POTATO INDUSTRY CIPC STEWARDSHIP GROUP

CIPC STEWARDSHIP ACTION PLAN

2008

The Potato Processors' Association

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CIPC STEWARDSHIP PLAN
APPROVED BY THE
ADVISORY COMMITTEE ON PESTICIDES

Introduction & background

Data received by Pesticides Safety Directorate (PSD) during the re-registration of chlorpropham identified a risk of exceeding the current EU MRL of 10 mg/kg. Approval holders and industry representatives were invited to submit comments and the implications were considered by the **Advisory Committee on Pesticides** (ACP) on 13 November 2007.

Following the ACP meeting on 13 November 2007, the industry was informed that Recommendations will be sent to Ministers as follows:

- A restriction that only potatoes to be used for processing may be treated with the high rate long term storage regime.
- Existing approvals may continue (subject to the change required above), but Approval holders, BPC, PPA and PSD must further develop an understanding of the processes that drive the residue anomalies, and **devise a plan** to develop closer controls on application/storage practices to alleviate the problem. Investigations should include consideration of ongoing commercial studies and other ongoing developmental work. A summary of the findings and proposals for action must be submitted to the ACP meeting in January 2008.
- Approval holders and others will be asked to consider whether there are any issues relating to the secondary use of peel following removal in processing.
- The PRC will be invited to consider the option of additional monitoring.

These recommendations were subsequently endorsed by Ministers.

Industry /PSD meeting

A consultation meeting was held with PSD on 27 November 2007 to discuss the ACP recommendations and fully understand issues. The key points from the meeting were:

- *Communication* - agreement on release to industry of ACP recommendations approved by Ministers.
- *Trials data* – agreement to summarise scope of relevant BPC studies and consider communication of results
- *Training provision* – review provision and consider introduction of revised NPTC modules
- *Usage of peel for animal feed* – Action - to be reported to ACP by Approval holders and Potato Processors' Association (PPA)
- *CIPC monitoring* – submission of industry data to supplement PRC monitoring. Action - PRC secretariat to contact PPA and Approval holders
- *Amendment to approvals* - initial discussion between Approval holders and PSD on revised label text to reflect the ACP recommendations

Following the discussions with PSD on the outline of what was needed, it was agreed to establish a cross-industry group to devise the Action Plan required by ACP.

CIPC Stewardship Group

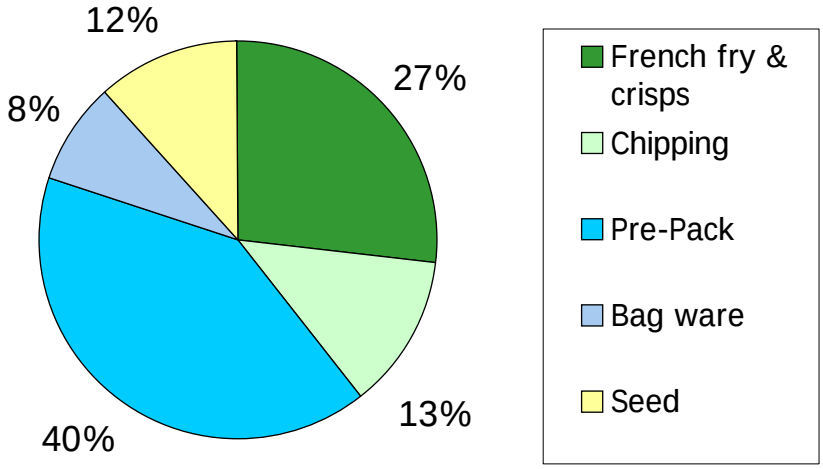
The Potato Industry CIPC Stewardship Group was established under the chairmanship of Dr Mike Storey, Potato Council R&D Director. The membership is as follows:

Group Chairman:	Dr Mike Storey, PCL R&D
Manufacturers & Approval holders:	Peter Boyne, Certis
	Mick Bridge, Whyte Agrochemicals
	Grace Gillard, Aceto
CIPC Application Contractors:	Nick Green, Stored Crop Conservation
Assured Produce:	David Hudson, DHPS
Potato processing sector:	Richard Harris, PPA
Potato pre-packing sector:	Dr David Nelson, Branston
Best Practice and R&D:	Adrian Briddon, Sutton Bridge EU
	Adrian Cunnington, Sutton Bridge EU
	Dr Harry Duncan, University of Glasgow

The Stewardship Group developed the CIPC Action Plan which was approved by the ACP at their January 2008 meeting. The Stewardship Group are now working to implement this Plan.

