



Management
Analysis
& Development

**Minnesota Department of
Agriculture**

**Agriculture Chemical
Response Survey
Report**

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Table of Contents

Table of Contents	1
Introduction	2
Purpose	2
Methodology	3
MDA Response Customer Feedback	4
MDA Incident Response and Instructions Feedback	5
Response time	5
Cleanup instructions	7
Reporting spills	8
Barriers to reporting spills.....	8
Encourage others to report spills.....	10
Incident Response Plans	12
Reporters.....	12
Use of plan.....	12
Updating and training staff on incident response plans (reporters).....	13
Non-reporters.....	13
Use of plan.....	14
Location of plan	14
Usefulness of plan	14
Updating and training staff on incident response plans (non-reporters).....	15
What-if Scenarios (non-reporters).....	15
Outreach	16
Reporters.....	16
Non-reporters.....	16
What is the MDA Doing Well?	17
Reporters.....	17
Non-reporters.....	18
How Can the MDA Better Help?	19
Reporters.....	19
Non-reporters.....	19
Recommendations	22
Appendix	23
Non-reporter Demographics.....	23

Introduction

The Emergency Response Unit¹ within the Minnesota Department of Agriculture is responsible for responding to emergencies that result from pesticide and/or agriculture chemical spills and incidents. The unit also administers funds for the cleanup of contaminated areas affected by the pesticide and fertilizer incidents. This unit operates under the 1989 Minnesota Groundwater Protection Act and within the Minnesota Environmental Response and Liability Act (MERLA).

Pesticide and fertilizer product dealers and businesses prepare for incidents by writing and maintaining an incident response plan that provides details for on-site responses to emergency releases. Additionally, bulk pesticide storage facilities are required to train employees annually on the response plans. Agriculture chemical handlers are also required to report ag chem spills to the MDA for assistance with remediation in the event the spill could threaten or harm the environment. In 2013, of the approximate 8,000 entities that handle, store, transport or manufacture ag chems in Minnesota, a total of 139 incidents were reported to the MDA.

The Pesticide & Fertilizer Management Division at the MDA contracted with Management Analysis & Development (MAD) to conduct two customer surveys of:

- 1) Ag chem handlers that **have** reported a previous spill/incident with MDA in CY2014, and (Phase One)
- 2) Ag chem handlers that **have not** reported a spill/incident with MDA and other ag chem customers (Phase Two).

Ag chem handlers are businesses in Minnesota that store, handle, mix, load or transport bulk pesticides and/or fertilizers, such as lawn care companies, golf courses, cities, school districts and aquatic applicators. Ag chem customers include members from two partnering organizations (Minnesota Crop Production Retailers and League of Minnesota Cities) and people on the MDA Update newsletter list serv.

Purpose

The purpose of conducting the customer surveys was to better understand:

- The barriers that ag chem handlers experience in reporting and remediating ag chem spills;
- The challenges or barriers that ag chem handlers report about creating and maintaining incident response plans;
- How the MDA can help ag chem companies be ready for a spill;
- Levels of satisfaction with MDA's services (timeliness, effectiveness, helpfulness in solving problems, etc.); and,
- To what level ag chem businesses believe MDA's services are having a positive impact on them.

The MDA will use the survey data to:

¹ The unit was called the Incident Response Unit from 1991 (when the unit was created) until 2014, when it changed to the Emergency Response Unit.

- Minimize the barriers to reporting and remediating spills;
- Target outreach and assistance efforts that promote completing and maintaining incident response plans;
- Assist ag chem handlers to prepare and be ready for potential spills; and,
- Improve the overall quality of services provided to ag chem handlers in Minnesota.

Methodology

MAD administered an online survey to 94 ag chem handlers that reported an ag chem incident/spill to the MDA in calendar year 2014. The survey was open from February 27– March 30, 2015. The MDA mailed a postcard inviting the participants to complete the online survey. The postcard asked the respondent to type the survey URL address into their internet browser and enter a provided login code. To increase the response rate, MDA staff called 72 non-responders to complete the survey over the phone. Of the 72 called, 30 people completed the survey on the phone with MDA staff or later on their own. Overall, 52 of the 94 people completed the survey, for an overall 55 percent response rate for the Phase One survey.

The ag chem handlers and customers that have not contacted the MDA with an incident/spill were invited to complete an anonymous survey that was distributed by MAD and the MDA via several email distribution lists (MDA Update newsletter, associations, networks, etc.). This survey was sent to approximately 10,000 people, and was open from April 8–April 30, 2015. A total of 124 people completed the survey.

The surveys varied slightly in their structure to ensure respondents were asked meaningful questions based on whether or not they reported an ag chem spill in 2014. Many sections of this report provide results from both groups of respondents, but some sections (such as MDA Incident Response and Instruction Feedback) are tailored only to the customers who have reported a spill.

There are two sets of respondents in this report: 1) reporters: survey results from people involved in an ag chem spill, and 2) non-reporters: people who work in agriculture, but have not reported an ag chem spill to the MDA. In most instances, comparisons were not made between reporters and non-reporters in this report since survey questions were worded slightly differently.

MDA Response Customer Feedback

The MDA asked ag chem handlers that reported a spill/incident in 2014 (here forward, “reporters”) to provide feedback on the MDA’s response. Nearly all respondents (49/52 or 94%)² that reported agricultural chemical spills in 2014 had contact with the MDA. Respondents most commonly received a phone call, but MDA also performed 21 site visits.

Figure 1: Type of contact with the MDA (n=49)

Type of contact	Number
Phone call only	28
Site visit only	4
Both phone call and site visit	17

Nearly 90 percent (25/28) of the respondents who provided information about their response (phone call and site visit) shared positive comments about the MDA’s emergency response. The majority of respondents indicated that the MDA understood the process, provided thorough instructions and answered their questions. Survey respondents described MDA instructions as timely, easy, straight-forward and very helpful. Some survey participants also noted that MDA staff are reassuring, good to work with and receptive to how they were taking care of the situation. Examples of positive comments:

- *“The instructions on cleanup we received seemed reasonable and corrected the problem within about one hour of the spill.”*
- *“[MDA staff] does a wonderful job. S/he is very good to work with. The process was easy to work through.”*
- *“They understood what was going on, and were very receptive to how we were taking care of the situation.”*
- *“Very good direction of what we had to do. [The directions were] clear. There were no gray areas and it was straight to the point.”*
- *“[S/he] reassured me that I took care of it correctly.”*
- *“[MDA staff] came out and pointed out different things like contacting the duty officer. S/he was really easy to talk to and work things through with.”*

Six (6) survey participants (21%) explained why they thought the response from the MDA was not as helpful. A couple of people said they thought someone from the MDA was going to do an onsite visit, but did not. Two others commented that the cleanup instructions were not clear. One person said the cleanup took an entire day away from planting. Another respondent referred to an experience they had with an MDA staff member whom they felt was unwilling to compromise.

