



GEORGE MORRIS CENTRE

*Canada's Independent Agri-Food Think Tank*

## Canadian Agri-Food Health and Safety Education Gaps and Needs Assessment

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## **1.0 Introduction and Background**

The Canadian Agricultural Safety Association (CASA) provides funding through the Canadian Agricultural Safety and Health Program with the objective of helping organizations deliver agricultural health and safety initiatives<sup>1</sup>.

CASA's intention is to fund projects that will create improvement with respect to health and safety on the farm. Therefore, in order to allocate the funds more effectively and efficiently, it would be beneficial for CASA to understand the extent of health and safety education that currently exists in the Canadian agriculture and agri-food education programs and where and how it is being offered.

### **1.1 Purpose and Objectives**

The purpose of this project is to provide the Canadian Agricultural Safety Association with an understanding of the health and safety curriculum provided throughout Canadian agricultural education.

The objectives of this project are:

- To develop a database of agricultural training and education programs that provide some form of on-farm health and safety training.
- To describe the health and safety training that exists.
- To assess the level of health and safety training that exists.

### **1.2 Procedures and Methods**

The following section provides an overview of the research and analysis that was conducted by the George Morris Centre team to complete this project. It outlines the methods, procedures and work that were completed.

#### **Phase 1: Data Collection**

The first step in Phase 1 was to identify all of the agriculture and agri-business education programs that are currently being offered across the country. This includes all university degree programs, college diploma programs and privately provided programs.

In 2005, the George Morris Centre completed a study titled "*Environmental Scan and Literature Search of Agricultural Human Resource Issues*" for the Steering Committee for the Investigation of an Agricultural Sector Council for Human Resources Issues. As part of this study the George Morris Centre created a database of all college and privately provided agricultural education programs across Canada. This was a starting point and the research team added the University degree programs to this list and updated the database based on the search criteria for programs (see Section 2.0).

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<sup>1</sup> 'CASA Funds 21 Farm Safety and Health Projects.' Media Release. September 9, 2005.

<http://www.casa-acsa.ca/english/CASHP2004resultsmediareleasefinal.pdf>

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Once the programs were identified, the curriculum was examined to determine if health and safety education is provided. If it is provided a description of the curriculum and the types of health and safety training is included in the database.

## **Phase 2: Analysis**

Once the database of health and safety curriculum was complete the research team analyzed the availability of these programs, including but not limited to:

- The curriculum that is being taught/provided
- The types of programs in which it is offered
- The location of the programs



## **2.0 Current On-Farm Health and Safety Training**

The purpose of this study was to develop an understanding of the availability and basic content of health and safety training in Canadian agricultural education programs. A comprehensive review of the existing programs across Canada was conducted to provide the groundwork for an analysis of the needs of the Canadian agricultural industry with respect to farm safety training.

The industry, government, associations and educational institutions have developed and/or offer a number of education programs that develop basic skills in order to enter the agricultural industry and provide continuing education for those already a part of the industry. The objective of this study is to determine the amount of health and safety training available in these programs.

Aside from health and safety training, the search extended to human resources management curriculum because, as noted by the Canadian Federation of Agriculture (see Appendix 1), attitudes about farm safety can be shaped by management as much as by labour, and management must be responsible, accountable and ultimately liable for the safety of workers<sup>2</sup>. Therefore, the connection is that if human resources training has been taken then farm managers or agribusiness professionals are aware of the importance of employee orientation and their responsibilities with respect to health and safety.

A set of criteria was then devised to determine which courses and programs to include in the database. The following are the criteria that were used:

- Programs that would be taken by those planning a career in agriculture and agribusiness that would lead them to spend the majority of their time on the farm (for example not agricultural research or veterinary medicine)
- Mandate of the organization offering the program
- Teaching of concepts vs. technical information (or 'recipes')
- Programs that are generally available to the industry
- Programs with curriculum vs. conferences

The search was conducted as follows. First, programs included from universities and colleges are those in which graduates' potential careers would lead them to the farm, greenhouse, or aquaculture facility; or where graduates would spend a large amount of their time, e.g. agribusiness professionals, since this is where the farm safety and health training is required. Similarly, the private programs and continuing education programs included in the database are those targeted to farming individuals and agribusiness professionals.

Second, programs were chosen only from those organizations whose mandate is to educate and/or inform the industry. Therefore, this does not include private companies who may hold workshops or programs so that producers can learn to use their products. For example, GENCOR in Ontario offers its customers workshops and training to be educated in the latest trends and techniques so that they can better use GENCOR's products. The workshops that GENCOR holds are also available only to its members/customers; therefore, these workshops are not generally available to anyone, which is another criterion for program selection.

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<sup>2</sup> Canadian Federation of Agriculture. 2006. Fact Sheet #1: Farm Safety is About Human Resource Management. [http://www.cfa-fca.ca/upload/CASW2006\\_bulletin1.pdf](http://www.cfa-fca.ca/upload/CASW2006_bulletin1.pdf)



Courses that teach concepts in production management and business management were included in the database, whereas courses that focused on technical aspects and ‘instructions’ for the use of a specific product such as pesticide application licensing courses or nutrient management planning were not included. Note, however that courses that cover the safe use and handling of pesticides within a larger program are covered.

Industry, government, associations and learning institutions all hold conferences covering a variety of issues within the agricultural stream. Conference agendas change from year to year depending on the topic of the day and usually include more than one issue. Although conferences are a means of education and discussion, they were not included in the database as they do not usually include a curriculum in which participants must follow. Curriculum-based workshops and programs ensure that participants are provided with certain skills and knowledge.

Appendices 2, 3 and 4 list the agricultural educational programs that fit the criteria available to the industry, by the institution that provides the program; college, university and non-college/university respectively. A more complete description of each program, including topics covered in the curriculum, the health and safety training provided, and contact information can be found in the accompanying database (Microsoft Excel).

## **2.1 Level of Health and Safety Curriculum in Canadian Agri-Food**

### **2.1.1 College Programs**

The table provided in Appendix 2 lists the educational programs that are offered at the College level and shows whether these programs provide overall general health and safety curriculum in the program. The Table shows a breakdown of the types of health and safety training and how it is provided to students, whether it is provided in a course dedicated to health and safety or whether it is integrated into the curriculum in courses within the program. With respect to the types of training offered, other than general occupational health and safety, the table shows whether the training includes first aid and pesticide/chemical training (this category also includes any WHMIS training that may be offered). The table also tabulates whether human resources management is covered in the program.

Appendix 2 shows that, overall, 118 college programs<sup>3</sup> meeting the criteria laid out above are offered across the country. This includes production-type programs in livestock, crop, horticulture, and aquaculture, farm business and agri-business management programs, and continuing education programs/courses. With respect to continuing education, not all of the courses are listed in the database; instead a description of some of the types of courses available at the various colleges offering them was included and they are bundled as one program.

Table 2.1 shows the level of health and safety training provided in these college programs tabulated from Appendix 2.

