THE PESTICIDE PROBLEM AT HOME

by Michael [redacted]

PESTICIDE EXPOSURE

Pesticide use is questioned

"When people talk about using chemicals on the farm, oftentimes they use the word "pesticides." To people outside agriculture, pesticides tends to be the catch-all category for any and all chemical compounds we spray on our crops. All things considered, that is far from the truth. We don't have a jug labeled "pesticides" that goes on anything and everything. In agriculture we call any sort of chemical we use on the farm 'crop-protection products'" (Rochric, 2016). Farmers do have very specific guidelines to apply crop protection products in which to use, how much, and when, which is not the happy-go-lucky application many people assume is used. And still, after extensive tests and safety precautions recommended, many people ignore them, and blame the use of pesticides for any health problems to come from it.

"To people outside agriculture, pesticides tends to be the catch-all category for any and all chemical compounds we spray on our crops. All things considered, that is far from the truth."
- Jenny Rochric

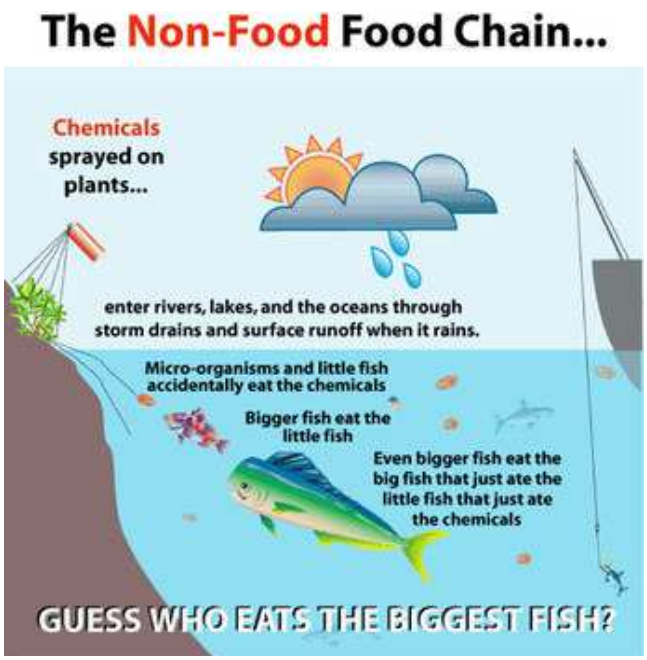
"Pesticides can be found in our air, our food, our soil, our water and even in our breast milk."

-JENNY ROCHRIC

PESTICIDE USES AND EFFECTS

Pesticides are used in more places than just farms

Pesticide products are used more than just on the farm. In fact, pesticides are used in crop fields, businesses, parking lots, schools, parks, and even the home. If you think about it, you're never really too far from a pesticide, as most people even keep some sort of bug repellant under their sink. According to Rochric (2016), "Pesticides are used in our schools, parks, and public lands. Pesticides are sprayed on agricultural fields and wood lots. Pesticides can be found in our air, our food, our soil, our water and even in our breast milk." With all things in mind, it has been estimated that in America alone, over 2.5 million tons of commercial pesticides are used each year.



Pesticide runoff affects the health of humans and the environment

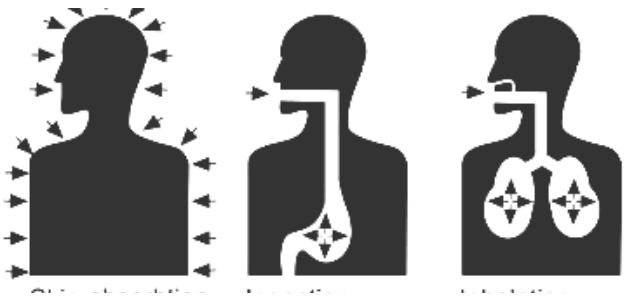
Pesticides are said to impact a slew of living things, from bacteria to humans. Although pesticides are meant to kill a certain pest to protect a crop yield, they are able to kill more than just what they are specialized for. Through their many applications, pesticides manage to get in our air, water, sediments, and even out food. As stated in the article "Environmental Effects of Pesticides," "Pesticides easily contaminate the air, ground, and water when they run off from fields, escape storage tanks, are not discarded properly and especially when they are sprayed aerially." Initially, one might think that this is not a problem if they didn't understand completely that pesticides are meant to terminate life. This means their introduction to places outside where intended is bad, as it can kill things that weren't meant to be.

