MASSACHUSETTS V. ENVIRONMENTAL PROTECTION AGENCY AND THE ORGANIC MOVEMENT: CAN THE "USDA ORGANIC" LABEL SAVE US FROM NITROUS OXIDE?

I. INTRODUCTION

America is running a bit of a fever[1] and reeling from record high temperatures,[2] heatwaves,[3] and droughts.[4] Although the existence of global warming may be a controversial topic,[5] what is incontrovertible is that the abnormal weather is affecting farmers[6] by causing lower livestock and crop yields.[7] The nation demands more and more food, adding pressure on the American farmer.[8] Success at meeting this demand has created a vicious cycle: American farmers grow more food; the abundance

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[1] ABC News Internet Ventures, ABC News, *Al Gore: There's Still Time To Save The Planet*, (June 23, 2006) (on file with the San Joaquin Agricultural Law Review), http://www.abcnews.go.com/GMA/GlobalWarming/Story?id=2110628&page=1. *See also* Felicity Barringer & Andrew C. Revkin, *Gore Warns Congressional Panels of 'Planetary Emergency' on Global Warming*, N.Y. Times, Mar. 22, 2007, *available at http://query.nytimes.com/gst/fullpage.html?res=9C05E4DB1430F931A15750C0A9619C8B63#.*

[2] ABC News Internet Ventures, *supra* note 1. *See also* Sharon Begley, *The Truth About Denial*, NEWSWEEK, August 13, 2007, at 26, *available at* http://www.newsweek.com/id/32482.

[3] ABC News Internet Ventures, *supra* note 1. *See also* Begley, *supra* note 2, at 20-21.

[4] ABC News Internet Ventures, *supra* note 1. *See also* Begley, *supra* note 2, at 20-21.

[5] ABC News Internet Ventures, *supra* note 1. *See* Begley, *supra* note 2, at 22; Barringer & Revkin, *supra* note 1.

[6] Begley, *supra* note 2, at 29.

[7] United States Environmental Protection Agency, *Agriculture and Food Supply*, Dec. 20, 2007, http://epa.gov/climatechange/effects/agriculture.html [hereinafter *Agriculture and Food Supply*].

[8] *See* MICHAEL POLLAN, THE OMNIVORE'S DILEMMA 101-08 (The Penguin Press 2006) (2006); Robert W. Fogel, *Preface* to ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE, AMERICA'S EATING HABITS: CHANGES AND CONSEQUENCES i (ELIZABETH FRAZÃO ed., 1999), *available at* http://www.ers.usda.gov/pub-lications/aib750/.

of food causes food prices to plummet;[9] low food prices encourage Americans to eat more food;[10] and, higher consumption places more pressure on American farmers to grow more food.[11] Proof of the heroic success of the American farmer is evident in the growth of our collective waistlines.[12] Obesity and weight-related problems are scourges on our nation and leading killers of adults.[13] It has gotten to the point that the federal government has been forced to start informing Americans about something that would have been considered common knowledge just a few generations ago: eat your vegetables and go out and play.[14]

However, the public knows that something is wrong. Perhaps as a statement of the nation's growing unease with global warming, the past decade has brought an Oscar[15] to a former vice-president,[16] caused a fuel efficient Japanese car manufacturer to dominate the American automobile market,[17] and inspired a beloved animated American family to com-

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[9] POLLAN, *supra* note 8, at 53-54.

[10] *Id.*

[11] *Id.*

[12] *Id.* at 101-02.

[13] ELIZABETH FRAZÃO, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE, AMERICA'S EATING HABITS: CHANGES AND CONSEQUENCES 6-14 (ELIZABETH FRAZÃO ed., 1999) *available at* http://www.ers.usda.gov/publications/aib750/; Marion Nestle, *Eating Made Simple*, SCIENTIFIC AMERICAN, Sept. 2007, at 63.

[14] *See* Nestle, *supra* note 13, at 60, 64. The Five-a-day USDA has evolved into the MyPyramid/"eat 5 colors a day" campaign. Apparently, we are all supposed to be eating "colors" now. Acclaimed nutrition professor Marion Nestle says that the change was caused by the conflicting pressures of various lobbyist groups who did not want the government telling the public to eat less of whatever food group their product fell into. In an effort to keep everyone happy, the government changed the diagram that we all grew up with to one depicting a stick figure climbing steps up an unlabeled food pyramid consisting of vertical lines of different colors and thicknesses. A consumer is supposed to look up the government's dietary recommendations from a USDA website (MyPyram*id*.com) in order to find out which color line represents which food group. *See id.*

[15] An Oscar is the informal name for the statuette that is awarded at the annual Academy Award ceremony put forth by the Academy of Motion Picture Arts and Sciences. The formal name for the statuette is the Academy Award of Merit. *See* The Academy of Motion Picture Arts and Sciences & ABC, Inc., *Oscar Statuette*, http://www.oscar.com/oscarhistory/?pn=statuette (last visited Feb. 9, 2008).

[16] Walter Gibbs and Sarah Lyall, *Gore Shares Peace Prize for Climate Change Work*, N.Y. Times, Oct. 13, 2007, *available at* http://www.nytimes.com/2007/10/13/world/13nobel.html. Besides winning an Oscar for his documentary An Inconvenient Truth, the motion picture would also garner former Vice President Gore a Nobel Peace Prize. *See id.*

[17] Associated Press, *New Top Dog? Toyota's 2007 sales inch past GM estimate*, USA TODAY, Jan. 3, 2008 *available at* http://www.usatoday.com/money/autos/2008-01-10-toyota-gm-sales_N.htm. *See also* David Gow, *Toyota overtakes General Motors as the World's No. 1*, THE GUARDIAN, Apr. 25, 2007 *available at* http://www.guardian.

bat the effects of pollution to save their city.[18] America's fever and its fever pitch for food have created a new demand on the American farm: become environmentally friendly, but still grow lots of food.[19]

At the intersection of food and environmental consciousness lies the organic movement. An organic approach to agriculture may provide the balance of agricultural productivity and environmental conservation that America craves. However, it has a long way to go before it wins the respect of an agricultural economy where conventional farming practices are entrenched in the political system. Surprisingly, it is in a case aimed at cars and coastlines that may give the organic movement the succor it needs to have a substantial hand in reducing America's greenhouse gas emissions.

This Comment will first examine the history of the organic movement and some of the challenges in implementing a nationwide certification program for organic food. It will then examine how conventional farmers have influenced regulation of organic foods to the detriment of the organic movement and how this culminated in the case of *Harvey v. Veneman*, 396 F.3d 28 (1st Cir. 2005). After examining the shortcomings of the *Harvey* ruling, this Comment will next analyze the current level of government support for organic farming and public policy reasons why the organic sector is worthy of support. Finally, the Comment will discuss how the use of synthetic nitrate fertilizer by conventional farmers is contributing to global warming and how the recent decision in *Massachusetts v. Environmental Protection Agency*, 127 S. Ct. 1438 (2006), may provide the impetus for government support of environmentally friendly organic practices while also limiting greenhouse gas emissions caused by conventional farming.

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co.uk/business/2007/apr/25/motoring.lifeandhealth/print; Alex Taylor III, *America's Best Car Company*, FORTUNE, Mar. 7, 2007 *available at* http://money.cnn.com/magazines/fortune/fortune_archive/2007/03/19/8402324/index.htm.

[18] Nathan Rabin, *The Simpsons Movie*, THE ONION, Jul. 27, 2007 *available at* http://www.avclub.com/content/cinema/the_simpsons_movie.

[19] *See* Stacy Finz, *Food Markets Getting Greener, More Sensual*, S.F. CHRONICLE, January 27, 2008, at A-1.