² Fifty-two (52) ag chem handlers responded to the survey. Not every person answered every question, so the number of respondents (n = __) will vary throughout the report.

MDA Incident Response and Instructions Feedback

Overall feedback about the MDA’s emergency response and instructions was positive. As the figure below illustrates, most respondents said the MDA responded in a timely manner. One (1) respondent felt that they were not called in a timely manner.

Response time

Figure 2: Was MDA’s response timely?

Type of contact	Yes	No	Not sure	Percent Positive
Phone call	41	1	3	93%
Site visit	17	0	3	85%
Total	58	1	6	89%

Figure 3: Feedback on MDA instructions and assistance (phone n=45; site visit n=21)

Nearly all respondents who have reported a spill to the MDA either “agreed” or “somewhat agreed” that the MDA’s instructions were understandable, easy to follow and helpful. They also “agreed” that MDA staff were courteous and professional. Only one person “somewhat disagreed” that the assistance from the MDA was helpful. (Note: each square represents one person.)

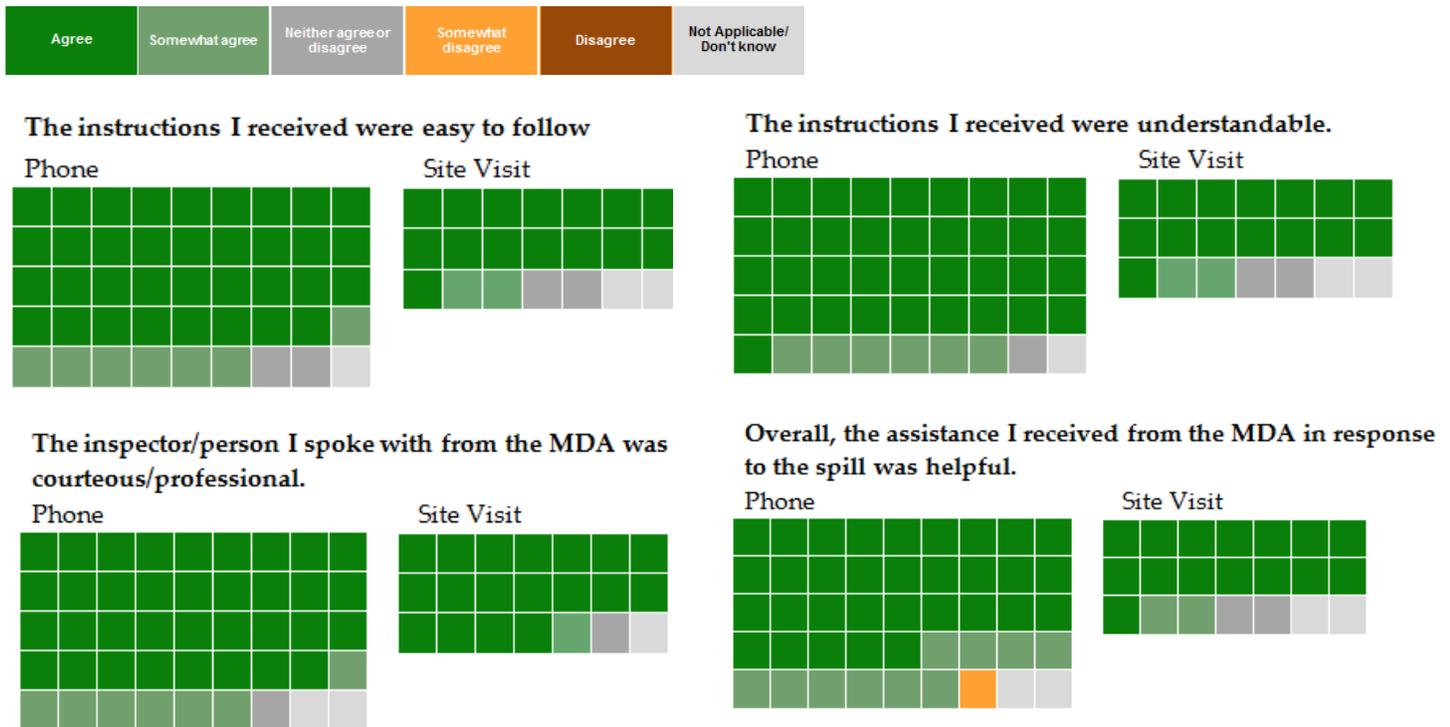


Figure 4: Feedback on MDA instructions and assistance (phone n=45; site visit n=21)

Questions	Phone	Phone percent	Site Visit	Site Visit percent
The instructions I received were understandable.				
Agree	37	82%	15	71%
Somewhat Agree	6	13%	2	10%
Neither agree or disagree	1	2%	2	10%
Somewhat disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Not Applicable/ Don't know	1	2%	2	10%

The instructions I received were easy to follow.				
Agree	35	78%	15	71%
Somewhat Agree	7	16%	2	10%
Neither agree or disagree	2	4%	2	10%
Somewhat disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Not Applicable/ Don't know	1	2%	2	10%

The person I spoke with at the MDA was courteous/professional.				
Agree	35	78%	18	86%
Somewhat Agree	7	16%	1	5%
Neither agree or disagree	1	2%	1	5%
Somewhat disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Not Applicable/ Don't know	2	4%	1	5%

Overall, the assistance I received from the MDA in response to the spill was helpful.				
Agree	32	71%	15	71%
Somewhat Agree	10	22%	2	10%
Neither agree or disagree	0	0%	2	10%
Somewhat disagree	1	2%	0	0%
Disagree	0	0%	0	0%
Not Applicable/ Don't know	2	4%	2	10%

Cleanup instructions

The majority of survey participants “agree/somewhat agree” that the cleanup instructions and options they received from the MDA were practical (76%), were economical (67%), would help them prevent future spills (63%) and resulted in them changing their business practices (55%). A higher percentage of respondents indicated they did not change business practices as a result of cleanup instructions from the MDA (14%).