WHY PESTICIDES ARE USED

Skin after working with arsenic and heavy metals found on fields that use pesticides.

Pesticides cause health problems after consumption

Dangers of contact with large amounts of synthetic (artificially created) pesticides exist. Contraction of enough pesticides depends on exposure and how it got in the system. The ways pesticides can enter the system are orally (eating/drinking), dermally (on the skin), or by inhaling. Acute symptoms include skin and eye irritation, headaches, dizziness, nausea, etc. Moreover, symptoms only get more intense over extended periods of contact with pesticides.



While there is a case against synthetic pesticides being carcinogens (cancer causing), there indeed has been recent studies saying that certain chemicals used in pesticides can trigger cancer in a variety of ways. Such ways are through disrupting hormones, damaging DNA, inflaming tissues and turning genes on or off. Through modern studies, it is scientifically claimed that many pesticides are “known or probable” carcinogens.

Pesticides do reduce seasonal pest problems

It’s understood that pesticides can be harmful to life, but they were and are still used for a reason. As the EPA explains on their site “Why We Use Pesticides,” “Pesticides are used to control various pests and disease carriers, such as mosquitoes, ticks, rats and mice. Pesticides are used in agriculture to control weeds, insect infestation and diseases.” This brings the justification of the use of pesticides in concept, because without their use, crop yields would be far lower due to infestation. If there were to be a lower crop yield, the demand for certain products could not be met and they would need to be substituted for something else. Otherwise, the global calories grown would go down. With less food in total, less life could be supported.

They kill more than just pests

The environment is comprised of many forms of life, and while pesticides are designed and used only to kill invasive species, they can often impact a larger range of life than what was intended. In theory, a pesticide will only work against its’ targets, but in reality, air, water, land, and other living organisms are affected by pesticide use. First, evaporation can move pesticides into the air after being sprayed when only some of the spray lands where intended, and the rest is taken away by wind. Such an action can lead to problems mentioned in the “Impacts of People’s Lives” section of this writing through breathing in the chemical over time.

Next is the point that pesticides can get in water through mismanaged application. Examples of how pesticides can enter the water is most often related to the runoff of farming, which brings these chemicals to water bodies, lacing them with pesticides. Consumption of this contaminated water in large amounts may lead to health decline. The land itself absorbs pesticides just after application intended for plants to repel invasive species. In effect, these pesticides may be harmful to the plant roots, which are less protected by natural barriers plants build above ground. Finally, pesticides can affect living things, as mentioned previously. However, if specific pesticides directly enter the system, it may lead to death.

An at home solution to pesticide exposure

Even if the simple solution in words is to eliminate the use of pesticides entirely, it is not realistic. This is because pesticides support so many of the crop yields currently. For their continued usefulness, it does not make sense in an efficiency, economic, or consumer aspect to not use pesticides. Even though a large-scale solution is not probable, small changes at home can help to lower the amounts of pesticides introduced to the environment, and lead to a safer world for life to thrive.

The solution to lowering pesticide use can start at home. Whether a person wants to use less, or reduce their exposure to pesticides, these recommendations stay true. The first, and main way to reduce exposure is to avoid pesticide laden areas identified by warnings. A sign easily displays how toxic the area is in a pesticide aspect, from caution, to warning, and all the way to danger. Given the health concerns linked with pesticides, personal health should be prioritized if signs indicating any of these levels of pesticide are identified. Equally important is realizing how much a given person uses, and if possible, reducing it. Some people use pesticides to keep their lawns green, their garden alive, and so on. With the thought in mind that pesticides at such low capacities is not nearly as harmful, they should still be avoided.