II. THE HISTORY OF THE ORGANIC MOVEMENT AND THE CHALLENGE OF PROPERLY REGULATING THE ORGANIC LABEL

The organic movement started in the 1960s[20] as a response to the industrial practices that American agriculture had adopted.[21] Although first shunned by the United States Department of Agriculture ("USDA"),[22] the enormous growth in organic foods[23] has empowered the movement to demand increased government support.[24] What was a somewhat neglected part of American agriculture has become a $14 billion dollar-a-year industry.[25] Growing and supplying organic foods is the fastest expanding sector of our agricultural economy.[26] Organic growers even demanded regulation to ensure that food presented to consumers as organic is, in fact, organic.[27] As a result, Congress developed a set of laws for organic produce, enacted as the Organic Food and Production Act ("OFPA").[28] The OFPA empowered the Secretary of Agriculture to develop a system of classifying organic foods, called the National Organic Program Final Rule ("Final Rule"), and to promulgate regulations to achieve the OFPA's goals.[29]

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[20] POLLAN, *supra* note 8, at 133, 139. This time period refers to the point when the organic movement first became popular in the United States. However, organic farming was well underway elsewhere in the world. The term "organic farming" was first used by British agriculturist Walter Ernest Christopher James, 4th Baron of Northbourne in his book *Look to the Land*. Originally, the term "organic farming" referred to the idea of viewing the farm as an organism. *See* John Paull, *The Farm as Organism: The Foundational Idea of Organic Agriculture*, 83 Elementals ~ Journal Of Bio-Dynamics Tasmania 14-18, 14 (2006) (discussing the history of the term "organic" as applied to agriculture). The book was first published in 1940. Later on, such luminaries as Jerome Irving Rodale and Wendell Berry would expand on Northbourne's idea. *See id.* at 140-47.

[21] *Id.* at 139.

[22] *Id.* at 154.

[23] *Id.* at 136.

[24] *Id.*

[25] JEAN M. RAWSON, CRS REPORT FOR CONGRESS ORGANIC AGRICULTURE IN THE UNITED STATES: PROGRAM AND POLICY ISSUES 1, May 3, 2007 *available at* http://www.nationalaglawcenter.org/assets/crs/RL31595.pdf. *See also* POLLAN, *supra* note 8, at 145, 154.

[26] POLLAN, *supra* note 8, at 136.

[27] *Id.* at 154-55.

[28] *Id.* at 154. The OFPA is the recognized short title of the statute. *See* Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. No. 101-624, tit. 21, § 2101, 3935 (1990). The purpose of the OFPA is stated in 7 U.S.C. § 6501(1)-(3) (2007).

[29] STEPHEN R. VIÑA, CRS REPORT FOR CONGRESS *HARVEY V. VENEMAN* AND THE NATIONAL ORGANIC PROGRAM: A LEGAL ANALYSIS 2, September 26, 2006, *available at* http://www.cnie.org/NLE/CRSreports/06Oct/RS22318.pdf.

III. THE CURRENT ORGANIC CERTIFICATION REQUIREMENTS

The OFPA and the regulations promulgated by the Secretary of Agriculture govern what may be organically certified.[30] There are two aspects to organic certification: guidelines for what may be *labeled* as organic, and guidelines for what may be *sold* as organic.[31] The OFPA's requirements are applied to the *manner* in which a product is created and not to the *properties* of the final product.[32] For crops to be eligible for organic certification, the land on which they are grown cannot have had prohibited substances applied to it for a certain period of time prior to its petitioning.[33] The use of genetic engineering, sewage sludge, and synthetic fertilizers on the land is prohibited.[34] The producer is encouraged to use "physical, mechanical, and biological controls" to combat diseases, weeds, and pests.[35] However, when these are insufficient, an otherwise "prohibited biological, botanical, or synthetic substance" may be employed.[36] The USDA's National Organic Program ("NOP") maintains lists of prohibited and allowed substances for organic farming that are

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[30] *Id* at 1. The OFPA's requirements are at 7 U.S.C. § 6503(a)-(d) (2007). The regulations which states the general organic certification requirements set forth by the Secretary of Agriculture are at 7 C.F.R. § 205.400(a)-(f)(2) (2008).

[31] LAURA TOURTE ET AL., *Organic Certification, Farm Planning, Management, And Marketing, in* UNIVERSITY OF CALIFORNIA ORGANIC VEGETABLE PRODUCTION IN CALIFORNIA SERIES 2, (Regents of the University of California, Division of Agriculture and Natural Resources 2006) (2000), *available at* http://anrcatalog.ucdavis.edu/pdf/7247.pdf. The federal law generally states what may be labeled and sold as organic is 7 U.S.C. § 6504(1)-(3) (2007). States are then empowered to place further restrictions on organic products under 7 U.S.C. § 6507(a)-(b)(2)(D) (2007). California has separate statutes regarding the labeling of organic products and the selling of organic products. The labeling statute is CAL. HEALTH & SAFETY CODE § 110830 (2007). For the statute regarding the sale of goods, *see* CAL. HEALTH & SAFETY CODE § 110820(a)-(b) (2007).

[32] AGRICULTURAL MARKETING SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, THE NATIONAL ORGANIC PROGRAM – ORGANIC PRODUCTION AND HANDLING STANDARDS (2002) *available at* http://www.ams.usda.gov/nop/FactSheets/ProdHandE.html.

[33] 7 U.S.C. § 6504 (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32. Synthetic nitrate fertilizer is a prohibited substance under organic certification guidelines. As we will examine later, the three year time limit was not originally part of the OFPA.

[34] *See* 7 C.F.R. §§ 205.105(a)-205.105(g) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[35] See 7 C.F.R. §§ 205.206(b)-205.206(e) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[36] See 7 C.F.R. § 205.206(e). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

collectively referred to as the National List.[37] Substances on the National List must be reviewed periodically by the NOP.[38]

As for livestock, an entire herd of dairy cattle can be converted to organic production by feeding them organically produced feed for a set period of time.[39] From that point forward, producers are required to use only one-hundred percent organic feed, though some vitamin and mineral supplements are allowed.[40] Organically raised animals may not be given hormones to promote growth, or antibiotics for any reason.[41] However, preventive management practices, such as vaccines, may be used to keep the animals healthy.[42] Producers are not allowed to refuse to treat a sick or injured animal, but animals that are treated with a prohibited medication may not be sold as organic.[43] Furthermore, all organically raised animals are required to have access to the outdoors and must be able to reach the pasture for ruminants.[44] Producers are empowered to temporarily confine the animals at certain stages of production only for reasons of health, safety, or to protect soil or water quality.[45]

In a processed product labeled as organic, all agricultural ingredients must be organically produced except in cases where the ingredient is not commercially available in organic form.[46] Organic product handlers must not let organic products mingle with non-organic products or prohibited substances.[47]

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[37] 7 U.S.C. § 6517(a) (2007). *See also* TOURTE ET AL., *supra* note 31, at 2.

[38] TOURTE ET AL., *supra* note 31, at 2. This requirement has always been part of the OFPA but the USDA originally tried to soften the way it was implemented. This is what led to *Harvey v. Veneman*. *See infra* pp. 12-16.

[39] 7 U.S.C. § 6509(e)(2)(A)-(B) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32; VIÑA, *supra* note 29, at 2. The dairy cattle must meet the requirements of the OFPA for 12 months prior to the sale of its products in order to bear the USDA Organic seal.

[40] 7 C.F.R. § 205.237(a)(2) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[41] 7 U.S.C. § 6509(c)(1)-(c)(3). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[42] 7 C.F.R. § 205.237. *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[43] 7 C.F.R. § 205.238(a)(1)-(c)(7) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[44] 7 C.F.R. § 205.239(a)(1)-(a)(2) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[45] 7 C.F.R. § 205.239(b)(1)-(b)(4). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[46] *See* 7 U.S.C. § 6517(c)(1)(A)(i)-(iii) (2007) and AGRICULTURAL MARKETING SERVICE, *supra* note 32.

[47] 7 C.F.R. § 205.272(a) (2007). *See also* AGRICULTURAL MARKETING SERVICE, *supra* note 32.