Figure 5: Feedback on MDA cleanup instructions (n=49)



Fifteen (15) of the 27 people described how they changed their business practices. There were four (4) main ways people said that they changed their business practices as a result of an incident/spill. The responses are listed by frequency:

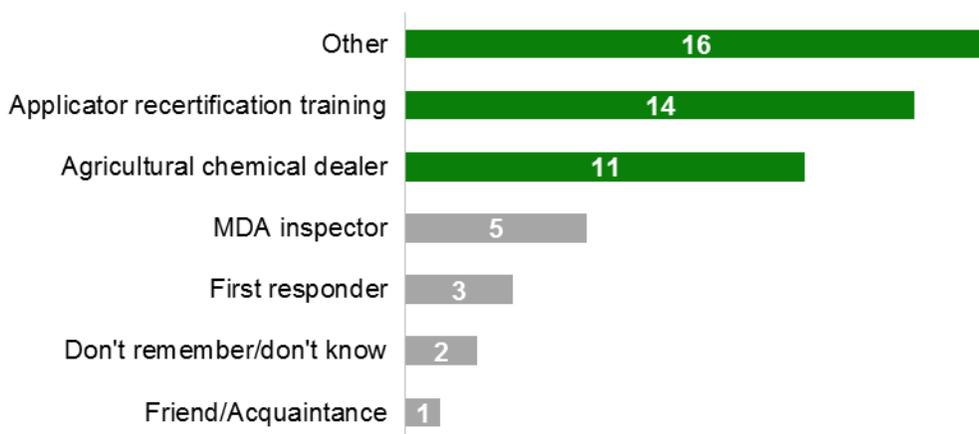
- **Process/policy:** changed protocol on a checklist before any equipment moves; implemented policies to prevent same type of spill from reoccurring; conducted weekly ball-valve inspections, monthly floor inspections and in-season floor inspections; followed policy more carefully; ensured employees are in direct control of the filling process (5 responses).
- **Tanks:** got rid of old tanks and installed smaller poly tank and different colored tanks; conducted weekly tank inspections; installed redundant ball valves on tanks; reinforced tank straps on trailer (4 responses).
- **Valves:** conducted walk-throughs and tightened all valves on a regular basis; ensured vapor valves are a little tighter—especially when temps are changing (2 responses).

- **Training:** talked with employees about the importance of securing all hazardous materials and verifying things twice before leaving the yard with equipment; trained drivers differently (2 responses).
- **Other:** paying more attention to products and better containment; put spill kits in different locations to address future spills (at major locations); widened track on the tires so tip-overs are less likely (3 responses).

Reporting spills

People that reported spills were asked how they were made aware they had to report a spill. Survey respondents were most commonly made aware of the need to report their spill through applicator recertification training and agricultural chemical dealers. Sixteen (16) respondents (31%) indicated that they learned about the need to report from another source (“other”).

Figure 6: How respondents were made aware of the need to report ag chem spills (n=52)



The majority of the 16 people who replied “other” said that it was their job to know this information, it is common knowledge or because it is a known regulatory requirement. A few people said that they were aware of the need to report because of previous experience. Others replied that their employer or Safety Director informed them; they were informed in a different training (environmental compliance training); or they were informed by a communication from the MDA, an environmental group or Minnesota Duty Officer notification.

Barriers to reporting spills

Respondents chose a variety of barriers to reporting agricultural spills. The figures below display the top barriers to reporting an agricultural chemical spill that respondents selected.

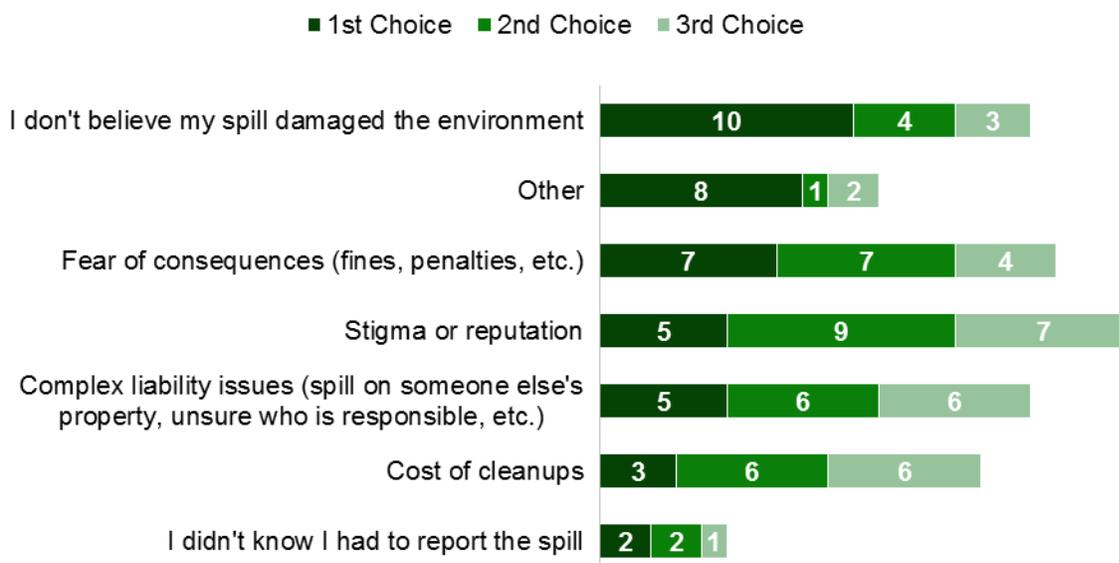
Reporters³

The most common barrier that was selected as a *first choice* was: respondents do not believe their spill damaged the environment, while the most commonly chosen barrier *overall* was: stigma or reputation.

³ Reporters are respondents who were involved in an ag chem incident.

Fear of consequences was also a common choice. Very few respondents indicated that “not being aware of the need to report a spill” was a barrier.

Figure 7: Barriers to reporting ag chem spills among reporters (n=45)