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<sup>3</sup> A college program constitutes a degree major, diploma major or certificate major e.g. BSc.Agr – Animal Science or BA. – Agricultural Economics, Associate Diploma in Horticulture or Pork Production Manager Certificate.





**Table 2.1: Health and Safety Training Available in College Programs**

	Total #	Total %
Number of Programs Offered	118	100.0%
Safety Training Offered	82	69.5%
• Offers a Dedicated Health and Safety Course	55	46.6%
• Health and Safety Integrated in Curriculum	57	48.3%
• First Aid Training	30	25.4%
• Pesticide/Chemical Training (incl. WHMIS)	61	51.7%
Human Resources Management Offered	34	28.8%

### 2.1.2 University Programs

The table provided in Appendix 3 lists the educational programs that we have included in the database that are offered at the university level and shows whether these programs provide overall general health and safety curriculum in the program. The Table shows a breakdown of the types of health and safety training and how it is provided to students, whether it is provided in a course dedicated to health and safety or whether it is integrated into the curriculum. With respect to the types of training offered, other than general occupational health and safety, the table shows whether the training includes first aid and pesticide training (this category also includes WHMIS training). The table also tabulates whether human resources management is covered in the program.

Appendix 3 shows that overall, 62 University programs<sup>4</sup> in agricultural education are offered across the country (programs that met our criteria). This includes production-type programs in livestock, crop, horticulture, and aquaculture, farm business and agri-business management programs, and continuing education programs/courses. With respect to continuing education, not all of the courses are listed in the database; instead a description of some of the types of courses available at the various Universities offering them was included.

Table 2.2 shows the level of health and safety training provided in these University programs tabulated from Appendix 3.

**Table 2.2: Health and Safety Training Available in University Programs**

	Total #	Total %
Number of Programs Offered	62	100.0%
Safety Training Offered	18	29.0%
• Offers a Dedicated Health and Safety Course	5	8.1%
• Health and Safety Integrated in Curriculum	13	20.9%
• First Aid Training	4	6.4%
• Pesticide/Chemical Training (incl. WHMIS)	10	16.1%
Human Resources Management Offered	11	17.7%

### 2.1.3 Private and Government Led Courses

<sup>4</sup> A university program constitutes a degree major or certificate major e.g. BSc.Agr – Animal Science or BA. – Agricultural Economics or a Livestock Production Certificate.



Appendix 4 lists the educational courses that we have included in the database that are offered through private institutions or through government ministries and shows whether these courses provide overall general health and safety curriculum. The Table shows a breakdown of the types of health and safety training and how it is provided to students, whether it is provided in a course dedicated to health and safety or whether it is integrated into the curriculum. With respect to the types of training offered, other than general occupational health and safety, the table shows whether the training includes first aid and pesticide/chemical training (this category also includes WHMIS training). The table also tabulates whether human resources management is covered in the program.

Appendix 4 shows that overall, 25 courses in agricultural education are offered through government ministries and private institutions (programs that met our criteria). This includes production-type programs in livestock, crop, horticulture, and aquaculture, farm business and agri-business management programs, and continuing education programs/courses.

Table 2.3 shows the level of health and safety training provided in these Private/Government programs tabulated from Appendix 4.

**Table 2.3: Health and Safety Training Available in Private/Government Programs**

	Total #	Total %
Number of Programs Offered	25	100.0%
Health and Safety Training Offered	10	40.0%
• Offers a Dedicated Health and Safety Course	4	16.0%
• Health and Safety Integrated in Curriculum	6	24.0%
• First Aid Training	6	24.0%
• Pesticide/Chemical Training (incl. WHMIS)	5	20.0%
Human Resources Management Offered	12	48.0%

## **2.2 Analysis of Health and Safety Curriculum Availability**

The following section describes and analyses the health and safety training provided in programs in our database. First, we start by looking at where the health and safety and human resources curriculum is provided and then describe the curriculum being provided.

### **2.2.1 Availability of Agricultural Health and Safety Training**

As shown in Tables 2.1, 2.2 and 2.3 above, health and safety training in agriculture is available at all post-secondary levels and from private institutions. However, college-level programs offer the majority of the health and safety training at 69.5% of the total programs offered, compared to 29.0% of programs offered through Canadian universities and 40.0% of private/government programs.

It is reasonable to expect this outcome, as the college-level programs are geared more toward on-farm/greenhouse management careers, whereas the university programs seem more geared toward agribusiness professionals and may involve less ‘hands-on’ training than the college programs. It should be noted that in Appendix 2, there are five Bachelor of Science degrees in agriculture offered at the Nova Scotia Agriculture College’s (NSAC). These are in fact offered in conjunction with Dalhousie University in Halifax; however they are included under NSAC because the majority of teaching occurs at NSAC. In these degree programs students are not



required to take any health and safety curriculum. Therefore, if these programs were situated in Appendix 3 with the University programs, then the proportion of college-level programs offering health and safety training would be even greater, while the proportion of University-level programs offering health and safety training would be even less.

Similarly, a larger proportion of the college-led programs, 28.8% compared to 17.7% university-led programs, offer human resources training.

It also seems reasonable to expect that the programs offered through private institutions and the government would also offer fewer programs with health and safety training. The majority of these programs are targeted to those already in the industry as continuing education programs and are focused courses, including topics in leadership and farm business management. It is not surprising that 48% of the programs offered include a human resources management component.

Health and safety training provided at a continuing education level is primarily provided through various provincial farm safety associations such as the Farm and Ranch Safety and Health Association, Ontario's Farm Safety Association Inc., and the PEI Federation of Agriculture, see Appendix 4. Each of these organizations provides courses dedicated to farm health and safety training, whereas the only other private or public institution to offer a dedicated health and safety training course is the Collectif Formation Agricole in Quebec.

Taking a scan across the country to determine where the health and safety curriculum is being offered provides no real conclusion on the courses provided through colleges as health and safety curriculum is offered fairly evenly across the country. However, in the programs offered through universities, as shown in Appendix 3, we observed that there are only a few universities that offer health and safety training. Both the University of Alberta and Memorial University's Marine Institute integrate health and safety curriculum into all of the programs offered that met our criteria. Laval University also requires that students take a one-day session on farm safety prior to beginning their on-farm internships in each of its Bachelor of Science in Agriculture degrees included in the database and in Appendix 3.

### 2.2.2 Health and Safety Curriculum

This section of the report describes the curriculum contained in the health and safety training available. The discussion of the curriculum contained in the health and safety training is divided into those programs that have dedicated courses relating to health and safety and those programs that have integrated health and safety curriculum into other courses that students are required to take.

#### *Dedicated Occupational Health and Safety Courses*

Appendix 5 lists the programs that offer health and safety training through a dedicated course. It's easy to see that programs delivered at colleges provide the majority of dedicated health and safety courses, as noted above.

