

Unclassified

ENV/JM/MONO(2014)25

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

22-Jul-2014

English - Or. English

ENVIRONMENT DIRECTORATE
JOINT MEETING OF THE CHEMICALS COMMITTEE AND
THE WORKING PARTY ON CHEMICALS, PESTICIDES AND BIOTECHNOLOGY

REPORT OF AN OECD SURVEY ON RISK MANAGEMENT/MITIGATION APPROACHES AND
OPTIONS RELATED TO AGRICULTURAL PESTICIDE USE NEAR RESIDENTIAL AREAS

Series on Pesticides
No.78

JT03360617

Complete document available on OLIS in its original format

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.



ENV/JM/MONO(2014)25
Unclassified

English - Or. English

OECD Environment, Health and Safety Publications
Series on Pesticides
No. 78

REPORT OF AN OECD SURVEY ON RISK MANAGEMENT/MITIGATION
APPROACHES AND OPTIONS RELATED TO AGRICULTURAL PESTICIDE
USE NEAR RESIDENTIAL AREAS

IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS

A cooperative agreement among **FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD**

Environment Directorate
ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
Paris 2014

About the OECD

The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental organisation in which representatives of 34 industrialised countries in North and South America, Europe and the Asia and Pacific region, as well as the European Commission, meet to co-ordinate and harmonise policies, discuss issues of mutual concern, and work together to respond to international problems. Most of the OECD's work is carried out by more than 200 specialised committees and working groups composed of member country delegates. Observers from several countries with special status at the OECD, and from interested international organisations, attend many of the OECD's workshops and other meetings. Committees and working groups are served by the OECD Secretariat, located in Paris, France, which is organised into directorates and divisions.

The Environment, Health and Safety Division publishes free-of-charge documents in eleven different series: Testing and Assessment; Good Laboratory Practice and Compliance Monitoring; Pesticides; Biocides; Risk Management; Harmonisation of Regulatory Oversight in Biotechnology; Safety of Novel Foods and Feeds; Chemical Accidents; Pollutant Release and Transfer Registers; Emission Scenario Documents; and Safety of Manufactured Nanomaterials. More information about the Environment, Health and Safety Programme and EHS publications is available on the OECD's World Wide Web site (www.oecd.org/chemicalsafety/).

This publication was developed in the IOMC context. The contents do not necessarily reflect the views or stated policies of individual IOMC Participating Organizations.

The Inter-Organisation Programme for the Sound Management of Chemicals (IOMC) was established in 1995 following recommendations made by the 1992 UN Conference on Environment and Development to strengthen co-operation and increase international co-ordination in the field of chemical safety. The Participating Organisations are FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD. The purpose of the IOMC is to promote co-ordination of the policies and activities pursued by the Participating Organisations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

This publication is available electronically, at no charge.

Also published in the [Series on Pesticides](#)

**For this and many other Environment,
Health and Safety publications, consult the OECD's
World Wide Web site (www.oecd.org/chemicalsafety/)**

or contact:

**OECD Environment Directorate,
Environment, Health and Safety Division
2 rue André-Pascal
75775 Paris Cedex 16
France**

Fax: (33-1) 44 30 61 80

E-mail: ehscont@oecd.org

FOREWORD

This report collates and analyses the responses to a 2012 survey circulated to OECD Member countries as a follow-up to the OECD Risk Reduction Steering Group (RRSG) 2009 Seminar “Pesticide Risk Reduction Strategies Near/in Residential Areas”. The UK led in the development of the survey questionnaire, which was designed to collect information on risk management and risk mitigation approaches used and developed by governments for professional agricultural pesticide use near residential areas.

This document is published under the responsibility of the Joint Meeting of the Chemicals Committee and the Working Party on Chemicals, Pesticides and Biotechnology.

TABLE OF CONTENTS

Background	8
Objectives and scope of the project	8
Interim Report.....	8
Summary of OECD Questionnaire Responses.....	9
1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?.....	9
2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	9
3. Does your country have voluntary/advisory procedures concerning application of agricultural pesticide products near residential areas?.....	9
4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?	10
5. Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?	10
6. Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?	11
Individual country responses to each survey question.....	11
APPENDIX: Individual Country Responses to Each Survey Question	12

Background

This survey, on risk management/mitigation approaches and options related to pesticide use near residential areas in OECD and enhanced engagement countries, was carried out in the framework of the risk reduction activities of the OECD Pesticide Programme (www.oecd.org/env/pesticides).

The survey was a follow-up activity to the 2009 OECD Risk Reduction Steering Group (RRSG) Seminar in Tokyo, on “Pesticide Risk Reduction Strategies Near/in Residential Areas” (Seminar report¹ now published as Publication No. 58 in the OECD Series on Pesticides, ENV/JM/MONO(2011)5).

Following the Seminar, the UK developed a proposal for a survey in order to collect risk management and risk mitigation approaches used and developed by governments as far as professional agricultural pesticide use near residential areas is concerned. The draft questionnaire was reviewed on several occasions by RRSg and OECD Working Group on Pesticides (WGP) delegates.

Objectives and scope of the project

The purpose of the survey was to provide an information source on the various approaches to risk mitigation related to pesticide use/application/spray drift adopted by countries (whether on a legal or voluntary basis). There has been much international collaboration with respect to risk assessment. However, little information has been shared with respect to risk mitigation/management approaches to complement the work on risk assessment. Furthermore, in some jurisdictions there is an emphasis on spray drift management in new regulatory developments and an element of harmonisation would be advantageous.

Distribution of the survey and responses

The survey was distributed to: members of the OECD Risk Reduction Steering Group (including government regulatory authorities from OECD countries and from some non-member countries active in enhanced engagement programmes with OECD); industry trade bodies representing pesticide manufacturers; environmental groups; and international organisations such as FAO, UNEP and WHO.

The survey was circulated in February 2012 with a deadline of 30 March 2012 for responses which was subsequently extended to 20 April 2012.

Responses were received from 16 countries: Australia (AUS), Belgium, Canada (CAN), Denmark, Germany (DE), Ireland, Japan (JP), Mexico, the Netherlands (NL), Norway (NO), New Zealand, Slovenia (SVN), Sweden, Switzerland (CH), United Kingdom (UK) and the USA.

Interim Report

An interim report was provided for the RRSg meeting in November 2012. This report contained a brief summary of the responses together with the individual country responses to each of the survey questions.

¹ [http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=ENV/JM/MONO\(2011\)5&doclanguage=en](http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=ENV/JM/MONO(2011)5&doclanguage=en)

Final Report

This final report summarises the approaches reported by respondents and considers recommendations for future work. The report was made available in draft format to all participants in the project for comments prior to finalisation.

Summary of OECD Questionnaire Responses

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?

Many respondents require risk assessments to be conducted for resident/bystanders as part of the registration process. One country (NL) specifically mentioned that this requirement includes assessment for uses in greenhouses. A small number of countries stated that they have no specific requirements.

Although outside of the scope of the questionnaire, it was indicated that additional criteria have to be met for use in public areas (for example, schools and parks) or for use in gardens or other hobby use (DE and NO, respectively).

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?

Five countries reported not having specific legal requirements. Others regarded specific label requirements, such as the method of application, or specific no spray buffer zones as legal requirements. More general requirements, i.e. not specific to individual products, are: one country (SVN) reported that tractor mounted sprayers and motorised knapsack sprayers are not permitted to be used within 20 metres of kindergarten, schools, playgrounds, sports facilities, residences, etc; another country (NL) indicated that a local government permit was required for use in greenhouses near (reported as “mostly” 25 metres) to residences. One country has a requirement that operators shall endeavour to take necessary measures to prevent drift of agricultural pesticides, but this was not compulsory. Some countries mentioned restrictions on aerial applications, such as application of products classified as Toxic or Very Toxic not being permitted, and in one state in AUS it was reported that residents and others have to give permission for aerial applications within 150 metres.

Restrictions on applications in public areas were mentioned, but as these are not agricultural uses they are outside the scope of the questionnaire.

3. Does your country have voluntary/advisory procedures concerning application of agricultural pesticide products near residential areas?

A number of countries responded negatively to this question. Three countries mentioned that their agricultural advisory services or agencies responsible for training applicators provide guidance and advisory information on best practices for drift management. One country (NL) reported local government requirements that restrict the placing of new buildings near to areas where pesticides are used, in that there should be at least 10-50 metres separation (for example, for greenhouses the minimum distance is 25 metres, and for orchards it is 50 metres). One country reported that to prevent drift it is recommended to grow hedges adjacent to residential areas while another country reported a farming union initiative to

provide information to their members on best practice regarding notification of intention to spray to neighbours.

