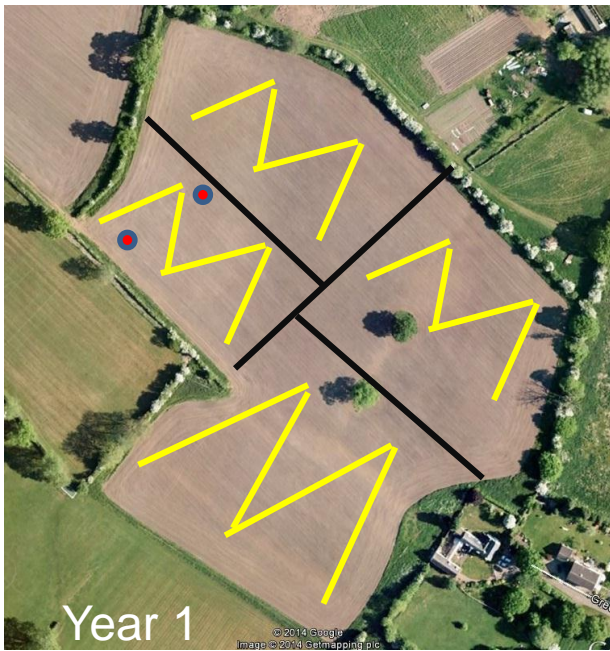
Year 16



Year 21

4 ha field
as 1 zone
Only in the 3rd
crop do you spot
them.
30-60 cores

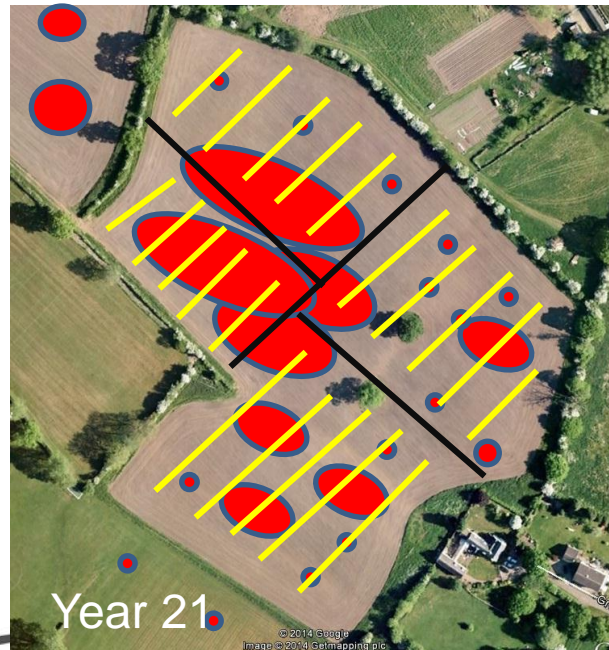
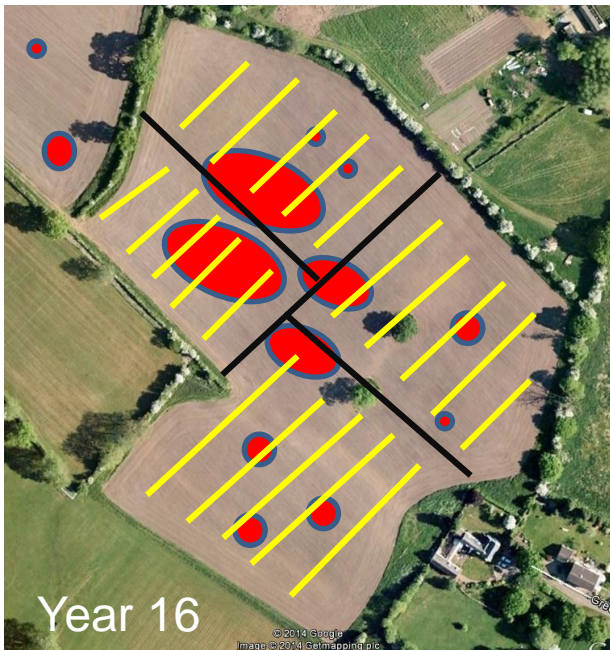