Upon compliance with the USDA guidelines, the organization, be it producer, handler, or processor, may then apply for certification by agents of the NOP.[48] Accrediting agents may be private, governmental, or international agencies, based on the business structure and market reach of the organization.[49] The agents must perform at least one on-site inspection of the farm in each one-year period.[50] The applicant must submit documentation describing the farming practices to be used on its farm, as well as an "Organic Systems Management Plan."[51] Upon certification, the produce is eligible to be *labeled* as "organic."[52]

There may be further requirements for a product to be *sold* as organic.[53] The OFPA was created to set only the minimum standards for organic labeling. States may create additional requirements for the sale of such goods within their boundaries.[54] However, the USDA has some control over these additional requirements because they cannot go into effect without USDA approval.[55] For example, to be sold in California as "organic," the applicant must adhere to the additional requirements set forth by the California Department of Food and Agriculture ("CDFA").[56] These require that the applicant annually register with the organization, pay certain fees, follow limitations on the "input farms" which provide raw materials to the applicant, and comply with the same National List as the USDA.[57] To comply with the state and federal government restrictions, some organic farmers have taken steps to fight pests and weeds without chemicals.[58] These steps include introducing predatory insects that devour pests that threaten their crops, using "spraying approved"

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[48] 7 C.F.R. § 205.400(a) (2007). *See also* TOURTE ET AL., *supra* note 31, at 1.

[49] *See also* TOURTE ET AL., *supra* note 31, at 1.

[50] 7 C.F.R. § 205.403(a) (2007). *See also* TOURTE ET AL., *supra* note 31, at 1.

[51] 7 C.F.R. § 205.201(a)(1)-205.201(a)(6) (2007). *See also* TOURTE ET AL., *supra* note 31, at 1.

[52] TOURTE ET AL., *supra* note 31, at 2.

[53] RAWSON, *supra* note 25, at 4. The OFPA was made to set minimum standards for organic labeling; states may create additional requirements after review and approval by the USDA. Separate from being labeled "organic," in order to be sold in the state of California as "organic," the applicant must also adhere to the requirements set forth by the California Department of Food and Agriculture (CDFA). This requires annual registration with the CFDA (which is usually done by submitting the Organic Farm Plan used by the certification process to be also sent to the CDFA), fees to be paid, limitations on the "input farms" to be followed, and compliance with the same National List as the USDA requires. *See id.*; *see also* TOURTE ET AL., *supra* note 31, at 2.

[54] 7 U.S.C. § 6507 (2007).

[55] 7 U.S.C. § 6507(b)(2)(D). *See also* RAWSON, *supra* note 25, at 4.

[56] *See also* TOURTE ET AL., *supra* note 31, at 2.

[57] *Id.*

[58] POLLAN, *supra* note 8, at 159-60.

organic agents, and managing unwanted growth such as weeds with carefully timed controlled burns[59] and soil tilling.[60]

IV. CONSUMER DECEPTION WROUGHT BY THE OFPA AND THE ENTRENCHMENT OF CONVENTIONAL FARMS

Although the OFPA laid the foundation for what could be labeled organic, Congress intentionally made it weak because they believed that, similar to conventional industrial farmers, organic farmers would want as little government meddling as possible.[61] Conventional farming entities and their lobbyists also wanted weak requirements for organic certification so entry into the organic marketplace would be as easy as possible.[62] As counterintuitive as it may seem, Congress was wrong: the organic farming movement wanted a *strong* government presence to keep industrial ideals that had corrupted conventional farming practices from corrupting organic farming.[63] The organic movement convinced the USDA to reexamine its organic regulations, but this was not without a fight from agribusiness lobbyists.[64] Agribusiness pressured the government to allow a set of permissible additives and synthetics,[65] paving the way for processed and "value added" organic foods.[66]

The weak restrictions placed by OFPA were further undermined by the adoption of a list of additives and synthetic compounds that can be used in organic food products without affecting their organic status.[67] Although allowing these additives and synthetic compounds has enabled the development of a greater range of processed organic foods, it has also blurred the line between organic foods and conventional foods.[68]

According to the USDA guidelines, a product may carry the "organic" label if it uses at least ninety-five percent organic ingredients.[69] Ideally, all of the agricultural ingredients would be organic, but exceptions are

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[59] *Id.* The tilling of the crops may actually damage the fertility of the land in that it damages the living organisms underneath the soil that fix nitrogen into the roots of the plants (i.e. bacteria, nematodes, earthworms, etc.). *See id.*

[60] *Id.* at 160.

[61] *Id.* at 154.

[62] *Id.*

[63] *Id.* at 154-55.

[64] *Id.* at 155.

[65] *Id.* at 156. Examples of these synthetics and additives are ascorbic acid and xantham gum. One head of the big organic movement stated that "[i]f we had lost our synthetics, we'd be out of business." *Id.*

[66] *Id.* at 165-66.

[67] *Id.* at 156.

[68] *See id.*

[69] 7 C.F.R. § 205.301(b) (2007). *See also* RAWSON, *supra* note 25, at 7.

allowed where they are not "commercially available" in an organic form.[70] These exceptions constitute the remaining five percent of the "organic" product.[71] The interpretation of the term "commercially available" has been controversial.[72] As a result of these exceptions, there now exists such things as "organic high-fructose corn syrup"[73] and microwaveable organic TV dinners.[74] It is even possible to construct a Twinkie that qualifies for organic certification.[75]

Currently, the USDA is accepting comments on a list of thirty-eight non-organic ingredients[76] that it is considering to allow in products labeled "USDA Organic."[77] Of the thirty-eight non-organic ingredients, petitioners for twenty-five of them are trying to gain allowance because of the lack of commercial availability in organic form.[78] Advocates of the organic movement are trying to prevent the ingredients from going into organic products, claiming the ingredients are commercially available in sufficient amounts in their organic form.[79] They also argue that the labels would deceive consumers into believing that the organically labeled products are completely organic even though they contain non-organic substances.[80] Because many consumers of organic products are

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[70] 7 C.F.R. § 205.301(b).

[71] 7 C.F.R. § 205.301(b).

[72] Dan Shapely, *When 'Organic' Doesn't Quite Mean Organic,* THE DAILY GREEN, Jul. 19, 2007, http://www.thedailygreen.com/environmental-news/latest/3977 (last visited Feb. 18, 2008).

[73] POLLAN, *supra* note 8, at 139.

[74] *Id.* at 138.

[75] *Id.* at 156.

[76] Shapely, *supra* note 72. Each ingredient is associated with at least one food producer that submits a petition to the USDA for the allowance of the ingredient. Originally, there were approximately 600 petitions from food producers.

[77] *Id.* At the time of writing, the USDA was accepting comments on the subject. They have since stopped taking comments on the list. *See* Dan Shapely, *Last Day To Comment On USDA Organic Rule,* THE DAILY GREEN, Aug. 27, 2007, http://www.thedailygreen.com/environmental-news/latest/5904 (last visited Feb. 18, 2008).

[78] Karen Berner, *38 Non-Organic Ingredients Found In 'USDA Organic' Foods,* THE DAILY GREEN, http://www.thedailygreen.com/healthy-eating/eat-safe/3980 (last visited Feb. 18, 2008).

[79] *Id.* Of the remaining thirteen ingredients: the USDA gave no reasoning for four of them, the reasoning for five of them were withheld as "Confidential Business Information," it is claimed that no standard exists for the organic certification of two ingredients, more time to find and develop a "quality source" has been requested for one ingredient, and the supplier for the final ingredient is currently in the process of applying for organic certification and wishes that it be allowed in organic products until the application is processed. *See id.; see also* Dan Shapely, *In-fighting In The Organic Movement,* THE DAILY GREEN, Jul. 19, 2007, http://www.thedailygreen.com/environmental-news/latest/4075 (last visited Feb. 18, 2008).

[80] Shapely, *supra* note 72; Berner, *supra* note 78.

willing to pay a premium for organic products, the advocates believe the consumers should be getting what they pay for.[81]

Further compounding the problem is the fact that there are a number of different organic labels that the products may carry and it is unclear whether consumers will understand the differences those labels are intended to represent. By USDA guidelines, a product may carry a "100% Organic" label if it carries no nonorganic ingredients and is "list certified" by a USDA-licensed certifying agent.[82] Although this label seems clear, there also exists the "Made With Organic Ingredients" label that is carried by products made with at least seventy percent organic ingredients.[83] Products made with less than seventy percent organic ingredients are only allowed to mention the term "organic" in the ingredients listing.[84] However, producers have creatively bypassed such classification by using terms that are not regulated at all, but seem very much like organic.[85] For example, a product may be labeled "All Natural" or "Natural," without having to meet any USDA requirements at all.[86] As such, consumers may be confused when trying to choose between different products that are labeled "100% Organic," "Organic," "Made With Organic Ingredients," "All Natural," "Natural," or a product that merely contains the term "Organic" in its ingredient listing.

