



Environmental Health Concerns: From Problem to Public Policy

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for

My Environment, My Health, My Choices

An environmental health curriculum development project

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Environmental Health Concerns: From Problem to Public Policy

Teaching Notes

SUMMARY:

This problem-based environmental health curriculum unit is appropriate for high-school students in science, social studies or government classes. The focal points of the unit are five letters from suburban residents complaining about five different environmental issues. Students are guided to research these issues, to interview local people with experience related to these issues, to evaluate sources used, and to write public policy statements. During this unit they are involved in both policy-design and policy-making.

TIME: Six to Eight class sessions.

GOALS:

- To introduce an interdisciplinary environmental health topic to high school students
- To encourage active engagement in policy design and policy making on a public issue
- To understand the complex benefits and limitations of potential solutions to environmental problems (risk assessment analysis)
- To enhance writing and research skills
- To encourage critical analysis of published and internet sources

ACTIVITIES:

1. Introduction to Environmental Health

At the beginning of class, students are divided into five groups. Each group will study a different environmental health issue. These issues include: pesticide use, aluminum can and glass bottle recycling, disposal of electronic equipment, transportation of hazardous wastes, and lead paint exposure.

The teacher leads a class discussion and activities surrounding the word “environmental health issue.” At the start of the class, each student is asked to define the words “environment, health, and issue” After the class discussion, students are and provided with poster board and markers. In their small groups, the students create a group definition of “environmental health issue” which is then presented by each group. Questions and further insights are discussed by the entire class, after each presentation, with the teacher serving as a facilitator.



The class is then asked to define the term “environmental health issue” and to provide examples, which are then discussed by the whole class. The groups also discuss what kinds of environmental health issues they might encounter in their daily lives. Finally, the students are asked to further refine and revise their definition and the revisions are discussed.

2. Introduction to the Assignment

As an introduction to the assignment, the teacher will review the assigned tasks and assessment plan with students.

Student work will consist of 3 phases:

- Phase 1: Letter Interpretation – Each student group is given a fictitious letter from a community member.
- Phase 2: Individual Responsibilities – Students work individually to do research on environmental health concerns in the letters.
- Phase 3: Committee Work – The group works together to create a project that combines policy recommendations and research completed by the individual students.

The five letters (Handouts #1, #2, #3, #4, and #5) are then distributed - one type of letter to all members of each group. Student groups are asked to identify the main environmental health issue(s) in the letter assigned to their group. They must compile a list of at least five questions that address the concerns expressed in the letter.

Students are also given copies of the following handouts, which will guide students through a series of individual and group tasks:

- *Public Policy Recommendation Committee Project* (Handout #6)
- *Environmental Health Issue Research Guide* (Handout #7)
- *Source Evaluation Form* (Handout #8) - five copies
- *Student Evaluation Form* (Handout #9)
- *Teacher Evaluation Form* (Handout #10)

Student groups who choose to do create a public service announcement as the assignment for Phase 3 will also be given the following two handouts:

- *Public Policy Educational Campaign* (Handout #11)
- *Storyboard Brainstorming – Ideas Organizer* (Handout #12)



3. Individual Student Research

These sessions can be held in a library and/or computer resource room. Students are also instructed that the continuation of class work outside of school is required. Individual members of the group will do research to address one of the concerns or questions identified by their group. Each student is responsible for completing an *Environmental Health Issue Research Guide* and five *Source Evaluation Forms*. Each student must also write a 2-3 page policy recommendation which is described in more detail in the *Public Policy Recommendation Committee Project* handout.

4. Group Policy-Design and Policy Making

Groups share information from their research and their policy recommendations. The groups must combine their recommendations to reach consensus to develop a group policy recommendation.

Group members collaborate to:

- Interview an expert on their issue
- Create a PowerPoint presentation (or a Web Page)
- Write a legislation report, and
- Write a speech that promotes the legislation.

They may assign each group member to one of these tasks, or work in pairs or as a group to complete each of these tasks.

5. Group Assessment/Student Evaluation

Student evaluation is based on student performance in class and the quality of the final individual and group products. The individual and group assessment is described in *Public Policy Recommendation Committee Project* (Handout #6). In addition, each student (within the group) is evaluated on an individual basis (see *Student Evaluation Form* and *Teacher Evaluation Form*).



NEW YORK STATE EDUCATION STANDARDS

Environmental Health Concerns: From Problem to Public Policy correlates with the following New York State Social Studies learning standards:

Standard 3: Geography

Students will use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth’s surface.