No obvious gaps are present in the curriculum being provided, but certain training topics are more commonly provided than others. For example, common topics included in these courses include the safe operation and handling of equipment, maintenance of equipment, operating procedures and protocols, WHMIS training, first aid training and hazard and risk analysis.



Less common topics included in these dedicated courses include the legislative and regulatory health and safety requirements for employers and health and safety management priorities. This curriculum may also be provided in human resources management training. However, the degree of analysis conducted for this study limits what can be said regarding the curriculum within a human resources management training course. Again, these courses were included in this study since the mindset is, if a person has taken a human resources management course then it is hoped that there would be some responsibility taken for safe work practices and employee orientation and training. Also, as noted in Appendix 1, it is management, not labour, that shapes the workplace attitude toward safety.

### *Integrated Curriculum*

Similar to the dedicated courses, a scan reveals no apparent gaps in the curriculum but also shows that certain training topics are covered more commonly than others. The safe use and maintenance of equipment is heavily covered in the curriculum, mostly through hands-on training in laboratory or on-farm settings. Pesticide training, WHMIS, safely handling livestock and first aid training is also commonly provided. Again, less commonly described in the course curriculums is legislative and regulatory responsibilities and employee responsibilities. However, this may be covered in the human resources management training.

It is difficult to compare the level of comprehensiveness of the curriculum provided through a dedicated course compared to those that integrate health and safety into other courses. However, it would seem that the more exposure to health and safety training, the more prepared and aware students would be, and therefore those programs that have a dedicated course and provide integrated training may be the most beneficial in this regard.



### 3.0 Summary and Conclusions

The purpose of this study was to develop an understanding of the availability and basic content of health and safety training in Canadian agricultural education programs. A comprehensive review of the existing programs across Canada was conducted to provide the groundwork for an analysis of the needs of the Canadian agricultural industry with respect to farm safety training.

A database of agricultural educational programs was created. This database included programs that would be taken by those planning a career in agriculture and agribusiness that would lead them to spend a certain amount of time on the farm; therefore programs such as veterinary medicine were not included. In total, 118 college, 62 university, and 25 private and government provided programs met our criteria and were included in the database. This database allows CASA to see where the programs are being offered and therefore which institutions are also lacking health and safety training.

Aside from health and safety training, we also searched for human resources management curriculum because as noted by the Canadian Federation of Agriculture attitudes about farm safety can be shaped by management as much as by labour and management must be responsible, accountable and ultimately liable for the safety of workers<sup>5</sup>. Therefore, the connection is that if human resources training has been taken, then farm managers or agribusiness professionals should be aware of the importance of employee orientation and their responsibilities with respect to health and safety. Table 3.1 below summarizes our findings.

**Table 3.1: Health and Safety Training Available in Agricultural Education Programs**

	College # (% of total programs)	University # (% of total programs)	Private/ Government # (% of total programs)
Total Number of Courses Offered	118 (100%)	62 (100%)	25 (100%)
Health and Safety Training Offered	82 (69.5%)	18 (29.0%)	10 (40.0%)
• Offers a Dedicated Health and Safety Course	55 (46.6%)	5 (8.1%)	4 (16.0%)
• Health and Safety Integrated in Curriculum	57 (48.3%)	13 (20.9%)	6 (24.0%)
• Offers both a Dedicated H&S Course and H&S Integrated in Curriculum	30 (25.4%)	0 (0.0%)	0 (0.0%)
• First Aid Training	30 (25.4%)	4 (6.4%)	6 (24.0%)
• Pesticide/Chemical Training (incl. WHMIS)	61 (51.7%)	10 (16.1%)	5 (20.0%)
Human Resources Management Offered	34 (28.8 %)	11 (17.7%)	12 (48.0%)

Significant findings from the analysis revealed:

The majority of health and safety training is offered in the college programs and this may be because college programs tend to be more hands-on than university-level programs. Of the college programs that provide health and safety training, 30% (25 out of 82) provide it solely through dedicated courses, 33% (27 out of 82) integrate it into other curriculum and 37% (30 out of 82) provide both a dedicated course and integrate it into other curriculum as well<sup>6</sup>. With

<sup>5</sup> Canadian Federation of Agriculture. 2006. Fact Sheet #1: Farm Safety is About Human Resource Management. [http://www.cfa-fca.ca/upload/CASW2006\\_bulletin1.pdf](http://www.cfa-fca.ca/upload/CASW2006_bulletin1.pdf)

<sup>6</sup> Appendix 6 provides this breakdown in a Venn diagram for a pictorial description.



respect to health and safety curriculum provided through non college and university programs, other than the courses offered through farm safety associations, not a lot exists. On the other hand, these privately-led courses are essentially continuing education courses for those already in the industry and focus more on business management, including human resources management.

In conversation with Directors of some of programs included in the database that currently do not offer formal health and safety training, it was noted that this topic would be pending review the next time the program curriculum was reviewed. It was noted that farm health and safety was becoming a larger issue as farm operations increase in size and the number of employees increase in size as a result, as technologies change rapidly and as farm operations face more and more regulation. Therefore, as programs update curriculum to adapt to the needs of the industry this analysis will also require updating.

There are no obvious gaps in the curriculum being covered in health and safety training across Canada. Of course some programs offer more in-depth courses than others. The topics most commonly covered in health and safety training include the practical, hands-on skills including maintenance and proper handling, as well as the 'reactive' skills such as first aid, CPR, and emergency response management. However, this analysis does not determine if there is enough training to meet the needs of the industry, this would require further investigation into how to measure the need.

Topics less commonly covered include learning the management skills such as legislative and regulatory responsibilities of farm employers and employees. These less commonly offered topics are essentially the 'management' skills for farm health and safety. The legislation and regulation that affects management responsibilities is always changing, therefore there is an opportunity to provide this type of training at the continuing education level so that the curriculum can be easily updated and so that the industry can easily update these skills as needed as well.



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## **4.0 Schedules or Appendices**



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## Appendix 1: Farm Safety is About Human Resource Management

# FACT SHEET #1

## THE CANADIAN FEDERATION OF AGRICULTURE

1101-75 Albert Street, Ottawa, Ontario K1P 5E7

Tel: (613) 236-3633 Fax: (613) 236-5749 farmsafety@cfafca.ca

## Farm Safety is About Human Resource Management

How a farm manager views human resources directly affects human resource management.

Human resources have a dual role in risk management. People can be a source of risk when they do things carelessly; and they are also the most important part of the strategy for dealing with risk.

“*Farm safety is MY business.*” is the theme of this year’s Canadian Agricultural Safety Week (CASW) campaign, March 8-14, 2006. The campaign emphasizes the personal and professional responsibilities of farm managers for their own safety as well as their workers. The risk management theme gives a special focus on youth aged 15 to 29 who make up a significant portion of new farm workers. CASW is delivered by the Canadian Federation of Agriculture (CFA) and Canadian Agricultural Safety Association (CASA) in partnership with Farm Credit Canada (FCC) and Agriculture and Agri-Food Canada (AAFC).