Differentiation of processing stocks in the supply chain

The recommendation to Ministers identified that, when the total dose of CIPC exceeds 36 g CIPC per tonne of potatoes, the crops must only be used for commercial processing. The differentiation of stocks of processing potatoes to which this restriction applies has been considered. The most recent industry data (2007 planting) suggest that for GB crops, 27% of the total planted area (130,758 ha) was planned for processing and crops intended for the chip shop trade represented 13% of the area planted. This compared with 40% for the pre-pack market and 8% for the fresh bag trade.



Source: BPC Market Information & Stats (Dec 2007)

The total processing sector is 1.654 million tonnes. This comprises French fry, crisps and chipping (i.e. chip shops). The crops destined for the chip shop trade are included in the total processing tonnage as this sector uses varieties with similar processing quality characteristics and storage temperature requirements to commercial French fry and crisp manufacturers. The inclusion of chip shop production within the definition of processing was agreed during discussions at the meeting of the British Potato Council held on 4th December 2007[1].

[1] British Potato Council minutes BPCM07/04 – Item 07/78

EXECUTIVE SUMMARY

A five point CIPC Stewardship Action Plan has been developed by the industry and Approval holders to address the recommendations made by the Advisory Committee on Pesticides on the use of chlorpropham

Chlorpropham (CIPC) is vital to the potato industry in GB and there is a cross-industry consensus that recognises the need to improve the level of stewardship. The rapid establishment of a Stewardship Group and the development of an Action Plan is a reflection of this commitment.

The Action Plan will deliver the following outputs:

- A committed cross-industry group responsible for development and delivery of a CIPC Stewardship Action Plan agreed with ACP *(Action 1)*.
- A communication strategy to promote the uptake of existing knowledge and the targeted delivery of future advisory information *(Action 2)*.
- An ongoing commitment to support R&D to address factors affecting the variability of CIPC residues *(Action 3)*.
- Review of R&D to identify gaps and priorities for future research *(Action 3)*.
- Development and implementation of a Code of Best Practice for use of CIPC. This would include operator training and certification, equipment operation and store management and adherence to Crop Assurance protocols *(Action 4)*.
- Commitment by the industry to provide additional samples to complement PRC residue monitoring of CIPC *(Action 5)*.
- Industry surveys to benchmark understanding of CIPC use and monitor progress of the Action Plan *(Action 5)*.

A tabular summary of the Action Plan and a timeline for its implementation is provided at Appendix 1.

ACTION 1. ESTABLISH CIPC STEWARDSHIP GROUP

A cross-industry CIPC Stewardship Group has been established which is committed to the development and delivery of the CIPC Stewardship Action Plan. The group has met on two occasions to develop the Action Plan for consideration by ACP.

The first priority within the Action Plan has been the communication of the ACP recommendations to industry.

Following endorsement of the Action plan by the ACP, it is intended that specialist groups be convened, to deliver the different components of the Action Plan and those specialist groups will engage and draw on appropriate external national and international expertise. The Stewardship Group will interface with PSD and be responsible for reporting progress.

ACTION 2. COMMUNICATIONS WITH INDUSTRY

A key part of the Action Plan is targeted, timely and effective communication with all sectors of the industry. This will ensure that information is made available on the restrictions on the use of CIPC, current best practice (Action 2) and in future the outcomes from research that informs new advice (Action 3). The communications activity will also ensure that the controls (Action 4) that are being developed for fogging applicators and store managers (to be incorporated into Crop Assurance protocols and developed as key components of the proposed Code of Best Practice) are effectively communicated. Feedback on the effectiveness of the Stewardship Actions will be communicated to the industry (Action 5).

