It’s Alive! It’s Frankenfish!

In the year 2020, will it be possible to get all of the daily nutrients needed just by eating a single apple or an ear of corn? With the current advances in agricultural science and the development of GMO’s, evidence is indicating the answer might be yes. GMO’s or “genetically modified organisms” are plants or animals that have been genetically engineered with DNA from bacteria, viruses or other organisms (GMO Facts). The World Health Organization (WHO) defines them as “organisms whose DNA has been altered in a non-natural way. GM plants are usually changed to be insect resistant, virus resistant, or herbicide tolerant.” (Environmental)

Many arguments are currently being debated about whether or not GMO food is safe for human consumption. Supporters say that any new technology has potential risks, but the benefits of genetic engineering outweigh the possible dangers (Biotechnology). Opponents, however, argue that genetic engineering is still too new to be available for consumption due to insufficient testing and that could present possible dangers to the environment (Biotechnology). Genetically Modified Organisms are important to current agricultural development because they can help to benefit the environment, health issues can be resolved by using GMO’s, the current economical struggle can be eliminated, and the increased crop yield can decrease world hunger.

Are GMO’s affecting the environment? The answer is yes. But the explanation to this answer is complex. Opponents of GMO’s, or people who are in favor of using 100% organic crop growth, claim that GMO’s are having a huge negative impact on the environment. According to the Non GMO Project, “Over 80% of all GMOs grown worldwide are engineered for herbicide tolerance. As a result, use of toxic herbicides has increase 15 times since GMOs were introduced.” (GMO Facts) Also, opponents state that these genetically engineered plants have the potential to become weeds, which can inhibit crop growth and upset ecosystems (Union).

This argument makes legitimate claims and sometimes uses scientific evidence as support. However, often times the arguments opposing GMOs are just generalizations and predictions with no experimental or scientific support. Supporters like Dr. Martina Newell-McGloughlin, the Director of Systemwide Biotechnology Research and Education Program at the University of California, use experimental evidence to support their claims that GMOs are not harmful to the environment. Dr. Newell-McGloughlin stated that “An economists’ study a couple years ago determined that pesticides’ footprint is down by about 35% for corn and 25% for cotton. In addition, there is a reduction in carbon dioxide emissions of 286 kilograms.” (Food) She also provides solid evidence that due to herbicide-tolerant seeds, farmers don’t have to till the soil. Without tilling the soil, the organic matter of the soil is healthier and retaining water, and fuel usage decreases by about 20 gallons per acre (Food). This may not completely debunk the idea
of GMOs harming the environment. However, it is easier to believe that the development of these organisms is helping to lessen the carbon footprint currently being left by humans especially when the pro-arguments are supported by scientific studies by credible sources rather than just general conclusions. GMOs appear to be able to have a very positive affect on the environment.

Are GMO foods causing negative side effects on the human race? This question can also have both positive and negative answers. Some evidence was published that experimental trials in Europe found that GMOs caused organ damage and rapid cell growth in lab rats. Also, according to the Non GMO Project, the “super-weeds” and “super-bugs” caused by herbicide and insecticide tolerance led to the use of a chemical called 2,4-D, which is a major ingredient in Agent Orange (GMO Facts). Minimal health related risks have been found. Can the positive effects outweigh the negatives? In 2006, scientists were able to use genetically engineered immune cells to treat melanoma skin cancer (Biotechnology). Shortly after this medical breakthrough, researchers from Johns Hopkins University used genetic engineering to create a mosquito that could not transmit the parasite responsible for malaria. After 9 generations of breeding the modified mosquitos with normal mosquitos in cages, the modified mosquitos made up 70% of the population (Biotechnology).

Modified foods also have the potential to improve lives by making plants and animals more nutritious (Biotechnology). Karen Batra, a spokeswoman for the Biotechnology Industry Organization said, “Merely a handful of studies point to health or safety issues, and all have been debunked.” (GMO Battles) Once again, the supporters of this scientific development use experimental findings to provide credible claims rather than just using the fear of generalization to convince the audience.

