16th ECPA

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Authors are required to follow instructions for preparing their paper as laid out below. The final copy of the paper will be checked by the Editor to ensure that assessor/editor requirements on the first draft have been fully met. He will also check formatting, spelling and English construction. The Editor and Organising Committee reserve the right to reject papers that do not substantially meet the instructions below or where the spelling/grammar/English construction would require considerable work by the Editor to bring the paper up to the standards required for the Proceedings. All oral papers will be open access and available to all delegates at the start of the conference. Hard copy proceedings will be available for purchase with a 30 % discount.

General points

1. The paper with a minimum length of 7 pages and a maximum of 8 pages must be supplied as a Microsoft Word file. If your abstract is accepted, you will get an invitation by e-mail to write a paper from the editor. An e-mail from the web site will arrive later and will include a link for submitting your paper. Follow that link and upload the file.
2. Authors who are not native English speakers are strongly advised to have their papers checked/corrected by a competent native English speaker before submitting the paper.
3. There is no flexibility on the date that will be in the email from the editor for manuscripts to be submitted to the publisher. Authors must therefore keep to the deadline indicated to them.
4. Colour figures can be included in the paper. The hardcopy of the proceedings will be printed in B/W so do check that your figures will appear OK in grayscale. However, in the pdf file of the proceedings, all figures will be in colour.
5. All abbreviations and acronyms must be written out on first mention.
6. Avoid jargon and technical terms. Your text should be understandable to all ECPA participants. If technical terms are essential, define them on first mention.
7. Avoid use of personal pronouns / royal ‘we’ throughout paper – use passive.
8. What was done must be in past tense.
9. All abbreviations in full at first use.

Format & structure

- Font: 12 pt Times New Roman
- Line spacing: single
- No line or page numbers. No headers or footers (other than footnotes). Do not include paper/abstract ID number.
- Margins: 30 mm all sides.
- Section titles – main sections: left adjusted, bold, sentence case; sub-sections: left adjusted, regular, sentence case, under scored. No section numbering.
- One blank line before and after main section titles.
- One blank line before sub-section titles.
- Paragraphs should be fully justified.

The structure of the paper must be:

- Title – bold, left adjusted, sentence case
- Authors – surname and initial only (no first names), regular, left adjusted, sentence case
- Institutions and Addresses of authors – italics, left adjusted, sentence case
- Email address of corresponding author - regular, left adjusted, sentence case
- Abstract – approximately 100 words
- Keywords - 5 maximum (do not include 'precision agriculture' or similar)
- Introduction
- Materials and Methods
- Results
- Discussion – avoid merging results and discussion
- Conclusion – avoid merging discussion and conclusions
- Acknowledgements
- References

Figures

1. Figures should be embedded in the paper close to where they are referenced in the text.
2. Figures should preferably be placed at the top or bottom of a page.
3. All figures must have a figure number, be mentioned in the text and have a caption placed underneath the figure. The caption should be as short as possible, but provide enough information to understand the figure without reading the main text.
4. All axes should have legends with units (where appropriate).
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6. All maps must have a length scale and a north arrow.
7. All coordinates must include their coordinate reference system or datum.
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10. Make sure all images are at least 200 ppi in their final size.

Tables

1. Tables should be placed close to where they are referenced in the text. They should be in text format – not a graphics.
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3. The number of vertical and horizontal border lines in a table must help readers understand them and be kept to a minimum. Generally, there should be no vertical lines and no horizontal lines within the body of a table.
4. Values in a table should be in regular font.

Equations

1. Preferably, equations should be written in Microsoft Equation Editor.
2. Equations should normally be placed on separate lines from the text.
3. All equations must have a number and be mentioned in the text. The number should appear to the right of the equation in round parentheses ().

All communications must strictly follow the international system of units

Among other aspects, consider the following:

1. The decimal marker or separator is a regular point in the line or period.
2. No character is to be used as thousand separator. If numbers are very large, the space is the only character accepted.
3. All numbers must be immediately followed by a mandatory space and their corresponding unit symbols. Hyphens are not allowed. E.g. 160 t ha^{-1} and 200 t ha^{-1} (160 and 200 t ha^{-1} is not correct).
4. The only exception to the previous rule are dimensionless numbers and angular units. E.g. latitude: 41° 37' 11.4636", longitude: 0° 37' 13.368" ETRS89 (note the use of spaces and the inclusion of the datum in the coordinate).
5. The percentage symbol is to be preceded by a mandatory space included right after the number.

References

1. Literature quoted in the text should be indicated by author and publication year – one author (Smith, 2012); two authors (Smith & Jones, 2012); more than two authors (Smith et al, 2012).
2. References must be listed in alphabetical order of 1st author (then 2nd author etc). Surnames, initials of all authors must be included. If a paper has more than 6 authors then author names must be truncated to first six and 'et al' added.
3. The reference must contain – author(s) name(s), year, title (sentence case), journal name in full (or 'In: proceedings of….' or book publisher), volume number, issue, page range. Quote publisher in format publ location (city, country): publisher name.
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5. Proceedings (or collected works) editors should be named where known. Publisher and publisher location (city, country) for conference proceedings should be included – not conference location and date.
6. Only published works and those accepted for publication may be included. Submitted but not yet accepted papers may not be included.
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8. No references in abstract or conclusions.
9. For more complicated reference questions refer to APA 7th Edition reference rules (https://apastyle.apa.org/style-grammar-guidelines/references)

Mapping infestations of potato cyst nematodes and the potential for spatially varying application of nematicides

Times New Roman 12 pt

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Abstract

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The most important constraint to potato production in the UK is the damage caused by the potato cyst nematodes (PCN) *Globodera pallida* and *G. rostochiensis*. These are serious pests, capable of causing substantial yield loss. Modern management systems depend heavily on nematicides which, at *c*. 360 £ ha^{-1} for granular and *c*. 550 £ ha^{-1} for…

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Keywords: maps, nematicides, nematode control, potato cyst nematodes.