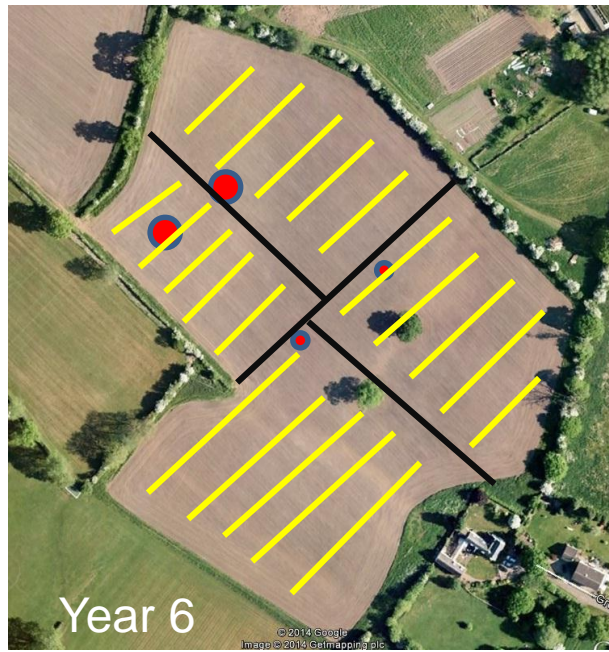
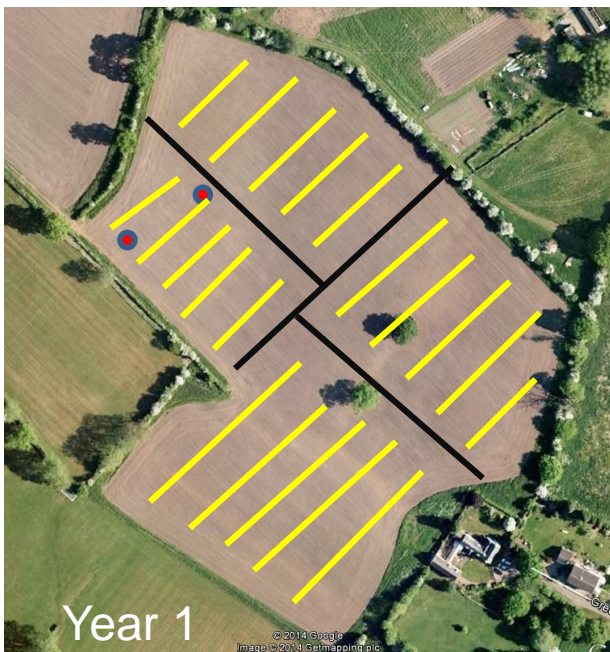
Cost £3 - 5 ha



Split into 4 * 1 ha
 Yr1 missed
 (No nematicide?)
 Yr 6 1 spotted 1
 (Res cultivar here?)
 Yr 11 all spotted
 30-60 cores ha