Standard 5: Civics, citizenship and government

Students will use a variety of intellectual skills to demonstrate their understanding of the necessity for establishing governments; the governmental system of the United States and other nations; the United States constitution; the basic civil values of American constitutional democracy; and the role, rights, and responsibilities of citizenship, including avenues of participation.



Handout #1

The Town Board received the following letter last week along with a petition with over 200 signatures...

To Whom It May Concern:

As a resident for over 50 years I have become increasingly concerned about pesticide use in agricultural, residential, and commercially zoned areas. More and more of my neighbors now have their lawns "treated" while at the same time local farmers have become dependent on pesticides in order to compete with the yields of larger industrial farms who grow and harvest the more appealing and visually enticing crops.

Recently, I noticed a foul smell emanating from my faucet along with an acrid flavor in my tap water. Concerned about our well water, my husband and I conducted a quick survey of our land, which is bordered on the southern side by a large cornfield. The eastern and western borders of our property are residential and both of our neighbors have their lawns tended to by a local lawn-care company. There is a small dairy farm across the street from us on the northern side. We discovered much to our surprise in the southwestern corner of our lot, a puddle of standing water that appears to be run-off from the adjacent properties. This water has the same smell coming out of our kitchen sink, but intensified. I should also mention that one of our neighbors loves horticulture and has an elaborate rose garden with several large reflecting pools that he is constantly spraying. Our other neighbor, who is in his late 70's, and whose land is much swampier than ours, found a dead crow on his property, and has since begun to have his land treated for mosquitoes. My concern is also heightened by the fact that I provide daycare for up to 6 preschool children and my fear that my well water may be contaminated and unsuitable for consumption.

I am curious about the town's codes in regards to pesticide use and wonder if the town has assessed the possible risks pesticides pose to the inhabitants of our town and the surrounding areas and I would ask the town to launch an investigation into this matter. Numerous concerned citizens have also joined me in signing the attached petition on the importance and the urgency of this study.

Sincerely,
Ivanna Kleenup

Ivanna Kleenup



Handout #2

The Town Board received the following letter last week along with a petition with over 200 signatures...

To Whom It May Concern,

I am sick and tired of returning aluminum cans and glass bottles to my local supermarket. I live in the city and currently do not have a vehicle, and it is very tough for me to transport bulky material. I've also wondered why we do not recycle water, tea, juice bottles to name just a few. Are we truly recycling these materials or is this just for show? I've also noticed that New York is only one of a handful of states that recycle these materials in the first place. What's up with that? If this is such a great idea why isn't the whole country taking part in this?

I am asking the city and local governments to assess the overall cost effectiveness of having a recycling program. For example what percentage of these materials is reused, and how many times? Is the recycling process itself environmentally safe and clean? Furthermore how does recycling aluminum cans and glass bottles directly protect the health of citizens (I myself have repeatedly cut myself on jagged bottles and cans from other people while going to my recycling center)?

I have included my name along with a list of other residents in my neighborhood who have similar circumstances and concerns. I expect the town, city, and state of New York to reevaluate our recycling program.

Sincerely,

Al Lumaman

Al Lumaman



Handout #3

The Town Board received the following letter last week along with a petition with over 200 signatures...

To Whom It May Concern,

As you well know, September 11th has forever changed the American landscape. We have been asked by our government to be more alert to dangers that exist from both inside and outside our community. Accordingly, it is with great patriotic servitude that I humbly request that the town evaluate its policies with regards to the production and transportation of hazardous materials in our community.

As a resident of Henrietta, my house is in close proximity to many forms of transportation. We live close to an international airport, railroad tracks, a barge canal, as well as interstates 90 and 390. My fellow citizens have expressed to me a grave concern regarding their safety as a result of living in a highly trafficked area. Furthermore, it has come to our attention that these methods of transportation listed above, may be used in delivering and removing hazardous material. This has also increased our vulnerability to potential terrorist attacks upon our great city.

The reason for my heightened concern about this issue stems from a recent event that took place in California where a train carrying chemical pesticides derailed spewing forth its deadly cargo. I was also reminded of the incident when a CSX train jumped the rail in Charlotte spilling its toxic chemicals and starting a large inferno.

On behalf of my silent citizens, I am formally requesting an inquiry be undertaken by the city of Rochester to determine the following: What health risks can be contributed to the transportation of hazardous material through our city, what preparations has the city made to deal with a hazardous materials spill, accident, and/or terrorist attack. I have contacted several local news agencies and am eagerly awaiting a response from the appropriate office. I look forward to working with public officials in making America a safer and stronger country.

