



# Best practice guidelines for the use of CIPC

CIPC (chlorpropham) is vital to the potato industry – for many businesses there are no viable alternative sprout suppressants currently registered. Exceedance of the Maximum Residue Level (MRL) of 10mg/kg resulted in the use of CIPC being referred to the Advisory Committee on Pesticides (ACP) and the setting up of the Potato Industry CIPC Stewardship Group (PICSG) in 2008.

After 5 years of CIPC stewardship, the ACP considered progress had been made with a strong set of controls introduced, but there was more to do, with exceedances of the MRL still being detected in statutory monitoring.

## KEY REQUIREMENTS

Total dose	Fresh market: <b>30 grams/tonne</b> . But, in addition, where storage temperature is to be 5°C or below, only a single application should be made, before temperature is reduced below 7°C. Processing (incl. fish & chip shops) <b>58 grams/tonne</b>
Maximum dose	The maximum individual dose is <b>18 g/tonne</b>
Harvest interval	The latest time of application is <b>14 days</b> before removal from store for sale or processing
Equipment	Equipment must be inspected and certificated annually by <b>NSTS</b>
Personnel	Applicators must be qualified to <b>NPTC PA1, PA9</b> and be members of the NAAC CIPC Applicators' Group
Advisors	Recommendations for CIPC must be made by <b>BASIS</b> qualified advisors
Stores	Stores must be <b>inspected</b> and <b>reported</b> as fit for CIPC application using the PICSG Store Checklist
Responsibility	Overall responsibility for CIPC use lies with the <b>crop owner</b> – not the store manager or the CIPC applicator

## CIPC best practice

- At store loading, remove as much soil as possible and ensure crop is dry and cured. Avoid holding varieties with contrasting dormancies in the same store and do not overestimate the time taken for curing.
- Initial application must be made prior to dormancy break, do not delay application if crop is warm or harvest is suspended before the store is full.
- Minimise sprouting pressure and CIPC requirement: Pull down as quickly as possible and hold at the lowest temperature that crop condition and end-use permit.
- Prior to application recirculate store air for a minimum of 6 hours to ensure temperatures are even.
- Do not introduce warm ambient air that may cause condensation on cold potatoes, concrete floors or metal ductwork etc. This is important in refrigerated cold stores and in processing where stores are flushed for CO<sub>2</sub> control just before an application.
- Where fans are used during applications, fridge coils should be by-passed.
- Avoid making applications under windy conditions.
- Applications to part-filled stores and part-treatment of full stores should be avoided as application efficiency in these cases is frequently poor.

**POTATO INDUSTRY  
CIPC STEWARDSHIP**

BASIS - [www.basis-reg.com](http://www.basis-reg.com)  
 NAAC – National Association of Agricultural Contractors: [www.naac.co.uk](http://www.naac.co.uk)  
 NPTC – National Proficiency Testing Council: [www.nptc.org.uk](http://www.nptc.org.uk)  
 NSTS – National Sprayer Testing Scheme: [www.nsts.org.uk](http://www.nsts.org.uk)

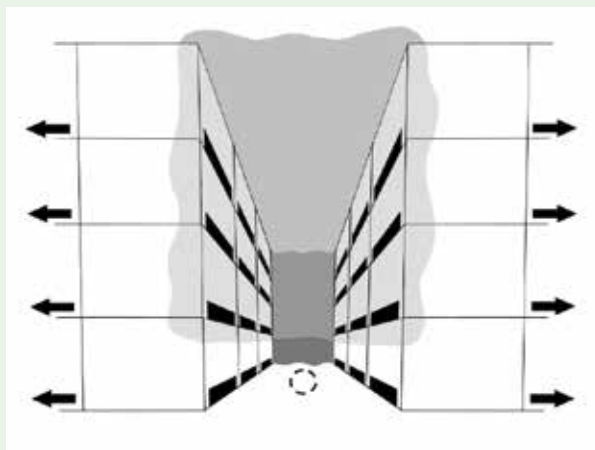
ALWAYS READ THE LABEL, USE PESTICIDES SAFELY

## Best practice in bulk stores

Bulk stores can only be effectively treated with low-speed recirculation of fog (with the fan linked to an inverter, or variable frequency drive, for speed control) using the store ventilation system. Initial treatment should take place before there is significant pile settling and after the main duct has been 'balanced'. If there is a fan-house, apply CIPC here allowing the fans to mix fog with the recirculating air. **Recirculation should continue until fog has cleared.**

## Best practice in box stores

In box stores with positive ventilation (e.g. letterbox, suction wall), fog should be recirculated at low speed with an inverter-controlled fan. In 'overhead throw' stores in particular, do not overfill boxes - pallet slots are the primary route for CIPC fog entering blocks of boxes. In the absence of positive ventilation, applications should take place into a covered walkway to prevent fog rising into the roof space. This should ideally be created in the centre of the block, at 90° to the direction of airflow (as shown below), so that fog has direct access to the pallet slots.



*Modification of 'overhead throw' stores. A fogging port is installed to align with an inspection corridor, through blocks of boxes. The area between blocks is then sheeted over, from ground level, across the top and back down the opposite side, leaving a gap into which CIPC is fogged. Always ensure health and safety regulations are complied with during installation and where access to top boxes is required.*

**Always ensure fog can disperse and is not directed on to boxes or crop.**

## Processing crops

Most foggers introduce ethylene and carbon dioxide into stores. Stores should be flushed as soon as CIPC fog has cleared. **Care needs to be taken to ensure that flushing does not cause condensation.**

## Pre-pack stores

Research suggests that the effectiveness of CIPC is limited by the volatility of the chemical in low temperature stores. **High dose rates will not improve sprout control and increases the risk of exceeding the MRL.**

## Avoid contamination risks

Do not use CIPC treated buildings for storage of crops other than potatoes. CIPC residues can be persistent. Cereals, onions and oilseeds do not have clearance for CIPC use and therefore they have a maximum residue level at the limit of detection (close to zero).

Further exceedances of the maximum residue level for CIPC are likely to result in additional sanctions on its use. Store managers should ensure that the least amount of CIPC is used, and it is evenly distributed, by adopting best practice.

**To discuss best practice in your stores call 0800 02 82 111.**



[www.BeCIPCcompliant.co.uk](http://www.BeCIPCcompliant.co.uk)

ALWAYS READ THE LABEL, USE PESTICIDES SAFELY

### Best practice guidelines for the use of CIPC

Potato Council  
Technical Note - TN05  
(This technical note is an update of TN04)

While the Agriculture and Horticulture Development Board, operating through its Potato Council division, seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law, the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.  
© Agriculture and Horticulture Development Board 2013. All rights reserved.