Besides the labeling of "Organic" foods, the USDA may also be confusing consumers by allowing certain foods to be certified organic even though they were produced and distributed in a manner contrary to the ideals of the organic movement.[87] Although organic agriculture has traditionally been associated with locally supported farms,[88] large consolidated vendors have become players on the organic scene.[89] One corporation grows eighty percent of all the organic lettuce sold in America.[90] Organic milk simply must come from cows that have "access to pasture;"[91] this requirement is vague and weakened by the fact that pasture

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[81] Berner, *supra* note 78.

[82] 7 C.F.R. § 205.301(a) (2007); 7 C.F.R. § 205 303(a)(1)-(a)(5) (2007).

[83] 7 C.F.R. § 205.301(c).

[84] 7 C.F.R. § 205.301(d); 7 C.F.R. § 205.305(a)(1)-(a)(2) (2007).

[85] Mike Adams, *Don't Be Fooled By "All Natural" Claims On Foods And Grocery Products*, NATURAL NEWS.COM, Jul. 18, 2007, http://www.naturalnews.com/021937.html (last visited Feb. 18, 2008).

[86] Cal. Health & Safety Code § 110885 (2007). *See also id.*

[87] *See* POLLAN, *supra* note 8, at 139-40; *see also* Shapely, *supra* note 76.

[88] Shapely, *supra* note 72.

[89] POLLAN, *supra* note 8, at 138.

[90] *Id.* The corporation is Earthbound Farm. *Id.*

[91] 7 C.F.R. § 205.239(a)(2) (2007). *See also* POLLAN, *supra* note 8, at 157. It was argued that allowing the "free range" or "organic" cows to be confined in a manner similar

access may be withheld at certain stages in the animal's life.[92] A portion of the nation's organic milk comes from "factory farms, where thousands of Holsteins that never encounter a blade of grass spend their days confined to a fenced "dry lot," eating certified organic grain and tethered to milking machines three times a day."[93] The milk may also be pasteurized so that it can be shipped long distances and have a longer shelf life.[94] "Free-Range" organic chickens may only have access to the outdoor free-range pen for as little as two weeks before they are slaughtered at the age of seven or eight weeks old.[95] Such practices go against the "minimally-processed food paradigm" which is at the core of the Organic Movement.[96]

The manner in which the organically labeled products are marketed may also cause consumers to be deceived.[97] Many organic supermarkets, such as Whole Foods, now use conventional distribution systems that make it impractical to support small farms.[98] Two corporate organic growers in California dominate the market for organic fresh produce in America while using posters depicting family farmers and their philosophies to sell their goods.[99]

V. THE FIRST SKIRMISH: *HARVEY V. VENEMAN*

All of these gray areas concerning the legal definition and guidelines for organic products have led to litigation. In October of 2003, Arthur Harvey, a producer of organic blueberries, filed a complaint in the

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to that as conventional cows allowed for their health to be monitored more closely. Organic milk can also be pasteurized without any legal ramifications as to its status. *Id.*

[92] 7 C.F.R. § 205.239(b)(1)-(b)(4). *See also* POLLAN, *supra* note 8, at 157. From a legal standpoint, in order to qualify as "free-range," the animals do not need to actually live in an open range: they merely need to have *access* to the outdoors. As long as this access exists, the chickens can be labeled as "free-range" even though they are kept for the majority of their lives in feedlots or conditions similar to that of conventional farming. *Id.*

[93] POLLAN, *supra* note 8, at 139.

[94] *Id.* at 135, 139.

[95] *Id.* at 140, 172.

[96] *See id.* at 139; Shapely, *supra* note 72. It could be worse. In China, it is common practice to break the legs of pigs before slaughter in order to make the process easier. *See* Kathleen McLaughlin, *Food-safety measures selective in China Top-quality products reserved for export, government officials*, S.F. CHRONICLE, Aug. 6, 2007, at A13.

[97] POLLAN, *supra* note 8, at 136-38.

[98] *Id.* at 138.

[99] *Id.* The two growers I refer to are Earthbound Farms and Grimmway Farms. Meanwhile, Whole Foods Market distributes leaflets proclaiming their promotion of locally grown crops. *See* WHOLE FOODS MARKET, LEAFLET, LOCALLY GROWN AT WHOLE FOODS MARKET, (2006).

United States District Court for the District of Maine, alleging that nine parts of the Final Rule were far more lenient than was permitted by the underlying statutory language.[100] Harvey, who was an inspector for a USDA-accredited certifier and also a consumer of organic foods,[101] sought declaratory and injunctive relief under OFPA.[102] Although he eventually lost on all nine of his claims in the District Court, the First Circuit Court of Appeals reversed two of the holdings and ruled that one needed clarification.[103] It remanded the case back to the District Court for further proceedings.[104] On remand, the District Court gave the USDA until June 9, 2006 to create new regulations in compliance with its holdings. The USDA did not begin enforcing those regulations until June 9, 2007, to give the organic producers time to adjust.[105] During this time, Congress enacted the 2006 Farm Bill which directly addressed the *Harvey v. Veneman* situation.[106]

First, the *Harvey* Court held that the certain "natural" substances that were commercially unavailable in organic form had to be individually reviewed to determine their status for the National List of Approved and Prohibited Substances before they could be used in organically-labeled products.[107] The 2006 Farm Bill undermined this holding by empowering the Secretary of the USDA to develop "emergency procedures" for designating agricultural products that are commercially unavailable in organic form for temporary placement on the National List without going through the review process.[108] This is a broad power because the Secre-

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[100] Harvey v. Veneman, 396 F.3d 28, 32 (1st Cir. 2005). *See also* RAWSON, *supra* note 25, at 8.

[101] Harvey, 396 F.3d 28, 32, 34. This is important to note because it is what gave him standing. *See id.* at 32, 34.

[102] *Id.* at 28, 32. Mr. Harvey brought some nine counts against the USDA in the district court. He would lose all nine counts and appeal seven of them to the US Court of Appeals. For our purposes, the individual holdings of the case are not important because Congress ultimately sidestepped the ruling (as will be discussed later). *See* VIÑA, *supra* note 29, at 2.

[103] Harvey, 396 F.3d 28, 46.

[104] *Id.*

[105] VIÑA, *supra* note 29, at 3.

[106] *Id.* The Farm Bill is also known as Pub. L. No. 109-97, § 797.

[107] Harvey, 396 F.3d 28, 35. *See also* RAWSON, *supra* note 25, at 8; *see also* VIÑA, *supra* note 29, at 2.

[108] RAWSON, *supra* note 25, at 9-10; *see also* VIÑA, *supra* note 29, at 4. The 2006 Farm Bill granted the Secretary of the USDA this power by amending section 7 U.S.C. § 6517(d) of the OFPA. Substances can only gain placement on the National List for a period of one year in this manner. *See id.*

tary has both the ability to define what constitutes an "emergency procedure" and the ability to select what substances qualify for placement.[109]

The second holding of *Harvey* was that some synthetic substances which had previously been allowed by the USDA were actually prohibited by the OFPA in the processing or handling of organic products.[110] To reach this conclusion, the court relied on sections of the OFPA that set forth a general prohibition against the placement of synthetic ingredients on the National List for use during the processing or handling of organic products.[111] The 2006 Farm Bill altered and deleted sections of the OFPA so that none of the language that the court built their opinion on remains.[112] As a result, this portion of the holding of *Harvey v. Veneman* has been rendered moot.[113]

The final holding of *Harvey* was aimed at a provision of the OFPA requiring that organic milk and milk products come only from dairy herds which were handled in compliance of the OFPA for a twelve month period immediately prior to their sale.[114] This requirement of the OFPA directly contradicted the Final Rule created by the USDA Secretary, which allowed an entire herd of dairy to be converted to organic production by "feeding it eighty percent organically produced feed for nine months, followed by at least three months of one-hundred percent organically produced feed."[115] Conceivably, this portion of the Final Rule, called the "80-20" rule, could leave a twenty percent gap within the one year time period set forth in the OFPA in which the organic transitioning cows could eat feed grown with prohibited nonorganic ingredients.[116] The Bill circumvented this problem by creating a new provision in the OFPA, entitled "Transition Guideline."[117] This stated that dairy herds transitioning into organic status could be given feed that is in its third year of organic management.[118] Since crops or forage intended to be sold

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[109] RAWSON, *supra* note 25, at 9-10; *see also* VIÑA, *supra* note 29, at 2.