Yours truly,

Ima S. Keerd

Ima S. Keerd



Handout #4

The Town Board received the following letter last week along with a petition with over 200 signatures...

To Whom It May Concern,

While driving around my neighborhood this spring, I have noticed several garbage cans filled with various electronic appliances, computers, and cell phones, waiting for garbage collection. With our growing reliance on computers and technology, people seem more willing to dispose of outdated but still usable equipment. What happens to this material? Is the material in silicone chips toxic to the health of those residing in the neighborhood? Don't refrigerators contain a caustic material called Freon?

I am curious as to whether the town has considered the potential threat of unrecycled electronic waste. Is there currently a policy that mandates appropriate disposal of this material? To what extent are owners of these materials responsible for this recycling?

I am demanding that action is taken and a full-fledged investigation is launched to uncover this hidden threat that lurks on the corner of driveways in every neighborhood. Attached you will find signatures of citizens who also share this sentiment.

Regards,

Chip Powers

Chip Powers



Handout #5

The Town Board received the following letter last week along with a petition with over 200 signatures...

To Whom It May Concern:

I recently read an article in the Democrat and Chronicle about the risk of lead poisoning among children. My husband and I have just bought our first home here in Henrietta. The home was built in sometime in 1947. Should I be concerned about the wellbeing and health of my children? My husband's mother also now lives with us in an in-law apartment downstairs in our basement. Should we be concerned about this as well?

We have proudly lived in Henrietta for 17 years. Before owning our home, we rented an apartment in the north-west quadrant of Henrietta. My children are 7 and 10 years old. My oldest is presently classified and receives special education services. Is it possible that my children may have been exposed to high levels of lead? Is it possible that my oldest child's learning disability is connected to lead poisoning?

I am sending this letter along with a petition of 200 signatures from citizens in our neighborhood and former apartment community the town of Henrietta conduct a thorough examination of this subject matter and provide a detailed report on who in our community is most at-risk and measures the town, county, state and federal authorities are doing to address this issue.

Sincerely,

Mrs. Lee D. Walls

Mrs. Lee D. Walls



Handout #6

PUBLIC POLICY RECOMMENDATION COMMITTEE



PROJECT SUMMARY:

In this project, you will research an environmental health issue. You will then be involved in active policy-design and policy-making. The project is compiled of both individual and group assignments that must be completed for full credit.

As a result of this project you will:

- Engage in public issues
- Write a proposed public policy (law)
- Enhance your writing and research skills
- Critically analyze research sources

The project will consist of 3 phases:

Phase 1: Letter Interpretation

Phase 2: Individual Responsibilities

Phase 3: Committee Work

You are responsible to complete each piece of this project. Each part will be graded using the attached guidelines and will be graded as follows:

- Letter Interpretation 10pts
- Research Summary 20pts
- Policy Recommendation 35pts
- Committee Work 35pts

TOTAL 100pts

Each student will be evaluated on an individual basis and on their ability to work cooperatively in a group.



Phase 1: Letter Interpretation

- 1) Read the letter and identify the main environmental issue.
- 2) Compile a minimum of five questions that address the concerns of the citizen in regards to the impact on human health and its relationship to public policy.

Phase 2: Individual Responsibilities

- 1) Address the concerns found in your letter by conducting a study on the specific environmental health issue.
 - Each student in your group will identify for detailed study one main environmental health issue/question.
 - Each student in your group will complete 10 *Environmental Health Issue Research Guides* for his/her chosen environmental issue/question.
 - Each student in your will use and evaluate a minimum of 10 different sources of information.
 - You will complete one *Environmental Health Issue Research Guide* for each source.
 - Your sources must include *at least*: one book, one article, one government source.

ASSIGNMENT DUE DATE: _____

- 2) Write a two-page research summary that:
 - States the question to be answered.
 - Includes Facts surrounding the investigation.
 - Identifies and describes current and proposed Federal, State, and Local public policies surrounding the issue.
 - Describes the health effects of this issue on Stakeholders (infants, children, teens, parents, elderly, minorities).
 - Summarizes public opinion (Complete through research and/or poll).
 - Includes information from at least five of your *Environmental Health Issue Research Guides*.
 - Includes a bibliography page.
 - Includes proper parenthetical citation.

