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To seed and ware potato growers

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6 March 2009

Dear Sir/Madam

CONTROL OF POTATO CYST NEMATODES: CONSULTATION ON THE IMPLEMENTATION IN SCOTLAND OF DIRECTIVE 2007/33/EC

You may be aware that a new EC Directive on the control of potato cyst nematodes (PCN) will come into force from 1 July 2010, replacing the current Directive 69/465/EEC. I am writing to invite your comments on the Scottish Government's proposals for the detailed implementation of the new Directive.

PCN, *Globodera rostochiensis* and *Globodera pallida*, are serious pests of potato crops world-wide. Potatoes are an important crop for Scotland and maintaining the supply of seed potatoes free of PCN (and other quarantine diseases) is vital to the ware industry in Scotland, as well as for export sales. It is also in the interest of the industry to avoid the spread of PCN within Scotland, to maintain the supply of land for potato production.

European legislation has been in place since 1969 to limit the increase and spread of these pests, and this legislation has recently been updated to take account of changes in the understanding of the biology of PCN, its distribution across the EU and practices within the potato industry. Some of the provisions of the new PCN Control Directive are obligatory, with the aim of harmonising measures in all Member States. Others allow some flexibility for local implementation. The requirement to amend current arrangements also provides an opportunity to review some of the Seed Potato Classification Scheme (SPCS) rules on PCN which are not set out in legislation.

The attached consultation paper explains the requirements of the new Directive and seeks stakeholders' views on various options in those areas where flexibility is available. I would welcome your views on these options by **29 May 2009** or earlier if possible. All responses received by the closing date will be taken into consideration in deciding how the new regime should operate.

Please see Annex B of the consultation paper for full details of how to respond and how your response will be handled. Please make sure you return the **Respondent Information Form** with your comments.

This consultation applies to Scotland only. Similar exercises are being undertaken in England, Wales and Northern Ireland.

The consultation paper is also available online, on the the consultation pages of the Scottish Government website www.scotland.gov.uk/consultations.

Yours sincerely



Jean Waddie
Plants, Horticulture and Potatoes

CONTROL OF POTATO CYST NEMATODES :
CONSULTATION ON THE IMPLEMENTATION IN SCOTLAND
OF DIRECTIVE 2007/33/EC

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CONTROL OF POTATO CYST NEMATODES : CONSULTATION ON THE IMPLEMENTATION IN SCOTLAND OF DIRECTIVE 2007/33/EC

1. Introduction

1. Potato cyst nematodes (PCN), *Globodera rostochiensis* and *Globodera pallida*, are serious pests of potato crops world-wide. They feed on the roots of the plant and can cause significant loss of yield. Controls are in place in most potato-producing countries to limit the increase and spread of PCN. This consultation paper addresses the implementation of updated controls which are due to be introduced in all EU Member States from 1 July 2010.

2. Potatoes are an important crop for Scotland, which produces and markets seed potatoes of high health status and is recognised within the European Union as a Community Grade region for seed potato production. Maintaining the supply of seed potatoes free of PCN (and other quarantine diseases) is vital to the ware potato industry in Scotland, as well as for export sales. It is also in the interest of the industry to avoid the spread of PCN within Scotland, to maintain the supply of land for potato production.

3. The main route by which PCN spreads is through the movement of infested seed potatoes, or in soil moved with tubers or other plants and on farm machinery. Cysts can also be transported by water, so there is a risk of contamination from washing water as well as soil and waste from grading and processing. PCN multiply rapidly in the presence of host plants, which include peppers, tomatoes and aubergine, as well as potatoes. In the absence of hosts, populations decline, so long rotation of host crops is an effective control method. Resistant varieties can be used to control PCN; many successful commercial varieties have high levels of resistance to *G. rostochiensis* but breeders have so far not been successful in incorporating similar levels of resistance to *G. pallida* into new varieties that are suitable for the UK market.

Background

4. PCN, then known as Potato Cyst Eelworm, *Heterodera rostochiensis* Wollenweber, was one of the first plant pathogens to be subject to a European Control Directive, Council Directive 69/465/EEC. The Directive requires an official investigation to ensure that seed potatoes “intended for marketing” are produced only on land that has been confirmed as uncontaminated by Eelworm. On land found to be contaminated, no potatoes or plants intended for transplanting can be grown, although derogations are permitted for some ware potato production on contaminated land. These allow fully resistant varieties to be grown, crops to be harvested before the cysts mature and crops to be produced following disinfection.

5. PCN is also listed as a quarantine organism in Annex IAll of the Plant Health Directive, 2000/29/EC, meaning that its introduction and spread within the EU is banned. Annex IV of that Directive requires that seed potatoes and plants with roots intended for planting, introduced into or moved within the EU, must come from a field or place of production known to be free of PCN. The Seed Potatoes Marketing Directive (2002/56/EC) also requires that both the production ground of classified seed potatoes and individual lots of classified seed potatoes are free of PCN.

6. These controls are currently implemented in Scotland by a range of legislative and other measures:

- Annexes 2 and 4 of the Plant Health (Scotland) Order 2005 implement the requirements of the Plant Health Directive in relation to the introduction and movement of PCN, seed potatoes and plants with roots intended for planting.
- Annex 15 of the Plant Health (Scotland) Order 2005 implements the requirements of the 1969 PCN Control Directive relating to land contaminated with PCN.
- Schedule 1 of the Seed Potato (Scotland) Regulations 2000 implements the requirements of the Seed Potatoes Marketing Directive that both the production ground of classified seed potatoes and individual lots of classified seed potatoes are free of PCN.
- The rules of the Scottish Seed Potato Classification Scheme (SPCS) require that crops entered for classification must be grown on land for which a certificate of PCN clearance is in force at the time of planting. They set out in detail the current arrangements for carrying out soil tests and the restrictions placed on a field when live or dead cysts of PCN are found. Although they are administered by the SPCS, the rules on infested land and contaminated soil and plant material also apply to ware potatoes, bulbs and other relevant plants.