Anticipating the next question, five countries reported that official codes, protocols, principles, guidelines or standards are used. These codes include variously advice on: spray drift mitigation; fact sheets on voluntary notification of intended applications; advice on minimum separation distances to protect bystanders/residents of 1 metre for low crops, and 3 metres for high crops.

4. *Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?*

Eight countries report not having codes of practice for spray operators. Eight others reported having such codes (or protocols, principles, guidelines or standards); although whether or not these actually offer specific advice for applications near residential areas has not been verified. However, see also the final paragraph on answers to Question 3.

5. *Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?*

Eight countries report that systems for prior notification are not in place. The remaining respondents reported systems that vary from national to local legislative requirements, that may apply to specific types of application (e.g. aerial or misting applications) or particular locations (e.g. near to schools or hospitals). For example, in the case of aerial applications agreement of neighbours has to be obtained before applications are permitted within 100 or 150 metres of property (AUS), or notification is required for aerial or mister applications within 200 metres of hospitals, schools, childcare or aged care (also AUS).

One system (SVN) requires mandatory written notification to the relevant authority at least 24 hours before the intended use in areas adjacent to kindergarten, schools, playgrounds, sports facilities, hospitals, and retirement homes or similar. These notices must state the trade name of the pesticide, the method of application, the date and the estimated time of treatment. While in another example notification of ground-based spraying within 50 metres of properties was recommended (AUS), and another country (JP) indicated that it is recommended that residents are notified of the pesticide detail, purpose, date, and hour of intended applications, and for use near schools the school and parents via the school are notified. For extensive applications (e.g. aerial applications or the use of radio-controlled helicopters) notifications are made through various media.

It was also mentioned that specific label requirements for notification of residents may be used as a specific mitigation measure, and individual communities have established voluntary practices for prior notification of residents (see also answer to question 3).

6. *Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?*

Four countries reported that they did not have specific training. Some others reported general training requirements (which may apply to all uses or are limited to specific categories of risk or commercial/contract applicators) without mentioning specific training for use near residential areas. Others reported that: their National Standard addresses specific training (CAN); specific publications and advice are provided, and the issue is covered in training courses (DE and JP); and operators are required to be trained, which includes risk management for bystanders/residents (SVN and UK), and pass a test or examination, to obtain a licence (UK, NL and CH) which in one case has to be updated every 5 years (NL).

Individual country responses to each survey question

The collated complete texts as submitted from each of the 16 countries which responded to the survey are presented in the appendix.

APPENDIX: Individual Country Responses to Each Survey Question

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?	
Australia	<p>The Australian Pesticides and Veterinary Medicines Authority (APVMA) is an independent statutory agency that assesses and registers agricultural and veterinary (agvet) chemical products for import, supply, sale and use in Australia. The APVMA enforces compliance up to and including the point of retail sale. It conducts rigorous scientific assessments of the potential risks the chemicals pose to human health (including residents and bystanders), occupational health and safety, the environment and trade associated with the use of these chemicals.</p> <p>Risks to bystanders are considered and assessed as part of the human health risk assessment conducted by the Department of Health and Ageing for the APVMA. After the retail sale of agvet chemical products, it is the responsibility of the individual states and territories to manage use and compliance of agricultural pesticide products. In various states and territories, Work Health and Safety legislation requires that a person conducting a business or undertaking ensures, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out, including the prevention or minimisation of risk to third parties for agricultural spray activities.</p>
Belgium	YES : exposure assessment as foreseen by European legislation/guidance

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?	
Canada	<p>Yes, Health Canada's Pest Management Regulatory Agency requires label statements on agricultural pesticides to protect residents/bystanders. Label directions that the PMRA may require to minimize the potential for both human and environmental impacts from spray drift include:</p> <ul style="list-style-type: none"> • specifying the use of certain types of application equipment; • instructions to spray only at certain times of the day and only in weather conditions that will minimize drift; • specifying the amount of pesticide that may be used for a given area; and • establishing an untreated area, called a buffer zone, between an area to be treated and any nearby area that must be protected. <p>Human health risk assessments of pesticides examine direct exposure to users (both professional applicators and residential users) and bystanders who may be nearby during application. The potential for post-application exposure - exposure to pesticide residues deposited on the ground or foliage after application - is also considered to ensure these anticipated exposures would not pose a health concern.</p> <p>There are specific data requirements to characterize exposure to these groups. Data requirements for 33 Canadian use-site categories for pesticides are listed in "Use Site Category" Tables (or "DACO" Tables – link below). Data requirements specific to residential/bystander exposure are listed for end use products (EPs) under DACO 5.</p> <p>There are also Crosswalk Tables that match the PMRA's DACOs to the corresponding numbering codes of the United States Environmental Protection Agency (EPA) and of the Organisation for Economic Co-operation and Development (OECD).</p> <p>http://www.hc-sc.gc.ca/cps-spc/pest/registant-titulaire/prod/index-eng.php http://www.hc-sc.gc.ca/cps-spc/pubs/pest/_fact-fiche/drift-pulverisation/index-eng.php</p>

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?	
Denmark	<p>In the EU Regulation 1107/2009 on Plant Protection Products the requirements for authorisation of plant protection products are stated in Articles 29 and 4. According to these articles products may only be authorised if they have “no immediate or delayed harmful effect on human health, including that of vulnerable groups”. According to the definition in Article 3 vulnerable groups are: “Persons needing specific consideration when assessing the acute and chronic health effects of plant protection products. These include pregnant and nursing women, the unborn, infants and children, the elderly and workers and residents subject to high pesticide exposure over the long term”.</p> <p>Therefore for the time being the exposure for bystanders and residents will be calculated and evaluated according to the Danish framework for evaluation of pesticides.</p> <p>Therefore for the time being the exposure for bystanders and residents will be calculated and evaluated according to the Danish framework for evaluation of pesticides.</p>
Germany	<p>Yes.</p> <p>Bystander and resident exposure is calculated by suitable means. The assessment follows a published model (S. Martin, D. Westphal, M. Erdtmann-Vourliotis, F. Dechet, C. Schulze-Rosario, F. Stauber, H. Wicke und G. Chester. Guidance for Exposure and Risk Evaluation for Bystanders and Residents exposed to Plant Protection Products during and after Application. Journal für Verbraucherschutz und Lebensmittelsicherheit, Heft 3, August 2008) which results in a calculated exhaustion of the AOEL for the respective pesticide. Using the limit of < 100 % shows acceptable exposure for which no further protective measures must be taken. Using more than 100 % of the limit would lead to risk management measures if possible. Possible measures may be the use of special drift reducing technology as well as buffer zones.</p> <p>Registration requirements are not only focused on residents and bystanders but on the general public. According to German Plant Protection Act § 17 the Federal Office of Consumer Protection and Food Safety (competent authority) lists authorised agricultural pesticides, which are also allowed for use in public areas (e. g. playgrounds, sportsyards), based on specific criteria for these uses.</p>
Ireland	<p>No, we rely on the provisions that exist in EU Regulation (EC) No 1107/2009. We have no specific national provisions. We conduct risk assessments for end user, bystander and re-entry worker exposure and these are very much worst case scenario and</p>

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?	
	considered to be quite conservative.
Japan	No, Japan has no specific registration requirement in this regard. However, central and prefectural governments provide farmers with risk management guidance concerning the use of agricultural pesticides near/in residential areas. For more details, please refer to the following questions.
Mexico	No, there are no requirements in this regard.
The Netherlands	Yes. Assessment of exposure of residents living in the neighbourhood of glasshouses: Duyzer, J., van der Staay, M., Weststrate, H., Boertjes, B., Hollander, K. and Verhagen, H., 2004. De blootstelling van omwonenden van kassen aan gewasbeschermingsmiddelen via de lucht. TNO-rapport, R 2004/517: 72 pp.
New Zealand	As part of the process of assessing a pesticide we do model the possible effects on residents/bystanders and include this in our risk assessment. This can influence the decision of whether substance is approved or not and the EPA may set controls on the substance e.g. buffer zones.
Norway	As part of the data requirement, the applicant has to provide exposure calculations for bystanders and residents. Norway has special regulations for plant protection products to be used in gardens or other hobby use. Such special products shall be marked with special sentences showing that such use is allowed and it shall also appear from the label if this is a “ready-to-use” product or a concentrate. This is regulated in Chapter IX §24 in Regulations regarding pesticides. Norwegian Food Safety authority has made further directions for the approval of plant protection products intended for “hobby use”.