The dynamics of risk management on Canadian farms is changing. In days gone by, the farmer and his family did most of the farm labour. In more recent years, as farms have gotten larger, more inexperienced farm labour is being hired creating a greater need for more formalized and structured strategies on farm safety training and expectations. For example, a young worker who was raised on a farm will know more about farm safety than a non-farming youth who is looking for a summer job on a farm. The non-farming youth will need specific safety training.

"Agriculture in Canada today is an advanced, highly complex and technological industry, just like any other. That means farmers must approach employee orientation and training just like they do in any other industry," said Bob Friesen, CFA President. "You wouldn't put an inexperienced young person on an auto assembly line without safety training. Why would you do it on a farm or ranch?"

The bottom line is that management, not labour, shapes the workplace attitude towards safety. Therefore it is management that must be responsible, accountable, and ultimately liable for the safety of workers.

“One of the most powerful farm safety tools is leading by example,” says Friesen. “If you always use safe practices in your work, it shows your workers that this is how you expect them to do the job too and that shortcuts on safety are not acceptable.”



Another important factor in workplace safety is the worker's attitude towards safety. 'I didn't think it could happen to me' is a tragic understatement of responsibility. Again, management can set the standard of expectations with regard to safety by including it in: the job description, hiring process, orientation and training for the job, regular performance appraisal, compensation, and in disciplinary actions as necessary.

Keeping safety top of mind in the workplace is an on-going process. An excellent practice is to discuss various farm hazards and what can be done to prevent them, or alternatively what can be done to correct them – and then do it.

And finally, if a farm-related incident does occur, make sure all workers and family members know how to contact emergency services with detailed directions to the farm, are trained first aid, and have a first aid kit, fire extinguisher and personal protective equipment handy. When an incident occurs, every minute counts.

The CFA along with FCC, CASA, and AAFC want to remind Canadian farmers that "*Farm safety is MY business*" means that you are responsible for your safety and that of your workers.

**For more information call:**

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To download a copy of this article visit web sites [www.cfa-fca.ca](http://www.cfa-fca.ca) or [www.casa-acsa.ca](http://www.casa-acsa.ca)



**Appendix 2: College Agricultural Education Programs Offered and the Health and Safety Training Available**

<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
<b>University College of the Fraser Valley</b>	Livestock Production Certificate	DEDICATED COURSE*	✓	✓	
	Horticulture Crop Production Certificate	DEDICATED COURSE	✓	✓	
	Integrated Pest Management Certificate	DEDICATED COURSE	✓	✓	
	Agricultural Technology Diploma - Livestock Production			✓	
	Agricultural Technology Diploma - Horticulture Crop Production and Protection			✓	
	Milker Training Certificate	DEDICATED COURSE	✓	✓	
<b>Kwantlen University College</b>	Horticulture Technician Certificate	INTEGRATED**		✓	
	Horticulture Technology Diploma with a specialization in Greenhouse and Nursery Production	INTEGRATED		✓	
	Horticulture Apprenticeship Program	DEDICATED COURSE & INTEGRATED	✓		✓
<b>Okanagan College</b>	Viticulture Certificate	DEDICATED COURSE		✓	✓
	Horticulture Certificate				
	Horticulture Pre-Apprenticeship Program	DEDICATED COURSE	✓	✓	
	Pest Management and Pesticide Applicator Continuing Education Course			✓	
<b>Thompson Rivers University</b>	General Horticulture Citation Program - Continuing Education				
	Pest Management and Pesticide Applicator Certificate - Conitnuing Education			✓	
<b>Camosun College</b>	Horticulture Technician Certificate	INTEGRATED		✓	
<b>Malaspina University College</b>	Horticultural Technician Certificate	INTEGRATED	✓	✓	
	Sustainable Greenhouse Management - Continuing Education Program	INTEGRATED	✓	✓	
	Fisheries and Aquaculture Technology Diploma	DEDICATED COURSE	✓		



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
	Bachelor of Science in Fisheries and Aquaculture	DEDICATED COURSE	✓		
<b>North Island College</b>	Salmon Farm Technician	DEDICATED COURSE	✓	✓	
	Greenhouse Management Certificate - Continuing Education				✓
<b>Vancouver Community College</b>	Introductory Beekeeping - Continuing Education				
<b>Olds College</b>	Agriculture Business Diploma				✓
	Equine Science - Business Management	INTEGRATED			✓
	Equine Science - Production and Breeding Management	INTEGRATED			✓
	Equine Science - Horsemanship	INTEGRATED			✓
	Continuing Education Courses			✓	
	Agricultural Production and Management Diploma - Farm and Ranch Major	INTEGRATED		✓	
	Agricultural Production and Management Diploma - Livestock Major (Beef or Swine)	INTEGRATED		✓	
	Agricultural Production and Management Diploma - Field and Forage Crop Major	INTEGRATED		✓	
	BASc. Agribusiness				
	BASc. Production Horticulture	INTEGRATED		✓	✓
	Production Horticulture Diploma	INTEGRATED		✓	
	Ornamental Horticulture Diploma	INTEGRATED		✓	
	Competitive Advantage for Agriculture Program				
	<b>Lakeland College</b>	Agribusiness Diploma - Ag-Finance Major			
	Agribusiness Diploma - Crops Major				✓
	Agribusiness Diploma - Livestock Major				✓
	Livestock Production - Beef Major	DEDICATED COURSE & INTEGRATED		✓	
				✓	



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
		INTEGRATED			
	Animal Science Technology Diploma - Beef Major	DEDICATED COURSE & INTEGRATED		✓	
	Animal Science Technology Diploma - Dairy Major	DEDICATED COURSE & INTEGRATED		✓	
	Dairy Production Certificate of Achievement	DEDICATED COURSE & INTEGRATED		✓	
	Crop Technology Diploma - Forage and Range Management Major	DEDICATED COURSE & INTEGRATED		✓	
	Crop Technology Diploma - Production Crop Advisor Management	DEDICATED COURSE & INTEGRATED		✓	
	Certificate of General Agriculture	DEDICATED COURSE & INTEGRATED		✓	
	Agro-Environmental Technology	DEDICATED COURSE & INTEGRATED		✓	
	Ranch and Feedlot Rider Certificate	DEDICATED COURSE & INTEGRATED		✓	
	Farm Tool Box Series' Continuing Education courses				
<b>Lethbridge Community College</b>	Diploma in Agriculture Technology - Animal Science Major	DEDICATED COURSE & INTEGRATED	✓	✓	
	Diploma in Agriculture Technology - Plant and Soil Science Major	DEDICATED COURSE & INTEGRATED	✓	✓	
<b>Medicine Hat College</b>	Horticultural Technician Certificate Program	INTEGRATED	✓	✓	✓
<b>Northern Alberta Institute of Technology</b>	Horticultural Technician Certificate Program				
<b>Southeast Regional College</b>	Agricultural Seminars	INTEGRATED	✓		
<b>Saskatchewan Institute of Applied Science and Technology</b>	Beef Cattle Production Certificate	INTEGRATED			
	Custom Harvester Apprenticeship	DEDICATED COURSE			
	Pork Production Technician Apprenticeship	INTEGRATED			
	Pesticide Training and Certification			✓	
<b>Parkland Regional College</b>	Agriculture Continuing Education Courses			✓	