Cost £15/20 ha

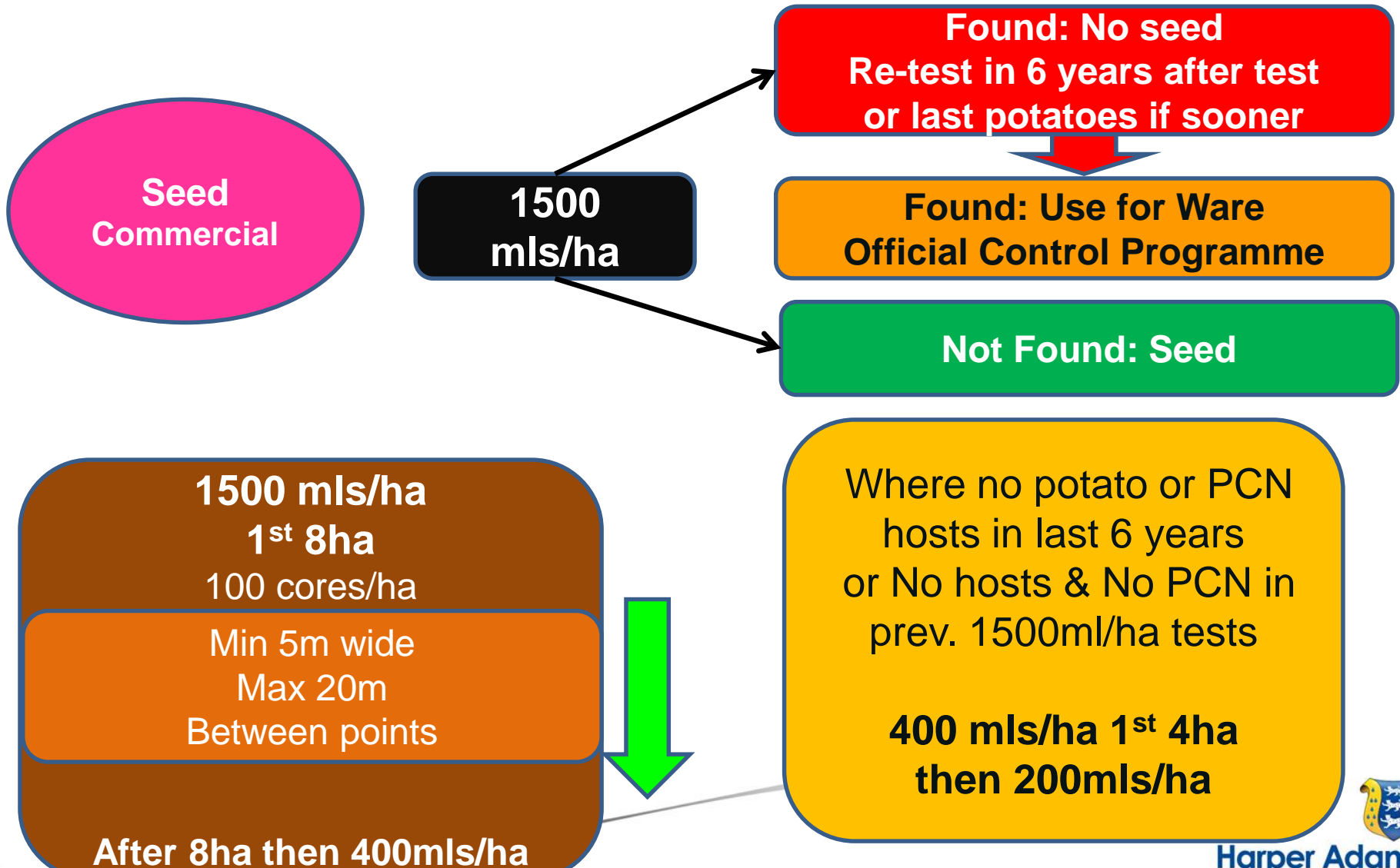




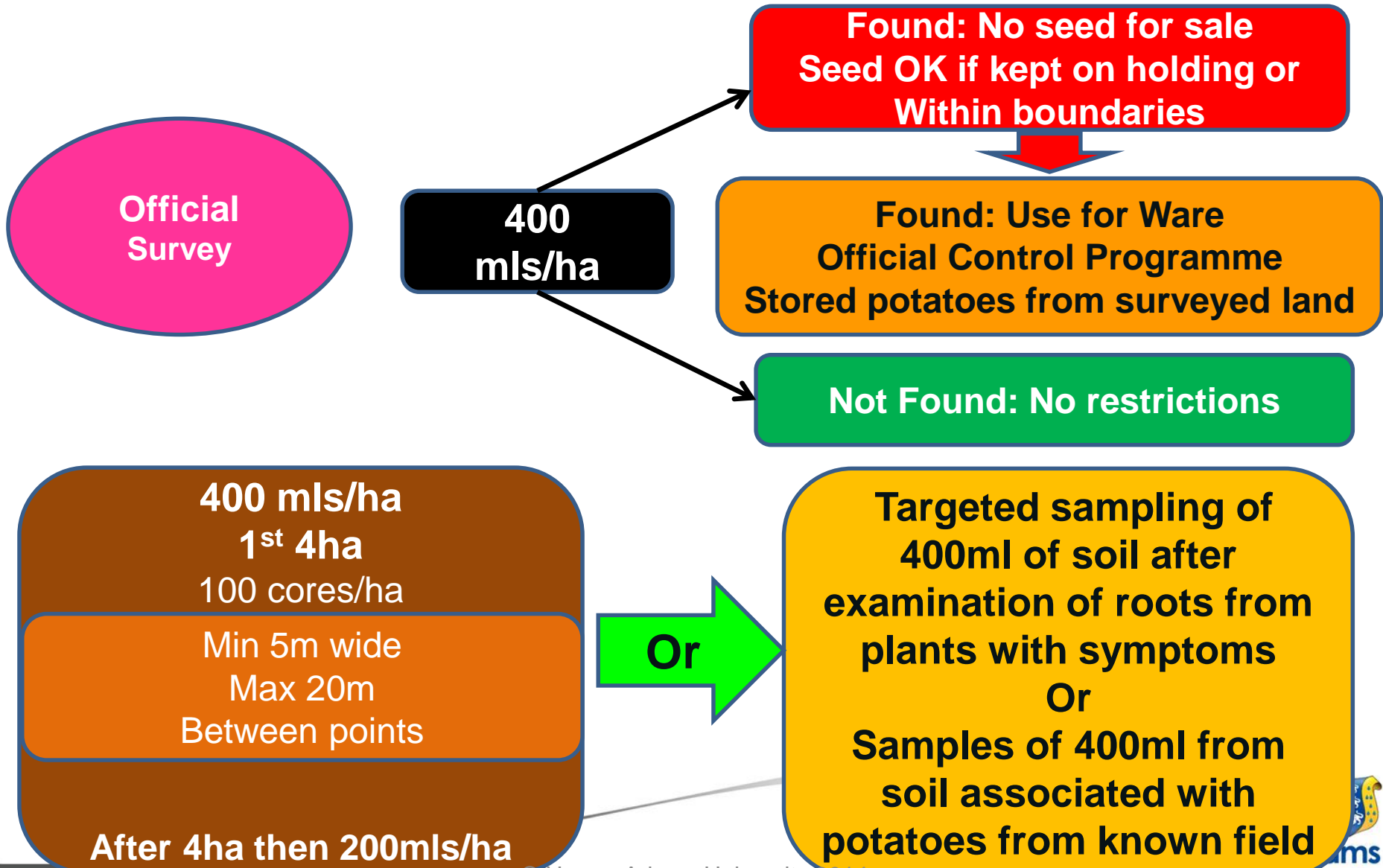
4 ha field GPS
Split into 4 * 1 ha
Yr1 Spotted
Yr 6 all spotted
10 cores per run
(50 cores ha)

Cost ~ £15/30 ha

Official Sampling Seed



Sampling for Survey



Sampling for Ware

Good Practice

When?

From Autumn before planting

How?

50-60 cores from 1 ha blocks
W or GPS grid

Size?

300-500g ha (10ml cores)

Depth?

15-20 cm

Species?

Get species identified

Resistance & Tolerance

Tolerance

The ability of the plant (host) to withstand or recover from damage and produce a yield

Resistance

The ability of the plant (host) to prevent or restrict nematode multiplication