2.1 ACP Recommendations

A number of actions have taken place immediately by the Stewardship Group to inform the industry of recommendations being made by ACP.

- Information agreed by the Stewardship Group was sent to all levy payers (2980 growers, 410 purchasers) by letter on 14 December 2007[2].
- Information has been included in the BPC Grower Gateway (December 2007) distributed to 3728 recipients and in the specialist Potato Storage Bulletin (20 December 2007) sent to *c.* 600 store managers, fogging applicators, agronomists and advisors.
- Communication within the agrochemical and distribution network and to fogging applicators (December 2007 & January 2008).
- Agreement on wording for CIPC labels with PSD (December 2007) with modifications on products distributed for 2007/08 storage season. The agreed wording is:

[2] http://www.potato.org.uk/department/knowledge_transfer/growers_advice

"Whilst this product must be used within the rates specified above, note that if the total dose applied (from any combination of products containing chlorpropham) is greater than 36 g chlorpropham per tonne, then the treated potatoes must only be used for commercial processing."

2.2 Crop definition

The ACP recommendations refer to the requirement for potatoes treated with more than 36 g CIPC per tonne to be used for commercial processing only, i.e.

- Peeled potatoes
- Potatoes, cooked or partially cooked, which have been fried, par-fried, dehydrated or canned, prior to purchase by the consumer.

2.3 Knowledge Transfer – delivery of existing knowledge and new information

Best Practice information on CIPC management was reviewed in December 2007. This will be subject to annual revision prior to each storage season to take account of developments in best practice and the outcome of new research.

- A revised Potato Council Growers' Advice leaflet entitled *Best Practice Guidelines for the use of CIPC sprout suppressants* has been published[3].
- A revised *Sprout Suppressant Product Guide 2008* has been prepared and is available from the Potato Council[4].

The information has been made available to all levy payers through the Stewardship Group and is also being communicated via potato industry supply chains. Approval holders and CIPC contractor/applicators will use this information as part of their existing corporate stewardship initiatives e.g. Aceto *Pro-Potato* and Certis newsletter.

- A knowledge transfer plan for the 2008/09 storage season onwards will be developed by the Stewardship Group (June 2008).

ACTION 3. RESEARCH AND DEVELOPMENT

3.1 Current R&D Projects

The Potato Council is currently supporting three research projects on CIPC management. All of these projects involve industry stakeholders who are providing technical support and expertise and access to commercial stores for experimentation.

[3] http://www.potato.org.uk/secure_downloader.php?index_id=106&secdoc_id=596
[4] http://www.potato.org.uk/department/research_and_development/publications/index.html?cid=NA==

- Evaluation of the impact of modified storage practices on sprout suppression (project R265, from 2005 to 2008)
- The use of CIPC vapour to control sprouting in potato stores (project R288, 2006 to 2009)
- The effect of timing of application of CIPC sprout suppressant (project R297, 2007 to 2009)

The outputs from these projects will be reported to the CIPC Stewardship Group and information will be used to inform Best Practice.

Industry R&D – In addition to the support for the levy funded projects, individual Approval holders are undertaking trials to generate data to provide information required for re-registration.

3.2 Review of R&D and gap analysis

The factors affecting the application, distribution and uniformity of CIPC in potato stores have been reviewed in relation to past and ongoing research commissioned by the Potato Council (Table 1, page 14). Consideration has been given to store type, application technology and CIPC formulation in relation to crop quality (sprout suppression, disease and process suitability), residues and environmental impact.

- A more comprehensive review of these past studies, other relevant research and outcomes from the on-going projects will be carried out during 2008 to identify gaps in knowledge.

3.3 Priorities and future research

The knowledge gaps identified in the research review will be prioritised and where appropriate new levy supported R&D will be commissioned from 2009. Where it is appropriate LINK funding from government sponsors, including PSD, will be sought.