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?	
Slovenia	<p>Yes.</p> <p>Prior to authorization of plant protection product in Slovenia, the exposure of bystanders and residents to active substance/-s is estimated and the risk assessment is performed. The risk assessment for bystanders is conducted according to the Model based on Lloyd and Bell (1983):“Hydraulic nozzles: comparative spray drift study” (MAFF/ADAS) and Lloyd, Bell et al., 1987:“Orchard sprayers: Comparative operator exposure and spray drift study” UK Pesticide Registration and Surveillance Department. For residents the exposure and risk are estimated by the model, that is presented on the Chemicals Directorate General (UK) web site (http://www.pesticides.gov.uk/Resources/CRD/Migrated-resources/Documents/B/Bystander20exposure20guidance_final20version.pdf) or by the model proposed by the Guidance for Exposure and Risk Evaluation for Bystanders and Residents exposed to Plant Protection Products during and after Application, Sabine Martin, D. Westphal, M. Erdtmann-Vourliotis, F. Dechet, C. Schulze-Rosario, F. Stauber, H. Wicke and G. Chester, Journal für Verbraucherschutz und Lebensmittelsicherheit, 2008, Volume 3, Number 3, 272-281.</p>
Sweden	Not applicable.
Switzerland	<p>YES. The Swiss regulation for the registration of pesticides is harmonised with the corresponding European legislation. Chapter 7.2.2. Bystander Exposure (DATA REQUIREMENTS FOR PLANT PROTECTION PRODUCTS) REGULATION (EU) No 545/2011</p> <p>http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:155:0067:0126:EN:PDF</p>

1. Does your country have specific registration requirements concerning protection of residents/bystanders prior to authorisation of agricultural pesticide products?	
United Kingdom	<p>Yes. This is covered in the applicant guidance, which gives advice on what information an applicant must submit when seeking registration of a new product, and it covers the risk assessments required. Further detail can be found here:</p> <p>http://www.pesticides.gov.uk/guidance/industries/pesticides/topics/pesticide-approvals/pesticides-registration/applicant-guide/the-applicant-guide-completing-an-application-overview-for-operator-and-consumer-exposure</p> <p>CRD also held workshops targeted at technical and regulatory staff involved in the production and submission of data to CRD, in February 2012. The aim of these workshops is to provide training and updated guidance via a series of presentations and practical workshops. The training covered the following areas:</p> <ul style="list-style-type: none"> • Operator exposure • Bystander and resident exposure • Worker exposure • Higher tier data and combined risk assessment • Future Developments <p>Further details can be found here:</p> <p>http://www.pesticides.gov.uk/guidance/industries/pesticides/News/Collected-Updates/Information-Updates-2011/December/Operator-Bystander-and-Worker-Exposure-Assessment-Workshops-February-2012</p> <p>There is also the work of the Bystander Risk Assessment Working Group, which is due to publish its final findings in the Spring of 2012.</p>
United States	<p>USEPA, the federal agency responsible for regulating the sale and use of pesticides in the US, has requirements for the submission of scientific data and other information for estimating potential risks. Although EPA does not have data requirements specific to protection of residents/bystanders, the agency uses results from its spray or vapour drift assessments and its residential standard operating procedures to estimate potential exposures to residents/bystanders. The agency uses these estimates to determine potential risks to these sub-populations and if necessary will require appropriate risk mitigation as a condition of registration (authorization). Risk mitigation requirements must appear on the pesticide product label and by law be followed by applicators.</p>

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?							
Australia	<p>The APVMA regulates agvet chemicals up to the point of retail sale. States and territories are responsible for regulating the control of use after retail sale. The below table contains specific information for some states and territories.</p> <p>Work Health and Safety (WHS) legislation requires that a person conducting a business or undertaking ensures, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out, including the prevention or minimisation of risk to third parties for agricultural spray activities. While national WHS standards are intended, each state and territory must implement equivalent legislation. Presently, five out of nine jurisdictions (including the federal government) have implemented the new WHS laws.</p>						
	<table border="1"> <tr> <td style="width: 15%;">New South Wales (NSW)</td> <td>Apart from a requirement to follow any relevant label restrictions, in NSW Pesticide Control Order Air-1 made under the NSW Pesticides Act 1999 requires aerial applicators to obtain permission from residents and others to spray within 150 metres. See http://www.environment.nsw.gov.au/pesticides/pco.htm.</td> </tr> <tr> <td>Victoria (VIC)</td> <td> <p>Yes, in some circumstances. A program is underway by the APVMA based on a national risk assessment framework - <i>APVMA Operating Principles in Relation to Spray Drift Risk</i>. The program is placing mandatory downwind no-spray buffer zones of specified distances to sensitive areas including occupied structures, on the labels of pesticides if required. Whether a buffer zone is required and the distance of the buffer zone is specific to each pesticide product based on the inherent hazard of the chemical and the risks from the uses of the pesticide.</p> <p>Downwind no-spray buffer zones stated on chemical product labels are enforceable under Victorian legislation and penalties can apply. See http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/spraying-spray-drift-and-off-target-damage/ag0860-using-buffer-zones-and-vegetative-barriers-to-reduce-spray-drift.</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/op_principles.php</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/zones.php</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/priority_list.php</p> </td> </tr> <tr> <td>Northern</td> <td>The Northern Territory has no specific legal requirement regarding use of agricultural pesticides near</td> </tr> </table>	New South Wales (NSW)	Apart from a requirement to follow any relevant label restrictions, in NSW Pesticide Control Order Air-1 made under the NSW Pesticides Act 1999 requires aerial applicators to obtain permission from residents and others to spray within 150 metres. See http://www.environment.nsw.gov.au/pesticides/pco.htm .	Victoria (VIC)	<p>Yes, in some circumstances. A program is underway by the APVMA based on a national risk assessment framework - <i>APVMA Operating Principles in Relation to Spray Drift Risk</i>. The program is placing mandatory downwind no-spray buffer zones of specified distances to sensitive areas including occupied structures, on the labels of pesticides if required. Whether a buffer zone is required and the distance of the buffer zone is specific to each pesticide product based on the inherent hazard of the chemical and the risks from the uses of the pesticide.</p> <p>Downwind no-spray buffer zones stated on chemical product labels are enforceable under Victorian legislation and penalties can apply. See http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/spraying-spray-drift-and-off-target-damage/ag0860-using-buffer-zones-and-vegetative-barriers-to-reduce-spray-drift.</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/op_principles.php</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/zones.php</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/priority_list.php</p>	Northern	The Northern Territory has no specific legal requirement regarding use of agricultural pesticides near
	New South Wales (NSW)	Apart from a requirement to follow any relevant label restrictions, in NSW Pesticide Control Order Air-1 made under the NSW Pesticides Act 1999 requires aerial applicators to obtain permission from residents and others to spray within 150 metres. See http://www.environment.nsw.gov.au/pesticides/pco.htm .					
	Victoria (VIC)	<p>Yes, in some circumstances. A program is underway by the APVMA based on a national risk assessment framework - <i>APVMA Operating Principles in Relation to Spray Drift Risk</i>. The program is placing mandatory downwind no-spray buffer zones of specified distances to sensitive areas including occupied structures, on the labels of pesticides if required. Whether a buffer zone is required and the distance of the buffer zone is specific to each pesticide product based on the inherent hazard of the chemical and the risks from the uses of the pesticide.</p> <p>Downwind no-spray buffer zones stated on chemical product labels are enforceable under Victorian legislation and penalties can apply. See http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/spraying-spray-drift-and-off-target-damage/ag0860-using-buffer-zones-and-vegetative-barriers-to-reduce-spray-drift.</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/op_principles.php</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/zones.php</p> <p>http://www.apvma.gov.au/use_safely/spray_drift/priority_list.php</p>					
Northern	The Northern Territory has no specific legal requirement regarding use of agricultural pesticides near						