Soil sampling and testing is carried out by the Scottish Government Rural Payments and Inspections Directorate (RPID), which now incorporates SASA.

7. In recent years efforts have been made to update the 1969 Directive, to take account of changes in the understanding of the biology of the pest, its distribution across the EU and practices within the potato industry. The new PCN Control Directive, 2007/33/EC was adopted by the European Parliament on 11 June 2007 and will come into force on 1 July 2010, in preparation for planting in 2011¹.

Consultation

8. Some of the provisions of the new PCN Control Directive are obligatory, with the aim of harmonising measures in all Member States. Others allow some flexibility for local implementation. The requirement to amend current arrangements also provides an opportunity to review some of the SPCS rules on PCN which are not set out in legislation. This paper explains the requirements of the new Directive and seeks stakeholders' views on various options in those areas where flexibility is available. We will take all responses into consideration in deciding how the new regime should operate.

¹ The 2007 Directive applies controls on the production of plants for replanting of other PCN hosts in addition to seed potatoes. The species affected are *Capsicum* spp (peppers), *Lycopersicon lycopersicum* (L.) Karsten ex Farw. (tomato) and *Solanum melongena* (L.) (aubergine). Since there is little, if any, production of these plants in the field in Scotland, they will not generally be mentioned in this paper. The controls on plants other than potatoes are summarised in section 8.

Responding to this consultation paper

We are inviting written responses to this consultation paper by **29 May 2009**

Please send your response to:

Jean.Waddie@scotland.gsi.gov.uk

or

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Scottish Government
Plants, Horticulture and Potatoes
Room 251
Pentland House
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If you have any queries contact Jean Waddie on 0131 244 4895.

We would be grateful if you could order your response according to the numbered questions in this paper, as this will aid our analysis of the responses received.

Handling your response

We need to know how you wish your response to be handled and, in particular, whether you are happy for your response to be made public. Please complete and return the **Respondent Information Form** enclosed with this consultation paper as this will ensure that we treat your response appropriately. If you ask for your response not to be published we will regard it as confidential, and we will treat it accordingly. All respondents should be aware that the Scottish Government is subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

Further information about Scottish Government consultations and how responses will be handled is provided in **Annex B**. A list of initial recipients of this paper is at Annex A.

2. Contents of the 2007 Directive

Sampling rate

9. A key aim of the new Directive was to produce a harmonised approach to testing for PCN, in particular that the sampling rate for official pre-crop soil testing should be the same across the EU. A single standard sampling rate is therefore imposed. A lower rate is set for land where no potatoes have been grown in the previous six years, or where previous official tests have found the land to be free of PCN. Both the standard and the lower rate may be reduced for larger fields, which helps to offset the higher probability of detecting PCN when larger fields are tested.

10. Member States have freedom to define a “field”, which is the area from which a single soil sample will be drawn and tested, and to which the consequences of the results of the test will be applied. Although larger “fields” can be sampled at reduced rates, the consequences of finding PCN are greater in terms of the area of land that would then be designated as contaminated and subjected to control measures.

11. Details of the standard sampling rates and the implications for PCN testing in Scotland are discussed in **section 3**, together with options for the definition of a field and related issues.

Farm saved seed

12. Unlike the 1969 Directive, the 2007 Directive does not discriminate between seed potatoes “intended for marketing” and others. For the purposes of the 2007 Directive all potatoes that are planted are viewed as “seed potatoes”. All seed potatoes must be produced on land which has been found clear of PCN by a pre-planting soil test, unless they are to be used “within the same place of production situated in an officially defined area”. This measure recognises that all movement of seed potatoes, including those saved from unclassified crops (“farm saved seed”) poses the same risk of spreading PCN, and there is little point imposing controls on classified seed if farm saved seed can be moved without restriction. There is some scope for local interpretation of the area within which untested farm saved seed can be used; options are discussed in **section 4**.

Land infested with PCN

13. If official testing finds PCN in a field, the field must be recorded as infested and the following restrictions will apply:

- No seed potatoes may be grown in the field;
- Ware potatoes may be grown, provided that an officially approved control programme is used, aiming at least at the suppression of PCN (control programmes are discussed in **section 6**);
- Ware potatoes which have been grown or stored in an infested field, or which have come into contact with infested soil, must be graded and processed at a plant with appropriate waste disposal facilities which pose no risk of spreading PCN. They must not be planted in any circumstances. Disposal of contaminated waste is discussed in **section 7**.

Implementation of the new soil sampling rates will mean that it is no longer necessary to place restrictions on buffer zones around the area in which PCN is found – please see **section 5** for details.

3. Soil sampling rates and criteria

Standard and reduced rates

14. The 2007 Directive sets a standard sampling rate for official pre-crop soil testing for PCN of **1500 ml soil per ha**. This is to be collected from at least 100 cores per ha, preferably in a rectangular grid not less than 5m in width and 20m in length between sampling points, covering the entire field. The entire sample is to be used for analysis.

15. The sampling rate can be reduced to a minimum of **400ml/ha** for fields where:

- a. There is documentary evidence that no potatoes have been grown for 6 years before the test; or
- b. No PCN have been found in the previous 2 official tests; or
- c. No PCN or dead cysts have been found in the most recent official test.

(b) and (c) will not apply if any potatoes that were not themselves grown on PCN tested land have been planted in the field since the most recent test or, for (b), since the first of the two tests. Tests carried out under the current SPCS rules will count towards qualification for the reduced sampling rate for as long as they remain relevant.