ASSIGNMENT DUE DATE: _____



3) Write a 2-3 page policy recommendation that:

- Addresses the question from the research summary by recommending public policy(ies) that protects *both public health and the environment*
- Supports your public policy choice using facts
- Identifies the resources needed to implement the policy
- Addresses issues in the “GRADE” standard, as follows:
 - **G – Goals:** What is the goal of the policy? Are the goals clear and understandable? Are they measurable?
 - **R – Rivals:** Who supports and opposes this policy?
 - **A – Advantages**
 - **D – Disadvantages**
 - **E – Evaluate:** How is this policy better than other policies? What is lost by choosing this policy over others?
- Your policy recommendation must:
 - Include information from 5 *Environmental Health Research Guides*
 - Include a bibliography page
 - Include proper parenthetical citation

Remember: Public policy is a “rule” (law, regulation, mandate) that, when applied, produces a change in human affairs.

ASSIGNMENT DUE DATE: _____



Phase 3: Committee Work

As a group you *must* combine policy recommendations and research completed. You will come to an overall consensus in regards to the given environmental issue.

As a group you must choose, complete and turn in **one** of the following assignments:

- A. A public policy educational campaign, which includes a public service announcement with a storyboard and an advertisement (Handouts # 11 and #12).
- B. A PowerPoint Presentation or Web Page with culmination of research.
- C. A report you have written that addresses the overall environmental concern, and that incorporates your group's recommendations.
- D. A speech you have written that promotes the legislation to the appropriate audience.

Regardless of which assignment your group chooses to do, all assignments should include:

- 1. A formal interview documented by notes.
- 2. 15 prewritten questions.
- 3. Comments reflecting the expertise of someone in the field of your environmental issue.



Handout #7

Environmental Health Issue Research Guide

Directions: Complete *at least* one research guide for *each* source used.

Student Name: _____

Environmental Issue/Question: _____

Purpose of Investigating this Issue: _____

1. What is the effect of this environmental issue on humans? At what level of exposure would you see this effect?

- **Effect on infants and children:**

- **Effect on adults:**

- **Effect on the elderly:**



2. What is the effect of this environmental health Issue on animals and other living organisms that might not be the target of its intended use?

3. Are there any regulations that need to be followed when addressing this environmental issue?

- **Local regulations:**

- **State regulations:**

- **Federal regulations:**



Handout #8

SOURCE EVALUATION FORM

Student Name: _____

Proper MLA citation of source:

1. Summarize the content of the source and *how* it was used:

2. Assess the credibility of the source. Include: when source was written, who wrote source, name of publication, other references, etc...

3. Why would you recommend this source to a concerned citizen?



Handout #9

STUDENT EVALUATION FORM

Student Grader _____

Qualities: Each member of your group should demonstrate the following qualities:

- **On-Task:** Used library and class time productively and effectively
- **Contribution:** Produced the necessary material and identified resources for the group
- **Mastery Demonstration:** Became an expert on pesticides and its impact on human health and public policy creation
- **Reliability:** Student is present for each class session and for out of class group meetings. Student is dependable and communicates well.
- **Leadership:** Actively participated in organizing the project and provided the group with direction and decision-making skills

Evaluate: Rate each member of your group, including yourself, for each of these five qualities using the criteria scale, 5-1.

- 5 Excellent**
- 4 Good**
- 3 Fair**
- 2 Poor**
- 1 Unsatisfactory**

Student Name					
On-Task					
Contribution					
Mastery Demonstration					
Reliability					
Leadership					
TOTAL					



Handout #10

TEACHER EVALUATION FORM

Group Members:

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Criteria:

- 5 Excellent
- 4 Good
- 3 Fair
- 2 Poor
- 1 Unsatisfactory

Task	Completion of Task	Organization of Task	Level of Research and Analysis on Task
<i>Letter Interpretation</i>			
<i>EH Research Guide*</i>			
<i>Research Summary*</i>			
<i>Policy Recommendations*</i>			
<i>PowerPoint or Web Presentation</i>			
<i>Legislation Report</i>			
<i>Speech</i>			
<i>Interview</i>			

* Each student will be evaluated individually for these items



Handout #11

Public Policy Educational Campaign



Project Synopsis

Your group will create a 3-5 minute public service announcement about your group's public concern. The project will provide your audience with the following information:

- 1) "What do we need to know?"
 - You will show the audience that your topic is a problem that needs to be addressed now!
 - You will include facts, statistics and images that will startle the audience.
- 2) "What can we do?"
 - You will highlight possible policy solutions.
 - You will provide list of who to contact.