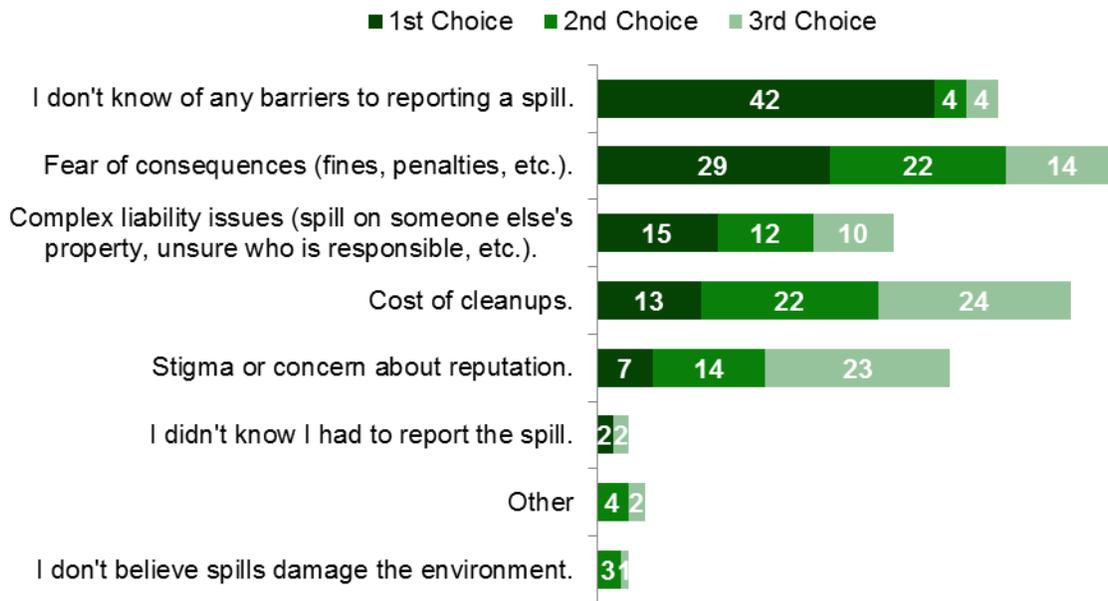
The majority of the people who selected “other” indicated the barrier to reporting an agricultural spill relates to *timing*. For example: having time available to report spills (instead of control, contain and cleanup), the amount of time between when the spill occurred to the time of reporting it (distance between incident and place to report it) and timing of the spill during the busy planting season. Other barriers mentioned include: too much follow-up paperwork, minimum threshold for reporting small quantities, do not remember to call in while caught in the emergency and having to report under other regulatory agencies.

Non-reporters⁴

The most common *first choice* barrier that non-reporters selected was: they do not know of any barriers to reporting a spill, while the most commonly chosen barrier *overall* was: fear of consequences. Cost of cleanups was also a common choice.

⁴ Non-reporters are respondents who are involved in some aspect of agriculture, but have not reported an ag chem spill/incident to the MDA.

Figure 8: Barriers to reporting spills among non-reporters (n=114)



Six (6) people selected “other” and described a different barrier not listed such as: dealing with “red tape” for relatively small spills, report requirement threshold being too low and not knowing how much product spilled constitutes a reportable spill.

Encourage others to report spills

Reporters

While nearly all respondents noted barriers to reporting spills; all 52 respondents said they would encourage others to report spills.

Thirty-four (34) people shared multiple reasons why they would encourage others to call the MDA in the event of an ag chem spill. About one-third of the respondents (10 people) said that they would encourage others to call the MDA because it is the law and a regulatory requirement. The remaining reasons are:

- Protect the environment (9)
- Ensure the spill is responded to properly (9)
- It is the right thing to do (7)
- Prevent fines and protect people (5)
- Easier to deal with the spill right away (5)
- Simple to do (2)

Examples of quotes:

- *“Simple to make the call. I reported one spill at 10:30 at night and MDA called me right away. That’s the way it should be.”*

- *“Always call the state for notice. Honesty is the best policy. In my experience, the state is willing to work with the organization.”*
- *“It’s the law and the right thing to do. MDA is easy to work with when you want to make it right.”*
- *“Because I feel it’s something that we need to maintain and keep everyone informed and aware of ... we need to keep the environment clean ... we don’t want it to go into groundwater.”*

There were two responses that suggested the people were not aware that all spills need to be called into the MDA:

- *“This was our first spill of any significance, as far as I am concerned we did not damage the environment. That said I am in favor of the reporting system. It is much better to call MDA and begin dealing with the issue than trying to cover it up.”*
- *“If a spill is a danger to environment/public; then definitely report.”*

Non-reporters

Ninety-five percent (95%) of non-reporters said they would encourage others to report spills.

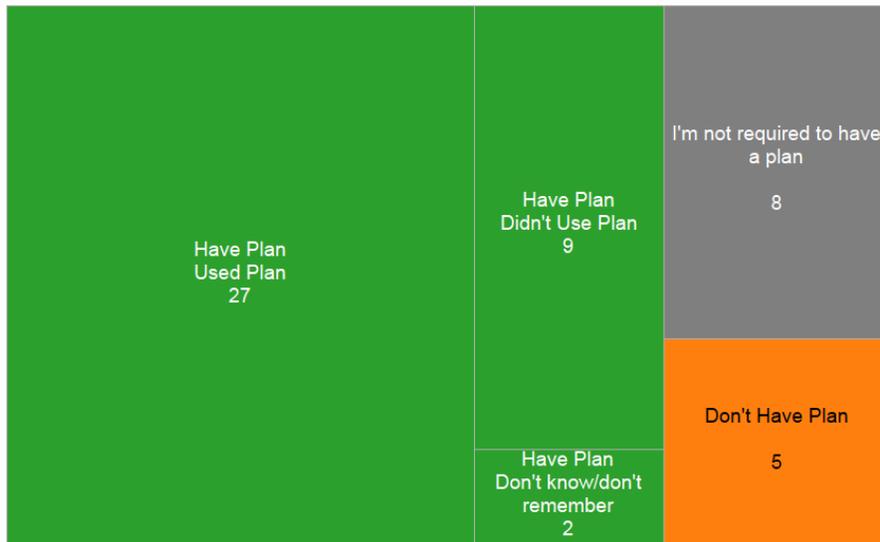
Eighty-three (83; 46%) people shared multiple reasons why they would encourage others to call the MDA in the event of an ag chem spill. Almost half of the respondents (38 people) said that they would encourage others to call the MDA to protect people, animals and the environment. The remaining reasons are:

- It is the right thing to do (21; 25%)
- It is the law and is required (15; 18%)
- To prevent more issues (fines, penalties, etc.) (12; 14%)
- To ensure the spill is responded to properly (9; 11%)

Additionally, 95 percent of respondents said that they would report a spill if they witnessed it, with only one respondent saying they would not report the spill.

Incident Response Plans⁵

Figure 9: Incident response plans among reporters (n=52)⁶



Key:

First line: Whether respondent has plan.

Second line (green boxes only): Whether respondent used the plan when they experienced the spill.

*Size of the box represents number of respondents.

Reporters

Thirty-eight (38) respondents (73%) said they have a written incident response plan, eight (8) respondents did not think they were required to have a written plan and five people said that they did not have a plan. Of the 38 respondents with plans, 27 said that they used the plan when they experienced an ag chem spill.

Use of plan

Over half of the respondents (11 people) said that they use their incident response plan for procedural information. For example: notification procedures, cleanup actions, fire/tornado, workers' compensation issue, internal incident commander notifications and external notification to the Minnesota Duty Officer. About one-third of respondents (7 people) said they have used their incident response plan to locate contact information and phone numbers.