16. The adoption of a flat rate for soil sampling would result in the testing of more soil from larger fields and would lead to a greater chance of detecting a similar underlying distribution of PCN in a large field than in a small field. In recognition of this, a further reduction is permitted for large fields:

- For the standard sampling rate, the first 8ha shall be sampled at 1500 ml/ha, with each additional hectare sampled at a minimum rate of 400 ml/ha;
- For the reduced rate, the first 4ha shall be sampled at 400 ml/ha, with each additional hectare sampled at a minimum rate of 200 ml/ha.

In each case the average sampling rate is calculated and applied across the whole field. So for example, a field of 11ha would be calculated as follows, for the standard rate and for the reduced rate:

11ha at standard rate	11ha at reduced rate
8ha @ 1500 ml = 12,000ml	4ha @ 400ml = 1600ml
3ha @ 400 ml = 1200ml	10ha @ 200ml = 1400ml
Total soil required = 13,200ml	Total soil required = 3000ml
Average rate = 1200ml / ha	Average rate = 273ml / ha

(In practice the amount of soil taken will be rounded up to allow inspectors to take a whole number of standard-sized samples).

Impact on soil sampling in Scotland

17. The current standard rate of pre-planting soil sampling for PCN in Scotland is 600ml for an area up to 4ha. If the standard rate in the 2007 Directive of 1500ml per hectare was applied to all land currently tested, it would result in a ten-fold increase in the amount of soil tested. This would impose a significant burden on growers and would probably exceed the capacity of current testing resources, both staff and laboratory facilities. Fortunately, however, much of the land used for production of seed potatoes in Scotland will qualify for sampling at the reduced rate. A very high proportion of land which has been tested under the current arrangements has a documented history of freedom from PCN. In addition, the majority of basic seed potatoes are grown on rotations of one year in seven or longer. It is estimated that only around 5% of the land currently tested each year would require to be sampled at the standard rate.

18. In 2006, 17,461 ha were tested, taking 3404 litres of soil in total. SASA has calculated that, if all that land qualified for the new reduced sampling rate, and no account is taken of larger fields, at least 6985 litres of soil would require to be tested. Some additional sampling will be required to cover farm saved seed, however this figure can be used as a baseline for further calculations.

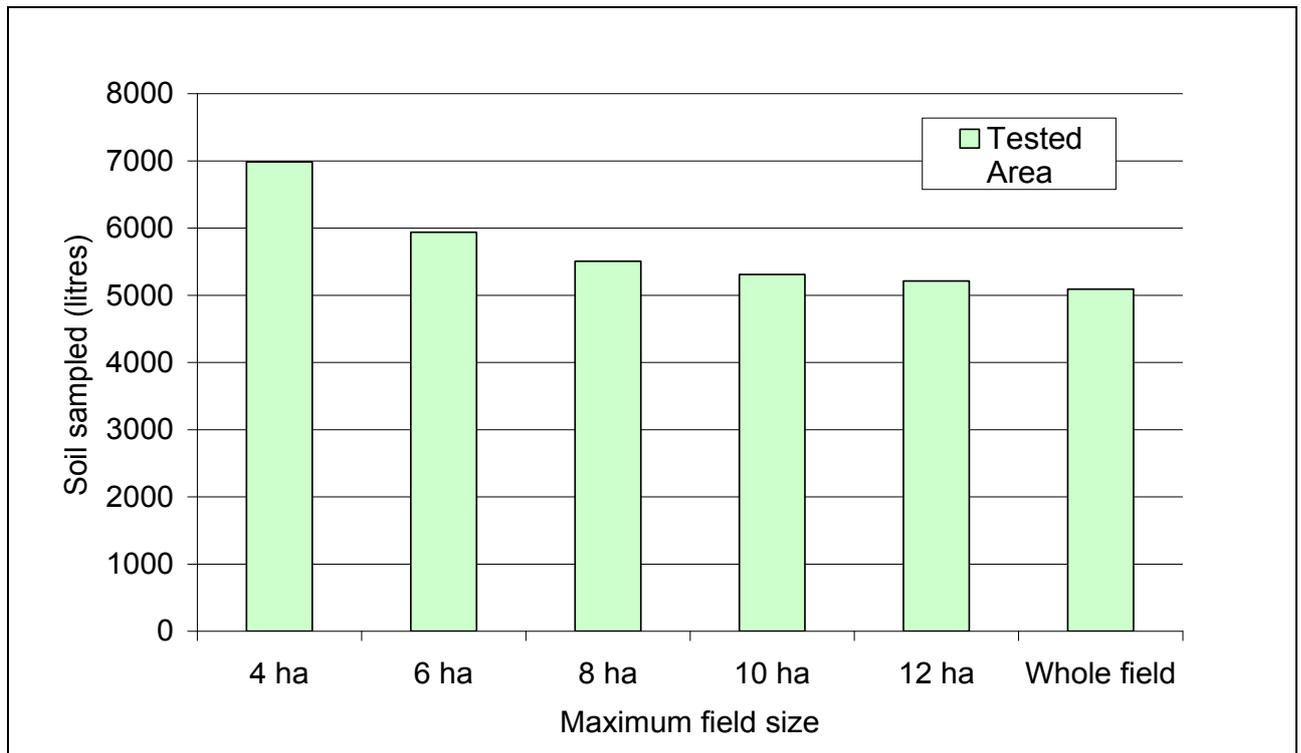
Definition of a field

19. Member States have freedom to define a “field” for the purposes of the PCN Directive. This is the area from which a single soil sample will be taken – cores may be placed in several sample bags for ease of processing, but they will not be identified as coming from separate areas and a single result will be given for the whole “field”. If PCN are found in the sample, restrictions will also apply to the whole area. The equivalent under current arrangements is the 4ha unit – fields larger than 4ha are split into 4ha sections for soil sampling, and fields smaller than 4ha may not be divided. Sampling across a larger “field” allows a lower sampling rate to be used, which would generally be an advantage for both growers and RPID. However, this also carries the risk that a larger area will be taken out of production if PCN are found.