[110] Harvey v. Veneman, 396 F.3d 28, 38-40. *See also* RAWSON, *supra* note 25, at 8; *see also* VIÑA, *supra* note 29, at 2.

[111] Harvey, 396 F.3d 28, 38-40. *See also* VIÑA, *supra* note 29, at 4-5. The sections of the OFPA that the court used to reach this holding was section 6150(a)(1) and section 6517(c)(B)(iii). *See id.*

[112] *See* VIÑA, *supra* note 29, at 5. The 2006 Farm Bill altered section 6150(a)(1) and deleted section 6527(c)(B)(iii) so that the court's ruling became unsubstantiated. *See id.*

[113] RAWSON, *supra* note 25; *see also* VIÑA, *supra* note 29, at 5.

[114] Harvey, 396 F.3d 28, 40-42; 7 C.F.R. § 205.236(a)(2)(i) (2007). *See also* VIÑA, *supra* note 29, at 6.

[115] Harvey, 396 F.3d 28, 40-42; 7 C.F.R. § 205.236(a)(2)(i).

[116] Harvey, 396 F.3d 28, 43.

[117] RAWSON, *supra* note 25, at 9; *see also* VIÑA, *supra* note 29, at 6.

[118] RAWSON, *supra* note 25, at 9; *see also* VIÑA, *supra* note 29, at 6.

under the organic label cannot have prohibited substances applied to them for the three years immediately preceding their harvest, the "Transition Guideline" amendment would apparently forbid the dairy cows from being fed prohibited substances that violate the OFPA.[119] The USDA Secretary adopted this rule and also created a second exception, which allowed producers already using the "80-20" rule to convert their herds for organic production to continue to do so on the condition they do not sell any milk produced using the "80-20" rule with the organic label after June 9, 2007.[120] These exceptions largely made the *Harvey* holding moot as to this subject.[121]

The 2006 Farm Bill's undercutting of *Harvey* and weakening of the OFPA created controversy within the organic movement. Proponents of organic agriculture supported the *Harvey* decision because "consumers consider the organic label to mean the absence of synthetic ingredients"[122] and the adoption of stricter regulations would strengthen consumer confidence in the OFPA.[123] However, many organic food manufacturers disagreed, arguing that the ultimate result of the court decision would cause hundreds of their existing organic-labeled products to be discontinued and force some producers to stop using the highly profitable "USDA Organic" seal.[124] Ideally, a compromise satisfying both sides on the issue would contain government regulations protective enough to ensure that consumers of organically labeled food are getting what they pay for and flexible enough to give them a wide range of organic products. This balance must be achieved so that the economic support provided to the organic sector by the government is not wasted on a system in which the organic label is so capricious or so limited as to be meaningless. *Harvey* is a strong example of the difficulty in defining the boundary where conventional food ends and organically certified food begins. Although the *Harvey* court sided with the interests of organic consumers, the resulting counterattack led by Congress and the 2006 Farm Bill showed that Congress disagreed and favored the interests of the organic food manufacturers.

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[119] VIÑA, *supra* note 29, at 6.
[120] *Id.*
[121] VIÑA, *supra* note 29, at 6; *see also* RAWSON, *supra* note 25.
[122] RAWSON, *supra* note 25, at 9.
[123] *Id.*
[124] *Id.*

VI. THE ORGANIC LABEL MUST BE PROTECTED IF IT IS TO OFFSET THE ENVIRONMENTAL HARM CAUSED BY CONVENTIONAL FARMING PRACTICES

All living things depend upon nitrogen in order to form amino acids, protein, and nucleic acid.[125] Although about eighty percent of our Earth's atmosphere is made up of nitrogen, the vast majority of it is in a stable, non-bonding form that is unusable by living beings.[126] As such, the fertility of our nation's farms formerly depended on the amount of nitrogen that could be "fixed" into our soil by the bacteria on legume roots and lightning.[127] This changed in the 1920s when a scientist named Fritz Haber developed a process to make synthetic nitrogen by combining hydrogen and nitrogen under immense heat and pressure in the presence of a catalyst.[128] This development was later named the "Haber-Bosch process"[129] and made modern nitrogen-rich synthetic fertilizers possible.[130] Two out of every five humans would probably not exist today without the Haber-Bosch process;[131] billions of people would never have been born simply because there would not have been enough food to make their existence possible.[132] Forty percent of the world's population lives on food produced using fixed nitrogen fertilizer.[133]

Although synthetic nitrate fertilizers make conventional farming possible,[134] their widespread use has caused a great deal of damage to the environment and contributed to global warming.[135] The greater demand on American agriculture to produce more food has also pressured farm-

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[125] POLLAN, *supra* note 8, at 42.

[126] *Id.*

[127] *Id.* The bacteria emit nitrogen as a byproduct of its existence. Lightning splits the bonds of nitrogen in the air, causing it to fall into our earth's soil via the rain. *Id.*

[128] *Id.* at 44. The heat and pressure are supplied by large amounts of electricity. The hydrogen for this process comes from oil, coal, and natural gas. It is this artificial and intensive process that prohibits it from organic products. The process is named "Haber-Bosch" because a man named Carl Bosch is credited with commercializing it. On a side note, the reason the Haber-Bosch process is not more renowned and celebrated is because Fritz Haber supported the Germans during World War I and World War II. Although Haber was Jewish, his process would allow the Germans to manufacture bombs using synthetic nitrate and he would go on to develop poison gasses (such as Zyklon B) for the Nazis. *Id.* at 43-44.

[129] *Id.* at 43.

[130] *Id.* at 42-45 The Haber-Bosch process eventually won him the Nobel Prize for "improving the standards of agriculture and the well-being of mankind." *Id.*

[131] *Id.* at 43.

[132] *Id.*

[133] Kate Pickert, *A Realist's Guide To The Planet*, POPULAR SCIENCE, Aug. 2007, at 49.

[134] POLLAN, *supra* note 8, at 45.

[135] *Id.* at 46; *see also* Pickert, *supra* note 136, at 49.

ers to use enormous amounts of nitrate fertilizers on their crops.[136] As excessive nitrogen is not hazardous to crops, it is common for farmers to apply more nitrate fertilizer to crops than necessary.[137] Some of the nitrate fertilizer evaporates into the air on application, causing active nitrogen to enter the atmosphere and form nitrous oxide.[138] Nitrous oxide is a greenhouse gas that contributes to global warming and acid rain.[139] The accumulation of greenhouse gases in the atmosphere has been acknowledged by the EPA to have a negative effect on agriculture because it increases the likelihood of extreme weather events.[140]

The nitrate fertilizer also makes its way into the water table.[141] Once there, it flows into the ocean and stimulates algal blooms that create "dead zones" and kill wildlife.[142] Three times as much nitrogen now flows into the Gulf of Mexico every year in run-off from the Mississippi River as compared to thirty years ago.[143] This causes an imbalance in the ocean's ecosystem that "alter[s] the planet's composition of species and shrink[s] its biodiversity."[144] These algal blooms cause approximately $50,000,000 in damage to seafood stocks in the United States ("U.S.")

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[136] POLLAN, *supra* note 8, at 46.

