
September 2016

The Mob Mentality of Organic Agriculture

Timothy VanWingerden
Cedarville University, tvanwingerden@cedarville.edu

Follow this and additional works at: https://digitalcommons.cedarville.edu/idea_of_an_essay



Part of the [English Language and Literature Commons](#)

Recommended Citation

VanWingerden, Timothy (2016) "The Mob Mentality of Organic Agriculture," *The Idea of an Essay*: Vol. 3 ,
Article 5.

Available at: https://digitalcommons.cedarville.edu/idea_of_an_essay/vol3/iss1/5

This Essay is brought to you for free and open access by the Department of English, Literature, and Modern Languages at DigitalCommons@Cedarville. It has been accepted for inclusion in The Idea of an Essay by an authorized administrator of DigitalCommons@Cedarville. For more information, please contact digitalcommons@cedarville.edu.

The Mob Mentality of Organic Agriculture

Timothy VanWingerden

Tim is a senior biology major who, after college, plans to work as a grower at his family's greenhouse business. His degree will help give him the necessary skills to produce cost-efficient crops using state-of-the-art technology. His favorite activities include: basketball, snowboarding, surfing, lifting, and reading.

Within the past decade the organic industry has skyrocketed, creating false perceptions associated with its health benefits. The recent trend of organic agriculture reflect the confidence consumers have in it, while the trust in conventional agriculture appears to be declining. They trust their instincts that organic food is healthier because of its price, quality, and cleanliness. The question lies within the attributes of organic agriculture: Does this quality and cleanliness affect the health of someone consuming organic agriculture? This paper will address the facts about organic agriculture; it will look at its contribution to the environment and the individual, seeing if health benefits are associated with it. Although marketing –aided by the organic industry's rise in popularity –has used the persona of cleaner product to suggest the health benefits of organic agriculture, there is no concrete evidence proving that organic agriculture is healthier than conventional agriculture.

Organic agriculture is a natural method of farming. According to the US Department of Agriculture (USDA) (2014), organic agriculture must follow a specific criteria in order for it to be certified organic. The USDA (2014) states that organic operations must protect natural resources, conserve biodiversity, and use limited substances. For the most part, organic agriculture does not use synthetic materials like chemicals or pesticides, but the Code of Federal Regulations (CFR) does approve of a few substances that organic farms can use (2012). All of the studies that address organic

agriculture in this paper are certified according to the standards of the USDA. On the other hand, conventional farming uses synthetic materials like pesticides and chemicals to assist in the growth of its product (USDA, 2014).

The purpose of organic farming is to develop biodiversity in the environment which disrupts the habitat of pest organisms and serves to maintain the fertility levels in the soil. In other words, organic agriculture is a cleaner, more environmental-friendly way of growing crops since it is mostly natural, and its effects can be seen at the environmental level. To fertilize a crop, an organic farmer must plan ahead focusing on soil building practices. To build up the health of the soil, the farmer attempts to control organic matter –the remains, residues, or waste of organisms –which increases soil health. Compost, manure, and crop rotation are ways to build organic matter in the soil. Compost and manure are natural fertilizers and they can be applied to the soil directly, increasing the nutrition density in the soil. Crop rotation helps build the nutrition in the soil by varying which crop is grown each year. To control pests in a crop, an organic farmer will use biologicals, which are live organisms that eat pests. Biologicals can be hard to manage, so expertise are needed for them to be used effectively. These natural methods of farming provide great benefits to the environment, but the health benefits it has on the individual is unclear.

These natural methods of farming in organic agriculture have proven to be more effective in maintaining soil quality in comparison to conventional agriculture. Stokstad (2002) writes an article exposing the benefits of the organic method of farming. He refers to a long-term study which looked at the productivity and soils of organic crops versus conventional crops over a 21 year period. The soil levels of organic farms reported 40% more fungus, three times as many earth worms, and twice the amount of spiders, all of which provide biodiversity to the soil (Stokstad, p. 1589, 2002). And he also notes that nutrient-cycling microbes were more plentiful in the soil of organic farms, meaning more nutrients are available to plants (p.1589). Stokstad (2002) states, “The bottom line: Organic farms...leave soils healthier” (p. 1589). It is clearly shown how important it is to have healthy soil and how organic agriculture sustains the nutrients in the soil providing a significant advantage over conventional agriculture.