It is not an opinion that the world is currently facing economic issues. Perhaps the use of GMOs to increase crop yield could be a way to boost the economy and put more money into the pockets of farmers. Dr. Wayne Parrot, a Professor in the Department of Crop and Soil Sciences College of Agricultural & Environmental Sciences at the University of Georgia, states that “Every chemical bought reduces the farmer’s profit. Because of insecticide-resistant corn and cotton, we’re not using as many insecticides, nor are we losing as much pre-harvest yield. Lower insecticide use and less yield loss translate into additional profits.”(Food) Farmers face enough negative variables without having to worry about the prices of chemicals to spray on crops. The second and possibly most shocking evidence provided to support the use of GMOs is the amount of food that goes to waste due to spoilage, mold, and pests. The US Department of Agriculture calculated the annual waste to be 141 trillion calories per year down the drain (Stevens). That’s 1,249 calories per capita per day. To find out exactly how much food is being harvested and not eaten, a study was conducted by researchers from the USDA’s Economic Research Service (Stevens). A team of researchers calculated all of the “lost” food in 2010, which includes all of the edible food available for consumption that was thrown away due to spoilage, mold, and pests. Wasted food was also included in these calculations which could be food thrown away by retailers due to blemishes or use by dates (Stevens). The outcome of this study is mind-boggling. In 2010, the United States lost 133 billion pounds of food which accounted for 31% of the total food supply and costing about $161.6 billion (Stevens). Among the top foods wasted were vegetables at 25 billion pounds and grain products at 18.5 billion
pounds (Stevens). Both vegetables and grains have the potential to last longer if exposed to genetic modification. In turn, the amount of food being wasted could be lowered and money could be saved.

Approximately 700 million people receive less than 80% of the recommended caloric intake daily (Robin). Nearly half of the total population of the world is malnourished. (Robin). The alarming and increasing rate of people living in poverty and starving conditions calls for immediate intervention. Higher productivity levels need to be established so that countries that are unable to maintain crop growth due to unfavorable conditions are able to access GMO foods that have been engineered to withstand excessive heat or drought-like conditions. According to BorgenProject.org, 61% of Americans say that combating world hunger should be a very important goal of U.S. foreign policy, and 78% favor helping poor countries develop their economies as a way to fight terrorism (U.S.). Developing GMO foods to help boost food production in poor countries will be a positive step in lowering the number of countries currently facing poverty due to poor farming conditions.

In conclusion, there are many valid arguments both for and against the use of GMO foods. Supporters are all about the increased revenue that can be seen, the ability to fight diseases, and end world hunger by rapidly producing crops. Opponents, however, use the fear of the unknown to convince audiences that GMOs are a horrible way to produce food and that they should be banned. Evidence points to the idea that many issues being faced in the world can be eliminated using this method of food development. GMO is the way to go.

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Essay 2. The following essay explores the topic by making the persuasive purpose clear in each paragraph while both supporting major claims and refuting arguments from the opposing side.

Home-Schooled Students and Public School Athletics

Home-schooling has been around for many years. Most home-schooled students are taught at home due to their family’s religious beliefs or concerns about the educational environment at traditional schools. The question has always been whether a home-schooled education is as good or better than public education. Children being home-schooled have some disadvantages such as missing social interaction with peers, classes that count as credits like band and chorus, as well as extra-curricular activities and interscholastic sports programs. Across the nation, the debate over Home schooled students participating in sports is playing itself out in state capitals and courthouses. Should home-schooled students be allowed to play with their public school peers? Many public school officials do not believe that home schooled children should be permitted to play on local high school sports teams, and for good reasons. Most importantly, home schooled students are not held to the same standards as those students in public school systems.
On Friday, November 11, 2005, Governor Ed Rendell signed a bill that required all school
districts in the state of Pennsylvania to allow home schooled children
to participate in any extra-curricular activities as long as they follow the rules that apply to
everyone else (Smith 32). Prior to this new legislation,
221 schools in Pennsylvania did not permit home schooled children to participate in school
sports or other extra-curricular activities (32). This new
law goes into effect on January 1, 2006, and will allow the approximately 25,000 home-schooled
students state-wide to participate in their home districts
(33).