[137] *Id.*

[138] *Id.*; *see also* U.S. Environmental Protection Agency, Nitrous Oxide: Sources and Emissions, http://www.epa.gov/nitrousoxide/sources.html (last visited Feb. 19, 2008) [hereinafter *Nitrous Oxide: Sources and Emissions*]; U.S. ENVIRONMENTAL PROTECTION AGENCY, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1995-2005 pages 6-16, 6-17 (2007) *available at* http://epa.gov/climatechange/emissions/downloads06/07CR.pdf [hereinafter INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS]. Note that nitrous oxide is one specific chemical compound that is related to a larger family of compounds are called nitrogen oxides. Although the terms are not interchangeable, the chemicals are related in that the decay of nitrous oxide leads to the formation types of nitrogen oxides, such as nitrous dioxide, which cause smog. See *id* at 63. *See also* U.S. Environmental Protection Agency, Six Common Air Pollutants – Health and Environmental Impacts of NO_x, http://www.epa.gov/air/urbanair/nox/hlth.html (last visited Feb. 20, 2008) [hereinafter Six Common Air Pollutants].

[139] POLLAN, *supra* note 8, at 46.

[140] *Agriculture and Food Supply*, *supra* note 7; U.S. Environmental Protection Agency, Climate Change – Health and Environmental Effects: Extreme Events, http://epa.gov/climatechange/effects/extreme.html (last visited Feb. 19, 2008) [hereinafter Extreme Events].

[141] POLLAN, *supra* note 8, at 46-47. Interestingly, this is a large problem in states in the Midwest where they issue "blue baby alerts" to notify parents that it is unsafe to give children water directly from the tap. This is because the nitrates in the water bind to hemoglobin in the bloodstream and compromise the blood's ability to carry oxygen. *See also* INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at pages 6-16, 6-17.

[142] POLLAN, *supra* note 8, at 47; Pickert, *supra* note 136, at 49.

[143] Pickert, *supra* note 136, at 49.

[144] POLLAN, *supra* note 8, at 47.

every year.[145] Sixty-thousand Americans are poisoned annually by these algal blooms when they eat contaminated shellfish.[146]

While U.S. nitrous oxide emissions are much lower than its carbon dioxide emissions, nitrous oxide is approximately three hundred times more effective at trapping heat in the atmosphere.[147] Agricultural soil management practices, including the use of synthetic fertilizer, are the largest source of U.S. nitrous oxide emissions and accounted for seventy-eight percent of the country's nitrous oxide emissions in 2005.[148] Emissions are particularly high in the Corn Belt and along the Mississippi River.[149]

A creative solution to the problem of nitrate fertilizers and greenhouse gas emissions involves the regulation of nitrous oxide emissions caused by conventional farms pursuant to *Massachusetts v. Environmental Protection Agency,* 127 S. Ct. 1438 (2006) ("*Massachusetts*"). The recent *Massachusetts* decision, which required the EPA to regulate greenhouse gases such as nitrous oxide, could theoretically allow the EPA to regulate conventional farming practices involving nitrate fertilizers. If national regulations set a limit on the amount of nitrate fertilizer that conventional farmers could use on their cropland, the increased burden[150] of complying with the regulations would provide an incentive to convert to more environmentally friendly farming methods such as organic farming, while at the same time setting a limit on a dominant source of nitrous oxide.[151]

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[145] Pickert, *supra* note 136, at 49.

[146] *Id.*

[147] INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at ES-9; U.S. Environmental Protection Agency, Nitrous Oxide: Science, http://www.epa.gov/nitrous-oxide/scientific.html (last visited Feb. 21, 2008) [hereinafter *Nitrous Oxide: Science*]. It also has a long atmospheric lifetime of about 120 years.

[148] INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at ES-9, 1-4, 2-18, 2-19, 6-1, 6-2, 6-16.

[149] *Id.* at 6-16. The report states that the corn belt includes Illinois, Iowa, Southern Minnesota, Wisconsin, and Eastern Nebraska. Emissions are also high along the lower Mississippi Valley because nitrates from the cropland reach the Mississippi River and is deposited in the soil of the valley.

[150] I use broadly the term "burden" here to refer to both the economic and non-economic difficulties in complying with new governmental regulation. This is a broad definition and could refer to anything which may motivate a farmer into abandoning the use of conventional synthetic nitrate fertilizer on their crops. Examples include the fines assessed on farmers who violate the unfamiliar new regulations, the inconvenience put upon farmers in having to change the way they apply fertilizer to their land, etc. (The idea being, of course, that the bigger the economic/non-economic burden is, the stronger the motivation to change to organic farming).

[151] To be fair, an exact comparison of the nitrous oxide emissions of organic fertilizer and conventional fertilizers is difficult due to the lack of research that has been done on the subject. At the time of writing this comment, a study put forth by a Stanford graduate

VII. A POSSIBLE SOLUTION: *MASSACHUSETTS V. ENVIRONMENTAL PROTECTION AGENCY*

In *Massachusetts*, petitioners consisted of twelve States, three cities, two U.S. territories, and several private organizations.[152] Besides the EPA, the respondents were ten State intervenors and six trade organizations.[153] Petitioners alleged that the EPA had the authority to regulate the emissions of greenhouse gases (including nitrous oxide) from any class or classes of new motor vehicles under the Clean Air Act.[154] Further, petitioners argued that the EPA was not entitled to take the policy considerations of the current presidential administration into account when deciding whether or not to issue such regulations.[155] Respondents defended on the grounds that petitioners had no standing to sue;[156] that the Clean Air Act empowered the EPA to regulate "air pollutants" and not

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student found that the nitrous oxide emissions of both types of fertilizers are similar. However, it also found that the main danger of conventional fertilizers is that they leach approximately four to six times more nitrates into nearby groundwater than organic fertilizers. Conventional fertilizers also emit less environmentally friendly Nitrate (N_2) gas than organic fertilizer. This leaves more nitrogen into the soil which can be leached into the groundwater. *See* News Release, Mark Shwartz, Stanford News Service, *New Study Confirms The Ecological Virtues Of Organic Farming*, (Mar. 6, 2006) *available at* http://news-service.stanford.edu/pr/2006/pr-organics-030806.html; *see also* Sasha B. Kramer, et al., *Reduced Nitrate Leaching And Enhanced Denitrifier Activity And Efficiency In Organically Fertilized Soils*, Proceedings Of The National Academy Of The Sciences – Online Edition, (Mar. 13, 2006), http://www.pnas.org/cgi/reprint/103/12/4522?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=%22Reduced+nitrate+leaching%22&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT (last visited Mar. 31, 2008).

[152] Massachusetts v. Envtl. Prot. Agency, 127 S.Ct. 1438, 1446-47 (2006). The States were CA, CT, IL, MA, ME, NJ, MN, NY, OR, RI, VT, and WA. The three cities were New York, Baltimore, and Washington, D.C. The two U.S. territories were American Samoa and Northern Mariana Islands. The private organizations were the Center for Biological Diversity, the Center for Food Safety, the Conservation Law Foundation, the Environmental Advocates, the Environmental Defense, the Friends of the Earth, Greenpeace, the International Center for Technology Assessment, the National Environmental Trust, the Natural Resources Defense Council, the Sierra Club, the Union of Concerned Scientists, and the U.S. Public Interest Research Group.

[153] *Id.* The States were AK, ID, KS, MI, ND, NE, OH, SD, TX, and UT. The trade organizations were the Alliance of Automobile Manufacturers, the National Automobile Dealers Association, the Engine Manufacturers Association, the Truck Manufacturers Association, the CO[2] Litigation Group, and the Utility Air Regulatory Group.

[154] *Id.* at 1446; *see also* ROBERT MELTZ, CRS REPORT FOR CONGRESS THE SUPREME COURT'S CLIMATE CHANGE DECISION: *MASSACHUSETTS V. EPA*, 3, May 18, 2007 *available at* http://opencrs.com/document/RS22665.

[155] Massachusetts v. Envtl. Prot. Agency, 127 S.Ct. 1438, 1462-63; *see also* MELTZ, *supra* note 157, at 3.