If a person were to want their garden or grass just as green, there are solutions to the pest problem other than pesticides. Such recommendations could be as simple as keeping spiders and bugs that don't eat plants around to eat the bugs a person doesn't want. There are many other solutions to pest issues other than using pesticides, such as rotating crops, intercropping, controlling pests with pests, and preparing products before consumption.

AFFORDABLE SOLUTIONS

At home solutions are affordable

Each of the solutions mentioned are very easy at home, if all a consumer wants to do is lower exposure to pesticides. First, the most simple is to wash and peel any fruits or vegetables (if possible) before use. The water can wash away topical pesticides, while the peeling can take off residual traces. At nearly no cost other than time and 30 seconds of water, this solution is the simplest.

A common practice in the farming community is rotating crops. This method is used for the benefits to the soil nutrients, but also to help against pest problems. As crops are switched out seasonally, the pests won't be able to rely on that spot seasonally for the crop they infest, and must move elsewhere. Reliable in general, this method costs as much as any other crop season, and will work as long as the last wasn't the same crop.

Next is similar to crop rotation, but doesn't wait for variety between crops, but has variety in one crop season. Intercropping, or polyculture, is when multiple crop species are grown in one field together. The mass of plants makes it hard for pests to focus down their desired plant. Moreover, if the crops in the field are grown very intentionally, one can plant a crop between the crops they want to protect to attract a predator to keep the pests off the other. Alternatively, one could just grow a plant that repels a pest of scent alone. The kind of plant needed depends on the desired pest removal. For at-home gardeners, something to repel mosquitos might be wanted for a more pleasurable gardening experience. If this is the case, such a person should plant some basil, rosemary, garlic, marigold, lavender, lemongrass, lemon balm, catnip, or lemon thyme to repel mosquitos. It should also be noted that these strategies could be used to repel grass pests, if needed. A small, at-home gardener could expect to pay between $5 and upwards of $50 depending on the size of the area they want to protect.

SOLUTIONS ARE ACCESSIBLE

It can be done at home

Whether it's for a garden at home, or a family farm, practices such as intercropping, rotating crops, growing against the pest, and just washing produce, can lower exposure, and limit how much they output themself. Intercropping along with crop rotation are simple practices, and are as accessible as long as the individual has the know-how to complete such a practice. Each is simple, as intercropping is just planting multiple crops in one plot at once, and rotating crops is just as it sounds; which is rotating which crop is planted in a field each season. It is also accessible to grow against a pest, as a grower might just go to where they normally buy seeds, and buy very intentionally to grow a plant that repels pests.

Of the three methods suggested, crop rotation is simple enough that is comes down to not growing the same species season after season to avoid seasonal pests, while growing against a pest only requires the grower to understand what a pest doesn't like, and where to buy it. An example of a plant that repels pests is basil, which deters mosquitoes. Finally, intercropping is just noting how much space a given plant needs to thrive due to root space needed, and planting accordingly. This is to say that something like a tall grass cannot be grown next to a small flower, as the roots of the grass will rob the flowers of nutrients and will also block much needed sun from reaching the flower much of the time.

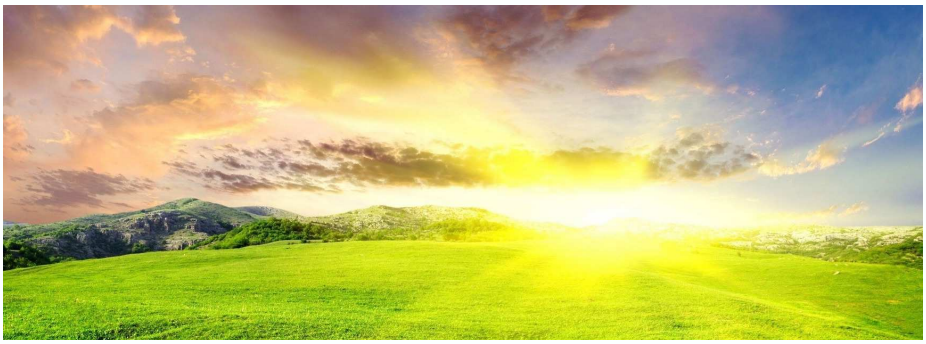
BENEFITS OF NOT USING PESTICIDES

Environmental benefits

Slower adaptation against pesticides
Plants will not as quickly evolve to resist pesticides, increasing the current known 275 weeds and 500 insects that are resistant to at least one known pesticide.