20. The most obvious definition of a field is an area surrounded by recognisable boundaries – fences, dykes, hedges, ditches. This is the unit to which a field identification (FID) number is given. However, at present seed potato growers are not required to have the entire field sampled. In 2006 the average size of field in which classified seed potatoes were grown was 9.6ha, but the average field area submitted for sampling was 8.5ha. We do not intend to require whole fields to be sampled, since this would create an unnecessary additional burden. We therefore have to consider whether any restrictions should be placed on dividing fields for soil testing.

21. In the case of the reduced sampling rate, for which most seed potato land in Scotland will qualify, the further reduction applies to fields larger than 4ha. The average size of a potato field in Scotland, between recognised boundaries, is between 8 and 12 ha. A very small number of fields are larger than 20ha. Calculations based on the 2006 data show that if the whole area tested in 2006 was sampled in future in 8ha units, this would achieve a 21% reduction in the amount of soil to be taken. 10ha units would give a 24% reduction, while sampling the whole

area submitted for testing would give a 27% reduction. The results are presented graphically below:



22. The Directive would permit fields to be split into units smaller than 4ha for sampling. However, we consider that such small areas would be difficult to map and sample accurately. Since smaller areas bring no reduction in sampling rate, we are minded to retain the minimum of 4ha for part-fields. Part-fields should preferably have recognisable boundaries on at least 2 opposite sides, and the direction of drilling should be from one boundary to the other. However, these requirements may be waived with the agreement of RPID, depending on the topography of the field.

23. Taking into account the issues set out above, the following options are proposed for defining a “field” for the purposes of PCN soil sampling:

- a. No part fields allowed: the complete area submitted for sampling. Parts of the area within recognisable boundaries may be excluded from sampling, but the sampled area may not be subdivided.
- b. Units of 10ha. Large fields must be divided into sections as near 10ha as possible, fields smaller than 10ha may not be divided.
- c. Part-fields to be determined by the applicant: no maximum size, minimum of 4ha.

24. Option (a) would give the lowest sampling rate in all cases and would be the simplest option in practice. Option (b) aims to achieve the optimum balance between sampling rate and the area on which restrictions may be placed, based on the average size of fields in Scotland. Option (c) gives growers the maximum flexibility to choose the size of units to be tested, however, this option would be the most complicated to implement and is likely to result in a higher overall sampling rate than other options.

Question 1: Which option do you prefer for the definition of a field?

Documentary evidence that no potatoes have been grown

25. In order to qualify for the reduced sampling rate, documentary evidence is required to prove that no potatoes or other host plants have been grown in the field in the previous six years, or since an official test which found the field to be clear of PCN. The Scottish Government holds a range of records which should be able to provide this information. Primarily, the location of all classified seed potato crops is recorded through the SPCS, and all ware (or farm saved seed) crops are required to be notified to SASA on the PP1 form, under the Plant Health (Potatoes) (Scotland) Order 2006. Failure to notify a potato crop is an offence; inspectors will record any undeclared crops which they discover and further action may be taken against the grower. It can therefore be assumed that these records will be complete, and that if no potato crop is recorded for a particular field, no potatoes have been grown there. On receipt of an application for PCN soil testing, RPID officials will search the SPCS and PP1 records to check whether the field is eligible for the reduced sampling rate.

26. The requirement to notify ware crops came into operation for the first time for the 2007 growing season, and will not therefore provide a long enough record when the new Directive comes into force for the 2011 growing season. In the meantime, RPID will make use of whatever records may be available from SPCS, ware inspections etc. Ad-hoc queries may also be made to IACS (Integrated Administration and Control System), used for applications for Single Farm Payments and other grants and support schemes.

Question 2: Do you agree with the proposed method of obtaining documentary evidence that no potatoes have been grown? Are there other records that should be considered?

“Banking” of test results

27. Until 2007, SPCS allowed PCN test results to be “banked”, remaining valid for 4 years from the date of the test. This recognises that any PCN populations in a field will normally decline if no host plants are grown, although retesting is necessary after a time to check that PCN have not been introduced from elsewhere. In order to manage the changeover to a new testing regime, banking is currently being restricted, so that the results of tests carried out in 2008 and 2009 will not be valid beyond 2011. We are considering whether the banking system should be continued or modified under the new regime.

28. Four years has to date been considered a reasonable period for the banking of PCN test results, balancing convenience for growers with plant health protection. However, the great majority of crops are grown within 2 years of testing. For crops grown in 2007, the date of PCN testing was as follows:

Year of testing	Percentage of crops grown in 2007
2004	2%
2005	7%
2006	20%
2007	71%

On the other hand, under the new regime a longer banking period could allow large fields to be sampled more economically; for example, a grower with a 40ha field might wish to have the whole field sampled as a single unit in one season, and grow 10ha in each of the following 4 years.

29. We would welcome stakeholders' views on the following options for banking test results from 2010 onwards:

- a. Return to 4-year banking;
- b. Reduce banking to 2 years;
- c. Remove banking and require all tests to be carried out in the same year as planting.

Question 3: Which option do you prefer in relation to banking of PCN test results?

30. SPCS rules require minimum rotation periods to be applied for different grades of classified seed potato crop. A field can be tested for PCN before the rotation period has elapsed. In this case, if it has tested clear of PCN and will become eligible for growing seed within the banking period, it will be marked as "Pass for [year]" showing the year from which it will be eligible.