[156] Massachusetts, 127 S.Ct. 1438, 1452-58; *see also* MELTZ, *supra* note 157, at 4.

greenhouse gases;[157] and that the EPA could properly consider the policy considerations of the President because the act granted them a broad deference in deciding whether or not to issue a regulation.[158]

In its standing analysis, the Court began by noting that the petitioners had two factors in their favor when analyzing their case for standing.[159] The Clean Air Act specifically granted the Plaintiffs the ability to challenge the EPA if it illegally withheld action and the injury was that of a sovereign state rather than a private entity.[160] After noting the petitioners' lightened burden, the Court then employed a traditional standing analysis. It asked whether the petitioners had shown that: there was an actual or imminent "injury in fact" of a concrete and particularized nature,[161] there was a causal connection from the plaintiff's injury which was fairly traceable to the defendant[162] and the remedy sought by the plaintiffs was likely to redress that injury.[163]

As to injury, the Court focused on the fact that, as a state, Massachusetts was the owner of much of the Commonwealth's shore land[164] and that the petitioner's uncontested affidavits had shown that the accumulation of greenhouse gases in the atmosphere would cause a loss of their shore land by contributing to a rise in sea levels.[165] As to causation, the EPA did not contest the causal relationship between greenhouse gas emissions and climate change.[166] Instead, it argued that any reduction in greenhouse gas emissions because of its regulation would be offset by the increased emissions of the rest of the world.[167] The Court was not swayed by this argument and held that standing could be found even where an agency has refused to take a "small incremental step" which would result in only a modest improvement in greenhouse gas emissions.[168] Finally, as to redressability, the Court found that although the intervention of the EPA would not reverse climate change by itself, it

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[157] Massachusetts v. Envtl. Prot. Agency, 127 S.Ct. 1438, 1450-52, 1460-62; *see also* MELTZ, *supra* note 157, at 4.

[158] Massachusetts, 127 S.Ct. 1438, 1462-63; *see also* MELTZ, *supra* note 157, at 4.

[159] Massachusetts, 127 S.Ct. 1438, 1454-55, 1459; *see also* MELTZ, *supra* note 157, at 4.

[160] Massachusetts, 127 S.Ct. 1438, 1454-55, 1459; *see also* MELTZ, *supra* note 157, at 4.

[161] Massachusetts, 127 S.Ct. 1438, 1456; *see also* MELTZ, *supra* note 157, at 4.

[162] Massachusetts, 127 S.Ct. 1438, 1457; *see also* MELTZ, *supra* note 157, at 4.

[163] Massachusetts, 127 S.Ct. 1438, 1458; *see also* MELTZ, *supra* note 157, at 4.

[164] Massachusetts, 127 S.Ct. 1438, 1454-56; *see also* MELTZ, *supra* note 157, at 4.

[165] Massachusetts, 127 S.Ct. 1438, 1453-57; *see also* MELTZ, *supra* note 157, at 4.

[166] Massachusetts, 127 S.Ct. 1438, 1456-58; *see also* MELTZ, *supra* note 157, at 4.

[167] Massachusetts, 127 S.Ct. 1438, 1457; *see also* MELTZ, *supra* note 157, at 4.

[168] Massachusetts, 127 S.Ct. 1438, 1457-58; *see also* MELTZ, *supra* note 157, at 4.

would be able to slow or reduce it.[169] This was sufficient to satisfy this element of standing. Having discovered that the petitioners passed all three prongs of the test to show standing, the Court addressed the issues of whether or not the EPA had authority under the Clean Air Act to regulate greenhouse gas emissions, and what it may properly consider in determining whether or not to issue a regulation.[170]

Compared to the standing issue, the court devoted fewer pages to the Clean Air Act issues. As to the first issue, the Court ruled that the EPA did have authority to regulate because "air pollutants" was a term that was to be broadly interpreted and the legislative intent behind the bill was to grant the EPA power to regulate such emissions.[171] As to the second issue, the court ruled that by the phrase "in his judgment," the Clean Air Act only granted the EPA Administrator the ability to consider whether an air pollutant may "reasonably be anticipated to endanger public health or welfare" but this decision cannot be based upon policy beliefs.[172]

VIII. APPLYING THE *MASSACHUSETTS* DECISION TO ORGANIC AGRICULTURE AND GLOBAL WARMING[173]

The *Massachusetts* decision focused on the regulation of greenhouse gas emissions from mobile sources. But, the decision may allow parties to petition the EPA to regulate greenhouse gas emissions from stationary sources, such as conventional farms using nitrate fertilizers. Since the EPA classifies nitrogen dioxide[174] as being one of the Criteria Air Con-

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[169] Massachusetts v. Envtl. Prot. Agency, 127 S.Ct. 1438, 1457-58; *see also* MELTZ, *supra* note 157, at 4.

[170] Massachusetts, 127 S.Ct. 1438, 1458-63; *see also* MELTZ, *supra* note 157, at 4. This is because they fell under the category of "air pollutant" under the Clean Air Act. *Id.*

[171] Massachusetts, 127 S.Ct. 1438, 1460-62; *see also* MELTZ, *supra* note 157, at 4.

[172] Massachusetts, 127 S.Ct. 1438, 1447, 1462-63; *see also* MELTZ, *supra* note 157, at 4.

[173] There are a number of cases that are testing the implications of the *Massachusetts* ruling. However, at the time of writing, there were no published cases that examine how the *Massachusetts* case could possibly apply to stationary agricultural sources. *See generally* ROBERT MELTZ, CRS REPORT FOR CONGRESS CLIMATE CHANGE LITIGATION: A GROWING PHENOMENON, May 18, 2007 *available at* http://www.ncseonline.org/NLE/CRs/abstract.cfm?NLEid=173.

[174] As somewhat discussed earlier, nitrogen oxides, or NO_x, refers to a group of oxygen compounds of nitrogen. This group includes nitrous oxide. *See Six Common Air Pollutants, supra* note 141. However, since the Clean Air Act seems to be primarily concerned with nitrogen dioxide emissions, it is unclear whether or not the Clean Air Act would require the regulation of nitrous oxide emissions from agricultural sources. However, the act does require that the EPA monitors nitrogen oxides and promote its reduction. *See* 42 U.S.C. § 7403(c)(3)(A) (2008); *see also* 42 U.S.C. § 7403(g)(1) (2008).

taminants which trigger regulation,[175] the EPA's regulation of agricultural emissions of nitrous oxide by agricultural sources would be in line with the Clean Air Act because the decay of nitrous oxide in the atmosphere causes nitrogen dioxide.[176] Thus, the main difficulty in extending EPA regulation to agricultural sources is in determining whether a large modern conventional farm qualifies as a stationary source that is eligible for regulation under the Clean Air Act.

Section 101(a)(2) of the Clean Air Act explicitly identifies the Congressional intent of the act as including the goal of reducing air pollution from sources such as "industrial development [which have] resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property."[177] Although the Act specifically targets "industrial development," it would not be unreasonable to infer that large conventional farms could be targeted by the Act.[178] This is especially true when one considers the

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[175] 40 C.F.R. § 50.11 (2008).

[176] INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at 1-5. This assertion seems especially possible given that portions of the EPA's own website refer to the group of nitrogen oxides, including nitrous oxide, as possible triggers of regulation under the Clean Air Act. However, at the time of writing, a new case was decided that took a contradictory stance on the issue. *See contra* Envtl. Def. v. Envtl. Prot. Agency, 489 F.3d 1320, 1329,1332-33 (D.C. Cir. 2007) (upholding EPA decision to not issue increment requirements on other nitrogen oxides because nitrogen dioxide increment limitations also limit other nitrogen oxides).

[177] 42 U.S.C. § 7401(a)(2) (2008).

