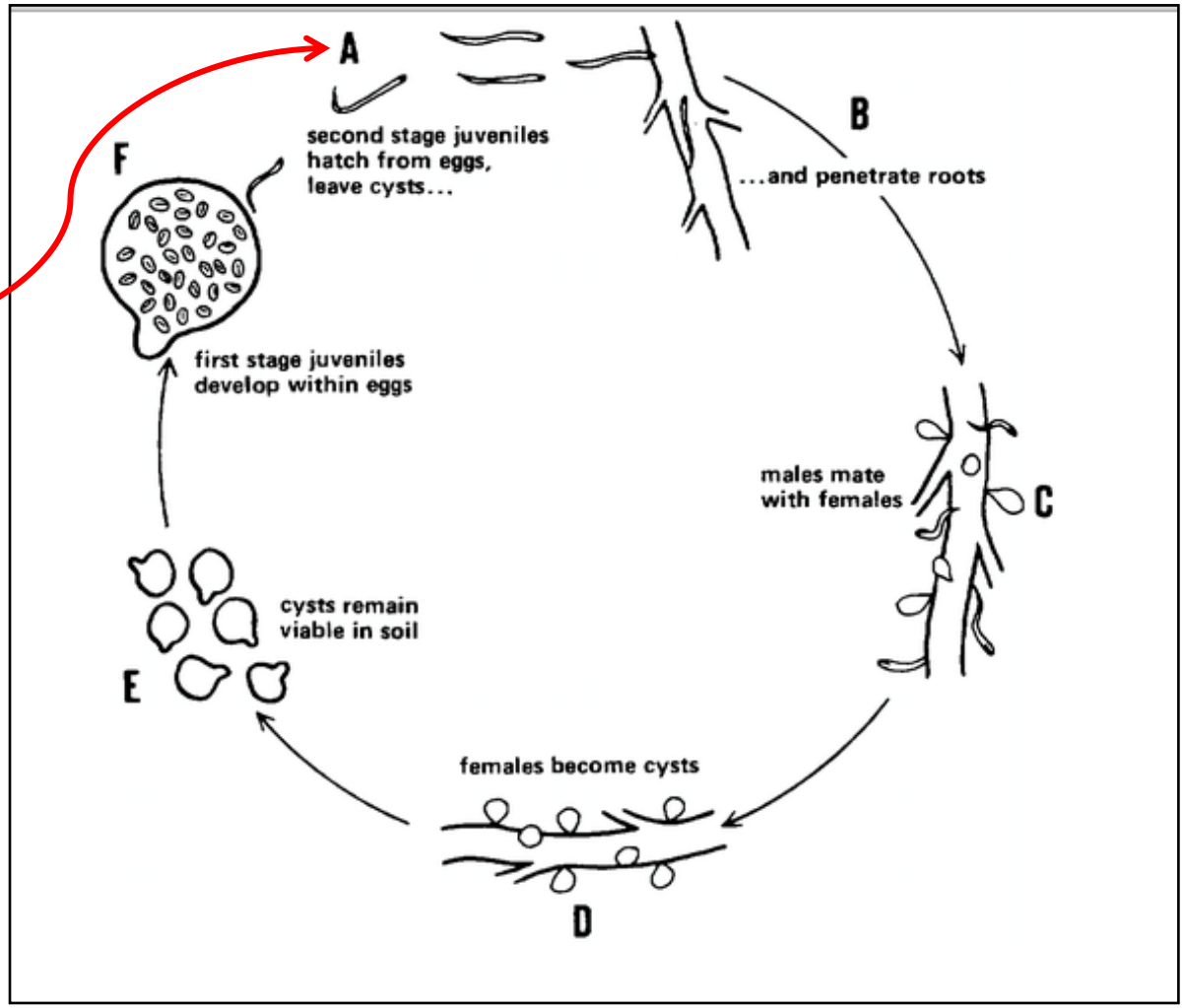
PRODUCE SOLUTIONS

Benefits & Challenges of Trap Cropping

AHDB Seminar
19th Jan 2021

Trap cropping for PCN control

- Growing a crop specifically to induce PCN eggs to hatch
- Crop is a suitable host for PCN feeding
- PCN larvae die and are unable to multiply



Life cycle of PCN

DeCyst
Solanum sisymbriifolium

- A temperate climate plant
- Commercial product since 2004
  - Sappio LINK project
- Highly efficacious:
  - 55-95% reduction in eggs/g
- Seed supply - challenging
- Agronomics – attention to detail

DeCyst Broadleaf
Solanum scabrum

DeCyst Broadleaf (Solanum Spp.)