31. The 1969 Directive required only that "an official investigation" should recognise fields used to produce "seed potatoes intended for marketing" as free of PCN. SPCS rules state that this official investigation should take the form of a pre-planting soil test, but exemptions have occasionally been made, allowing post-planting or post-harvest testing in exceptional circumstances. The 2007 Directive prescribes that the official investigation must be carried out pre-planting, therefore no exemptions will be possible under the new regime.

Survey of ware land

32. An official survey for PCN must be carried out annually on at least 0.5% of all land on which ware potatoes have been grown in that year, and the results notified to the European Commission by 1 April each year. The sampling rate required for this survey is at least 400 ml/ha. If PCN is found as a result of testing for this survey, the same measures will apply as for a field found infested through pre-planting soil sampling, and any potatoes which can be traced back to that field will be subject to restrictions. We anticipate selecting fields for the survey in late summer and carrying out the sampling the following February / March.

4. Farm saved seed

33. The 1969 Directive requires soil testing for PCN only for fields where classified seed potatoes are to be grown. Current controls therefore exclude farm saved seed. However, in drawing up the 2007 Directive, Member States recognised that it was difficult to justify restricting PCN controls in these terms, on plant health grounds. Farm saved seed may sometimes be replanted in the same field or an adjacent field, but it may equally be moved to another holding planted by the same grower in another part of the country, or passed on to another grower contracted to the same merchant. A particular concern is the planting of farm saved seed in rented land; if this becomes infested then the next tenant may transfer PCN to his own land or to other rented land, creating a chain of contamination.

34. A small survey of PCN in ware potato land, carried out by RPID using a randomly chosen sample of fields used to grow ware crops in 2007, found 16% of the 67 fields surveyed (and 9% of the 190 samples taken) to be infested with live PCN. This is lower than the figure of 23% found by SAC in a study of 397 advisory samples published in 1999. It is clear that many ware growers are well aware of the potential impact of PCN on their production and take measures to minimise the risks. This may include having fields tested, either officially or privately, and reserving areas believed to be free of PCN for producing farm saved seed. At present significantly more land is officially tested than is used for growing classified seed crops: in 2006, 17,461ha was tested, but only 10,822ha was entered for classification. We assume that some of the excess is already used for growing farm saved seed. However, we are also aware that in other cases ware growers may not decide which crops will be used for farm saved seed until they are harvested, in which case it may come from untested land.

35. To ensure that the risks of spreading PCN through farm saved seed are kept to a minimum, the 2007 Directive requires that all seed potatoes must be produced on land which has been found clear of PCN by a pre-planting soil test, unless they are to be used “within the same place of production situated in an officially defined area”. This phrase is open to a degree of interpretation by Member States. Plant health authorities must also be satisfied that farm saved seed used in this way poses no risk of spreading PCN.

36. The most restrictive definition of “same place of production” would be to limit it to a single holding. This would provide the maximum protection against the spread of PCN, but fails to recognise the reality that many growers operate across owned and rented land on a number of neighbouring holdings. The opposite extreme would be to permit farm saved seed to be moved to any holding in the same ownership or management, anywhere in Scotland. This has been suggested in areas where PCN is widespread in ware land, but we would not consider it appropriate in Scotland, given the restricted distribution of the pest here.

37. The Scottish Government is minded to define “same place of production” as holdings under the same ownership or operational management within a restricted distance which would, on average, cover all fields planted by a single grower. Issues to consider include:

- Given the additional risk of spread posed by planting farm saved seed in rented land, should its use be restricted to holdings in the same ownership?

- Should the same ownership or management refer to the individual grower or to all crops grown under contract to the same merchant?
- What is an appropriate distance within which farm saved seed could be moved? 10km has been suggested as this is considered an appropriate distance over which the use of the same field machinery may occur.

38. Documentation will also be required to identify farm saved seed and ensure it is not used beyond the specified distance. Ware growers are already required to retain labels to prove that the potatoes they plant are no more than once-grown from classified seed, and to submit PP1 forms with details of the location of all ware crops planted. It may be necessary to add to the PP1 the field in which the farm saved seed was grown, and to label it in store to maintain traceability. Since the Scottish Government must be satisfied that there is no risk of spreading PCN, use of farm saved seed can only be permitted if suitable tracking mechanisms are in place.

Question 5a: Which of the following options do you prefer for the definition of “same place of production”?

- a. The same holding**
- b. Any holdings in the same ownership which are no more than [10km] from one another.**
- c. Any holdings under the same operational management which are no more than [10km] from one another.**

If you prefer another definition please give details and explain your reasons.

Question 5b: Is 10km a reasonable distance which would cover all the fields planted by an average grower?

Question 6: Do you foresee any problems with implementing a system for labelling farm saved seed in store in a way which is secure and can guarantee traceability back to the field in which it was grown? Is there a need for an official numbering system?

5. Land recorded as infested

39. Where live PCN are found in a field, either by a pre-planting soil test or during the ware survey, the field will be officially recorded as infested. (The terms “scheduling/descheduling” of land will be replaced by the terms “recording/de-recording” of land infested with PCN.) Potatoes or plants which have been grown in the field, or which have come into contact with infested soil, will be “designated as contaminated”.

40. When a field is recorded as infested with PCN, the 2007 Directive imposes the following restrictions:

- No seed potatoes may be grown in the field;
- Ware potatoes may be grown, provided that an officially approved control programme is used, aiming at least at the suppression of PCN (see section 6);
- Potatoes which are designated as contaminated must be graded and processed at a plant with appropriate waste disposal facilities which pose no risk of spreading PCN. They must not be planted in any circumstances.