Will stop kill the good bugs, too
Fewer bugs will be subject to the residual pesticides. There are actually only 1% of bugs identified as pests, while the other 99% are still impacted by pesticide use in a very negative way. Each of these other bugs are very beneficial to the environment, so with less pesticide use, these bugs can help the environment more than before.

Less pesticide runoff in the environment
With the elimination or reduction of pesticide use, the amount of harmful chemicals released into the environment, atmosphere, soil, water, and so on, each year would greatly drop.



Solutions are sustainable

The idea of changing what is grown seasonally, growing more than one plant at once, or growing a pest repelling plant, are all sustainable. With just a little more pre-planning and intention, crop rotation and intercropping are techniques that can help repel pests, without the harmful chemical use of pesticides. This statement stays true for growing against a pest, because it just adds the purchasing and planting of a plant that repels a pest each season. None of the proposed solutions are unreasonable in a labor or cost aspect, but will each take time and careful attention to what they specifically need to fix their pest problems.

Societal benefits

Less health problems
The potential consumption of pesticide-lined produce would go down, decreasing the risk of experiencing harmful symptoms linked with pesticides, such as nausea and dizziness.

More demand for organic foods
As the knowledge of pesticides being bad grows, along with the idea that they are not the only way to grow crops, will increase demand on the home-grown, organic, and fresh agriculture markets again. This will create a new line of work and revenue in modern agriculture, which hasn't been present since industrial agriculture and commercial use of pesticides has become more common.

Less unintentional pesticides consumption
The supply for pesticides may go down as the domestic demand goes down. When home growers realize they don't need pesticides to keep a green lawn, or have some nice tomatoes growing, they won't purchase pesticides to keep them that way as much. This drop in demand could lower the amount of these chemicals made, and in turn, lower their introduction into the bodies of organisms which weren't intended.

IT'S EASY TO PLANT AT HOME

To grow at home

In the following section, an example of growing against a pest will be explained, while the others are not, as they are extremely easy concepts to understand and execute in a material and procedural way.

Materials you will need to grow basil:

- 6-inch planter (pot)
- Soil (enough to fill the pot)
- Basil seeds
- Water
- Nutrient enricher (optional)

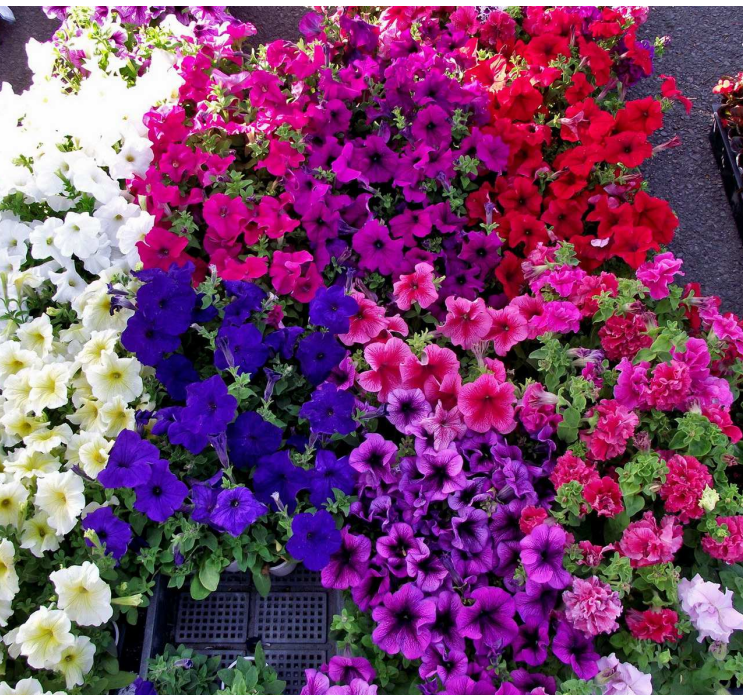
The list of items to grow one basil plant can cost a person about $3 at minimum. The cost for other plants that repel other bugs can run for very similar costs, only seeing difference in cost for seeds. The main plants grown at home against insects are basil, lavender, lemongrass, lemon thyme, mint, rosemary, chrysanthemums, nasturtiums, petunias, and pitcher plants; and any one of the seed packets for those listed can range between $0.50 and $7 at the time of print. Each one of those listed also repels very certain insects, and are planted in yards for that factor occasionally.