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
<b>Assiniboine College, University of Manitoba and Manitoba Pork Council</b>	Pork Production Manager – Certificate	DEDICATED COURSE & INTEGRATED			
	Pork Production Technician - Apprenticeship	DEDICATED COURSE	✓	✓	
	Organic Agriculture Certificate		✓		
	2-year diploma in Agribusiness	DEDICATED COURSE	✓	✓	
	Agriculture Studies - Certificate	DEDICATED COURSE	✓	✓	
<b>Assiniboine College</b>	Land and Water Management Diploma	INTEGRATED	✓		
	Pesticide Certification Training Course			✓	
<b>Kemptville College</b>	Dairy Herdsperson Apprenticeship Program	DEDICATED COURSE & INTEGRATED			
	Associate Diploma in Agriculture	DEDICATED COURSE & INTEGRATED		✓	✓
	Associate Diploma in Agriculture - Equine Option	DEDICATED COURSE & INTEGRATED		✓	✓
	Equine Management Certificate Program				
	Co-op Apprenticeship Program for Agricultural and Heavy Equipment Technicians	DEDICATED COURSE & INTEGRATED			
	Associate Diploma in Horticulture	DEDICATED COURSE & INTEGRATED	✓	✓	✓
<b>Ridgetown College</b>	Bachelor of Bio Resource Management - Environmental Management	DEDICATED COURSE		✓	✓
	Bachelor of Bio Resource Management - Horticultural Management				✓
	2-year Agriculture Diploma - Agri-Business Major	DEDICATED COURSE & INTEGRATED			✓
	2-year Agriculture Diploma - Crops Major	DEDICATED COURSE & INTEGRATED			✓
	2-year Agriculture Diploma - Livestock Major	DEDICATED COURSE & INTEGRATED			✓
	2-year Horticulture Diploma	INTEGRATED	✓	✓	



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
	Environmental Management Diploma	DEDICATED COURSE		✓	✓
	Excellence In' Series of Continuing Education Workshops				
	Ontario Pesticide Education Program			✓	
	Ontario Pesticide Training and Certification			✓	
<b>Fanshawe College</b>	Co-operative Horticulture Technician Diploma	DEDICATED COURSE & INTEGRATED	✓	✓	
<b>Niagara College</b>	Winery and Viticulture Technician	INTEGRATED			✓
	Greenhouse Technician Co-op	INTEGRATED		✓	✓
	Horticultural Technician Co-op	INTEGRATED		✓	✓
	Horticultural Technician Apprenticeship	INTEGRATED		✓	✓
<b>Algonquin College</b>	Horticulture Technician Diploma				
<b>Humber College</b>	Horticulture Technician Apprentice	DEDICATED COURSE		✓	
<b>Fleming College</b>	Horticulture Technician Apprentice	DEDICATED COURSE & INTEGRATED			
<b>Mohawk College of Applied Arts and Technology</b>	Horticulture Plant Identification				
<b>Lambton College</b>	Ontario Horticultural Apprenticeship	DEDICATED COURSE			
	Horticulture Technician Diploma	DEDICATED COURSE			
<b>Alfred College</b>	Diploma in Agriculture	INTEGRATED	✓		
<b>CEGEP</b>	Management and operation of a farm business	DEDICATED COURSE & INTEGRATED		✓	
	Animal production technology	INTEGRATED			✓
	Horticulture and environment technology	DEDICATED COURSE			✓
<b>New Brunswick Community College</b>	Agri-Business Certificate	DEDICATED COURSE & INTEGRATED	✓		✓
	Aquaculture Technician Certificate	DEDICATED COURSE			
<b>Nova Scotia Agriculture</b>	Animal Science Technician Diploma	DEDICATED COURSE			



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
<b>College</b>	Agricultural Business Technician Diploma	DEDICATED COURSE			
	Diploma of Technology: Farming	DEDICATED COURSE			
	Diploma of Technology: Environmental Horticulture				✓
	Diploma of Technology: Agriculture	DEDICATED COURSE			
	Diploma of Technology: Plant Science	DEDICATED COURSE			✓
	Certificate of Specialization in Organic Agriculture				
	Bachelor of Science (Agr) - Agricultural Business				
	Bachelor of Science (Agr) - Agricultural Economics				✓
	Bachelor of Science (Agr) - Aquaculture				
	Bachelor of Science (Agr) - Animal Science				
	Bachelor of Science (Agr) - Plant Science				
	Diploma in Enterprise Management - Dairy Farming Major	DEDICATED COURSE & INTEGRATED	✓	✓	✓
	Diploma in Enterprise Management - Equine Program Major	DEDICATED COURSE & INTEGRATED	✓	✓	✓
	Diploma in Enterprise Management - Farming Program Major	DEDICATED COURSE & INTEGRATED	✓	✓	✓
<b>Nova Scotia Community College</b>	Certificate in Practical Horticulture	DEDICATED COURSE & INTEGRATED	✓		
	Horticulture - Grower Diploma			✓	
	Aquaculture Certificate	INTEGRATED	✓	✓	

\*Dedicated Course indicates that the program includes a course solely focused on health and safety

\*\*Integrated indicates that health and safety curriculum is integrated into courses provided in the program.



**Appendix 3: University-level Agricultural Education Programs Offered and the Health and Safety Training Available**

<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
<b>University of British Columbia</b>	BSc. Agronomy: General Agroecology				
	BSc. Agronomy: Animal Studies				
	BSc. Agronomy: Horticulture			✓	
	BSc. Agronomy: Resource Economics				
<b>University of Alberta</b>	BSc. Agriculture: Agricultural and Resource Economics	INTEGRATED		✓	
	BSc. Agriculture: Agricultural/Food Business Management	INTEGRATED		✓	
	BSc. Agriculture: Animal Science	INTEGRATED		✓	
	BSc. Agriculture: Crop Science	INTEGRATED		✓	
<b>University of Lethbridge</b>	BA Agricultural Studies				
	BSc. Agricultural Studies				
<b>University of Saskatchewan</b>	Diploma in Agriculture – Animal Science Major				✓
	Diploma in Agriculture – Agribusiness Major				✓
	Diploma in Agriculture – Agronomy Major				✓
	Diploma in Agriculture - General Studies Major				✓
	BSc. Agriculture: Agricultural Economics				✓
	BSc. Agriculture: Animal Science				
	BSc. Agriculture: Agribusiness				
	BSc. Agriculture: Plant Science				
	Certificate in Agriculture Program (CAP) - Crop Production Major				
	Certificate in Agriculture Program (CAP) - Farm Business Management Major				✓
	<b>University of Manitoba</b>	2-year Diploma in Agriculture - Business Management Major	INTEGRATED		
2-year Diploma in Agriculture - Crop Management Major		INTEGRATED			
2-year Diploma in Agriculture - Livestock Management Major		INTEGRATED			