41. The current system of PCN soil testing used in Scotland provides for a range of restrictions to be placed on the land, beyond the minimum requirements of the 1969 Directive. These range from a complete ban on all potatoes being planted to a ban only on growing seed of non-resistant varieties. This depends on the pathotype and whether live or dead cysts are found. If live cysts are found then buffer zones on either side of the tested area are also restricted. These measures compensate for a relatively low sampling rate; for example, if dead cysts are found it is taken to indicate that live cysts are also likely to be present, but at a low density. The more intensive sampling required under the 2007 Directive justifies simplifying the system. We therefore propose that under the new arrangements:

- Where live cysts (of either pathotype) are found, the “field” will be recorded as infested.
- The record will apply to the “field” from which the soil sample was taken (see section 3).
- There will be no restrictions on adjacent areas (no buffer zones).
- No restrictions will be placed on land where only dead cysts are found, nor will such land require a ‘voluntary retest’ prior to the granting of a clearance certificate.

42. Around 17,000ha of land is officially tested for PCN each year, of which only around 10,000ha is used for the production of classified seed potatoes. Over the last ten years, an average of 400 ha have been scheduled and descheduled each year – the overall area of scheduled land has remained constant. Under the higher sampling rates specified by the 2007 Directive, the rate at which restrictions are placed on land is likely to increase and the rate of removal of restrictions will decrease, especially as more intensive sampling (i.e. the standard rate) will be required for such purposes. Ignoring findings of dead cysts, as proposed, would make another 1600ha / 9% of land tested each year available for the production of seed potatoes.

Question 7: Do you agree with the proposed simplification of the system for placing restrictions on land in response to a finding of PCN? If not, please explain your concerns.

43. In order to remove the restrictions on a field officially recorded as infested, a pre-planting soil test must find the field clear of PCN. The 2007 Directive requires at least six years to have passed since the test which found PCN in the field, or since the last potato crop, before a de-recording test can be carried out. If approved control measures have been used to suppress PCN in the field, a minimum of three years is required.

44. Under current rules, a descheduling test can be carried out after one, three or six years, depending on the quantity and species of PCN found when the field was scheduled, although a six year gap is recommended. This is in the context that no potatoes may be planted in scheduled land; early descheduling allows the land to be used for ware, and it is assumed that growers who plant potatoes in such land will use appropriate control measures to protect their crop. Given that PCN can survive in the soil for at least 20 years, it is very likely that some will still be present after 3 years, even if a further test fails to find them. Under the new regime, ware potatoes can be grown in land recorded as infested, with a suitable control programme, so there is less justification for early de-recording. In order to provide more robust

control of PCN where it is known to occur, we are minded not to permit de-recording until six years have passed.

Question 7a Do you agree that a de-recording test should not be permitted until six years after the test which found PCN in the field, or the last potato crop?

45. The Directive requires a de-recording test to be carried out at the standard sampling rate of 1500ml/ha, using the reduced rate for larger fields where relevant. However, it also allows for the lower rate of 400ml/ha to be used if 7 years have elapsed since the last potato crop. Current SPCS rules state that classified seed potatoes cannot be grown until six years after the last finding of PCN, and 11 years after the last potato crop in that field (5 years if a resistant variety was grown for ware). We propose to require that all de-recording tests are carried out at the standard rate, but to remove the rotation requirement in relation to the last potato crop, in recognition that the higher sampling rate gives a greater chance of finding PCN at lower concentrations. Six years after a finding of PCN, therefore, it will be possible to carry out a de-recording test and, if this is clear, to plant seed potatoes for classification or to be used as farm saved seed immediately.

Question 8: Do you agree with the proposal to require all de-recording tests to be carried out at the standard rate, and consequently to remove the rotational requirement of 11 years for growing seed potatoes on previously recorded land?

Register of infested land

46. A PCN soil test may be requested by the owner of the land or by a grower who intends to rent the field, with the owner's permission. Currently, if a field is scheduled, the landowner is always informed, and it is an offence for them to permit potatoes to be grown in the field while that status remains. However, if another grower wishes to rent the field some years later, they are reliant on the landowner to tell them about the restrictions in place. Cases occur every year in which ware potatoes are grown in scheduled land, and it is often unclear whether the grower was aware of the restrictions.

47. To date, the results of PCN tests have been recorded manually on records for the farm, and there has been no central list of scheduled fields. However, the forthcoming introduction of a new computer system for the SPCS is expected to enable this information to be collated more easily. It should also be possible to match records of potatoes planted, both seed and ware, against scheduled / recorded fields in order to identify contraventions consistently.

48. It is the policy of the Scottish Government to proactively publish information wherever possible. We are therefore considering making available a public register of recorded fields, once systems are in place to facilitate this. The register would not contain any details of the owner or tenant of the field nor any description of its location, only the FID number, date of recording and details of the restrictions that apply. We believe this would benefit growers by allowing them to check before renting a particular field whether any restrictions are in place, and therefore avoid both damage to their crop and possible sanctions for contravention. It could also

play a part in reducing the distribution of PCN in Scotland, by providing an added incentive for landowners to ensure their fields do not become infested.

Question 9: Do you support the introduction of a public register of scheduled / recorded land? If not, please explain your concerns.

6. Official control programmes

49. The 2007 Directive allows ware potatoes to be grown in fields recorded as infested, provided the field is subject to “an official control programme aiming at least at the suppression of potato cyst nematodes”. A suitable programme is likely to include the use of resistant varieties and recognised control measures including nematicides, combined with suitable rotation periods.