If, as a result of the review of levy funded and public domain data, further GLP research is required, PSD need to advise and agree timescales with Approval holders.

ACTION 4. CONTROLS

There are considerable controls on the use of CIPC in place already, ranging from statutory requirements for operator certification to industry protocols such as the Assured Produce Scheme.

However, it is considered vital that, if variability of CIPC residues is to be reduced in line with the ACP's requirements, a tighter level of control on the application of CIPC needs to be put in place. The Stewardship Group has identified a range of measures which it feels are available to achieve this.

4.1 Applicator training and qualifications

The requirements for training and qualifications of operators applying agrochemicals fall under the Food and Environment Protection Act 1985 (FEPA). Those applying thermal fogs, as is the case for virtually all CIPC use, require full certification for the Safe Use of Pesticides under the National Proficiency Test Council's PA1 and PA9 tests.

However, the industry had already identified in early 2007, and this has been reinforced by the Stewardship Group, that there is a need to improve the NPTC's PA9 test in relation to thermal fogger use for treatment of potatoes. Assessment to obtain a PA9 certificate may be undertaken using equipment or procedures which bear little relevance to the use of CIPC in potato stores.

- As a result of these industry concerns, discussions have been initiated with the NPTC to revise the testing process.

It is hoped that, as a minimum, a refinement of the PA9 test can be agreed which would be specific to thermal fogging of potatoes, in much the same way as other tests, e.g. PA6, have been sub-divided into options to match specific types of equipment.

- The formal support of PSD for these changes is sought to enable a revised test to be available by the start of the 2009 storage season.

4.2 Fogging equipment

All operators are under a duty, as part of their use of equipment for the application of pesticides, to ensure that equipment is fit for purpose (COPR).

The Assured Produce Scheme (see 4.4) for potatoes, under which the majority of potatoes are produced, takes this further in requiring that the application equipment must be 'serviced annually and calibrated regularly' and records must be available for audit.

It currently states that "ideally all applications should be undertaken by specialist, appropriately insured operators who are members of an appropriate professional body and accredited to ISO standards". An appropriate, equivalent level of record keeping and traceability has to be demonstrated where applicators are not ISO accredited. APS are proposing to strengthen this requirement further for the 2008 storage season.

- The Stewardship Group will also investigate the possibility of including fogging equipment in the National Sprayer Testing Scheme operated by AEA[5].

[5] http://www.aea.uk.com/sprayer/nsts_scheme.htm

4.3 Stores

There are no specific regulatory standards which apply to potato storage buildings although due diligence will require applicators to assess the suitability of a building for treatment prior to the application of CIPC.

In addition, there is a lot of best practice information available, most of which is published by the Potato Council. This offers in-depth advice on a wide range of store management issues such as temperature control, airflow optimisation and box stacking. The Council also publishes topical advisory bulletins and offers access to a freephone Storage Advice Line[6].

Whilst it is recognised that there are good standards of store management in the majority of the industry, the Stewardship Group will consider if it is desirable and practical to introduce a mechanism for checking stores prior to their use for CIPC treatment in order, in particular, to eliminate poor practice and avoid situations where the risk of CIPC residues may be higher as a result.

4.4 Assurance Protocols

The primary production protocol in the British potato industry is the Assured Produce Scheme[7]. Most recent APS figures (December 2007) indicate 93,000 ha of potatoes are included in the scheme out of the total potato production area of 127,249 ha, of which the registered ware area was 107,000ha. Allowing for the production of seed, it is estimated that over 85% of the ware tonnage falls under APS. Other protocols are in existence but tend to address specific supply chains or other specialist production processes.

In relation to CIPC use, section 9.7.2 of the Assured Produce Scheme's Crop Specific Protocol for Potatoes contains, as mentioned above, detailed guidance on the use of sprout suppressants. This information is publicly available.

- The potato crop protocols relating to CIPC use will be reviewed by an APS cross-industry group and appropriate modifications incorporated on an annual basis.