If the plant is going into a pot, follow these steps:

- Purchase materials (previously listed)
- Set out pot/planter (make sure the pot complies with spacing requirements).
- Fill soil a little under desired point in pot.
- Lay seeds in the middle of the soil (amount determined on seed bag).
- Cover the seeds with more soil.
- Place near light as often as seed packet directs (if not specified, Google it).
- Water as frequently as seed packet direct (if not specified, Google it).
- Place plant where pests are a problem that the plant repels.
- If there are more pests showing up, plant more.

If the plant is going into the ground, follow these steps:

- Purchase materials.
- Dig into the soil to plant seeds - be sure that the plant will have enough space, and is deep enough (specified on the seed packet).
- Cover seeds.
- Water as directed on seed packet.



GOOD TO GROW AT HOME

Smallest packet of seeds with what they repel when grown

Basil ($0.75): flies, including mosquitoes the carrot fly, asparagus beetles and white flies

Lavender ($3.95): moths, scorpions, water scorpions, fleas, and flies, including mosquitoes -pictured at top-

Lemongrass ($2.95): mosquitoes

Lemon Thyme ($2.79): mosquitoes

Mint ($1.95): aphids, cabbage looper, flea beetles, squash bugs, white flies, and the Small White

Rosemary ($4.99): cabbage looper, carrot fly, slugs, snails, and the Mexican bean beetle

Chrysanthemums ($4.99): roaches, ants, the Japanese beetle, ticks, silverfish, lice, fleas, bedbugs, and root-knot nematodes -pictured at center-

Nasturtiums ($2.50): squash bugs, aphids, many beetles, and the cabbage looper

Petunias ($4.50): aphids, tomato hornworm, asparagus beetles, leafhoppers, and squash bugs -pictured at bottom-

Growing locally helps fix the pesticide problem

The problem in the beginning is that human/life exposure to synthetic pesticides can lead to health issues. The first solution to not suffer negative effects is to simply remove the body from pesticides when possible, while the second, is to stop using pesticides in one's personal life. A person may stop using pesticides by growing plants against pests that have been a problem for them in the past. And yet, there are other techniques to do the same thing, such as intercropping, and rotation cropping.

SOLUTION TRADEOFFS

Growing at home poses benefits, but also concerns

Pros:	Cons:
The person planting has access to fresh produce.	New plants can attract new kinds of pests, other than those being repelled.
The individual gains experience and some know-how of planting.	Planting against a pest is a commitment that involves using monetary resources.
Less risk of consuming pesticides from topical application.	Plants have no outside protection against natural diseases.
The individual contributes less to the pollution of the world with pesticides.	This solution is a time commitment, that not all may have time to do.

Even so, it is worth it to grow at home

There were multiple very easy solutions proposed to lower exposure and use of pesticides. The first is to avoid any areas under pesticide use warnings, while the others are technique-based planting styles of intercropping, or crop rotation. Of those mentioned thus far, they are all free, and are based completely off of an individual's commitment. Also of the three mentioned so far, they are effective in inconsistency. This means that pests can't rely on the location to supply them, and thus, fewer will appear. The final solution is to lower or eliminate the use of pesticides for one's self. This solution is extremely and affordable, as it is potting a plant. The final solution is effective, as the intention of planting it was to repel a specific pest, which is also the purpose of pesticides.