Of the five (5) respondents who do not have an incident response plan, four (4) people rated barriers for not completing a written incident response plan (rated highest to lowest):

- I have a plan; it's just not written down

⁵ For definition of Incident Response Plan, see: [MDA Incident Response Plan](#)

⁶ One respondent (not included in the graphic) indicated they had an incident response plan but did not answer the question about whether they had used the plan.

- No one has ever asked to see it
- I'm not sure I need one
- I don't know how to write one/the template MDA provides is too cumbersome

Updating and training staff on incident response plans (reporters)

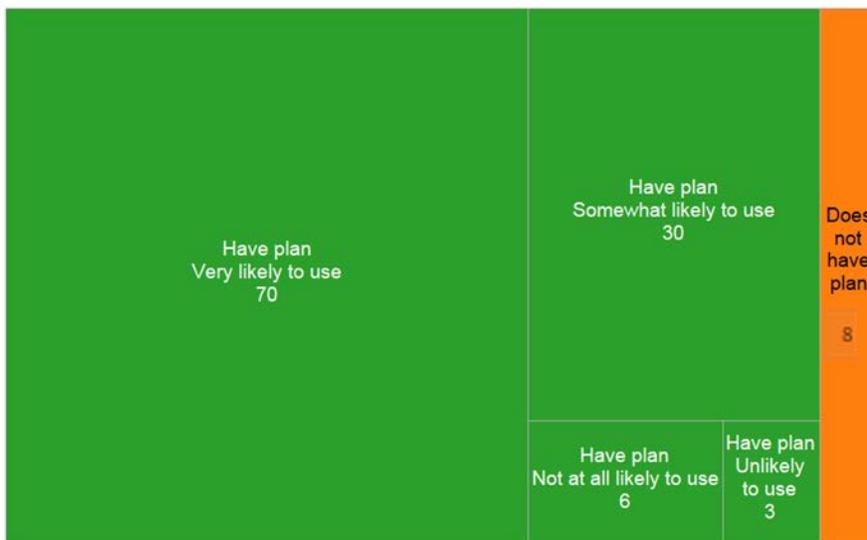
67 percent of respondents that had written incident response plans updated *and* trained their staff on the plan at least once per year.

4 out of 39 respondents with incident response plans updated their plan less often than every two years.

2 out of 39 respondents with incident response plans trained their staff on their plan less often than every two years.

Non-reporters

Figure 10: Incident response plans among non-reporters (n=124)⁷



Key:

First line: Whether respondent has a plan.

Second line (green boxes): The likelihood that a respondent will use the plan if they experience a spill.

*Size of the box represents number of respondents.

One-hundred and nine (109) respondents (88%) said that they have a written incident response plan. Of this group, over two-thirds (70/109) said that they are “very likely” to use it, 28 percent are “somewhat

⁷ Five respondent (not included in the graphic) indicated they did not know if they had a plan. Two other respondents not included had an incident response plan but did not answer the question about whether they had used the plan.

likely” to use it, and eight (8) percent are “unlikely” or “not at all likely” to use their plan. Only eight (8) people (6%) of respondents reported that they did not have a plan.

Use of plan

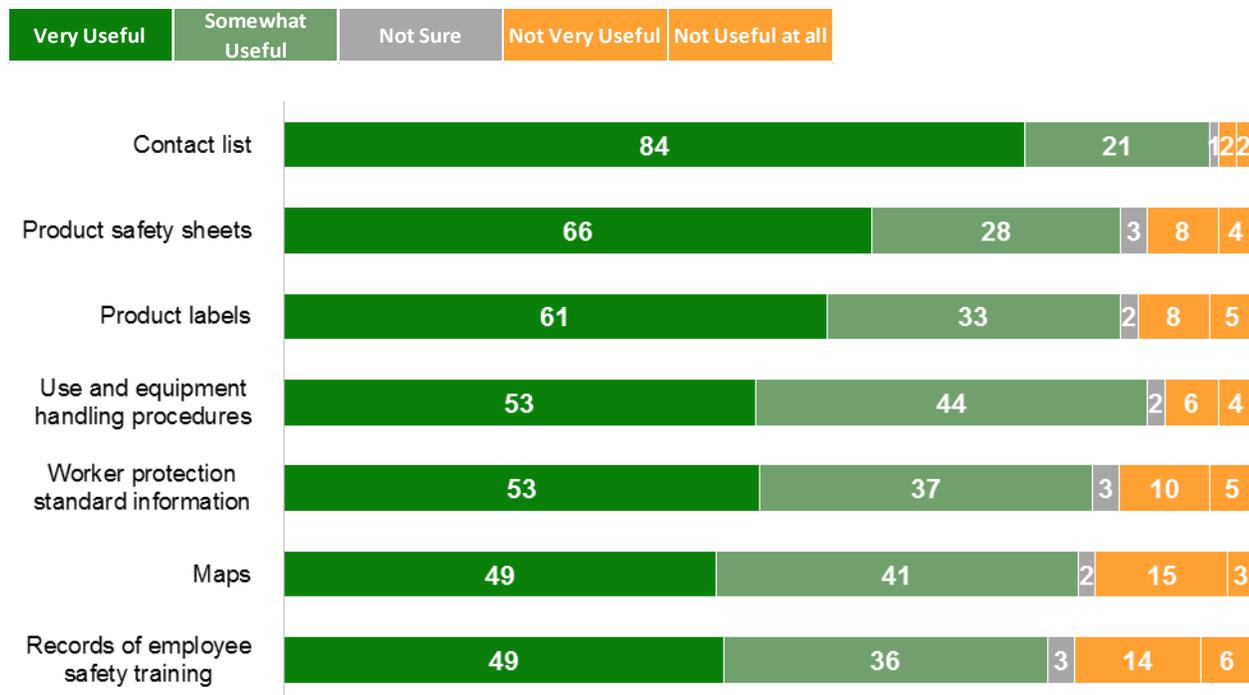
Slightly over half of the 76 people who explained how they use their incident response plan said that they use it as a resource guide to refer to in the event of an emergency/spill. Thirty-seven percent (28 people) of the respondents use the plan for training employees and/or the fire department on how to respond to an emergency. Ten (10) people indicated that they review and update the plan annually, and another nine (9) respondents said that they have not had to use the plan yet. The remaining respondents mentioned that they use the plan to: access contact information/phone numbers and MSDS’s (Material Safety Data Sheets) and labels.

Location of plan

Seventy (70) people indicated they keep their incident response plan in the main office or agronomy office. Twenty-four (24) people said they keep the plan at their warehouse, shop and/or at their facility locations. Several people indicated that their plan was kept in multiple locations. A handful of respondents keep their plans in their vehicles, in a room where chemicals and safety information is stored or have shared them with their local fire department. A few people clearly noted that the plan is located in a place that is accessible to all employees.