Collins, Cogger, and Bary (2013), from Washington State University, measured the development of nitrogen levels in soil from eight different certified organic farms. Nitrogen is essential for the growth of a crop since it is the basic building block for many proteins that plants need (Kahl, 2004). It is so important that nitrogen levels are monitored by farmers to ensure the plant is receiving the sustaining nutrition that it requires. With this in mind, if nitrogen is naturally mineralized in the soil, it will not need as much artificial fertilizer to give the plant what it needs, increasing profit margins for companies. The professors from Washington State University found that soil building practices in organic farming are essential; they state, "...organic matter provides a bank of nutrients, including nitrogen, that are made available through mineralization" (Collins et al., p. 17, 2013). And in this study the five out of eight of the organic farms mineralized a sufficient amount of nitrogen to produce heads of broccoli. So we see how organic agriculture helps nourish soil, and it helps provide plants with natural forms of nutrients. Conversely, conventional agriculture depletes the soil of valuable nutrients, and as it degrades the soil, it becomes a candidate for fertilizer injections. The main problem with soil injections is that it decreases biodiversity.

Doran and Zeiss (2000) establish the importance of soil in the environment showing how soil health directly impacts plant productivity and water quality (p. 3). They explain that soil is a critical component of life and only a thin layer of soil covering the surface of earth is what separates us from extinction (p. 3). So organic agriculture maintains soil health, which directly impacts water and air quality, animal and plant productivity. Doran and Zeiss (2000) show the necessity of having good, fertile soil, and organic agriculture should receive credit for improving soil quality. Since soil quality directly impacts the quality of the plant, it could be responsible for consumers agreeing on organic food being better-tasting, but there is no conclusive evidence to support this claim. We see how organic agriculture is better for the environment creating biodiversity by retaining nutrition in the soil, and using less pesticides. This results in a cleaner, hardier, and better tasting product, but it does not mean that the product itself is healthier. In their research report, Saba and Messina (2003) looked at consumers' perception of organic foods. Their research shows

how there is a mob mentality in regards to organic agriculture. For example, the study indicated that the 947 subjects who were questioned, tended to respond positively to organically grown fruit and vegetables, and on average agreeing that the fruits and vegetables were healthier, more environmental-friendly, and better tasting than conventionally grown food. Saba and Messina (2003) asked the subjects what they thought about pesticides, and it turns out “significant relationship was found among perceived benefits and risks associated with pesticide[s]” (p. 644). The test subjects had a negative views on pesticides, and many believed that pesticides were harmful. The study described how these perceptions were based on the subjects’ presuppositions towards pesticides. Since pesticides have a negative context, it was reflected in the results. The same thing seems to be happening when one looks at the health benefits of organic agriculture. People will have a predisposition on the health benefits of organic food, and regardless of what the facts are, they believe what marketing wants them to believe. With the perception of organic agriculture being healthier, this particular effect is clearly seen. It has evolved into a mob mentality: Organic agriculture is healthier since it is more expensive, cleaner, and of higher quality. The mob mentality can be seen as it is reflected in the increase of organic sales throughout the U.S. According to the USDA, it has risen from 3.6 billion in sales to 26.7 billion only within the past ten years (2014).

The false perception of organic agriculture being healthier is led by the drive of marketing and the rise in popularity. Marketing has done a great job correlating clean with healthy. Now, when a consumer at the super market hears of the word, “organic” they associate this clean, environmental-friendly, higher quality product as a healthier alternative than conventional food. This is a common logical fallacy. Although the organic product is cleaner, higher quality, and better tasting, it does not prove that it is healthier as most people assume. It sounds logical and believable: a more expensive, better tasting product that is grown naturally without the use of potentially harmful chemicals must be healthier. Take that statement and add some advertising to it and you have a product that everyone wants to buy. Forget about the quality, the taste, the aesthetic marketing label of “certified organic,” and think of the organic product stripped down to its raw ingredients.

After reading many scientific articles that observed these nutrition differences, I have learned the health benefits of organic agriculture are complex. Partly because no definitive study has been done, but also because of the exceptional amount of variables existing between the two methods; a fair comparison between the two methods is very complicated. Although the complexity makes it difficult to pinpoint certain correlations, conclusions can still be drawn from some of the studies that have been conducted. Smith-Spangler et al. (2012) conducted a meta-analysis examining studies which reported the nutritional values of organic and conventional produce. They made sure to carefully select their studies, hiring a professional Liberian to assist them in their search for such material. Their purpose was to expose the nutritional differences seeing if they could find any health benefits. They looked at many studies regarding nutritional differences and accumulated their results. As they began to correlate their results they note that little patterns and much diversity existed between each study, but they were able to scrape up some differences that were considered statistically significant (pp. 350-354).

They found that there is a difference in the amount of phosphorus level between the foods (Smith-Spangler, pp.357-358, 2012). Also, in organic milk, there was a little more omega-3 fatty acids recorded in organic milk compared to conventional milk. Smith-Spangler et al. (2012) analyzed these differences referring to The Food and Nutrition board and sate that the phosphorus levels do nothing to affect the health of someone unless he or she is dying from starvation (pp. 357-358). And while omega-3 fatty acids are essential to anyone's diet, the difference is not large enough to affect the individual. Also, Smith-Spangler et al. (2012) were concerned of publication bias, noting that some of the funnel plots in the studies they used appeared to be asymmetric. This raises a concern for the validity of the study that was dealing with the omega-3 fatty acids. With this in mind, they note that their results should be interpreted with caution. Besides these two findings, the other nutritional differences were not even statistically significant enough for Smith-Spangler et al. (2012) to discuss (pp. 357-358). They state, "Despite the widespread perception that organically produced foods are more nutritious than conventional alternatives, we did not find robust evidence to support this perception" (p. 357).