The assurance protocols are adopted by the major suppliers to the multiple retailers and processors. It is anticipated that further refinements of industry needs on CIPC use can be introduced effectively and rapidly through the Stewardship Group and these can be controlled, where appropriate, by incorporation into the APS.

4.5 Code of Best Practice

As a further stage in the introduction of controls discussed above, it is anticipated that a more far-reaching standardisation of processes might be achieved through the production of a Code of Best Practice on CIPC use.

[6] Storage Advice Line 0800 02 82 111
[7] http://www.assuredproduce.co.uk/resources/000/237/694/Potatoes_2007_revised.pdf

Such a measure has been successfully introduced by the NAAC for the *Safe Use of Sulphuric Acid as an Agricultural Desiccant*, under the Voluntary Initiative and agreed with PSD and HSE[8]. This precedent may be an appropriate one to follow for CIPC in which the Stewardship Group could, potentially, formalise these processes within a single document and take account of the many different issues and interests across the potato industry.

- A "Code of Best Practice on CIPC Use" would be developed by the Stewardship Group to draw together the information on training requirements, application practice and store management. This will be targeted for the 2009 crop storage season.

ACTION 5. MONITORING

5.1 Residue monitoring: PRC and industry

To supplement CIPC residue information obtained by the Pesticide Residues Committee through its existing surveillance procedures, industry members of the Stewardship Group have agreed to provide additional data to PRC.

- Industry residue data to be submitted following requests from PSD to supplement PRC monitoring

The lack of a clear interpretation of the standard sampling procedure[9] for residue assessment is an issue. The Stewardship Group believe that without a common approach to sampling, the submission of additional industry residue data was of little value.

- PSD are requested to make a protocol and associated guidelines available to industry.

5.2 Storage surveys: Potato Council Grower Panel

The Potato Council operates a 'Grower Panel' of *c.* 680 crops which are surveyed annually. The Stewardship Group has suggested that this could form a survey base to allow more information and feedback to be obtained on storage practices in relation to CIPC use.

- The Group will investigate the availability of data for the 2007/08 season.
- The option of amending the Grower Panel storage survey form to obtain additional information in autumn 2008 will be considered.
- Follow up surveys will be conducted (biennially) to monitor change in practice and usage patterns for CIPC.
- Collaboration with CSL/SASA on PSD surveys will be investigated.

Information from the industry monitoring and the surveys will be used to inform ACP and the industry of the progress of implementation of the Action Plan.

[8] http://www.naac.co.uk/Codes/AcidCode.aspx
[9] Commission Directive 2002/63/EC

Table 1: Summary of levy-funded research on CIPC

Ref	Topic	Timeframe	completed or on-going	store type		CIPC application								CIPC formulation				Quality			Environment
				Bulk	Box	Fan Assistance	Use of inverters	Variability within store	Fogger temperature	Use of catalytic converter	Fuel type	Particle size	Attachment	Liquid for thermal fog	Liquid for spraying	Solid	Vapour	Sprout control	Disease	Impact on fry colour	Environmental impact
101	Liquid CIPC	1996-7	C	✓	✓										✓			✓	✓		
104	CIPC optimisation	1996-9	C	✓	✓	✓		✓	✓			✓	✓	✓				✓			✓
207	CIPC use in low temp. stores	1999-2002	C	✓	✓	✓		✓						✓				✓			✓
208	CIPC & processing quality	1999-2002	C	✓	✓				✓		✓			✓				✓		✓	✓
235	CIPC & processing quality	2002-6	C	✓	✓				✓	✓	✓			✓				✓		✓	✓
243	CIPC & environment	2003-6	C	✓	✓	✓		✓						✓			✓	✓			✓
258	CIPC modelling	2004-6	C	✓	✓	✓		✓				✓	✓	✓			✓	✓			✓
265	Solid CIPC + inverters	2005-8	O	✓		✓	✓	✓						✓		✓		✓			✓
288	CIPC vapour	2006-9	O	✓	✓	✓	✓	✓					✓	✓		✓	✓	✓			✓
297	CIPC application timing	2007-9	O	✓	✓									✓		✓		✓			✓