50. We are aware that model programmes for PCN control are already offered to ware growers by agricultural advisers and organisations, including the Potato Council. It is not the intention of the Scottish Government to draw up new models. Instead we would hope to endorse existing programmes. Promoters of model programmes would be invited to submit them for scrutiny by SASA to ensure they meet the requirements of the Directive. Information on varieties that meet the requirements for resistance will also be made available. (Annex IV of the 2007 Directive sets out the prescribed method for identifying degrees of resistance to PCN). A grower who wished to plant ware in a field recorded as infested would need to submit a detailed control programme for formal approval by SASA, stating the variety to be grown, the control measures, rotation periods to be used, etc, but could be confident of success if this is based on an endorsed model. It should be noted that few varieties are currently available with significant levels of resistance to *G. pallida*, therefore control programmes suitable for land infested with this pathotype are likely to rely more on rotational control.

51. Compliance with the approved programme will be able to be monitored by RPID using existing records of potato plantings and chemical use.

Question 10: Do you agree with this approach to approving control programmes for growing ware on infested land? If not, please explain your concerns and any alternative proposals.

7. Disposal of contaminated waste and soil

52. Where potatoes have been grown in a field officially recorded as infested, they must be graded and processed at a plant where the waste disposal facilities have been officially approved, to ensure there is no risk of spreading PCN through contaminated waste and soil. In general, waste disposal arrangements should be in line with the Plant Health Code of Practice for the Management of Agricultural and Horticultural Waste, published jointly by the Scottish Government and Defra.. The following specific points should also be noted:

- As much soil as possible should be left in the field. If material from the infested field is handled separately, it may also be returned to the same field. This is not appropriate if material from more than one field is handled together;
- Soil and waste from grading and processing must not be returned to any other agricultural land. It should normally be disposed of to deep landfill;
- Potato waste from infested land must not be used as stockfeed;

- All vehicles and machinery must be cleaned and disinfected after handling the contaminated material, and the washing water disposed of in a suitable way.

53. When an official control programme for growing ware on infested land is approved, the grower will also be required to indicate where the crop will be sent for grading and processing, so that the plant's waste disposal facilities and procedures can be inspected. The plant will be subject to regular monitoring following approval.

Question 11: Do you agree with this approach to approving facilities for disposal of contaminated waste and soil? If not, please explain your concerns and any alternative proposals.

Question 12: Do you consider there are sufficient facilities available in Scotland which will be able to meet the requirements for disposal of contaminated waste and soil?

8. Other host plants and bulbs

54. In addition to potatoes, the 2007 Directive places requirements on other plants which are either hosts of PCN or are likely to be grown in rotation with potatoes and have the potential to spread the pest. These are listed in Annex 1 of the Directive in the categories set out below.

1. Host plants

Capsicum spp.

Lycopersicon lycopersicum (L.) Karsten ex Farw.

Solanum melongena (L.)

2a. Other plants with roots

Allium porrum L.

Beta vulgaris L.

Brassica spp.

Fragaria L.

Asparagus officinalis L.

2b. Bulbs, tubers and rhizomes

Allium ascalonicum L.

Allium cepa L.

Dahlia spp.

Gladiolus Tourn. Ex L.

Hyacinthus spp.

Iris spp.

Lilium spp.

Narcissus L.

Tulipa L.

55. The provisions applying to these plants are summarised in this section, but they are expected to have little impact in Scotland. They apply only to plants grown

in soil, and mainly to plants, bulbs etc intended for transplanting with roots or soil attached. Very few crops in Scotland meet these criteria.

56. Host plants (point 1 of Annex 1) intended for planting are subject to similar restrictions as for seed potatoes. They may only be grown in soil which has been found clear of PCN through a pre-planting soil test, unless they are to be used on the same place of production. In order for any field to qualify for the lower sampling rate, documentary evidence must show that no potatoes or other host plants have been grown in the field for the required period. Plants which have been grown in a field officially recorded as infested will be designated as contaminated and must not be replanted. There are no restrictions on planting host plants other than potatoes in infested land if they are not intended for replanting, nor on disposing of waste from contaminated plants.

57. Restrictions on other plants (point 2 of Annex 1) only apply if they are intended for replanting by professional plant or cut flower producers (not for final retail sale). Plants, bulbs etc are also exempt from the restrictions if they are disinfested by appropriate measures, or washed or brushed until practically free of soil, so that there is no identifiable risk of them spreading PCN. If these measures are not taken, plants for replanting listed in point 2 must be grown in soil which has either passed a pre-planting soil test, or where it can be shown that no PCN has been found in the field, or no potatoes or other host plants have been grown in the field, for 12 years.

Voluntary narcissus certification scheme

58. The Scottish Government operates a voluntary certification scheme for narcissus bulbs, which allows growers to demonstrate that their produce is free from serious pests and diseases and true to type. The scheme includes a pre-planting soil test for PCN. This is not a statutory requirement at present, nor will it be required under the 2007 Directive, since the bulbs are marketed practically free of soil. Soil may also be tested prior to lifting, to meet export requirements. We intend to discuss separately with the users of the certification scheme whether any changes should be made in light of the new sampling rates prescribed for seed potato land.

Crops not grown in soil

59. The Directive does not apply to the production of pre-basic tissue culture potatoes (minitubers) or any other plants not grown in soil. We intend to continue testing peat growing medium for PCN, as this is required for exports to a number of countries.

9. Export to non-EU countries

60. Countries outside the EU have varying requirements in terms of proving that seed, and in some cases ware, potatoes are free from PCN. In most cases the testing carried out under the new Directive will be sufficient. However, some countries require consignment testing or impose other criteria. Consignment testing for export is carried out by SASA. A fee is charged for this service (currently £30.50). More information about PCN testing for export is available in the SPCS leaflet "Soil Testing for PCN".

10. Costs

61. At present, no charge is made for PCN soil testing within the SPCS (charges are made for consignment or other additional testing required for exports). The UK is in a minority in the EU in not charging for this service. However, implementing the 2007 Directive will require a significant increase in the amount of soil to be sampled and tested. The Scottish Government is investigating more efficient methods for analysing soil samples, but there is still expected to be a substantial increase in the costs of the PCN testing service as a whole.