Although no conclusive evidence shows how organic agriculture is healthier, it could be argued that organic agriculture does less harm, making it healthier. For example, people claim that pesticide residue present in conventionally grown food is dangerous. Haspel (2014), a journalist from the Washington Post, looks at many academic journals that observe the factors between organic and conventional food. She summarizes them into an article, making observations about pesticide residue. She states, "...organic [agriculture] does have lower levels of pesticide residue. However, there isn't universal agreement on the risk those residues pose." Even though there is complete agreement, the pesticide residue that the US Department of Agriculture allows is very low. In fact, Stephen Barrett (2007), MD reports that in some cases pesticides can actually reduce health risks by preventing the growth of harmful organisms such as molds which produce toxic substances (p. 17). The report also shows how the FDA conducts "market basket" studies. These studies conducted in 1997, took random samples of food produced in the United States. The report indicated that 60% of the food sampled were completely absent of pesticide residue (p.17). This study is an example of how something unsubstantial can be magnified out of proportion. Pesticide residue is highly controlled in US, and any exposure to it is not clinically significant to affect your health; saying that pesticide residue is harmful as an argument against conventional agriculture will not stand.

We have learned that organic food is beneficial to the environment by the way it replenishes the nutrients of soil, creating biodiversity. This directly impacts the quality of the plant, reducing the assistance the plant needs. Therefore, organic food is a higher quality product, and with the help of marketing, consumers believe that it provides health benefits. According to Smith-Spangler et al. (2012), however, there is no evidence backing this claim. Organic agriculture also should not be considered less harmful because of the minimal amount of pesticides used. Pesticides are strictly regulated and do not pose a threat (Barrett, 2007). Some conclusions can be drawn from these facts. First, the claim that organic food is healthier than conventional food can be refuted because if organic food was healthier, it would clearly be reflected in the nutrition and in consumer. But neither of these are true. But there is no clear data showing this. Another observation Smith-Spangler et al. (2012)

mentioned was that there have been no studies that have observed a population consuming primarily organic or conventional food over a long period of time. A long-term study looking at a population would be beneficial to this argument, but since no studies of that nature exist, the only conclusions we can make are from the evidence we have now.

It is clear how the health benefits for organic food are not what people perceive it to be, and changing society's mind on this matter would be difficult. Since organic agriculture is so beneficial to the environment, and its increasing popularity continues to give it the center of attention, any effort for society to rethink what organic agriculture really is would be in vain. The most difficult aspect is the complexity of the subject. With so many different variables present, a clear definitive answer will never be achieved. Some studies show how organic agriculture does have nutrition differences, while others report the exact opposite. Regardless, the fact that organic food is a higher-quality product does not change. People may purchase it for the taste, or the positive effects it has on the environment, but they should not be deceived into believing that organic food is more beneficial to their health. It's not healthier, just cleaner. It is a misdefinition of terms that marketing uses to suggest what is cleaner, is healthier, creating a mob mentality that consumers eat up. Cleaner does not equal healthier. So the next time you purchase organic food at the supermarket, enjoy it for its quality, taste, and the positive effects it has on the environment. But do not be deceived into believing organic food will increase your health since the nutritional differences found in organic agriculture are not significant enough to make a difference at an observable level.

References

- Smith-Spangler, C., Brandeau, M., Hunter, G., Bavinger, J., Pearson, M., Eschbach, P., & Bravata, D. (2012). Are organic foods safer or healthier than conventional alternatives?: a systematic review. *Annals of Internal Medicine*, 157(5)
- U.S. Department of Agriculture. (2014). Organic Standards. Agricultural Marketing Service.
- Kahl, H. (2004). Role and importance of nitrogen in your soil. Soil & Health Association of New Zealand.
- Synthetic substances allowed for use in organic crop production. (2014). Code of Federal Regulations. Title 7, Pt. 205.601

- Doran, J., & Zeiss, M. (2000). Soil health and sustainability: managing the biotic component of soil quality. *Applied Soil Ecology: A Section Of Agriculture, Ecosystems & Environment*, 15(1), 3-11.
- Haspel, T., (2014). Is organic better for your health? A look at milk, meat, eggs, produce and fish. *Huffington Post*, Health & Science.
- Barrot, S., (2007). What is the True Value of Buying “Organic” Foods?. (2007). *Running & FitNews*, 25(5), 16-18.