Appendix 1: CIPC Stewardship Action Plan Summary

	Involvement							Timeline										
	PSD	BPC/PCL (from 1.4.08)	Stewardship Group	Approval Holders	Contractors	Assured Produce	Industry	Existing actions/ information	On-going	by April 2008	by July 2008	by January 2009	by January 2010	by January 2011	by January 2012	by January 2013		
1. Stewardship Group																		
CIPC Stewardship Group		●		●	●	●	●		●	established December 2007								
2. Communication																		
ACP recommendations																		
to stakeholders[1]	●	●							●	●								
to PC levy payers		●	●						●	●								
to distributors/contractors				●					●	●								
to customer base				●	●	●	●		●	●								
Crop definition			●						●									
Knowledge transfer																		
devise KT Plan			●								●							
updated best practice		●	●	●	●	●	●	●[2]	●	annual review as part of KT Plan								
current storage publications		●	●					●	●									
revised storage publications		●	●								●[3]							
dissemination of R&D data		●	●						●			●	●	●	●	●		
3. Research & development																		
Existing data																		
completed projects		●						●	●	see spreadsheet summarising projects to date (Annex 3)								
current projects[4]		●		●	●		●	●	●		●							
undertake a review	●	●	●									●						
New data																		
current projects[4]		●		●	●		●		●			●						
commission new work[5]		●		●									● start		● delivery			

1 stakeholders & consultees to include: NFU, SNFU, PPA, FPC, BPMA, BPTA, BRC, NPTC, NAAC, NRoSO etc

2 requirement of Assured Produce Scheme

3 new Potato Council Store Managers' Guide to be released in summer 2008

4 includes work on fan-assisted application of solid CIPC to bulk stores, development of CIPC vapour application methodology

5 for example on CIPC use in box stores, rapid residue assessment methods, application technology

CIPC Stewardship Action Plan Summary (contd.)

	Involvement							Timeline									
	PSD	BPC/PCL (from 1.4.08)	Stewardship Group	Approval Holders	Contractors	Assured Produce	Industry	Existing actions/ information	On-going	by April 2008	by July 2008	by January 2009	by January 2010	by January 2011	by January 2012	by January 2013	
4. Controls																	
System																	
Assured Produce Scheme (APS)						●	●	●		●	updated annually						
ISO9000 quality assurance					●			●[6]			●	APS compliance/equivalence					
Code of Practice	●	●	●	●	●	●	●					●	pull together all control elements				
Application																	
PA9 certification	●	●	●	●	●	●	●	●									
crop-specific revisions to PA9	●	●	●	●	●	●	●		●[7]				●	PSD support required			
fogger service/calibration			●		●	●	●	●[2]	●[7]			●	include in national sprayer testing scheme				
Stores																	
recommendations		●						●									
pre-application checks		●	●	●	●	●	●	●8	●			●	include in KT and, ultimately, Code of Practice				
5. Monitoring																	
Residue sampling																	
PRC surveillance	●							●	●								
Agreement on sampling	●		●							●							
Voluntary submission			●								●						
PC 'Grower Panel' stores																	
Baseline info on practices		●					●		●		●	refine questionnaires for more detail on CIPC					
CIPC usage survey	●	●	●				●					● consideration for joint survey between industry & PSD?					

1 stakeholders & consultees to include: NFU, SNFU, PPA, FPC, BPMA, BPTA, BRC, NPTC, NAAC, NRoSO etc

2 requirement of Assured Produce Scheme

3 new Potato Council Store Managers' Guide to be released in summer 2008

4 includes work on fan-assisted application of solid CIPC to bulk stores, development of CIPC vapour application methodology

5 for example on CIPC use in box stores, rapid residue assessment methods, application technology

6 accreditation currently limited to some contractors only

7 meeting scheduled with NPTC for January 2008

8 due diligence checks by contractor only