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	
	<p>Territory (NT) residential areas other than what may appear on an approved label and therefore can be enforced, eg. buffer zones that are a label direction. NT control of use legislation may prescribe chemical control areas that may impose conditions of use to protect human health or safety, the environment or trade.</p>
Belgium	No
Canada	<p>Canada would have various legal requirements restricting the use of agricultural pesticides near residential areas, dependent upon type of product being used, location of use and method of application (i.e. ground vs aerial). Some examples of these restrictions would include:</p> <ul style="list-style-type: none"> - Federal legislation (i.e., Transport Canada – aerial applications; Health Canada’s PMRA – label restrictions; buffer zones); - Provincial legislation (pesticide legislation – authorizations required; Right to Farm Legislation). <p>The Standard for Pesticide Education, Training and Certification in Canada (referred to as the National Standard) contains information on any legal requirements as well as best management practices/voluntary practices/professionalism approach with respect to application of pesticides, including the use of pesticides near residential areas. Canada’s certification programs for pesticide vendors and applicators are based on the National Standard.</p> <p>Information on the National Standard can be found at:</p> <p>http://www.hc-sc.gc.ca/cps-spc/pest/part/fpt/educ-cert-eng.php</p>
Denmark	In the EU Regulation 1107/2009 is stated in Article 31 that an authorisation of a product can include restrictions of use in order to protect the health of e.g. bystanders and residents. So if the risk assessment shows that such restrictions are necessary they will be included in the authorisation and at the label of the product.
Germany	<p>Yes.</p> <p>The exposure model used in Germany allows only for calculations up to specific minimum distances which are 3 m for high crops and 1 m for low crop applications. Applications below these distances are currently not covered by the model assumptions.</p> <p>The assessment models are not laid down in the German legislation. Nevertheless, it represents the current assessment practice and is regarded to be state of the art.</p>

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	
Ireland	No, we rely on the provisions that exist in EU Regulation (EC) No 1107/2009. We have no specific national provisions. We conduct risk assessments for end user, bystander and re-entry worker exposure and these are very much worst case scenario and considered to be quite conservative.
Japan	Yes. Article 6 of the Ordinance of the Ministry of Agriculture, Forestry, and Fisheries and the Ministry of the Environment (Ministerial Order of March 7, 2003) stipulates that operators shall endeavour to take necessary measures to prevent the drift of agricultural pesticides when operating in or near residential areas. Such measures include use of such formulations or equipment that would cause less or no drift. However, compliance with this provision is not compulsory, with no penalty applicable.
Mexico	No, currently there are not specific restrictions for uses near residential areas, however some conditions are provided in planning biological effectiveness studies that aim to obtain the opinion of the Secretary of Agriculture in order to implement best practices for agrochemical use and management.
The Netherlands	Prohibition for aerial spraying from November 2011 onwards. If houses of residents are located nearby (mostly 25 metres) a permit of the local government is needed for the application of pesticides in glasshouses. Restrictions for the use of pesticides may be part of the permit.
New Zealand	All pesticides need to be approved and each approval has a range of controls to mitigate risks. We can and do apply further controls e.g. restricting use near residential areas. These controls are legally enforceable. Additionally, local authorities can further apply regulatory provisions under their local plans. The Resource Management Act (RMA) provides for the control of pesticide use by local government. Regional councils and local authorities develop policies and plans under the RMA. These may affect pesticide use in that region or district. Depending on the provisions in their plans, regional councils can impose conditions on use such as signage and notification and prosecute for spraydrift (general enforcement provisions). The RMA also enables local authorities to manage the effects of the use of hazardous substances in specific locations in relation to sensitive environments or conditions.
Norway	Regulations concerning “neighbours” and public areas, are given in Chapter VII §§ 18 and 19 in Regulation relating to pesticides http://www.lovddata.no/cgi-wift/ldles?doc=/sf/sf/sf-20040726-1138.html . See attached annex for details. (Note the relevant Annex text is reproduced here)

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?

The **Regulations relating to pesticides § 18** treats the use of pesticides. The following are taken from the text (translation from Norwegian):

”The spreading of pesticides must be carried out in such a way that it does not cause inconvenience to neighbors etc. It must be carried out in such a way that drinking water sources and edible plants on neighboring properties are not contaminated (ref. Regulations dated 4 December 2001 no 1372 relating to water supply and drinking water).”

”Marginal zones and uncultivated ‘islands’ must not be treated unless this is part of the upkeep of the cultural landscape. Permission must be obtained from the Municipality.”

” It is prohibited for pesticides which are intended for professional use to be used in hobby gardens, on house plants, etc.”

“Products which are classified as very toxic or toxic shall not be used in public gardens, parks, and similar places which are open to the public.”

”When an area open to the public is sprayed, the area must be marked with a notice approved by the Food Safety Authority. The importer or manufacturer, who is responsible for the product, is also responsible for formulating the notice which shall be in place for at least 7 days. The requirement regarding marking does not apply to spraying along the roadside, but the person responsible for the spraying must mark the equipment with “spraying takes place”.”

§ 19 in the Regulation relating to pesticides states that “Products classified as very toxic or toxic shall not be sprayed from an aircraft. Products in other danger categories may be approved for spraying from a helicopter. The spraying shall only be carried out by persons who have been authorized by the Food Safety Authority and only if the spraying equipment used is approved by the Food Safety Authority.”.

Special rules for forestal spraying is in a separate regulation:

<http://www.lovdato.no/cgi-wift/ldles?doc=/sf/sf/sf-19870804-1157.html>

See attached annex for [details \(Note the relevant Annex text is reproduced here\)](#)

In Norway there is also the Regulations dated 4 August 1987 no 1157 relating to spreading of pesticides in forests. It regulates use of herbicides with motor driven spraying equipment in forest areas and the spreading of fungicides and insecticides /acaricides /nematicides on standing forest. When the spraying will be from a helicopter or if the forest ground spraying will be equal to or

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	
	<p>exceed 1.5 hectares, the person responsible for the spraying shall submit a detailed application (including a map over each area to be sprayed, pesticide product, dose and time for spraying) to the Municipality before Sept. 1st the year before the spraying is going to take place. The Municipality then sends the inquiry for consideration to local bodies (for health, environment, and if relevant, for keeping of reindeer). The comments, including the relevance of other regulations, terms and prerequisites, proposals for adjustments or refusal, shall be received before January 15th the following year so that the Municipality can make their decisions before February 15th. If there will be repeated or delayed spraying in the approved areas, this shall be made known to the Municipality and the local bodies at least 14 days before the spreading. After 3 years a new complete submission is necessary. For each area the local police must be informed at least 7 days before planned spraying.</p> <p>For spraying of forest areas under 1.5 hectares from motorised vehicle, the Municipality must receive a report before November 1st. The report shall contain the same information as for areas over 1.5 hectares. The Municipality shall mark the treated areas on a map and brief the local bodies.</p> <p>When spraying forests, there shall be a buffer zone next to houses of at least 200 m when using helicopter and of at least 50 m when using tractor mounted device. Water sources, lakes or reservoirs for drinking water shall not be polluted in a harmful way. If the label on the preparation states a spraying free zone to lakes, streams, rivers etc., this also must be taken into consideration. No spraying must take place when the wind force is over 5 m/sek 2 m over the ground. The work force of the spray boom nozzles of the helicopter must not exceed 2.5 bar.</p> <p>In case of accidental spraying of an area that should not be treated, the owner/ user of the property shall receive a notice as soon as possible. In case of an accident that leads to uncontrollable spillage of pesticides, the locale police shall be warned immediately. That way, necessary measures can be taken. People in danger must be warned immediately.</p> <p>The authorized sprayer is obliged to mark all areas to be spray with approved placards. The placard shall be placed clearly noticeable in the area and by roads and paths leading into the area. The placards shall be removed after 2-3 weeks, unless gathering of forest berries or mushrooms makes them required for a longer period.</p> <p>The authorized sprayer is obliged to inform persons with special interests next to or in the spraying areas, e.g. owners of cottages or cabins, bee-keepers, people with privilege to grazing land etc., when this is practicable.</p>
Slovenia	<p>Yes.</p> <p>Tractor mounted sprayers and motorized knapsack sprayers should be used at a distance of at least 20 m from kindergartens, schools, children playgrounds and sports facilities, hospitals, retirement homes or other similar objects and residential facilities and their functional areas.</p> <p>This is the provision of the National rule of duties of plant protection product operators (Uradni list Republike Slovenije, 62/2003).</p>