Usefulness of plan

Figure 11: How useful are the following tools among non-reporters? (n=110)



As Figure 11 shows, most people find many tools within the incident response plan “very useful” or “somewhat useful.” The contact list is useful to 95 percent of the respondents. The least useful tool reported by respondents was: records of employee safety training.

Updating and training staff on incident response plans (non-reporters)

Of the 110 respondents, 58 percent (64) said they were responsible for creating, maintaining and training staff about the incident response plan, while 46 respondents said they were not responsible for the plan. The illustration below shows how often they train staff on the plan.

70 percent of respondents that were responsible for their facility’s written incident response plan updated *and* trained their staff on the plan at least once per year.

1 out of **64** respondents that were responsible for incident response plans updated their plan less often than every three years.

1 out of **64** respondents with incident response plans trained their staff on their plan less often than every three years.

0 out of **46** respondents that were *not* responsible for incident response plans said they were trained on their plan less often than every three years.

What-if Scenarios (non-reporters)

Non-reporters were asked: “What are the first three things you would do if you were involved in an agricultural chemical spill?” The majority of respondents said that they would contain the spill as their first step (34%) or second step (39%). The majority of people would call the Minnesota Duty Officer as the third step (24%). Other steps that people listed that were not the majority within steps 1-3 were: get to safety, evacuate area, put on protective gear, mitigate/assess area, alert emergency coordinator/manager, call 911 or EMS, and protect myself. A few people suggested that the steps would depend on the amount or nature of the spill.

Step	Contain spill	Ensure safety of people	Report/call/notify appropriate authority ⁸	Call MN Duty Officer	Clean spill
First	32/94 = 34%	17/94 = 18%	10/94 = 11%	6/94 = 6%	1/94 = 1%
Second	39/94 = 39%	2/94 = 2%	16/94 = 17%	9/94 = 10%	1/94 = 1%
Third	9/87 = 10%	4/87 = 5%	20/87 = 23%	21/87 = 24%	17/87 = 20%

⁸ Respondents either indicated that they would report to a specific entity other than the MN Duty Officer, such as MPCA, EPA, or the MDA; referred to an “authorized authority,” or did not specify an entity they would report to.

Outreach

Reporters

Forty-nine (49) reporters responded with their preferred method of communication (**bold text** below) and the method of communication they currently use to get information about agriculture chemicals (*gray italicized text* below). Respondents could choose multiple options for both questions, so totals below do not equal 100 percent.

Electronic	Print	In-person
 <p>30 prefer electronic</p> <p><i>26 check emails</i></p> <p><i>15 view the website</i></p>	 <p>12 prefer printed</p> <p><i>26 read paper mailings</i></p> <p><i>21 read the MDA Update newsletter</i></p>	 <p>5 prefer in-person</p> <p><i>15 go to trade shows</i></p> <p><i>22 received information from applicator recertification training</i></p>

Overall, 31 of 49 respondents (63%) are currently receiving their preferred type of communication (electronic, print or in-person).

Respondents also reported getting information through advertisements and trade publications (10) and websites (17). Fourteen (14) respondents said that they get information on agricultural chemicals from other sources: chemical retailers/dealers or company representatives, product labels and Material Safety Data Sheets (MSDS), internal management of change procedures, word of mouth and CHS cooperative outlets.

Non-reporters

One hundred twelve (112) non-reporters responded with their preferred method of communication (**bold text** below) and the method of communication they currently use to get information about agriculture chemicals (*gray italicized text* below). Respondents could choose multiple options for both questions, so totals below do not equal 100 percent.

Overall, 89 of 124 respondents (72%) are currently receiving their preferred type of communication (electronic, print or in-person).

Sixteen (16) respondents said that they receive information on agricultural chemicals from manufacturers/suppliers, chemical retailers/representatives or distributors. A few other people said that they receive this information from colleagues, a state association, agronomist or regulatory office.

Electronic	Print	In-person
 <p>86 prefer electronic</p> <p><i>67 check emails</i></p> <p><i>27 view the website</i></p>	 <p>21 prefer printed</p> <p><i>31 read paper mailings</i></p> <p><i>41 read the MDA Update newsletter</i></p>	 <p>5 prefer in-person</p> <p><i>39 go to trade shows</i></p> <p><i>49 received information from applicator recertification training</i></p>

What is the MDA Doing Well?

Reporters

Nearly 75 percent of the people who responded to the question “What is the MDA doing well in regard to agriculture chemical spills?” noted that the MDA is doing well responding to spills, providing information and helping people understand procedures and cleanup process, and using regulation to keep the environment and people safe. Some people mentioned that MDA staff are understanding, professional, courteous, kind and respond to incidents in a timely manner. A couple of people mentioned that cleanup took too long. Another couple of people said that they like that ACRRA (Agricultural Chemical Response & Reimbursement Account) funds are available to minimize cleanup costs.

Examples of comments:

- *“The quick response and common sense approach.”*
- *“Keeping us informed of our responsibilities of reacting to the spill and reporting it.”*
- *“Just giving support and help to those who need it.”*
- *“Knowledgeable and courteous staff.”*

- *“They try and make it as painless as possible. They make it easier or as easy as possible.”*
- *“Easy to work with; make a phone call and people are helpful; timely follow-up with project; good resource and will do what they can to help and clean up spill.”*
- *“To be honest, outside of the spill we had, we haven’t had many incidents. I have no problem with the MDA. I thought they were very understanding; they took the information given to them and processed it properly. Nobody flew off the handle or went into panic mode.”*
- *“Instructions were very detailed and helpful but took too long.”*

Non-reporters

The group of survey respondents who have not reported a spill to the MDA answered the question: “What is the MDA doing well to prevent and respond to agricultural chemical spills?” Responses in order of frequency include:

- Educating and providing information (16 people)
- Training (11 people)
- Not sure; have not had to use the MDA (8 people)
- Conducting onsite inspections (6 people)
- Regulating and providing guidelines (6 people)
- Providing subsidies/help with funding cleanup (4 people)

Examples of comments:

- *“Providing quick response time and by providing timely information.”*
- *“By giving us good information and by being proactive rather than reactive.”*
- *“Training. I went to the commercial applicator training this year in St Cloud and they did a good job with putting that program together.”*
- *“On-site inspections of facilities. Focusing on the issue at recertification meetings.”*
- *“Training via the pesticide applicators classes seems to prepare licensees well.”*
- *“Pesticide License recertification classes have gotten better and better over the years. I think that the license section has done a good job listening to the various groups that they license and gear training to that particular area of interest. I also applaud the work that MDA has done MN Extension in the area.”*
- *“Truthfully, I don’t know what the MDA does other than issue lots of rules and regulations that sometimes make no sense at all.”*
- *“Bulk tank issue was great--it was awkward at first for everyone to understand but in the end it made everyone more aware and responsible.”*

How Can the MDA Better Help?