Regarding this law, Scott Govern, Athletic Director at Boiling Springs High School, stated,
“Many schools currently do not allow these students to participate because the districts
cannot determine whether attendance and behavior requirements that are required of the district’s
students have been met by those who are home-schooled.”
("Change") Most schools require their student athletes to arrive in school by 9:15 a.m. unless
they have a doctor’s excuse in order for that athlete to
participate in practice or a game that day. Student athletes are also held to a higher standard for
their behavior during the school day which includes
turning in homework, participation in class, respectfulness to teachers and other students, and
attendance in class ("Change"). Students also fall under
scrutiny of the “coach’s eye” throughout the day since most coaches are also teachers
("Change"). A larger issue is public school students must remain academically
eligible in order to continue to participate in their sport. If the student becomes ineligible, the
athlete is forced to sit out of practice and games
during a time period designated by the school while the student attempts to bring up their grades
("Change"). Another issue is liability. If a home-schooled
student is injured during a public school sporting contest, whose responsibility is it to provide
medical care and insurance on that student? The public
schools feel it is not their responsibility if the student does not attend their school.

The most serious argument as to why home-schooled students should not be allowed to play
public school athletics is academic equality. Many parents and
teachers feel that home-schooled students have an easier time getting passing grades weekly
from one teacher (mom), than public school students do from
seven or eight different teachers (McKee). Additionally, certain subjects require specialized
tools and/or advanced education in order to teach the
subject, such as advanced science curriculums (McKee). This argument is effective with school
districts who say that “moms and dads” who home-school
their children cannot equate the education they provide to the information and curriculum taught
in a public school setting (Billson). It is not equal
unless the parent has a degree in education and science. This is where the school’s argument
regarding academic eligibility seems justified. A home-schooled
child cannot provide documentation of the same type of education or that the education being
provided is the equivalent of that taught in public school
because of the specialized instruction (Billson). In regards to the issue of attendance requirements, home-schooled children are not regulated to the amount of time they put into education during a day, whereas the public school system is. If a parent who home-schools a child allows that child to sleep until 10:00 a.m. and then teaches until 2:00 p.m., the standard is lower than the rules applied to public schooled children, and there is no sure way to show this is not happening except a statement from mom or dad who says differently. Also, in public school, if a child is late for school or misses a day, it is obvious because of attendance rules (Billson). How does one determine if an assignment is late, or a bad behavior, which in public school would have been cause for disciplinary action, is not being handled appropriately by the home-schooled parent? The argument is those things cannot be regulated and therefore cannot be held to the same standards as public schooled students unless home-schooled students are willing to meet state requirements. Most families are not, which is why they choose to home-school in the first place.

The Home School Legal Defense Association (HSLDA) is divided on this issue saying, “Our official position is we have no official position” ("Response"). Chris Klicka, an HSLDA attorney, objects to home-schooled children playing public school sports. “Freedom gets traded off for services, and that’s something that rubs us the wrong way because we’ve been fighting so long to get away from government control…it just seems to be illogical to move back toward government handouts and drinking from the public trough” ("Response"). Janet Bass, spokesperson for the American Federation of Teachers, said that, “The kids who go to public school should have the first crack at being on a sports team. I mean I’m not so sure a kid who’s home-schooled should be able to take advantage of the perks of going to a public school” ("Response"). Bass also said, “They want everything” ("Response"). This is representative of the most prevalent argument among equal access opponents, that home-schooled children have chosen their school and deserve the consequences ("Response"). This statement seems harsh, but Pete Ayoub, from the State Board of School Administrators, says public school administrators look at it this way, “They basically say, we think we have a very good program, and you’re welcome to be a part of it; if you choose to do otherwise, then that’s your choice; but you should not be allowed to pick and choose those parts of our program that you think are good” ("Response").

Home-schooled children and parents decry discrimination and their main premise is they should be treated equally, or their tax money should be refunded (Caedmon). This being the argument, one could respond that if one pays taxes which supports Penn State, and they want their child to play quarterback there, the child must attend school at Penn State. The child cannot go to HACC and still play quarterback at Penn State, but one must still pay taxes to support it. Everyone of school age is entitled to attend public schools, whether or not they pay taxes. The public pays taxes for jails and fire departments when needed, even though one hopes not to need them (Billson). Those opposed to home-schooled children participating in public school athletics says home-schooled
parents and children chose not to participate in public school (Caedmon).