- Commercial product since 2018
- Highly efficacious
- Quicker to establish
- Large canopy
- No thorns!
- Seed supply is less challenging
- Agronomics are similar

DeCyst & DeCyst Broadleaf

Agronomics

Drilling :

- 20kg/ha (inert lentil mix)
- Mid May to end of June - Soil temp 15° C
- 100 seeds/m2
- Shallow and consolidated

DeCyst

Establishment:

- 20-40 plants/m2
- Possibly fewer for efficacy but not for establishment/competition

Good establishment requires:

- 50 kg/ha of N
- Soil moisture – Irrigation when possible
- Weed control – ideally stale seed bed
- Some pre and post-em herbicide options

DeCyst Broadleaf

DeCyst

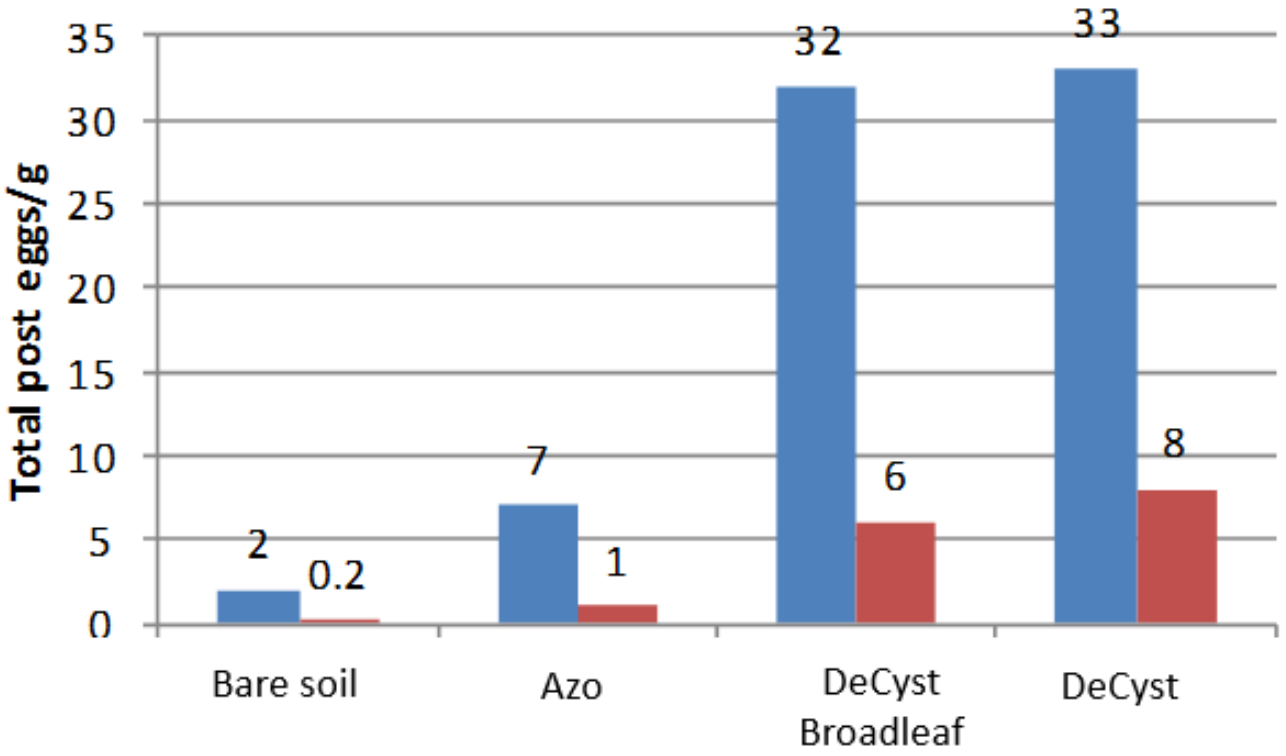
DeCyst
Crop in Jersey

DeCyst Broadleaf
(Solanum Spp.)

DeCyst Broadleaf
Crop in Pembrokeshire

AHDB – SPot Farm East - PCN 2018

Trap Crop Demonstration - Population eggs/g pre and post crop



75% reduction

Average of 3 samples per block

VCS Potatoes Ltd

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DeCyst & DeCyst Broadleaf - Shrops 2019