62. Having considered a range of options, Scottish Ministers have concluded that the additional costs cannot be absorbed by the Scottish Government without a knock-on effect on the quality of this and other services to the farming industry. They therefore propose that the additional costs of implementing the new PCN Directive should be covered by charges for PCN testing. The Scottish Government will continue to cover an amount equivalent to the costs of the current regime from its own budget.

63. The exact mechanism for calculating charges to growers will be subject to further consideration and a separate consultation. Some factors contributing to the overall cost of the service will depend on the detailed implementation of the new regime, informed by responses to this consultation, and others on choices made by individual growers. As a rough guide, we have estimated that the new requirements are likely to increase total annual costs from just over £400,000 (in 2006) to between £600,000 and £840,000 (at 2006 prices). To cover the additional costs the annual charge for an individual grower is likely to range from around £250, for a small grower, to upwards of £2500 for the largest 5% of businesses.

Question 13: What are your views on the proposed introduction of charging to cover the additional costs of the new PCN testing regime?

Please note that we would welcome specific information on the potential impact charging would have on businesses, to assist in developing a Regulatory Impact Assessment.

ANNEX A: LIST OF INITIAL RECIPIENTS OF THIS CONSULTATION PAPER

British Potato Trade Association
British Society of Plant Breeders
Convention of Scottish Local Authorities
Equality and Human Rights Commission (Scotland)
Federation of Small Business – Scottish Office
Horticulture Development Company
Horticulture Trade Association
Members of relevant Committees and Groups
National Farmers Union Scotland
Potato Council Limited
Pre-Basic Growers Association
Scottish Government
SG Library
Scottish MEP's
Scottish Organic Producers Association
Scottish Rural Property and Business Association

ANNEX B: THE SCOTTISH GOVERNMENT CONSULTATION PROCESS

Consultation is an essential and important aspect of Scottish Government working methods. Given the wide-ranging areas of work of the Scottish Government, there are many varied types of consultation. However, in general, Scottish Government consultation exercises aim to provide opportunities for all those who wish to express their opinions on a proposed area of work to do so in ways which will inform and enhance that work. The Scottish Government encourages consultation that is thorough, effective and appropriate to the issue under consideration and the nature of the target audience. Consultation exercises take account of a wide range of factors, and no two exercises are likely to be the same.

Typically Scottish Government consultations involve a written paper inviting answers to specific questions or more general views about the material presented. Written papers are distributed to organisations and individuals with an interest in the issue, and they are also placed on the Scottish Government web site enabling a wider audience to access the paper and submit their responses. Consultation exercises may also involve seeking views in a number of different ways, such as through public meetings, focus groups or questionnaire exercises. Copies of all the written responses received to a consultation exercise (except those where the individual or organisation requested confidentiality) are placed in the Scottish Government library at Saughton House, Edinburgh (K Spur, Saughton House, Broomhouse Drive, Edinburgh, EH11 3XD, telephone 0131 244 4565). All Scottish Government consultation papers and related publications (eg, analysis of response reports) can be accessed at: Scottish Government consultations (<http://www.scotland.gov.uk/consultations>) You can telephone Freephone 0800 77 1234 to find out where your nearest public internet access point is.

The Scottish Government now has an email alert system for consultations (seconsult: <http://www.scotland.gov.uk/consultations/seconsult.aspx>). This system allows stakeholder individuals and organisations to register and receive a weekly email containing details of all new consultations (including web links). seconsult complements, but in no way replaces SG distribution lists, and is designed to allow stakeholders to keep up to date with all SG consultation activity, and therefore be alerted at the earliest opportunity to those of most interest. We would encourage you to register.

The views and suggestions detailed in consultation responses are analysed and used as part of the decision making process, along with a range of other available information and evidence. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

Final decisions on the issues under consideration will also take account of a range of other factors, including other available information and research evidence.

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

Please send your response by 29 May 2009 to:

Jean.Waddie@scotland.gsi.gov.uk, or

Jean Waddie
Scottish Government
Plants, Horticulture and Potatoes,
Room 251
Pentland House
47 Robb's Loan
Edinburgh
EH14 1TY

If you have any queries contact Jean Waddie on 0131 244 4895.

We would be grateful if you could order your response according to the numbered questions in this paper, as this will aid our analysis of the responses received.

Handling your response

We need to know how you wish your response to be handled and, in particular, whether you are happy for your response to be made public. Please complete and return the **Respondent Information Form** enclosed with this consultation paper as this will ensure that we treat your response appropriately. If you ask for your response not to be published we will regard it as confidential, and we will treat it accordingly. All respondents should be aware that the Scottish Government are subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

Next steps in the process

Where respondents have given permission for their response to be made public, these will be made available to the public in the Scottish Government Library by **26 June** and on the Scottish Government consultation web pages by **30 June**. We will check all responses where agreement to publish has been given for any potentially defamatory material before logging them in the library or placing them on the website. You can make arrangements to view responses by contacting the SG Library on 0131 244 4552. Responses can be copied and sent to you, but a charge may be made for this service.

What happens next?

Following the closing date, all responses will be analysed and considered along with any other available evidence to help us decide how to implement the new PCN Directive. We aim to issue a report on this consultation process by the end of the summer and will then prepare the necessary legislation and issue new guidance in time for the implementation date of 1 July 2010.

Comments and complaints

If you have any comments about how this consultation exercise has been conducted, please send them to

John Speirs
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Plants, Horticulture and Potatoes
Room 251
Pentland House
47 Robb's Loan
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or John.Speirs@scotland.gsi.gov.uk