You will be involved in an active policy campaign, and as a result of this project you will:

- Engage in public issues.
- Develop and engage in promoting awareness of environmental and health concerns.
- Enhance writing, research, and presentation skills.
- Critically analyze research sources.

You are responsible to complete each piece of the project. Each part will be graded using the attached rubric and guidelines.

DUE DATE: _____

NOTE: *Each* student will be evaluated on an individual basis and on their ability to work cooperatively in a group. **This will be reflected in your participation grade.**



Step 1: Create a Storyboard

The first step in this process is creating a storyboard. A storyboard is a screen shot for each segment for your advertisement. The first step is to understand what you are trying to communicate and what your intended message is. This will ensure you and your audience understands your intent.

- What message are you trying to communicate?
- Who is your intended audience?

Each shot in your storyboard must have a **title** that identifies the purpose/goal of the screen shot.

Your screen shots could include:

- Introduction
- Transition
- Background Facts (1,2,3)
- Policy Options (1,2,3)
- Contact information
- Pictures (example: peeling paint)
- Interview (example: interview Emma Expert)

Step 2: Create a Public Policy Campaign Advertisement

As a group you must combine policy recommendations and your completed research to videotape and/or take digital pictures to produce your campaign advertisement.

This advertisement must:

- Be created in a process that offers each member of the team a specified role.
- Include a minimum of 10 storyboards.
- Use the ideas that your group comes up with in Handout #8 (Storyboard Brainstorming – Ideas Organizer).
- Be 3-5 minutes in length.



Please answer the following questions about the assignment:

1. The educational campaign must be _____ minutes in length.
2. The team must complete at least _____ storyboards prior to recording.
3. What is a storyboard?
4. What is the purpose of creating this educational campaign?
5. List 3 things that should be included in your video
 - 1.
 - 2.
 - 3.



Handout #12

Storyboard Brainstorming - Ideas Organizer

Directions: Complete the chart below to aid in your understanding of the assignment.
This will also count as a participation grade.

- 1) List 10 facts about your issue that you think the public needs to know. They may be surprising, shocking, upsetting, or revealing:

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

- 2) What images come to mind when you think of your issue? List 3 images and the picture or prop that could be used to help create that image.

Image	Picture/Props to Create Image
1.	1.
2.	2.
3.	3.

- 3) Who would be considered an expert on your issue? List 2 experts.

- 1.
- 2.



4)

Who is the public viewing/television audience needs to hear your message the most?	What kinds of activities/products are popular among this audience group?

5) What **examples from your paper** could you include?

Example	Why it's important
<input type="checkbox"/>	<input type="checkbox"/>

6) What **quotes/slogans/mottos** might work well? **Example:** *Nike: Just Do It*

7) What **personal connection** do you have with your issue?

Personal Connection	Importance of Completing this Public Service Announcement





**Excerpts from Public Policy Papers:
Rush-Henrietta High School, Grade 12
Participation in Government class, 2003**

1. "The amount of pesticides, herbicides and insecticides used on the farmlands in Rush and Henrietta, New York, is not to exceed the legal limit as set by the Environmental Protection Agency. The pesticides may be used on, but not limited to, cornfields, apple orchards, cabbage farms, and wheat fields. Many of these pesticides help the crops that are grown in Rush and Henrietta by getting rid of harmful bugs, weeds and other organisms, and the town boards would like to recognize this fact. The board will help the farmers of their towns in all means possible that are within the legal boundaries of the federal government. Therefore, the farmers of our towns may use the pesticides that they see fit to help them to grow healthy and hearty crops for our community, as long as the amount of pesticides that are used are within the legal EPA set limits and standards."
2. "Chemical pesticides should be used as a last resort only. There are many forms of non-chemical pesticides, including natural pesticides such as other plants, certain insects, changing the natural environment conditions that the pest lives in, etc... Second, if pesticides must be used, we should start with the pesticides that have the least harmful effects and use them in very small amounts... I feel that if these measures were taken into account, our community would be a safer, healthier place to live, and that regulations on pesticide use would help ensure the safety of our community for many years to come. "
3. "Using pesticides can bring about many advantages. They can eliminate any unwanted rodents and insects that are pests. This allows plants and crops to grow better, and rids humans of the annoyance of such pests as mosquitoes... Despite the advantages, pesticides can also cause several problems. The spreading of pesticides to unwanted areas can be very dangerous. Certain pesticides can pose serious health risks to humans and untargeted animals. For this reason, there must be limits placed upon where pesticides can be used, and in what dosage."
4. "Alternative control methods (for mosquito control) must be sought out. One of the most efficient methods of mosquito control is the elimination of all standing water, especially in the warmer months. Standing water is basically non-filtered, non-mobile water, such as in ditches, old tires, empty cans etc., which may be found around the yard. Mosquito populations flock to these areas to mate and lay their eggs. By ridding the area around you of any trace of standing water, you significantly decrease the number of mosquitoes in your area."