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
	2-year Diploma in Agriculture - General	INTEGRATED			
	2-year Diploma in Agriculture - Agricultural Finance	INTEGRATED			
	Organic Production on the Prairies				
	BSc. Agriculture: Plant Biotechnology				
	BSc. Agriculture: Agronomy				
	BSc. Agriculture: Animal Systems				
	BSc. Agribusiness: Agribusiness				
	BSc. Agribusiness: International Agribusiness				
	BSc. Agribusiness: Agricultural Economics				
	BSc. Agroecology				
<b>U of Manitoba, Assiniboine Community College, U of Saskatchewan &amp; Olds College</b>	Prairie Horticulture Certificate			✓	
<b>Brock University</b>	Grape and Wine Technology Certificate				
	BA: Agricultural Economics				
	BSc. Agriculture: Honours Agricultural Science				
	BSc. Agriculture: Horticultural Science				
	BSc. Agriculture: Agronomy				
	BSc. Agriculture: Organic Agriculture				
	BSc. Agriculture: Animal Science				
	BSc. Agriculture: Agricultural Economics				
<b>University of Guelph</b>	BSc. Agriculture: Agroecosystem Management				
<b>Laval University</b>	Certificate in dairy and beef production – Con. Ed.				✓
	Certificate in horticulture - Con. Ed.			✓	✓
	Organic Agriculture - Con. Ed.				
	BSc. Agriculture: Agricultural Economics	DEDICATED COURSE			✓
	BSc. Agriculture: Animal Sciences, Agronomy	DEDICATED COURSE		✓	
	BSc. Agriculture: Plant Sciences, Agronomy	DEDICATED COURSE		✓	



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
	BSc. Agriculture: Soil Sciences, Agronomy	DEDICATED COURSE		✓	
<b>McGill University</b>	Farm Management and Technology Diploma	DEDICATED COURSE			✓
	BSc. (AgEnvSci): Agricultural Economics				
	BSc. (AgEnvSci): Agricultural Science				
	BSc. (AgEnvSci): Animal Science				
	BSc. (AgEnvSci): Plant Science				
	Ecological Agriculture Certificate				
	Certificate in Entrepreneurship				
	Continuing Professional Development Programs				
<b>Memorial University - Marine Institute</b>	General Aquaculture Technical Certificate	INTEGRATED	✓		
	Finfish Production Technical Certificate	INTEGRATED	✓		
	Cod Production Technical Certificate	INTEGRATED	✓		
	Shellfish Production Technical Certificate	INTEGRATED	✓		

\*Dedicated Course indicates that the program includes a course solely focused on health and safety

\*\*Integrated indicates that health and safety curriculum is integrated into courses provided in the program.



**Appendix 4: Private/Government Provided Agricultural Education Programs Offered and the Health and Safety Training Available**

<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
<b>Alberta Agriculture, Food and Rural Development</b>	Green Certificate	INTEGRATED**	✓	✓	✓
<b>Saskatchewan Agriculture, Food and Rural Revitalization</b>	Green Certificate	INTEGRATED	✓	✓	✓
<b>Alberta Farm Animal Care Association</b>	Quality Livestock Transport	INTEGRATED			
	Good Livestock Handling Pays	INTEGRATED			
	Livestock Emergency Response	INTEGRATED			
<b>DNL Farms Consulting</b>	Pig Production Training Courses				
<b>Christmas Tree Farmers of Ontario</b>	New Grower Correspondence Course				
<b>Atlantic Agricultural Leadership Program Inc.</b>	Atlantic Agricultural Leadership Program				
<b>Canadian Farm Business Management Council, U of Saskatchewan Extension Division, and Université Laval</b>	Canadian Agriculture Lifetime Leadership Program				
<b>George Morris Centre</b>	Introduction to Commodity Risk Management				
	Canadian Total Excellence in Agricultural Management				✓
	Executive Development Program				✓
<b>Paul Martin Communications</b>	CEO Training for Farmers				
<b>Farm Credit Canada</b>	Advanced Farm Manager				✓
	Series of Workshops				✓
<b>Agricultural Institute of Management in Saskatchewan</b>	Agribusiness Entrepreneurship Program				✓
<b>The OATI Learning Group</b>	Farm Business Management Seminars				✓
<b>The Mansis Development Corporation</b>	Mansis Farm Management System				✓



<i>Institution</i>	<i>Degree/Diploma/Program</i>	<i>Health and Safety Training</i>	<i>First Aid Training</i>	<i>Pesticide and/or Chemical Training</i>	<i>Human Resources</i>
<b>Centre for Rural Leadership</b>	Ontario Advanced Agricultural Leadership Program				
<b>Landscape Ontario Horticultural Trades Association</b>	Professional Development Courses		✓		
<b>Niagara Parks Commission</b>	Niagara Parks Commission School of Horticulture	INTEGRATED			✓
<b>Collectif formation agricole</b>	Various Continuing Education Courses	DEDICATED*			✓
<b>Farm and Ranch Safety and Health Assoc.</b>	Various Health and Safety Courses	DEDICATED	✓	✓	
<b>Ontario Farm Safety Association Inc.</b>	Various Health and Safety Courses	DEDICATED	✓	✓	✓
<b>PEI Federation of Agriculture</b>	Farm Accident Response Management and Safety Training (FARMS)	DEDICATED	✓	✓	

\*Dedicated Course indicates that the program includes a course solely focused on health and safety

\*\*Integrated indicates that health and safety curriculum is integrated into courses provided in the program.