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	
Sweden	<p>The Swedish Environmental Protection Agency has issued regulations on the proliferation of chemical pesticides, SNFS 1997:2. The provisions are binding rules and here's the Web link to the regulations (unfortunately only in Swedish): http://www.naturvardsverket.se/Documents/foreskrifter/nfs1997/SNFS1997_02.pdf.</p> <p>§ 14 states that professional use of pesticides may not be used without permission on pesticides must not be used without permission</p> <ul style="list-style-type: none"> - Available land for multifamily, - On farms to kindergartens and schools or public playgrounds <p>§ 11 regulates that those who are carrying out distribution of pesticides must be notified in writing if it intends to apply pesticides in such areas greater than 1000 m² where the public can travel freely except for arable land. This rule can be applicable to residential areas.</p>
Switzerland	<p>YES. Pesticides that are labelled with the symbol "skull and crossbones" and the letter for toxic (T) or very toxic (T+) are restricted to professional use. Furthermore they must not be applied in public areas such as gardens, parks, playgrounds, sports grounds or in close proximity to health care facilities if these areas are located within populated areas. Article 68 paragraph 4 of the Swiss legislation for pesticides. PSMV 916.161</p> <p>http://www.admin.ch/ch/f/rs/9/916.161.fr.pdf (French version – no English version available)</p>

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	
United Kingdom	<p>Not for land-based application. The UK does however have a set of advisory procedures covering this issue – please see the response to Q 3 below. The EU Sustainable Use Directive’s Article 12 also offers further direction as follows:</p> <p>“Member States shall, having due regard for the necessary hygiene and public health requirements and biodiversity, or the results of relevant risk assessments, ensure that the use of pesticides is minimised or prohibited in certain specific areas. Appropriate risk management measures shall be taken and the use of low-risk plant protection products as defined in Regulation (EC) No 1107/2009 and biological control measures shall be considered in the first place. The specific areas in question are:</p> <p>(a) areas used by the general public or by vulnerable groups as defined in Article 3 of Regulation (EC) No 1107/2009, such as public parks and gardens, sports and recreation grounds, school grounds and children’s playgrounds and in the close vicinity of healthcare facilities;</p> <p>(b) protected areas as defined in Directive 2000/60/EC or other areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of Directives 79/409/EEC and 92/43/EEC;</p> <p>(c) recently treated areas used by or accessible to agricultural workers.”</p> <p>For aerial application of pesticides national implementing legislation is expected to include, a condition that the area to be sprayed must not be in close proximity to residential areas. and requirements for risk management measures if the land to be sprayed is in close proximity to public areas..</p>

2. Does your country have legal requirements restricting application of agricultural pesticide products near residential areas?	
United States	<p>The US has legal requirements that can restrict applications of agricultural pesticides near residential areas. These requirements are manifest in several different ways through the authority of the federal pesticide law, FIFRA. In addition to the requirements and decision-making process described in answer to question 1, there are other legal requirements at the federal and state levels:</p> <ol style="list-style-type: none"> 1. Unlawful acts under FIFRA. FIFRA provides that it is unlawful for anyone to use a pesticide in a manner inconsistent with the product's labeling and provides penalty for persons violating the act in that manner. Therefore, any person who fails to comply with any of the risk-mitigation labeling requirements mentioned in paragraph 1, above, would be subject to those penalty provisions under FIFRA. 2. State authority. FIFRA provides "primacy" for states to monitor compliance and enforce use/misuse of pesticides. Although states do not directly enforce FIFRA, they can enforce similar use/misuse requirements under state law. The state laws governing pesticide use must be at least as strict as FIFRA, and may be stricter. In fact, many states have laws addressing various aspects of pesticide use (such as IPM in schools, termite treatments, etc), including several states with anti-drift or anti-trespass laws that place specific requirements and restrictions on pesticide applications. Although state regulatory agencies can apply such provisions to a broad group of pesticide application types, most have a strong basis in protection of residential areas adjacent to agricultural application sites. Such state laws are not enforceable under FIFRA.

3. Does your country have voluntary/advisory procedures concerning application of agricultural pesticide products near residential areas?									
Australia	Each state and territory has different voluntary procedures, outlined in the table below. The Australian Standard AS 2476 -2008 General fumigation procedures recommends general principles for all states and territories.								
	<table border="1"> <tr> <td>New South Wales (NSW)</td> <td>Industry associations are encouraged to adopt codes or protocols. For example see, http://www.nswfarmers.org.au/policy_committees/ag_chemicals/priority_issue_3 and http://www.nswfarmers.org.au/_data/assets/pdf_file/0008/12041/FS_Statement_of_Principles_0304.pdf</td> </tr> <tr> <td>Victoria (VIC)</td> <td><i>A Guide to Using Agricultural Chemicals in Victoria</i> provides guidelines for the general use of pesticides including spray drift mitigation strategies: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/publications/a-guide-to-using-agricultural-chemicals-in-victoria In addition, the Department of Primary Industries provides general guidance on spray-drift management at: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/spraying-spray-drift-and-off-target-damage</td> </tr> <tr> <td>Queensland (QLD)</td> <td>For fumigation, ‘Guidelines for the safe use of pesticides in non-agricultural areas’ provides some general guidance: http://www.health.vic.gov.au/pestcontrol/guidelines-for-the-safe-use-of-pesticides</td> </tr> <tr> <td>Northern Territory (NT)</td> <td>The Northern Territory has no direct advisory procedures relating to use of agricultural pesticides near residential areas. In the Code of Practice for Handling Pesticides, reference is made to avoid spray drift towards sensitive areas like houses, schools, public places, waterways, rivers etc by ensuring conditions are appropriate for spraying. Authorisation for use of agricultural pesticide products classified as “Schedule 7 (S7) Dangerous Poisons” is normally not approved in or near residential areas without additional controls. More information on poisons scheduling can be found at http://www.tga.gov.au/industry/scheduling.htm.</td> </tr> </table>	New South Wales (NSW)	Industry associations are encouraged to adopt codes or protocols. For example see, http://www.nswfarmers.org.au/policy_committees/ag_chemicals/priority_issue_3 and http://www.nswfarmers.org.au/_data/assets/pdf_file/0008/12041/FS_Statement_of_Principles_0304.pdf	Victoria (VIC)	<i>A Guide to Using Agricultural Chemicals in Victoria</i> provides guidelines for the general use of pesticides including spray drift mitigation strategies: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/publications/a-guide-to-using-agricultural-chemicals-in-victoria In addition, the Department of Primary Industries provides general guidance on spray-drift management at: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/spraying-spray-drift-and-off-target-damage	Queensland (QLD)	For fumigation, ‘Guidelines for the safe use of pesticides in non-agricultural areas’ provides some general guidance: http://www.health.vic.gov.au/pestcontrol/guidelines-for-the-safe-use-of-pesticides	Northern Territory (NT)	The Northern Territory has no direct advisory procedures relating to use of agricultural pesticides near residential areas. In the Code of Practice for Handling Pesticides, reference is made to avoid spray drift towards sensitive areas like houses, schools, public places, waterways, rivers etc by ensuring conditions are appropriate for spraying. Authorisation for use of agricultural pesticide products classified as “Schedule 7 (S7) Dangerous Poisons” is normally not approved in or near residential areas without additional controls. More information on poisons scheduling can be found at http://www.tga.gov.au/industry/scheduling.htm .
	New South Wales (NSW)	Industry associations are encouraged to adopt codes or protocols. For example see, http://www.nswfarmers.org.au/policy_committees/ag_chemicals/priority_issue_3 and http://www.nswfarmers.org.au/_data/assets/pdf_file/0008/12041/FS_Statement_of_Principles_0304.pdf							
	Victoria (VIC)	<i>A Guide to Using Agricultural Chemicals in Victoria</i> provides guidelines for the general use of pesticides including spray drift mitigation strategies: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/publications/a-guide-to-using-agricultural-chemicals-in-victoria In addition, the Department of Primary Industries provides general guidance on spray-drift management at: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/spraying-spray-drift-and-off-target-damage							
	Queensland (QLD)	For fumigation, ‘Guidelines for the safe use of pesticides in non-agricultural areas’ provides some general guidance: http://www.health.vic.gov.au/pestcontrol/guidelines-for-the-safe-use-of-pesticides							
Northern Territory (NT)	The Northern Territory has no direct advisory procedures relating to use of agricultural pesticides near residential areas. In the Code of Practice for Handling Pesticides, reference is made to avoid spray drift towards sensitive areas like houses, schools, public places, waterways, rivers etc by ensuring conditions are appropriate for spraying. Authorisation for use of agricultural pesticide products classified as “Schedule 7 (S7) Dangerous Poisons” is normally not approved in or near residential areas without additional controls. More information on poisons scheduling can be found at http://www.tga.gov.au/industry/scheduling.htm .								
Belgium	No								
Canada	Yes, with examples of such procedures being: fact sheets/information distribution used for voluntary notifications. As in the above question, the National Standard provides information on such procedures (voluntary and mandatory).								