People should care to reduce their exposure to pesticides

The first and foremost reason to care about pesticide use is that they can enter the human body when they aren't intended to, and from there can cause compromises in health if experienced for too long. Multiple sources confirm the study that many pesticides are carcinogens, and the Toxins Action Center elaborates on its' Toxic Substances and Disease Registry publication from February of 2009, which states that "children who live in homes where their parents use pesticides are twice as likely to develop brain cancer versus those that live in residences in which no pesticides are used." Now, this is just one of the many health issues linked with extended exposure to certain pesticides. However, cancer is certainly one of the most life-threatening, and long-lasting problems to come from pesticide exposure. It is for the sake of one's own health, and out of consideration for others that an individual should not use pesticides,

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FOOD EXPEDITION FINAL PROJECT (ECOLOGY & ENGLISH)

"Sustainable Solutions" Booklet

LEARNING TARGET:

I can produce a research-based booklet that describes a food-related problem and proposes a sustainable solution to it that anyone can implement.

1. I can write a strong, clear thesis statement about a given topic. (W.11-12.2)
2. I can develop my thesis in a well-written introduction, body, and conclusion, using transitions to create cohesion between these parts of my writing. (W.11-12.2, W.11-12.4)
3. I can develop my topic with evidence from credible sources and reasoning that connects my evidence to my thesis. (W.11-12.9)
4. I can follow APA formatting and citation style in order to avoid plagiarism. (W.11-12.8)
5. I can skillfully use technology to produce and publish my writing, giving careful consideration to the formatting and design of the documents containing my work. (W.11-12.6)

BACKGROUND:

This semester we've learned about a lot of the problems with our current food system. We've learned about the issues related to our food choices and how they affect our health. We've learned about the ins and outs of how food is grown and produced today, and about the ways those methods impact people and the planet. We've covered the "What?" and "So what?" of the problems in our food system. Now it's time to consider the "Now what?" of the issue. What do we do to reduce the negative impacts of our food system? What can everyday people do to make a positive impact?

ASSIGNMENT:

The final project in English this semester will be to create a **high-quality, research-based booklet** that presents information about a specific problem in today's food system and a solution to that problem that is sustainable and small-scale. This means that the solution would (a) reduce the negative impacts of the problem, and (b) be easy for anyone to implement on their own.

Your booklet must:

1. Present research-based information about a **food-related problem**
2. Describe a **sustainable solution** to the problem that anyone can implement
3. Explain **how to put that solution into action**

SPECIFIC REQUIREMENTS:

Booklet Text	***Booklet Design***
● Follows outline below, writing in enough detail to explain each idea thoroughly ● Uses evidence from trustworthy sources to support ideas ● Cites all sources (images and evidence!) using in-text citations (APA) ● Uses both paraphrases and direct quotes of information gathered from research ● References list (sources listed in APA format) ● Uses proper spelling, grammar, punctuation, capitalization on all written parts	● Designed using LucidPress, Canva, or similar ● Uses images and captions that complement written ideas ● Uses a layout design that incorporates the principles of CARP (contrast, alignment, repetition, proximity) ● Uses a color scheme, fonts, and graphic design elements (i.e. sidebars, background colors, etc.) that are consistent, complementary, and connected to the topic and feeling you're trying to communicate in your booklet

OUTLINE:

I. **FRONT COVER (1 page)**
   A. Creative title
   B. Pictures/graphic design elements
   C. Your name (By ____)

II. **PART 1: Define a Food-Related Problem (1-2 pages)**
   A. Background:
      1. Start with an attention getter--get people to care about the problem (present a fact, question, startling statistic, story, quote, etc.)
      2. Give an overview of the problem
         a) How widespread is it?
         b) Who and what does it impact?
   B. Causes:
      1. Discuss why this problem exists (what has caused it, and how?)
   C. Effects:
      1. Explain how this problem impacts human health, the economy, or the environment

III. **PART 2: Propose a Way to Solve It (1-2 pages)**
   A. Propose a solution to this problem that anyone can put into action; briefly explain what it is.
   B. Explain why your solution is
      1. Affordable
      2. **Accessible** (easy for anyone to do)
      3. **Sustainable** (something that won't require a lot of effort to keep going)
   C. List six **positive impacts** of this solution

IV. **PART 3: Demonstrate Your Solution (1-2 pages)**
   A. Materials: list and show the materials/resources needed, **how much** they would cost, and **where** to get them
   B. Guide the viewer through the **step-by-step directions** on how to implement the solution
      1. Use diagrams, drawings, or photos demonstrating what to do for each step
   C. Show a **finished product**; make sure to reiterate how it shows a solution to the problem
   D. Explain the pros and cons of this solution

V. **PART 4: Conclude Your Ideas (1 page)**
   A. Explain again how the solution could help with the problem you described in Part 1.
   B. Explain why it's important to solve the problem you investigated--why should people care about it?
   C. Leave the audience with something convince them that your solution is easy, effective, and affordable.