### Appendix 5: Agricultural Programs that Offer Dedicated Health and Safety Courses and Description

<b>Institution</b>	<b>Degree/Diploma/Program</b>	<b>Course Name</b>	<b>Topics Covered</b>
<b>College</b>			
<b>University College of the Fraser Valley, BC</b>	Livestock Production Cert.	Farm and Equipment Safety	-safe operation of farm machinery and power equipment -introduction to WHMIS -safety and fire prevention on farm/workplace
	Horticulture Crop Production Cert.		
	IPM Certificate		
	Agricultural Technology Diploma		
	Milker Training Cert.		
<b>Kwantlen University College, BC</b>	Horticulture Apprenticeship Program	Equipment Maintenance & Safety / Horticultural Practices	-personal protective equipment -WHMIS -fire prevention -safe work practices -environmental hazards -bending/lifting/exercise -safe hand and power tool use
<b>Okanagan College, BC</b>	Viticulture Certificate	Vineyard Equipment, Maintenance and Safety	-safe use and handling of equipment -maintenance of equipment
	Horticulture Pre-Apprenticeship Program	Safe Horticultural Work Practices	
<b>Malaspina University College, BC</b>	Fisheries & Aquaculture Technology Diploma	Shellfish Aquaculture Workplace Safety and Skills	-occupational health and safety management planning -hazards and risks -ergonomics -protective equipment -on-farm mechanical safety -knot tying -bear awareness
	BSc. in Fisheries and Aquaculture		
<b>North Island College, BC</b>	Salmon Farm Technician	Workplace Skills and Safety Practicum	
<b>Lakeland College, AB</b>	Livestock Production	Farm Safety	-livestock hazards -hazards of operating farm equipment
	Animal Science Technology Diploma		
	Dairy Production Cert.		
	Crop Technology Diploma		
	Certificate of General Ag.		
	Agro-Environmental Tech. Ranch & Stockhorse Rider Cert.		
<b>Lethbridge Community College, AB</b>	Diploma in Agriculture Technology	Safety in the Agriculture Industry	
<b>SIAST, SK</b>	Custom Harvester Apprenticeship	Farm Safety	-work environment skills -safety skills
<b>Assiniboine College, MB</b>	Pork Production Manager Cert.	Emergency Management	-to make students aware of the health and safety issues of pork production so that workplaces can be made as safe as possible
	Pork Production Technician Apprenticeship	Health and Safety	-safe work habits -policies regarding safe work habits
	Diploma in Agribusiness	Environment Health and Safety	-legislative requirements for safe storage, shipping, receiving, transportation and handling of agricultural pest control products and fertilizers -WHMIS and transportation of



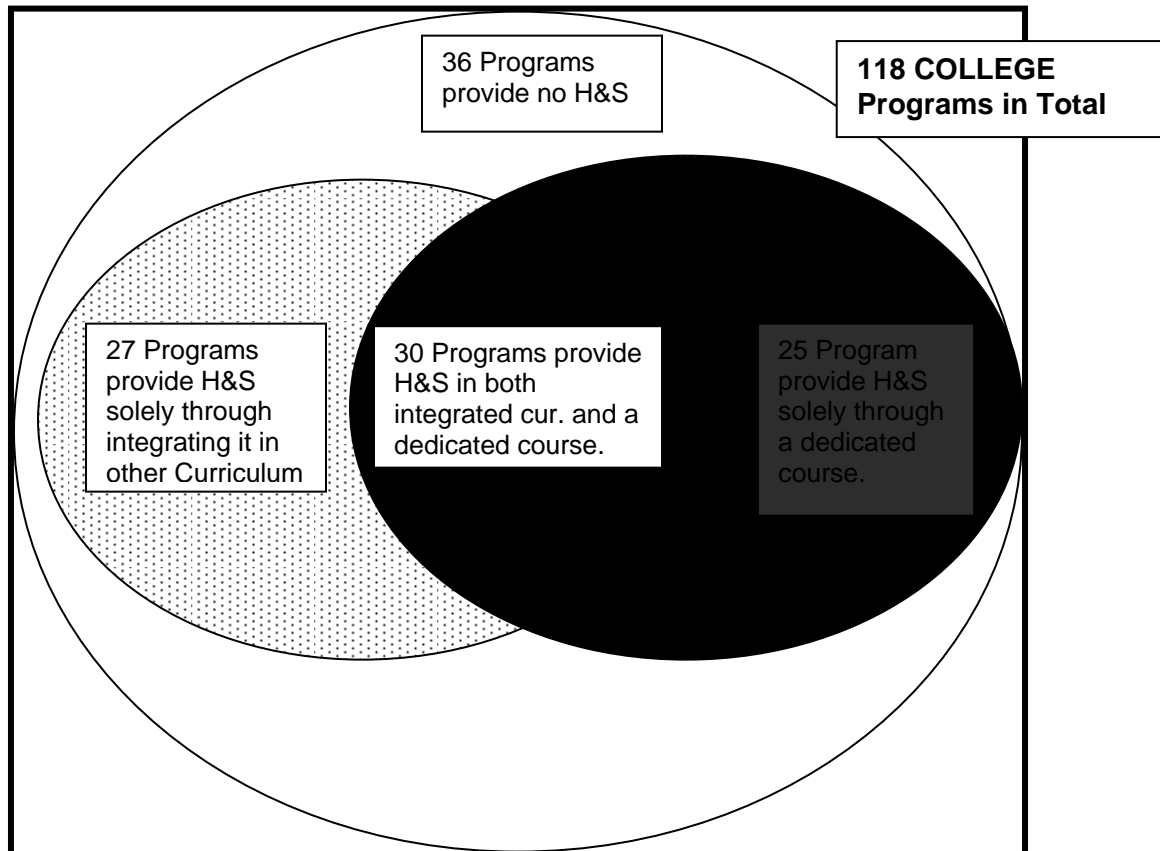
<b>Institution</b>	<b>Degree/Diploma/Program</b>	<b>Course Name</b>	<b>Topics Covered</b>
			<ul style="list-style-type: none"> <li>dangerous goods</li> <li>-Canada Labour Code, Canadian Human Rights Act</li> <li>-MB Employment Standards</li> <li>-training for forklift operation</li> <li>-first aid training</li> </ul>
	Agriculture Studies Cert.	Occupational Health and Safety	<ul style="list-style-type: none"> <li>-hazard awareness in swine barns; toxic gases, physical and chemical hazards</li> <li>-CPR</li> <li>-WHMIS, H2S training</li> <li>-confined space entry</li> <li>-emergency response planning</li> <li>-rapid hazard recognition</li> <li>-developing safe work procedures</li> </ul>
<b>Kemptville College, ON</b>	Dairy Herdperson Apprenticeship Program	Applied Safety Procedures	<ul style="list-style-type: none"> <li>-protective equipment</li> <li>-emergency response procedures</li> <li>-safety procedures for working around people</li> <li>-equipment and silo maintenance and safety</li> <li>-injury documentation &amp; reporting</li> <li>-safe handling &amp; use of pesticides</li> </ul>
	Associate Diploma in Agriculture	Ag. Mechanization and Safety	<ul style="list-style-type: none"> <li>-operating principles</li> <li>-components of tractors and equip for tillage, planting</li> <li>-application of chemicals, fertilizers</li> <li>-safe operation of agricultural equipment</li> </ul>
	Assoc. Dip. in Ag – Equine		
	Co-op Apprenticeship for Ag & Heavy Equip. Techs	Workplace Safety	
	Associate Diploma in Hort.	Certification and Safety	<ul style="list-style-type: none"> <li>-pesticide training</li> <li>-federal and provincial legislation governing worker health &amp; safety</li> <li>-Occupational health &amp; safety Act</li> <li>-WHMIS</li> <li>-CPR and first aid</li> </ul>
<b>Ridgetown College, ON</b>	Environmental Management Diploma	Occupational Health and Safety	<ul style="list-style-type: none"> <li>-Ministry of Labour Statutes and regulations</li> <li>-hazardous materials, chemicals, safety data sheets</li> <li>-health and safety planning</li> <li>-WHMIS</li> </ul>
<b>Fanshawe College, ON</b>	Co-op Horticulture Technician Diploma	Landscape Equip. Operation and Workplace Safety	<ul style="list-style-type: none"> <li>-proper selection and use of tools</li> <li>-WHMIS</li> <li>-electrical safety</li> <li>-first aid</li> <li>-combustion engine safety</li> </ul>
<b>Humber College, ON</b>	Horticulture Technician Apprenticeship	Workplace Safety	<ul style="list-style-type: none"> <li>-requirements of government legislation and regulations</li> <li>-personal protective equipment</li> <li>-vehicular pedestrian traffic control</li> <li>-emergency procedures</li> <li>-environmental hazards</li> </ul>
<b>Lambton College, ON</b>	Ontario Horticultural Apprenticeship	Workplace Safety	<ul style="list-style-type: none"> <li>-regulations concerning personal safety and safety of others</li> <li>-identify and manage safety hazards</li> </ul>
	Horticulture Technician Diploma	Equipment Operation and Safety	<ul style="list-style-type: none"> <li>-operation, maintenance and purchase of standard equipment</li> </ul>
<b>CEGEP, QC</b>	Management & Operation of	Health and Safety	<ul style="list-style-type: none"> <li>-dedicated to understanding health</li> </ul>