3. Does your country have voluntary/advisory procedures concerning application of agricultural pesticide products near residential areas?	
Denmark	<p>The Danish Knowledge Centre for Agriculture, which is an agricultural advisory service for farmers carried out an information campaign some years ago with the aim of informing the farmers about the risk of spraying along residential areas and gave suggestions for how to minimise the drift of pesticides.</p> <p>Furthermore the Knowledge Centre for Agriculture have prepared the attached document [Note not submitted with survey response] which is placed on their website accessible by farmers who are members.</p> <p>Finally they attend in the European project Prowadis with the aim of mitigating the risk of drift. The project is focusing on water protection, but also protection of other areas.</p>
Germany	<p>Yes. For enforcement of correctness of uses the German Länder are responsible. The law foresees fines in case of violation of authorisation requirements.</p> <p>There is a legal publication in “Bundesanzeiger” (No. 76 a, 21st May, 2010) on Principles on Good Plant Protection Practice also with special recommendations for spray operators to reduce drift and for better protection of bystanders and residents (http://www.bmelv.de/SharedDocs/Standardartikel/Landwirtschaft/Pflanze/Pflanzenschutz/GrundsaeetzeDurchfuehrungGuteFachlichePraxisPflanzenschutz.html).</p> <p>It is planned to revise this document in 2012 in order to implement new EU-legislation. In this context it is planned to include some advice on minimum distances at pesticide use protecting bystanders and residents: 1 m (low crops) and 3 m (apple, hops and other high crops). Roads can be closed for bystanders during the course of the use of an agricultural pesticide.</p>
Ireland	<p>No, we rely on the provisions that exist in EU Regulation (EC) No 1107/2009. We have no specific national provisions. We conduct risk assessments for end user, bystander and re-entry worker exposure and these are very much worst case scenario and considered to be quite conservative.</p>
Japan	<p>Yes.</p> <p>The Ministry of Agriculture, Forestry, and Fisheries (MAFF) and the Ministry of Environment (MOE) have issued a notice entitled the “Use of Agricultural Chemicals near/in Residential Areas”(dated 16th September 2003, last updated on 26th April 2013), which provides</p>

3. Does your country have voluntary/advisory procedures concerning application of agricultural pesticide products near residential areas?	
	<p>guidelines on the use of agricultural pesticides in or near residential areas. These guidelines include, but not limited to, prior notification to residents and restriction of access by bystanders during spray operation.</p> <p>The ministerial notice and relevant leaflet are available (only in Japanese) from: http://www.maff.go.jp/j/nouyaku/n_tekisei/jutakuti/20130426tuchi.html http://www.maff.go.jp/j/nouyaku/n_tekisei/jutakuti/pdf/120208_jutakuti.pdf</p>
Mexico	No, except those described in the previous answer.
The Netherlands	In residential areas a minimum distance between new houses/buildings and fields where pesticides are used, should be kept (not by law, but also not voluntary, local government involved). This distance differs from 10 to 50 metres (glasshouses: 25 metres; orchards: 50 metres).
New Zealand	See code of practice below. Following the code of practice is not compulsory but it one method by which users can comply with the regulations.
Norway	The course for authorisation for the professional use of plant protection products provides guidance of how to reduce spray drift both in the course book (ISBN 978-82-529-3371-0) and digital material; CD or internet (www.umb.no/imt/agroteknikk). Other risk mitigations to reduce unwanted spreading of pesticide into the environment are also described. It is not recommended to use spraying equipment when the wind force is over 5 m/s (should be under 3m/s). Pray boom height, nozzle type, where to wash the equipment, risk maps for leakage from soil etc. are other examples.
Slovenia	No
Sweden	Not applicable.
Switzerland	YES. It is recommended to border agricultural land adjacent to residential areas with hedges in order to prevent spray drifts.

3. Does your country have voluntary/advisory procedures concerning application of agricultural pesticide products near residential areas?	
United Kingdom	<p>Yes. There is the UK National Farmers' Union 'Good Neighbour Initiative', which gives guidance to spray operators regarding informing neighbours and residents about intended spray operations. It covers issues such as legal requirement for notification, what to do in the event of a neighbour asking about spraying, actions that could be taken to alleviate problems and what to do in the event of a breakdown in the relationship between the farmer and neighbour. Further details can be found here:</p> <p>http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/G/Good_Neighbour_Initiative_-_Spray_Operator_Guide.pdf</p>
United States	<p>USEPA provides general guidance to the public about the proper use of pesticides with emphasis to follow all directions and restrictions on product labelling when making applications. While the USEPA provides the public with messages about applying pesticides according to product labelling, the agency's emphasis is ensuring product labels have the appropriate directions and restrictions for use that are necessary to protect residential areas and bystanders.</p> <p>State lead agencies (usually state departments of agriculture) and state universities who have responsibilities for training pesticide applicators provide guidance and advisory information to applicators to supplement their knowledge about best application and management practices to use in conjunction with use directions and restrictions on pesticide product labels. Many of the guidance documents are on websites of these agencies and universities.</p>

4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?

Australia	Each state and territory may have its own code of practice, as shown in the table below.	
	New South Wales (NSW)	The NSW WorkCover authority produced two Codes of Practice which respectively apply to agricultural and non agricultural work places. See http://www.workcover.nsw.gov.au/formspublications/publications/Pages/WC00422_Safeuseandstorageofchemicalsincludingpes.aspx and http://www.workcover.nsw.gov.au/formspublications/publications/Pages/WC00421_Safeuseofpesticidesinnonagriculturalwork.aspx (NSW)
	Victoria (VIC)	<p>The Department of Health licenses pest control operators under Section 101 of the <i>Public Health and Wellbeing Act 2008</i> and the Public Health and Wellbeing Regulations 2009. Licensing of the pest control industry is designed to protect pest control operators, consumers, members of the public, and the environment from the harmful effects of pesticides.</p> <p>The 'Guidelines for pest control operators in Victoria' provide information about the pest control licence, issued by the department under Section 101 of the <i>Public Health and Wellbeing Act 2008</i> (the Act). They aim to assist the pest control industry in complying with the legislation under which they are regulated, mainly the Act and the Public Health and Wellbeing Regulations 2009.</p> <p>http://www.health.vic.gov.au/pestcontrol/guidelines-pest.htm</p> <p>The <i>Guidelines for the safe use of pesticides in non-agricultural workplaces</i> were developed by the Pest Management Industry and Government Sector Advisory Group, which consists of representatives from the pest management industry and state government licensing agencies. They were developed as a guide for people working in pest management and related industries and offer practical and informative guidance on how to comply with legislation relating to the use, transport, storage and disposal of pesticides. The guidelines have been written to ensure consistency with chemical control of use, environmental, public health and workplace health and safety legislation where relevant.</p> <p>http://www.health.vic.gov.au/pestcontrol/guidelines-safe.htm</p>
	Tasmania	Code of Practice for spraying in public places including reference to residential areas:

4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?	
	(TAS) http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/EGIL-52Q7L9?open
Belgium	No
Canada	Yes, examples of such codes of practice can be found in: <ul style="list-style-type: none"> - the National Standard; - federal legislation (particularly for aerial application); - industry self regulation - Best Management practices - Some provincial legislation references codes of practice.
Denmark	No
Germany	There is a legal publication in "Bundesanzeiger" (No. 76 a, 21st May, 2010) on Principles on Good Plant Protection Practice also with special recommendations for spray operators to reduce drift and for better protection of bystanders and residents (http://www.bmelv.de/SharedDocs/Standardartikel/Landwirtschaft/Pflanze/Pflanzenschutz/GrundsaeetzeDurchfuehrungGuteFachlichePraxisPflanzenschutz.html)
Ireland	No, we rely on the provisions that exist in EU Regulation (EC) No 1107/2009. We have no specific national provisions. We conduct risk assessments for end user, bystander and re-entry worker exposure and these are very much worst case scenario and considered to be quite conservative.
Japan	Yes. The above-mentioned notice, the "Use of Agricultural Chemicals near/in Residential Areas", serves as codes of practice for spray operators, which include, but not limited to, the following elements: <ul style="list-style-type: none"> - reduction of the use of pesticides by introducing physical and biological means for pest control; - choice of formulation and equipment which would cause less or no drift; and - keeping record of the date and place of pesticide application, crop, pesticide used, as well as application rates. The ministerial notice and relevant leaflet are available (only in Japanese) from:

4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?	
	<p>http://www.maff.go.jp/j/nouyaku/n_tekisei/jutakuti/20130426tuchi.htmlhttp://www.maff.go.jp/j/nouyaku/n_tekisei/jutakuti/pdf/120208_jutakuti.pdf</p> <p>In addition, a technical guidance document entitled the “Manual for the control of pests and weeds in/on park and street trees” was developed and distributed by MOE, which introduces integrated pest management and provides concrete steps to be followed and matters for consideration for pesticide application in or near residential areas, including prior notifications to residents. The guidance document (in Japanese) is available from: http://www.env.go.jp/water/dojo/noyaku/hisan_risk/manual1_kanri/full.pdf</p>
Mexico	<p>No, Mexico only has the Mexican Official Standard NOM-052-FITO-1995, that establishes the phytosanitary requirements and specifications to be met by individuals or companies engaged in aerial application of agricultural pesticides, to present the notice of commencement of operation and obtain a certificate of compliance with the Standard, for the inclusion in the Phytosanitary Directory, and the obligations arising from itself. These provisions apply to owners of tracks and/or aircraft and pilots providers of aerial application of pesticides that operate within the country.</p> <ul style="list-style-type: none"> • http://www.senasica.gob.mx/?id=962
The Netherlands	No.