Reporters

Almost 40 percent of the 31 people who responded to “How can the MDA better help you prevent, respond to, or clean up agriculture chemical spills?” indicated that they would like more training/education, outreach and communication. Suggestions include:

- *“More information about prevention. Provide [more information] about other spills and how they were handled.”*
- *“Half-day workshop for NH3 in our area. They tend to work well.”*
- *“Internal training issues—could use more outreach materials for employees.”*
- *“More education to farmers.”*
- *“Better communication of chemical warehouse regulations.”*
- *“Maintain voluntary education programs. Advertise spill incident telephone numbers to increase awareness and speed in reporting.”*

About one-third of the survey respondents indicated that they could not think of anything that the MDA should do better to prevent, respond to or cleanup agricultural chemical spills.

- *“Nothing; they did what I felt needed to be done and did it well. Look at everything spill by spill.”*
- *“Not that I can point my finger at ... nothing in mind at this point. You have a pretty good program in place.”*
- *“Not sure what they can do better than they are doing now.”*

A few people suggested that the MDA should work on building relationships and checking in more with farmers.

- *“... I am a people-person ... having a relationship with someone you know. So then, I know if I have a question, I know who to call.”*
- *“The one inspector said I could call her if I had any questions, which was very helpful. Maybe do more of that.”*
- *“Building relationships to reduce the fear of calling in spills.”*

Non-reporters

Respondents were asked, “How can the MDA better help you prevent, respond to, or clean up agricultural chemical spills?” Fifty-two (52) people responded and provided 76 comments.

Themes from the comments are organized by frequency with examples of quotes to demonstrate the tenor of the respondents' comments.

- **No comment or unsure (17% of responses)**
- **Reduce regulatory oversight role and fines (14% of responses)**
 - *“Try to realize that the Ag industry and the MDA have to be partners in the quest to protect the environment and grow the food needed by the world. Help the retailer understand the ‘why’ behind MDA’s rules and procedures.”*
 - *“Be more proactive and truly want to help - not just fine companies and look for wrongdoing.”*
 - *“I felt you were more effective when you viewed the Department as a compliance agency and not an enforcement agency.”*
 - *“I would really like “No consequence inspections” inspections of facilities, vehicles and written procedures. I would volunteer for that. It would be great to learn about how our company could be doing better without fear of fines or the ultimate fear - shutdown the business.”*
 - *“Lessen the regulatory oversight or possibly staff with employees familiar with agriculture activities.”*
- **Provide educational materials and pamphlets (13% of responses)**
 - *“I think MDA is doing a great job with agricultural retail. Perhaps, more education for farmers would be beneficial.”*
 - *“Perhaps some pamphlets available at recertification meetings that we could put into our manual.”*
- **Adapt a customer-friendly approach (12% of responses)**
 - *“Simplify the rules, help lower the costs of compliance, and adapt a more customer friendly attitude.”*
 - *“Education is the best way to prevent spills, but if it does happen, it would be nice if they would treat you like a partner in agriculture instead of like a criminal.”*
- **Provide guidance and be a resource [at spill site, developing incident response plan, etc.] (11% of responses)**
 - *“Just work with us on education and spills - be a resource and aid not a hammer!”*
 - *“Be more hands on for guidance at the spill site.”*
 - *“Help us put a response plan together and provide annual training.”*

- **Provide more training (9% of responses)**

- *“Hold training, have mock spills and show how to respond at events farmers may be at such as county fairs, FarmFest, etc.”*
- *“It would be nice to have a short training at the Minnesota Pest Management Conference.”*

Fewer than five (5) people each provided suggestions related to the following topic areas: MDA staffing, communication, simplifying and shortening cleanup process and helping more with cleanup costs.

- *“Depending on the nature of the cleanup, it can be a very lengthy process. They should review their policies and come up with a plan to shorten the process. It is hard for businesses/individuals to dedicate and budget their time and resources over such a long period of time.”*

Recommendations

Overall, respondents were very positive about the experiences they have had with the MDA - from attending applicator recertification training to getting cleanup instructions after reporting a spill. To continue providing quality prevention and emergency response services to ag chem handlers, MAD recommends that the MDA do the following:

Increase training and maintain voluntary educational opportunities. Many respondents commented favorably about MDA's training. They indicated that training is a main source of important information from the MDA. The MDA should continue to provide high-caliber training and increase the number of opportunities for people to attend training by offering it at different venues and locations. Respondents suggested trainings on topics such as NH₃ and chemical warehouse regulations. Additionally, since some people do not believe their spills damaged the environment, there are opportunities to use these training sessions as a vehicle to continue communicating the importance of reporting all spills – regardless of size – to protect people and the environment.

Strengthen customer relations through communication and building relationships. Most respondents indicated that they prefer electronic communication, but the amount of information they are receiving electronically is similar to the amount they receive in other ways. A smaller, yet significant, group of respondents expressed value in communicating in-person and developing a relationship with the MDA. Similarly, many non-reporters said that they would like to see the MDA as more of a partner and resource versus an enforcer of rules and regulations. The MDA should continue to build relationships with ag chem handlers while increasing the ability for them to receive information and interact with the MDA electronically. Additionally, respondents that had not reported a spill most commonly cited "fear of consequences" as the main barrier to them reporting a spill. The MDA should bolster communication efforts to dispel the fear that people have in the potential consequences that follow a reported spill.

Continue to emphasize the need for an incident response plan and review the plan for simplicity and usefulness. Though not the majority, some respondents were not aware they needed an incident response plan. Other people found creating a written plan too onerous a task or have requested technical assistance to complete it. A few respondents that reported a spill said that they did not use their plan, and some non-reporters identified parts of the plan as not useful. The MDA should highlight the importance and the benefits of having an incident response plan but also review the plan for parts that could be streamlined or eliminated. The MDA should also consider creating a new method (or bolstering an existing method) for assisting customers in completing incident response plans – as some respondents reported the process as time-consuming and a lot of paperwork.

Appendix

Non-reporter Demographics

To better understand the information the non-reporter survey respondents provided, they were asked to provide information about their licensure, type of work, location and age.