<b>Institution</b>	<b>Degree/Diploma/Program</b>	<b>Course Name</b>	<b>Topics Covered</b>
	a Farm Business Horticulture and Environmental Technology		and safety legislation and regulations
<b>New Brunswick Community College, NB</b>	Agri-Business Certificate	Equipment Operation and Farm Safety	-two-week on-farm curriculum -equipment, tractor and livestock safety -first aid
	Aquaculture Technician Certificate	Occupational Health and Safety Training	
<b>Nova Scotia Agriculture College, NS</b>	Animal Science Technician Diploma	Farm Workplace I and II	-Occupational health and safety -protocols and std operating procedures -equipment calibration -use of selected tools -safety around electrical systems, livestock water supply, manure handling and storage, weather maintenance, building sanitation and feeding equipment -decision making wrt safety and maintenance
	Agricultural Business Technician Diploma		
	Diploma of Technology: Farming		
	Diploma of Technology: Agriculture		
	Diploma of Technology: Plant Science	Non-credit workplace safety	-workplace safety -farm safety
<b>Nova Scotia Community College, NS</b>	Practical Horticulture Diploma	Equipment maintenance and safety	-to practice to safely operate mechanized equipment. -WHMIS -the Nova Scotia Occupational Health and Safety Act
<b>University</b>			
<b>Laval University, QC</b>	BSc. Ag. – Agricultural Economics	Non-credit Workplace Safety Workshop	Students are required to take a 1-day session on health and safety is prior to the farm internships offered in first year.
	BSc. Ag. – Animal Sciences, Agronomy		
	BSc. Ag. – Plant Science, Agronomy		
	BSc. Ag. – Soil Sciences, Agronomy		
<b>McGill University, QC</b>	Farm Management and Technology Diploma	Farm Health and Safety	-livestock handling techniques -livestock psychology -designing livestock handling systems -danger of livestock zoonoses -dangerous gases -danger of agricultural noise and machinery -First aid and CPR -safety documentation -health and safety regulations

## Appendix 6: Venn diagram of Health and Safety Training Offered in Agricultural Programs

### College Programs



118 Programs in total:  $36 + 27 + 30 + 25$

82 programs provide some sort of H&S training:  $27 + 30 + 25$

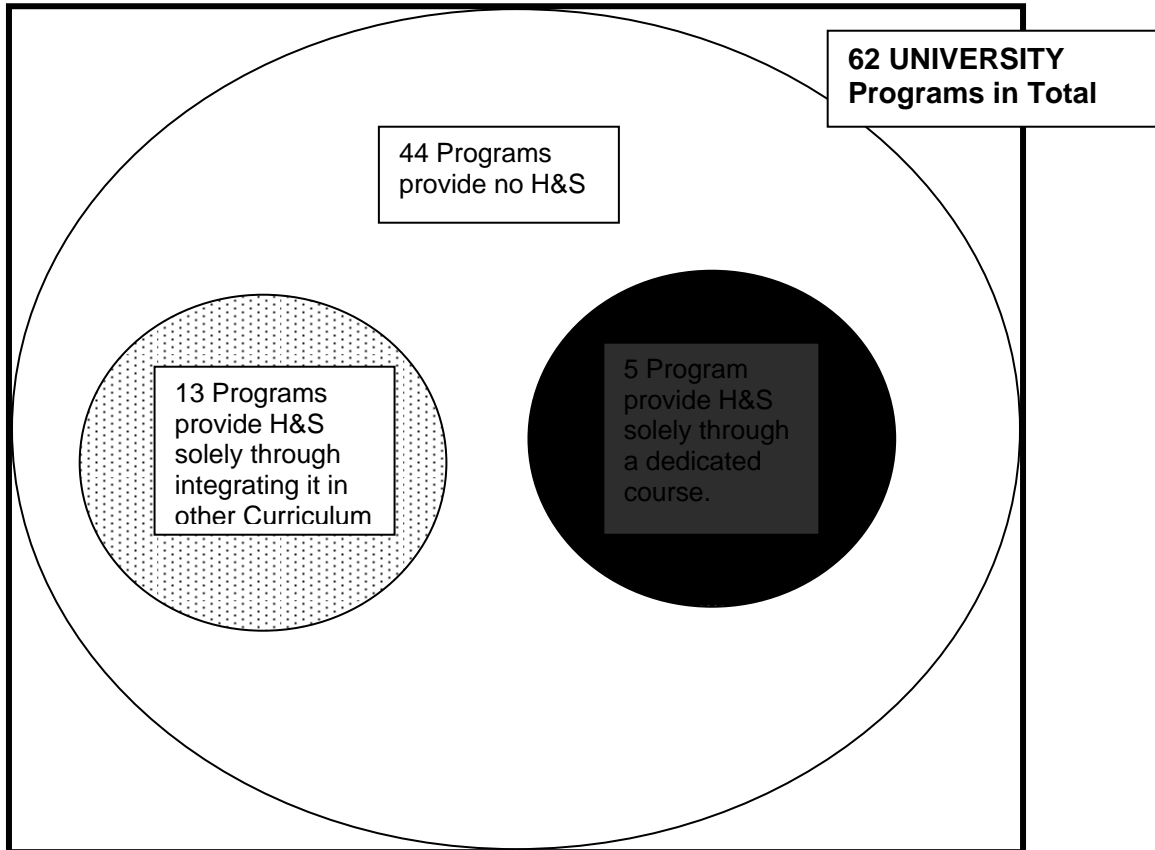
57 Programs provide H&S training through integrating it into other curriculum:  $27 + 30$

55 Programs provide H&S training in a dedicated course:  $30 + 25$

30 Programs provide H&S training both ways: that is why there are 27 programs that provide it through other curriculum only and 25 programs that provide H&S training through a dedicated course only.



University Programs





Private Programs