- Trial
- Drilled 28th May
- Huge weed burden
- Poor establishment

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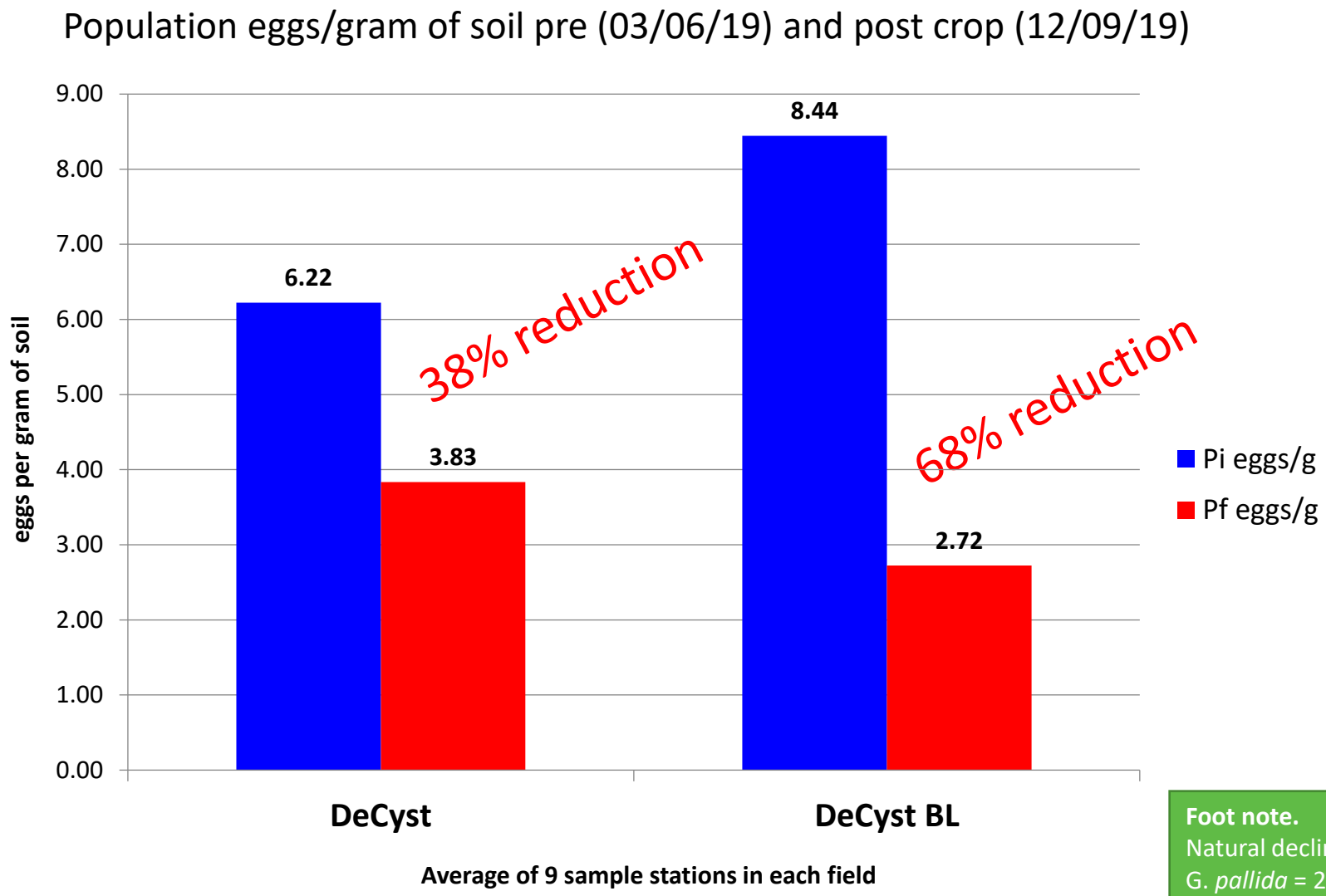
DeCyst & DeCyst Broadleaf - Shrops 2019



Foot note.
Natural decline figures:
G. *pallida* = 20% pa

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DeCyst Broadleaf - Shropshire 2019

The importance of drilling depth and consolidation

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Challenges/Considerations

- Trap crops are “crops” and need to be treated as such.
- *S. sisymbriifolium* is sourced from China
  - Harvested by hand!
  - Spindle Virus is a Notifiable Disease
- Correct drilling depth (shallow – 0.5 to 1cm) and good consolidation
- Soil temperature (15°C) and moisture
- Weed control is important for good establishment
- No effect on FLN!
- Placement in existing farm rotations

Benefits / Advantages

- Significant reduction in PCN population – 75-85% achievable (highest achieved – 95%)
- More efficacious than nematicides, biofumigants and some variety resistance
- Can be grown anywhere within the rotation
- Can be used to reduce PCN in all soil types
- 12 weeks of good growth is required
- Does not require specialist equipment
- Can simply be chopped and ploughed in
- Can provide up to 12 t/hectare of green manure

- Trials on later establishment opportunities – between winter and spring cropping