- 122 (98%) of respondents said that they work with, use, supply, sell, handle, distribute or transport agricultural chemicals.
- 77 (62%) of respondents said they had a license to apply agricultural chemicals, while the remaining 47 respondents said they did not have or did not need a license to apply chemicals.
- The majority of respondents (84%) said that their work was best described as agriculture and farming. The figure below illustrates the distribution of work areas.

Figure 12: Which of the following best describes you? (n=124)

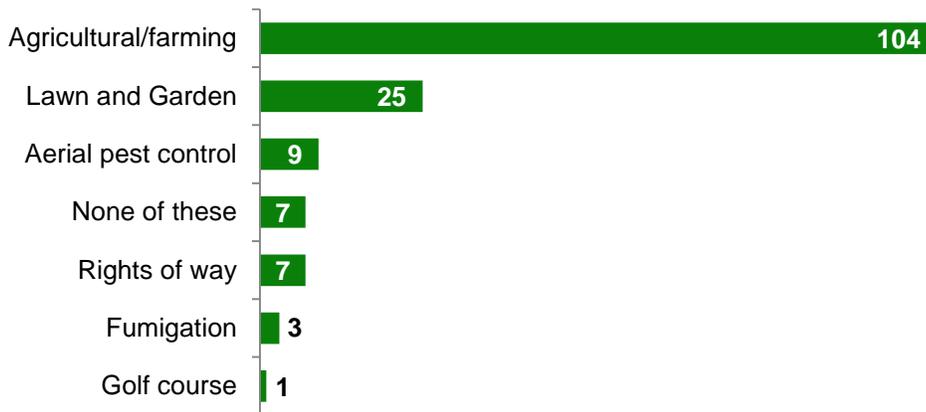
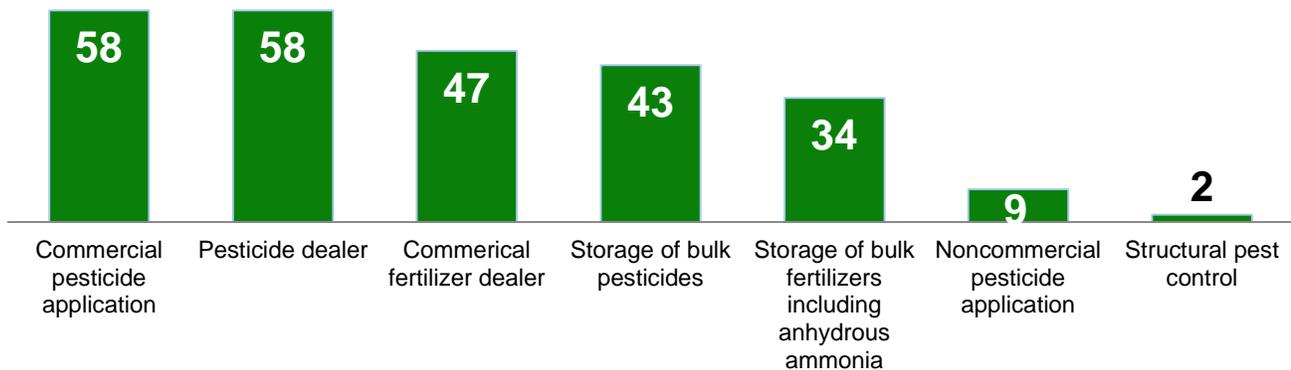


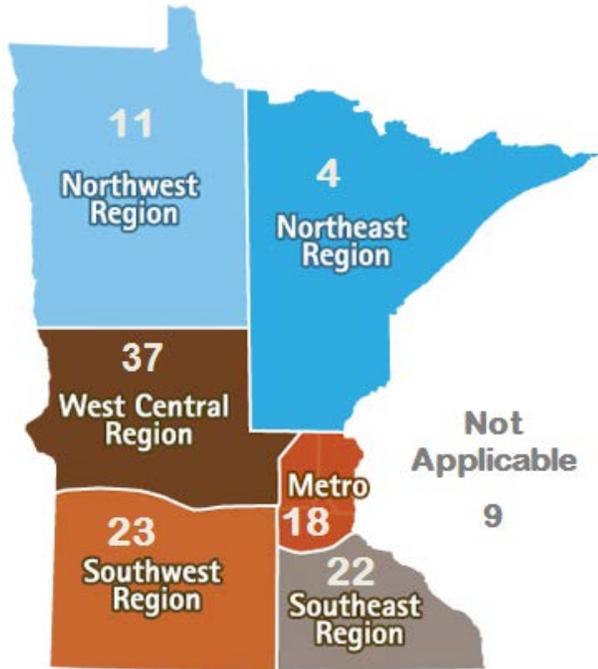
Figure 13: Which pesticide applicator license(s) do you possess? (n=77)



Of the 77 respondents that said they have a license to apply agricultural chemicals, most possess multiple licenses. Only 15 respondents said that they have a single license, nearly half of which (7) had

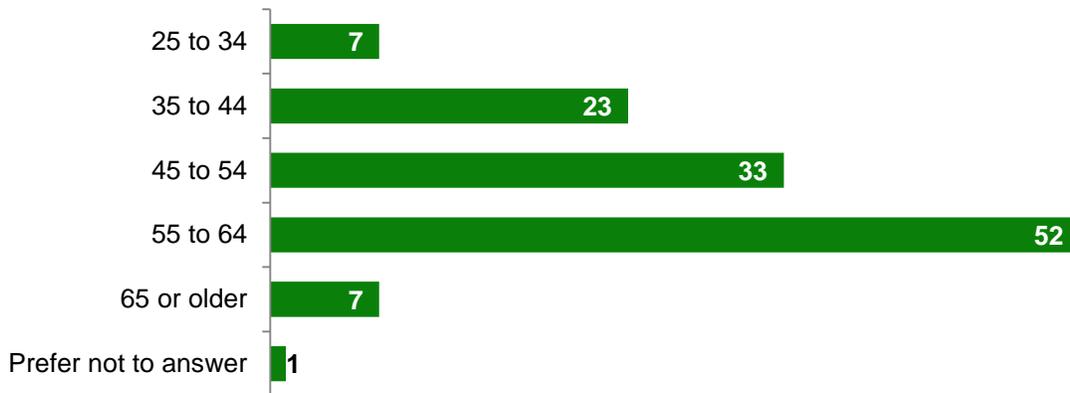
commercial pesticide application licenses. Twenty-seven (27) respondents have all five of the most common licenses. The figure above illustrates which licenses are most common.

Figure 14: Where in Minnesota do you do most of your work? (n=124)



Most respondents are from the West Central Region or southern regions of the state.

Figure 15: Which age group best describes you? (n=123)



The majority of respondents are between the ages of 45 and 64 years.