5. “While pests can be harmful to humans and plants, the pesticides we use to extinguish them are often more deadly than the predators we are trying to kill. Many pesticides have high toxicities that can cause cancer, birth defects, and other harmful effects in animals, birds, fish and humans. Although it will never be possible to find comparable alternatives to all pesticides there are many different ways to cut back on pesticide usage.”

6. “I recommend there be alternatives to pesticides to control and limit the number of pests. One such alternative could be using other insects to limit populations of other insects and pests in order to keep healthy crops, and also for personal convenience from insects and other pests. Other insects could be used, such as ‘predator’ insects, to prey on the “pesty” insects that are either bothersome personally or relating [sic] to crops...Another alternative to any pesticides could be the use of...natural, non-toxic substances or even plants. Plants like the Venus flytrap could be used to limit insect populations without the worries of dangerous chemicals....Pesticides aren’t necessarily bad in most cases, but still the risks can be high... Please consider all alternatives.”



**Student Interview with Owner of a Local Farm:
Rush-Henrietta High School, Grade 12
Participation in Government class, 2003**

1. What type of pesticides do you use on the farm for crops and personal lawn care?
The types he uses a lot are Round-Up and Warrior. Round-Up is an herbicide. He uses Warrior mainly for corn.
2. Why did you decide to start using these specific types of pesticides?
They seem to work well and kill more weeds and unwanted pests. Also it doesn't harm the crops if used properly.
3. Have you ever heard of the pesticides Diazinon and Carbaryl (Sevin)? Can you tell us what the effects are?
He used to use Sevin in the past...But he no longer uses it. He knows that this type of insecticide is very toxic to bees. Also that it can easily leak into ground water.
4. Is there a certain limit on the amount of pesticides that you use on your farm?
Yes, there is always a limit and it is usually labeled on the bottle. That is what he goes by when applying the pesticides. He would never use any more than he would have to.
5. In what ways do you try to keep the environment safe while working on your farm?
When working on the farm he tries to use the least amount of pesticides as possible. First because it is very expensive and second he knows that too much can be harmful to the environment according to the law and research.
6. How close are your farm and your own personal home?
His home and his farm are very close. When he walks out of his door he is already on the farm.
7. Have you experienced any problems with your land or with your drinking water as a result of pesticide use?
Never had any problems that he is aware of.
8. Do the employees that work for you know what effects that pesticides can have on them?
Yes because it is required by law that he has to inform anybody who is working on a farm about them. They be heavily school (sic) before they are allowed to start working.
9. It is known that people using pesticides need to be certified. Are you certified or do you have somebody come in and do it for you?



He is the only one on the farm certified to use the chemicals. However with his direct supervision a worker may use them.

10. In closing how do you feel about the use of pesticides in residential areas such as lawn care?

He feels that it poses a bigger risk because it comes in direct contact with people. However if used right and according to regulation (it) should be all right.



Sources of Information on Pesticides

U.S. Environmental Protection Agency (EPA) provides comprehensive information about pesticides, including fact sheets and regulatory information.
<http://www.epa.gov/pesticides/>

U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS). IRIS is a database of human health effects that may result from exposure to various substances found in the environment. The information in IRIS is intended for those without extensive training in toxicology, but with some knowledge of health sciences.
<http://www.epa.gov/iriswebp/iris/index.html>

Scorecard is a website providing local environmental information. Simply type in a zip code to learn about environmental issues in your community. Scorecard ranks and compares the pollution situation in areas across the US. Scorecard also profiles 6,800 chemicals. Search chemicals by geographic area or company name. <http://www.scorecard.org/>

PANNA (Pesticide Action Network North America) is a network of nongovernmental organizations, institutions and individuals working to replace the use of hazardous pesticides with ecologically sound alternatives. <http://www.panna.org/>

Nature Wars: People vs. Pests, by Mark L. Winston, Harvard University Press, 1997. 224 pages, cloth edition: ISBN 0-674-60541-1 (\$27.50). This book presents a series of case studies, describing the complex political, biological, economic, social, and personal interactions that lie behind each pest management decision.