4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?	
New Zealand	<p>New Zealand Standard: Management of Agrichemicals (NZS8409:2004) is a code of practice developed by Standards New Zealand and sets out the requirements for the safe, responsible and effective management of agrichemicals by suppliers, transporters and users in New Zealand. It sets out performance requirements to achieve compliance with Hazardous Substances Regulations.</p> <p>Section 5 ‘Use of Agrichemicals’ details requirements for</p> <ul style="list-style-type: none"> • non-target areas; • notification of use to people likely to be affected; • use in public areas; • spray drift; • weather conditions (specifically wind); • sensitive areas; and • buffer zones. <p>More information can be found from http://www.standards.co.nz/.</p> <p>Also see Q6 for the requirement for spray operators to be an approved handler for certain hazardous substances.</p>
Norway	<p>All farmers that receives production subsidy must have a “plan for environment keeping” (www.slf.det.no/no/miljo-og-okologisk/jordbruk-og-miljo/bondens-miljoplan). In this plan it is obligatory to have application record for the use of pesticides, no spraying of marginal land, use correct filling, washing of the equipment and waste disposal. Voluntary measures can be ways to reduce erosion, run-off etc. Records must be kept for 10 years.</p> <p>These rules are also included in the Quality system in agriculture (KSL) that was developed by the agricultural trade organizations, but is now adopted as an official national quality system for farmers for internal revision and with external revision (www.matmerk.no/ksl/).</p>

4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?	
	These rules are not made especially for residents, but will have impact on them.
Slovenia	Code of practice for spray operators , including specific reference to application of agricultural pesticide products near residential areas is covered in the the National rule of duties of plant protection product operators (Uradni list Republike Slovenije, 62/2003). The main provisions regarding the use of plant protection products near residential areas are reduction of spray drift to residential and recreational areas, the minimum distance of plant protection application (20 m) from such areas and obligatory notifications of spraying to kindergarten, school, children playground and sport facility, hospital, retirement home or other similar object.
Sweden	Not applicable.
Switzerland	Yes , please refer to point 6

4. Does your country have codes of practice for spray operators which included specific reference to application of agricultural pesticide products near residential areas?	
United Kingdom	<p>Yes. Section 3.7. in the Code of Practice for Using Plant Protection Products provides guidance on protecting the public.</p> <p>The current code of practice advises farmers to carry out their own risk assessment before using a pesticide. They should:</p> <ul style="list-style-type: none"> • check whether spray drift is likely, taking into account how they will be applying the pesticide and the weather conditions; the law states that the use of a pesticide must be confined to what is being treated. • consider tell people living and working nearby (this is good practice, but not always a legal requirement, depending on what and how you are spraying); • take special care when spraying near vulnerable groups such as hospitals and schools; • take special care where there are public rights of way. <p>Further details can be found here:</p> <p>http://www.pesticides.gov.uk/guidance/industries/pesticides/topics/using-pesticides/codes-of-practice/code-of-practice-for-using-plant-protection-products</p>
United States	<p>The US does not have “codes of practice” but rather requires applicators to strictly follow the use directions and restrictions on pesticide product labels. Also, refer to answers to questions 1 – 3.</p>

5. Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?	
Australia	Each state and territory sets its own procedures for prior notification, as shown below.

5. Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?	
New South Wales (NSW)	<p>The Pesticide Control Order Air-1 made under the NSW Pesticides Act 1999 requires aerial applicators to obtain permission from residents and others to spray within 150 metres. See http://www.environment.nsw.gov.au/pesticides/pco.htm.</p> <p>Prior notification requirements apply to public authorities using pesticides in outdoor public places and near sensitive places and to urban pest controllers using pesticides in multi-residential complexes and near sensitive places. See http://www.environment.nsw.gov.au/pesticides/pesticide_notification.htm</p>
Victoria (VIC)	<p>Under the Agricultural and Veterinary Chemicals (Control of Use) Regulations 2007, notification is required for aerial or mister application of pesticides within 200 metres of a hospital, school or child/aged care premises. A maximum penalty of \$2,443 applies.</p> <p>Information regarding these notification requirements is found in section 7 of <i>A Guide to Using Agricultural Chemicals in Victoria</i>: http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/publications/a-guide-to-using-agricultural-chemicals-in-victoria</p> <p>Neighbour notification is enforced under legislation and is required for the use of pest animal baits containing sodium fluoroacetate (1080). This is a condition of the licence/permit required to use the chemical. Non-compliance can lead to a maximum penalty of \$48,856 and possible suspension or cancellation of the licence/permit authorising the use of the chemical.</p> <p>http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/bait-system/directions</p>
Queensland (QLD)	For fumigants, the manufacturer's label may state requirements. Labels are approved by the APVMA.
Tasmania (TAS)	<p>Notification requirements in Tasmania do not relate specifically to residential properties. They refer more to properties.</p> <p>The Code of Practice for Aerial Spraying contains a mandatory requirement to advise occupiers when spraying is to occur within 100 metres of the property, and obtain their permission when aerially spraying within 100 m of their residence.</p>

5. Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?		
		<p>These regulations are enforced but generally a warning is the end result unless there had been damage. The maximum fine allowable is 100 units.</p> <p>The Code of Practice for Ground Spraying recommends that neighbours within 50 metres be notified, however this is not enforceable.</p> <p>http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/EGIL-52Q7L9?open</p>
	Northern Territory (NT)	No requirement in NT unless label direction or under a Chemical Coordinators Direction or a requirement of authorisation to use an S7 Dangerous Poisons, or declared restricted chemical product (RCP) for which additional training is required to obtain and use.
Belgium	No	
Canada	Some provincial legislation may require notification. The National Standard does contain information about prior notification, addressing voluntary and legal aspects.	
Denmark	No	
Germany	In general not. Exemption rodenticides deliberating phosphane gas.	
Ireland	No, we rely on the provisions that exist in EU Regulation (EC) No 1107/2009. We have no specific national provisions. We conduct risk assessments for end user, bystander and re-entry worker exposure and these are very much worst case scenario and considered to be quite conservative.	
Japan	<p>Yes.</p> <p>The above-mentioned notice, the “Use of Agricultural Chemicals near/in Residential Areas”, recommends prior notification to residents of planned application of agricultural pesticides. More specifically, such notification should include the purpose and date and hour of the planned application as well as the pesticide to be used. When a school is located near the spraying areas, notifications should be made to the school and, via school staff, to parents.</p> <p>This system is of advisory nature, with no penalty applicable. Although its compliance rate is not available, in case of extensive application (e.g. aerial application or spray by radio-controlled helicopters), prior notifications are made through various media to</p>	

5. Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?	
	residents in the affected areas.
Mexico	Not currently.
The Netherlands	No.
New Zealand	There is the ability to under HSNO and has been done for some pesticides e.g. Hydrogen Cyanamide. Some Regional Councils do under RMA (see Q2 for ability of territorial authorities to impose conditions under RMA). COP (referred to above in Q4) has a section on notification and signage prior to application (Appendix M).
Norway	Norway has a system for prior notification concerning forestal spraying. See attaches annex. (Note Annex text reproduced with repsonse to Queestion 2) Penalties for incorrect use of pesticides is regulated in the Law of food production and food safety §28 (www.lovdato.no/all/hl-20031219-124.html). The first reaction is often to refer to the duties. In case of repeated or serious rule violations, the authorisation for using pesticides will be withdrawn. Other penalties are also possible, but not commonly used.
Slovenia	Yes. The users of plant protection products applying these products in areas adjacent to kindergarten, school, children playground and sport facility, hospital, retirement home or other similar object, should provide written notification to the relevant authority of the facility at least 24 hours before using pesticides. The notice must state the trade name of the PPP method, date and estimated time of treatment. This is covered in the National rule for duties of plant protection product operators (Uradni list Republike Slovenije, 62/2003).
Sweden	Not applicable.
Switzerland	No
United Kingdom	There is currently no legal requirement for prior notification. The present system operates on advisory guidance to farmers and sprayer operators, based on best environmental practice, as outlined in the responses above.