There is a different side of the coin in this argument as well, which is made by opponents of home-schooled children who excel in athletics. Swimmer Katie Hoff, is a 2004 Olympian, and is home-schooled. Basketball player Mike Beasley, a rising junior from Upper Marlboro, Maryland, is projected by some analysts to become the first player to go directly from home school to the NBA (Kreiger). The argument is, as the numbers of home-schooled athletes increase, so do questions about the quality of the education they are receiving and the potential exploitation of athletes who could be sacrificing their right to a basic education in pursuit of sports goals (Kreiger). “There is valid moral criticism of parents who endanger their children’s academic and employment futures in their quest for athletic stardom,” says Stanford political scientist, Rob Reich (Kreiger). Home-schooled children in this position may get up at 4:00 a.m., put in several hours of practice, head home for a few hours of home schooling, nap, and go to a second practice. This situation is controversial and puts short term athletic goals ahead of academics (Kreiger). The children are bypassing the traditional high school-to-college professional path to hone their skills with more flexibility and fewer restrictions from school activity associations and league rules (Kreiger). In this case, home-schooled children have more flexible schedules which allow more time for rest and practice than students attending public schools. It is not fair for home-schooled children to participate in the fun parts of school without having to do all the work involved.

Where do we draw the line? If home-schooled children want to participate in public school athletics, what about wanting to participate in chorus or band which counts as a credit in public school, or pick certain classes which interest them or cannot be taught by their parent because of lack of education in a particular subject? There is nothing wrong with a parent choosing to home-school their children. But there are legitimate reasons for more regulation in order for home-schooled children to participate in public school athletics in order to make it fair for everyone. Athletics is a privilege, not a right, and student athletes should be, and are held, to a higher standard than most students. In order for home-schooled students to be held accountable to the same standard, they must be willing to provide in-depth documentation and possibly submit to the same standards that Pennsylvania schools require under Pennsylvania law. It should be required of home-schooled students to take school selected tests, and/or submit their curriculum and academic work for review and approval by school officials. This would demonstrate their academic achievement in ways that meet conventional school standards, values, and expectations. This may go against home-schooled parent’s reasons for home-schooling in the first place, to get away from the restrictions that Pennsylvania places upon public education. To participate in public school athletics is a privilege entitled to those students who attend and fulfill the requirements at that public school.
Essay 3. Like the previous essay, the paper below is a good example of building a case by spending considerable time refuting the claims of the opposing side with both evidence and reasoned logic. In fact, this approach gives much of this paper its organization—state the claims of the opponents and then analyze and critique the weaknesses of these positions.

The Caribou Elk Are Going To Be Just Fine

One of the hot topics coming out of Washington is the recent bill proposed by President Bush to open up more drilling in Alaska’s wildlife refuge. Known on the political circuits as ANWR, the proposal is in place to help the United States become less dependent on foreign oil by tapping into our own resources at home. Opponents of drilling in Alaska have become very vocal about not compromising our last great frontier. Although recent studies by wildlife conservationist have shown that animal herds were basically unaffected in other developed areas, people opposing the initiative continue to pull at the heart strings of the American public by stating the wildlife will be grossly affected. With this being said, one must wonder if the initiative slated by the Bush administration will really hurt the wildlife in the refuge or are the people who want to keep ANWR pristine over exaggerating its long-term prognosis?

Last month, by a 51 to 49 favorable vote, the Senate endorsed a provision in Bush’s energy budget that allows oil companies to open up drilling facilities in ANWR refuge (Fleming). Along with exploring other means of conserving energy, the bill would give the United States an opportunity to produce oil domestically so we won’t have to fully rely on other countries to supply our vast petroleum needs. The United States spent $106 billion dollars, or about $380 per person, importing crude oil and petroleum products in 2000. By 2020, oil-import spending is expected to hit $160 billion, according to the U.S. Department of Energy, an increase of more than 50 percent (Bozes). Bush’s energy plan wants to address this by cutting production and distributing cost with oil exploration being brought closer to home. Pumping oil from the wildlife refuge is essential to that effort, claimed Rep. Jim Gibbons (R-Nev.) who stated, “If we are going to improve the security of this country, we have to become less dependant on foreign sources of oil.” (Poec)

Many critics want to paint a picture in the publics mind that Alaska’s setting will become permanently changed with big oil production outposts dotted everywhere across the state. But the fear of another Exxon Valdez oil spill is not in the future when it comes to drilling in ANWAR. The real truth of the matter is that oil exploration has become streamline and high tech. Of the 19.6 million acres in ANWR’s refuge, only 2,000 acres will be affected by the advent of modern drilling facilities (Watson 4). Although there are no facts about the consequences of disturbing the wildlife refuge, most proponents
claim that there will be a very minimal amount of construction on the ANWR plain. Also, it is not like drilling for oil is new in the state of Alaska. Drilling has been happening in the Prudoe Bay area since 1977, with no discernable change in animal patterns. In fact, a large segment of the caribou elk herd continues to migrate in and out of the Prudhoe Bay area, and over the years, the population has flourished in the areas that we drill in today (Watson 5).