VI. **BACK COVER (1 page)**
   A. Make a References list (APA format!)
      1. Include all of the sources you used for both images and evidence
      2. Use APA formatted citations

PROBLEMS TO RESEARCH (CHOOSE <u>ONE</u>:)

In English and Ecology, you have learned about a lot of different problems with our current food system. Here are some of the problems we've discussed (note: some we haven't discussed, but they still relate).

Environmental Food Issues	***Societal Food Issues***
● Food waste ● Pesticide use ● Synthetic fertilizer use ● Overfishing ● Factory farming of animals ● Monocropping ● Processed food and its effect on the environment ● GMOs and their effect on the environment ● Environmental impact of the fast food industry ● Palm oil industry' impact on the environment ● Chocolate industry's impact on the environment ● Coffee industry's impact on the environment	● Food insecurity ● Food deserts ● Foodborne illnesses ● Treatment/working conditions of (CHOOSE ONE): ○ Migrant farmworkers ○ Slaughterhouse workers ○ Fast food workers ● Processed food and its effect on health ● Artificial ingredients in food and their impact on health ● GMOs and their effect on health ● Food marketing and its effect on health ● Foodborne illness ● Chocolate industry's impact on human rights ● Coffee industry's impact on human rights ● Impact of fast food marketing on public health

SOLUTIONS (CHOOSE <u>ONE</u>):

REmember that the solution you choose to research and write about must be something ANYONE can do with little investment of time, money, and space. The solution must be something a person could do to reduce their dependence on the conventional food system and take control of their own food supply. Here are a few ideas of solutions you could write about. Choose one of these, or come up with your own!

- Start composting (Bokashi, vermiculture, "pile" composting, etc.)
- Make a container garden
- Build a vertical garden
- Build a home aquaponic/hydroponic garden
- Develop a natural pest control system
- Build a sustainable backyard garden
- Build a backyard chicken coop
- Start a community garden
- Create an original meal plan for a healthy, sustainable diet
- Start a campaign to help agricultural workers or raise awareness of their working conditions
- Learn about farmer's markets (where to find them, how to shop them, etc.)