5. Does your country have a system of prior notification to residents of proposed application of agricultural pesticide products?	
United States	Generally, USEPA does not have a requirement for prior notification to nearby residents although occasionally EPA does use this as a mitigation requirement. However, some states and local authorities have such requirements. In addition, certain communities have a voluntary practice of prior notification of residents.

6. Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?

Australia	<p>Each state and territory is responsible for the control of use of agvet chemicals after retail sale and set the regulations in regard to specific training for spray operations near residential areas. The below table contains specific information for some states and territories</p>	
	New South Wales (NSW)	<p>This issue is covered to an extent in standard chemical user training based on national competency standards which is mandated of all persons who use pesticides in their occupation or business in NSW. See http://www.environment.nsw.gov.au/pesticides/training.htm (NSW)</p>
	Victoria (VIC)	<p>Anyone who uses pesticides in the course of a pest control business in Victoria, is required to hold a licence under the <i>Public Health and Wellbeing Act 2008</i>. The licence is issued by the Department of Health to people who have attained an appropriate qualification. The qualification includes training in the safe handling, storage and application of pesticides, and the identification and management of pests.</p> <p>To operate a business applying agricultural chemicals for a fee or reward for the purposes of weed control, agricultural or horticulture, or pest animal control outside of domestic or commercial premises, a Commercial Operator Licence issued under the <i>Agricultural and Veterinary Chemicals (Control of Use) Act 1992</i> is required. To obtain this licence, the applicant must have completed training in the preparation, application, transport, storage and handling of agricultural and veterinary chemicals.</p> <p>http://www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/licenses-permits/commercial-operator-licence</p>
	Queensland (QLD)	<p>Not applicable under the Work Health and Safety legislation.</p> <p>To obtain a pest management technician licence for a fumigation activity, the applicant must have been issued a Statement of Attainment from a Registered Training Organisation stating they have successfully completed a unit of competency in fumigation. A number of units of competency make up a Certificate. Material relating to venting or release of fumigant would be covered. The training link site is http://training.gov.au/ and the course title is Certificate III in Asset Maintenance (Pest Management – Technical)</p>
	Northern Territory (NT)	<p>No specific requirement for training for use of agricultural pesticides near residential areas. Training is only compulsory for commercial operators and for use of S7 and RCPs and includes spray buffer zones but there may not be specific reference to spraying near residential areas</p>

6. Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?	
Belgium	No
Canada	Yes, the National Standard addresses this matter.
Denmark	No dedicated guidance or training with specific focus on spray operations near residential area is provided, but protection of the environment in general is part of the training.
Germany	There are leaflets provided by the plant protection authorities of the “Länder” with specific guidance and requirements for the use of pesticides near residential areas, for example: http://www.pflanzenschutz.rlp.de/Internet/global/inetcntr.nsf/dlr_web_full.xsp?src=Q26QI138X1&p1=6Z81450ZCI&p3=9N5F630O85&p4=98Q87H66RX . The “Good Plant Protection Practice” near residential areas is also a topic of training courses during “Winter School” of farmers provided by the plant protection authorities of “Länder”.
Ireland	No, we rely on the provisions that exist in EU Regulation (EC) No 1107/2009. We have no specific national provisions. We conduct risk assessments for end user, bystander and re-entry worker exposure and these are very much worst case scenario and considered to be quite conservative.
Japan	Yes. In order to give straightforward guidance to spray operators, an easy-to-read leaflet explaining the content of the notice “Use of Agricultural Chemicals near/in Residential Area” with some practical examples is distributed by MAFF and MOE. Relevant training courses targeting spray operators are organized mainly by prefectural governments although attendance to these seminars is not compulsory.
Mexico	Yes, as discussed in answer No. 6, the Ministry of Agriculture (SAGARPA) published in 1995 the Mexican Official Standard NOM-052-FITO-1995. The text of the standard includes requirements and obligations for companies, applicators, tracks, pilots. For these, also are requested the verification of the documents for the training of personnel working in the company providing the service of aerial application of agricultural pesticides on the proper use and handling of pesticides, as well as an article on monitoring compliance with the

6. Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?	
	<p>objectives and provisions set forth in the Standard, and that the breach thereof, shall be punished in accordance with applicable law.</p> <ul style="list-style-type: none"> • http://www.senasica.gob.mx/?id=962 • http://www.senasica.gob.mx/?id=577
The Netherlands	<p>Yes.</p> <p>Operators need to have a licence. In order to get this licence operators have to follow a training and pass an examination. The licence has to be up-dated every 5 years, meanwhile ongoing training is provided for via courses. The licence is on several (tiered) levels and includes risk management (i.e. for workers, residents, bystanders) and IPM. In order to extend this licence the operator must follow additional training via the mentioned courses or pass the examination again.</p>
New Zealand	<p>An approved handler is someone who is qualified to handle very hazardous substances.</p> <p>An approved handler is required when a pesticide is:</p> <ul style="list-style-type: none"> • highly toxic to people; • toxic to the environment (ecotoxic) and used in a way that may harm the environment. Such use is called wide dispersive where there is potential for the pesticide to affect other than the intended area; or • applied onto or into water (see below). <p>Links: information about approved handlers http://www.epa.govt.nz/hazardous-substances/certifications/people/approved-handlers/Pages/default.aspx, and approved handler requirements for pesticides http://www.epa.govt.nz/Publications/ER-IS-33-2.pdf.</p>
Norway	<p>All spray operators in Norway have to attend an authorisation course before they are allowed to buy and use plant protection products (PPPs) intended for professional use (§17 in regulations relating to pesticides). The course includes learning material on how to spray PPPs, but does not focus solely on spray operations near residential areas, but measures to reduce spray drift etc. See answer on question 3.</p>
Slovenia	<p>Yes.</p> <p>In Slovenia we have an established a system of training of certified professional users of plant protection products, distributors and advisors. During this the training also the application of agricultural pesticide products near residential is covered (e.g. how to apply</p>

6. Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?	
	the plant protection product to reduce the exposure of bystanders and residents, when to treat the crops,...).
Sweden	Not applicable.
Switzerland	<p>YES. A special licence for the professional or commercial or industrial use of pesticides is required. Anyone who wishes to obtain a special licence must sit a test to prove that they have the required specialist knowledge of the relevant activity. Specific Trainings are offered to acquire the specialist knowledge and to learn all aspects of the safe use of pesticides, including the use of pesticides near residential areas.</p> <p>links: General overview: http://www.bafu.admin.ch/chemikalien/01410/01413/index.html?lang=en</p> <p>Ordinance on the special license for the use of pesticides in agriculture and horticulture http://www.admin.ch/ch/f/rs/8/814.812.34.fr.pdf http://www.bafu.admin.ch/publikationen/publikation/01044/index.html?lang=fr</p> <p>Ordinance on the special licence for the use of pesticides in special areas (this ordinance covers use of pesticides near residential buildings, near public buildings and on sports grounds) http://www.admin.ch/ch/f/rs/8/814.812.35.fr.pdf</p>
United Kingdom	<p>Apart from a few exemptions, spray operators must obtain a qualification called a certificate of competence. You must first complete a Foundation Unit before undertaking another assessment appropriate for the type of equipment to be used and this includes boom and hand-held sprayers. The assessment includes assessing competence on carrying out an environmental risk assessment before spraying near public areas, housing, and in the procedures for warning neighbours. Further details can be found here:</p> <p>http://www.nptc.org.uk/assessment-schedules/</p>

6. Are spray operators provided with specific guidance or required to have specific training with respect to spray operations near residential areas?

United States

Refer to answer to question three regarding training and education provided by state lead agencies and universities. Training and certification of competence is required for applicators who apply pesticides for hire and all applicators who wish to apply those pesticides with a “Restricted Use” classification (i.e., higher risk pesticides for which USEPA deems special training and certification is necessary to prevent unreasonable adverse effects).