Some have taken the stance that we should explore all other possibilities before we tap into the last great sanctuary. Edward Markey, a senator from Massachusetts who led the effort to prevent drilling, said automobile mileage standards should be increased as a way to save oil before tapping the refuge. He also adds that drilling for oil is the easy out for the Energy and Commerce Committee because “They don’t have the nerve to take on Detroit’s auto dynasty.” (Montez) However, Senator Markey’s comments about taking on the automakers are not a valid argument. The technology for higher gas ratings for domestic vehicles has been around for years. Small engine and hybrid cars with less horsepower and better mileage rates are readily available at the local car dealership, but they are not flying off the lot. Americans have become accustomed to the SUV lifestyle; driving big cars that weigh a lot, has plenty of room, and continuously suck up a lot of gas. Although last year sales of domestic sport utility vehicles stagnated slightly, the percentage of family owned SUV’s have continued to grow in the last ten years (Watson 3).

So if everyone agrees with the notion that there is going to be a serious gasoline shortage in the future, what is the reasoning for higher gas prices now? A few words come to mind like consumption and taxes. One of the biggest complaints other countries around the world have about the U.S. is that we consume more than 25 percent of the world's resources despite comprising less than 4 percent of the population (Feldon). Especially when it comes to scarce, non-renewable resources such as oil, few people would argue that the American public needs to cut wasteful consumption. Also, the gas prices in the United States pail in comparison to prices around the world. Consumers in Europe and Canada pay upwards to $6.00 a gallon for gas and also pay almost four times the 18.4 percent national tax that American consumers pay (Feldon). So maybe we should consider ourselves lucky that we live in America and only have to pay $2.25 a gallon. We should also be aware of the fact that we have such great natural resources that we can tap into, but still protect as well.

Another debate in the process is some wonder how much oil is under the expanse. Recently House republicans toured the planed area of attack and came to the conclusion that today’s emerging industry technology will allow ANWR to be drilled with little or no environmental disturbance (“Congress”). The Republican delegation’s trip also focused largely on the industries ability to sensitively tap what the U.S. Geological Survey has estimated to be between 5.7 billion and 16 billion barrels of recoverable oil beneath ANWR’s coastal plain (Poppick). The plan’s proponents say horizontal drilling, the use of ice roads for winter-only exploration,
extreme care in handling oil and other industrial fluids, and other efforts have fundamentally altered the oil industry’s face for the better.

So with all the positive data pouring in, why are we even asking ourselves if it is the practical solution in curbing our dependence on foreign oil? The reason seems to be based more on a political stance or belief. Each year, millions of dollars flow into funding accounts that either takes the position that drilling is a necessity or that it will devastate the environment. President Bush has portrayed the area as central to increasing domestic oil production. His opponents counter with the attack that his declaration to relieve our dependence on foreign oil is just a smoke screen for big companies to cash in even more. Coming under attack from the Democrats, the House version of the bill has been dubbed as an “economic funnel” to highly profitable energy companies, while doing little to promote conservation or ease gasoline prices (Poppick). Perhaps so. Nonetheless, most credible evidence points to the idea that the oil exploration initiative in ANWR should be fast tracked right through the U.S. House of Representatives and Senate as soon as possible.

It’s time to put the partisan rhetoric aside and show oil rich nations in the Middle East that we are not comfortable over the proverbial oil barrel any longer. We have been at the mercy of these oil barons’s far too long. Let’s break the stronghold that OPEC has on our psyche as well as our wallets. We should also become a nation of self-reliance through better consumption habits, less production and import cost, and more efficient ways of transportation such as rail and public transportation. The risk to wildlife is very minimal compared to the potential this small piece of land has to offer. Now is the time to take a leap of faith and tackle our gluttonous gasoline habit head on. If we sit back and waste time on political tirades and false posturing, the citizens of this country will witness an energy crisis that will be at the least, devastating.

("Works Cited" has been deleted; source names have been changed.)