Sustainable Solutions Booklet Rubric

WPS 2: Writes informative texts, integrating source material with original ideas.								
	4	**3.5**	**3**	**2.5**	**2**	**1.5**	**1**	**0**
WPS 2.1 I can write a strong, clear **thesis statement** about a given topic. **CCSS Standards:** ● W.11-12.2a ● W.11-12.4	Completely addresses all aspects of the prompt. Introduces topic(s) in a clear thesis statement.		Superficially addresses all aspects of the prompt. Introduces topic(s) in a thesis statement.		Partially addresses all aspects of the prompt. Introduces superficial or flawed topic(s) in a weak thesis statement.		Minimally addresses all aspects of the prompt. Fails to introduce a relevant topic(s) and/or lacks a thesis statement.	
WPS 2.2 I can develop my thesis in a well-written **introduction, body,** and **conclusion**, using **transitions** to create cohesion between these parts of my writing. **CCSS Standards:** ● W.11-12.2a ● W.11-12.2c ● W.11-12.2f ● W.11-12.4	**Introduction** clearly orients reader to topic(s). **Body paragraphs** develop complex topic(s) with multiple supporting details. **Conclusion** clearly and completely reviews ideas presented in the piece, articulating significance of the topic. **Transitions** create cohesion and clarify relationships within or between paragraphs and sections.		**Introduction** partially orients reader to topic(s). **Body paragraphs** superficially develop topic(s) with multiple supporting details. **Conclusion** repetitively or partially reviews ideas presented in the piece **OR** superficially explains significance of the topic. **Transitions** create some cohesion and clarify relationships within or between paragraphs and sections.		**Introduction** inadequately orients reader to topic(s). **Body paragraphs** inadequately develop topic(s) with minimal supporting details. **Conclusion** provides a sense of closure, but may incompletely explain significance of the topic. Uses limited or inappropriate **transitions.**		**Introduction** fails to orient reader to topic(s) **OR** introduction is missing. **Body paragraphs** fail to develop topic(s). **Conclusion** is inadequate or missing. Uses few to no **transitions.**	
WPS 2.3 I can develop my topic with **evidence** from credible sources and **reasoning** that connects my evidence to my thesis. **CCSS Standards:** ● W.11-12.2B ● W.11-12.9	Provides sufficient and relevant evidence to develop the topic. Integrates credible source material with own ideas using signal phrases or by explaining context. Provides reasoning that clearly and accurately connects evidence to thesis. Shows competent understanding of topic or text.		Provides limited and/or superficial evidence to develop the topic. Integrates source material with own ideas using signal phrases or by explaining context. Provides reasoning that connects evidence to thesis. Shows superficial understanding of topic or text.		Provides minimal and/or irrelevant evidence to develop the topic. Partially integrates source material; some is not introduced using signal phrases or with context. Provides reasoning, but only for some evidence. Shows limited understanding of topic or text.		Provides inaccurate, little, or no evidence to support topic. Does not use or integrate source material correctly. Does not provide reasoning for evidence used. Shows no and/or inaccurate understanding of topic or text.	
WPS 2.4 I can follow **APA formatting and citation style** in order to avoid plagiarism. **CCSS Standard:** ● W.11-12.8	Student avoided plagiarism and correctly followed APA formatting and citation with few to no minor errors.		Student avoided plagiarism and correctly followed APA formatting and citation with several minor errors.		Student avoided plagiarism and correctly followed APA formatting and citation with multiple errors.		Student avoided plagiarism and correctly followed APA formatting and citation with pervasive errors.	

WPS 2.5 I can use varied **sentence structure**, correct **conventions**, and precise **word choices** in my writing. **CCSS Standards:** ● L.11-12.1, 2, 3	Uses correct and varied sentence structure. Contains no errors in conventions. Skillfully uses figurative language. Skillfully uses academic and domain-specific vocabulary clearly appropriate for the audience and purpose.		Uses mostly correct and some varied sentence structure. Contains minor conventional errors, which may cause confusion. Effectively uses figurative language. Uses academic and domain-specific vocabulary appropriate for the audience and purpose.		Uses limited and/or repetitive sentence structure. Contains numerous conventional errors, which cause confusion. Inadequately uses figurative language. Inadequately uses academic and domain-specific vocabulary clearly appropriate for the audience and purpose.		Lacks sentence mastery (e.g., fragments/run-ons). Contains serious and pervasive conventional errors. Fails to use figurative language. Fails to use academic and domain-specific vocabulary clearly appropriate for the audience and purpose.	
WPS 2.7 I can skillfully use **technology** to produce and publish my writing, giving careful consideration to the **formatting and design** of the documents containing my work. **CCSS Standards:** ● W.11-12.6	Skillfully uses both basic and advanced features of a computer program to produce and publish writing. Finished product is formatted in a way that fits the task, audience, and purpose. Design shows both creativity and an advanced understanding of CARP design principles (contrast, alignment, repetition, proximity) and color theory.		Skillfully uses the basic features of a computer program to produce and publish writing. Formatting fits the task, audience, and purpose but may contain 1-2 minor errors. Design shows a proficient understanding of CARP and color theory.		Uses some of the basic features of a computer program to produce and publish writing. Formatting contains 2-3 minor errors and/or places that do not fit the task, audience, or purpose. Design shows basic understanding of CARP and color theory.		Uses few of the basic features of a computer program to produce and publish writing. Formatting contains major errors and/or does not fit the task, audience, or purpose well. Design shows minimal understanding of CARP and color theory.	