SI units only

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Paragraphs justified left and right

Introduction

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The potato cyst nematodes (PCN) *Globodera pallida* and *G. rostochiensis* are the most problematic pests faced by potato growers in Britain, being both persistent and capable of causing substantial loss of yield (Trudgill, 1986). A recent survey of potato production in England and Wales revealed that 64 % of the fields surveyed were infested with PCN and that, of the infested fields, 67 % were essentially pure *G.*
The Global Positioning System (GPS) has made it possible for modulated treatments with nematicides to be accurately targeted (Haydock & Evans, 1995), and commercial packages have followed (e.g. Anon., 1997).

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Materials and methods

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The field surveyed, covering *c*. 8 ha, at Ram Farm, Nocton, Lincolnshire, grew spring barley in 1996. On 1 May, 1996, the field was sampled at 20-m intervals along the tramlines, which were 24 m apart and ran parallel to the western boundary of the field.

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Instrumentation
A DGPS receiver was mounted…

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Results

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The data for the pre- and post-cropping Ram Farm samples are summarised in Table 2. After harvesting, the average density of the PCN population over the whole field was found to have increased more than eight-fold, from 8 to 66 eggs g^{-1} soil, and the…

Table 1. Inputs for potato production and their potential for spatial application. Costs are taken from ABC (1999).

Input	Potentially variable?	Cost (£ ha^{-1})	Potential saving (£ ha^{-1})
N, P, K fertiliser	Yes	220	33 (15 %)
Lime	Yes	30	6 (20 %)
Herbicides (i) pre-emergence	No	60	-
(ii) post-emergence	Yes	60	60 (100 %)
Fungicides	No	144	-
Insecticides	Yes	26	26 (100 %)
Nematicides (i) Granular	Yes	360	360 (100 %)
(ii) Fumigant	Yes	550	550 (100 %)

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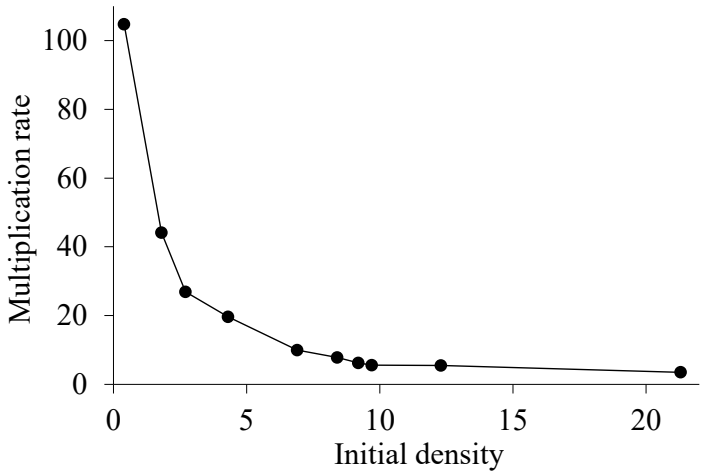


Figure 1. Relationship between initial population density (P_i) and multiplication rate (P_f/P_i) from hectare blocks at Ram Farm.

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$$\mathrm{Sph}(a) = \frac{3h}{2a} - \frac{1}{2}\left(\frac{h}{a}\right)^3 \text{ for } 0 < h \le a \text{ and } 1 \text{ for } h > a \qquad (1)$$

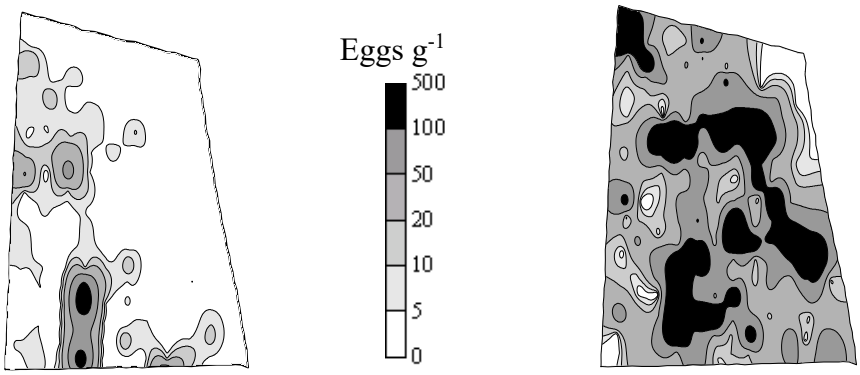
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Discussion

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Although PCN, in common with other species of plant parasitic nematodes, are fairly immobile and are spread mainly by operations that move the soil, apparently discrete patches that are surrounded by uninfested areas are often actually surrounded by areas…

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[scale bar or x-y distance scales]

Figure 2. Pre-crop (left) and post-harvest (right) distributions of PCN at Ram Farm.

Conclusions

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Full spatial application of both nematicides would be possible if growers were to accept the possibilities of PCN patches being missed by the sampling procedure and of areas of zero count simply being below detection threshold and likely to increase dramatically if not treated.

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Acknowledgements

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This project was funded…

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