[178] The Clean Air Act itself does not define the term. However, a few mainstream reference books support the idea that agriculture and industry can overlap. For example, Webster's New Millennium Dictionary of English defines "Factory Farming" as "a system of large-scale *industrialized* and intensive agriculture that is focused on profit with animals kept indoors and restricted in mobility." *See* MERRIAM-WEBSTER, WEBSTER'S NEW MILLENNIUM™ DICTIONARY OF ENGLISH, *factory farming*, (Preview Edition (v 0.9.7) 2008), http://dictionary.reference.com/browse/factory%20farming (last visited Feb. 20, 2008)(emphasis added). The Encyclopedia Britannica contains a similar, and perhaps more inflammatory, definition: "System of modern animal farming designed to yield the most meat, milk, and eggs in the least amount of time and space possible. The term, descriptive of standard farming practice in the U.S., is frequently used by animal-rights activists, who maintain that animal-protection measures routinely ignore farm animals. Animals are often fed growth hormones, sprayed with pesticides, and fed antibiotics to mitigate the problems of infestation and disease that are exacerbated by crowded living conditions...." *See* ENCYCLOPEDIA BRITANNICA, ENCYCLOPEDIA BRITANNICA ONLINE, *factory farming*, (2008), http://www.britannica.com/ebc/article-9364147#cite (last visited Feb. 20, 2008). For a more in-depth discussion on industrial agricultural practices and factory farms, *see* Union of Concerned Scientists, *Food and Environment – Industrial Agriculture: Features and Policy*, http://www.ucsusa.org/food_and_environment/sustainable_food/industrial-agriculture-features-and-policy.html (last visited Feb. 20, 2008). This organization was one of the petitioners in the Massachusetts v. Envtl. Prot.

broad reach the *Massachusetts* court held the Clean Air Act to have[179] and the industrial-type practices that large conventional farms have adopted.[180] As such, the broad congressional goals set forth by the act would appear to support regulating farms.

Specific sections of the Clean Air Act appear to empower the EPA to regulate greenhouse gas emissions from farms. For example, Section 111(a)(3) defines a stationary source as "any building, structure, facility, or installation which emit or emits any air pollutant."[181] This is a broad definition, but a farm containing a vast array of meticulously constructed cropland smothered in nitrous oxide emitting synthetic fertilizer might qualify as an "installation" or a "structure." In fact, the definition provided under Section 111(a)(3) includes solid waste landfills.[182] If a solid waste landfill qualifies as a "building, structure, facility, or installation," a farm might also. As such, although the definition for stationary source given under this section does not explicitly apply to other parts of the Act, the definition in the section is consistent with construing "stationary

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Agency at note 155. *See* Massachusetts v. Envtl. Prot. Agency, 127 S.Ct. 1438, 1446-47 (2006).

[179] Massachusetts, 127 S.Ct. 1438, 1461-63.

[180] Union of Concerned Scientists, *supra* note 182. These industrialized practices include concentrated animal feeding lots, monoculture, and others.

[181] 42 U.S.C. § 7411(a)(3) (2008). This section is focused on providing definitions to be used in setting standards of performance of new stationary sources. Although it does not explicitly state that the definitions excluded from applying elsewhere, it does state that the definitions are merely "for the purposes of this section" As such, it does not explicitly apply to 42 U.S.C. § 7408(a)(1)(A)(2008) which empowers the EPA to set limits on stationary source emissions. Ironically, 42 U.S.C. § 7408(a)(1)(A), which empowers the EPA to set limits on stationary source emissions, is silent as to what exactly a stationary source is. *See id.*; 42 U.S.C. § 7411(a)(3).

[182] 42 U.S.C. § 7411(a)(3) (2008); U.S. Environmental Protection Agency, 40 C.F.R. Part 60 - New Source Performance Standards (NSPS), http://yosemite.epa.gov/r9/r9nsps.nsf/ViewStandards?ReadForm&Part=60 (last visited Feb. 20, 2008) [hereinafter New Source Performance Standards *(NSPS)*]. Section 111 orders the EPA to form pollution control requirements for specific industrial activities that generate criteria air pollutants such as nitrogen oxides. The EPA's website contains a detailed list of eighty-seven different industrial activities which the EPA is entitled to regulate the activity directly or delegate regulation to local entities. *See* U.S. Environmental Protection Agency, Region 9: Air Standards Delegation – Basic Information, http://yosemite.epa.gov/r9/r9nsps.nsf/findpage/basic (last visited Feb. 20, 2008) [hereinafter Air Standards Delegation – Basic Information]. On this list of eighty-seven different activities that the EPA has power over, landfills are listed twice. *See New Source Performance Standards (NSPS), supra* note 186. Furthermore, note the close proximity between section 108 and section 111. I would argue that because they are under the same title of the act and are merely a couple sections apart, it is extremely likely that the EPA was meant to define "stationary source" the same way in both sections. *See* 42 U.S.C. § 7408(a)(1)(A)(2008); 42 U.S.C. § 7411(a)(3).

source[s]" to include farms. Examining the situation from this standpoint, section 108(a)(1)(A) provides that the EPA Administrator will maintain a list of air pollutant emissions which "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[183] Section 108(a)(1)(B) extends this listing to include pollutants that are present in the "ambient air" due to mobile or stationary sources.[184] The EPA Administrator must then issue air quality standards for these pollutants.[185] Thus, the Clean Air Act provides a method of regulating the use of nitrate fertilizers, which emit the air pollutant nitrous oxide into the air, by stationary conventional farms.

IX. WHAT IF THE EPA REFUSES TO REGULATE?

If a producer of organic products petitioned the EPA to regulate the use of synthetic nitrate fertilizer on conventional farms, the situation would be similar to that of the *Massachusetts* decision. The producer may have standing by the fact that federal disaster relief and crop insurance for organic crops and livestock only pays injured farmers conventional crop prices.[186] Since organic crops generally receive higher prices than conventionally-raised crops, these farmers lose the value they would have gained had their crops been undamaged: they are getting paid conventional crop prices for organically raised crops.[187]

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[183] 42 U.S.C. § 7408(a)(1)(A).

[184] 42 U.S.C. § 7408(a)(1)(B).

[185] 42 U.S.C. § 7408(a)(2).

[186] RISK MANAGEMENT AGENCY, UNITED STATES DEPARTMENT OF AGRICULTURE, A RISK MANAGEMENT AGENCY FACT SHEET ORGANIC FARMING PRACTICES 2007 INSURANCE FACT SHEET, http://www.rma.usda.gov/pubs/2006/organics.pdf (last visited Feb. 21, 2008). The federal crop insurance program is run by the Risk Management Agency of the USDA. It is specifically designed to protect producers from risks associated with losses caused by "adverse weather, and weather-related plant diseases and insect infestations." *See* RALPH M. CHITE, CRS Report For Congress Agricultural Disaster Assistance 1, Jan. 9, 2008 *available at* http://www.nationalaglawcenter.org/assets/crs/RS21212.pdf.

[187] RAWSON, *supra* note 25, at 9. For example, at the wholesale level, organic broccoli and carrots commanded a 125% price premium over their conventional counterparts between 2000 and 2004. *See id.* at 3. It should also be noted that the 2007 Farm Bill, which was voted into effect this past July, took steps towards paying organic farmers organic prices for any disaster relief/crop insurance claims they might bring. However, the bill merely stated that the AMS was to begin researching what the national prices were for some of the organic crops so that those prices could be entered into the disaster relief/crop insurance calculations. As of the writing of this comment, an accurate nationwide study has yet to be done. As such, there still exists a discrepancy in between the prices an organic farmer could collect if his crop was undamaged instead of if his crop is lost to the weather. *See id.* at 6, 10.

As mentioned above, the EPA has already acknowledged that there is a manmade increase of greenhouse gases in the atmosphere which has contributed to more extreme weather conditions.[188] Because conventional farm practices such as the use of nitrate fertilizer contribute to the increase of greenhouse gases, causation can be established between conventional farms and an injury consisting of weather-damaged organic crops.[189] Organic farmers also have a strong argument for EPA intervention from the fact that they suffer from the pollution caused by synthetic nitrate fertilizer but are prohibited from using the fertilizer on their organic crops under governmental guidelines. Thus, organic farmers are paying for the costs of using synthetic nitrate fertilizers but are receiving none of its benefits.

Standing requirements may also be lessened if the petitioner is a State. This might occur where a state has a valuable organic agricultural sector that has suffered harm due to the effects of global warming. In this situation, the state has a particularized injury in being denied the tax revenue which would have been generated by the lost crops.[190] This is somewhat distinguishable from the *Massachusetts* case in that the states are not deprived of their sovereign land, but are losing the value generated by the organic farmland. As to the rest of the *Massachusetts*'s analysis, the

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[188] Extreme Events, *supra* note 143; *see also* U.S. Environmental Protection Agency, Climate Change – Basic Information, http://www.epa.gov/climatechange/basicinfo.html (last visited Feb. 21, 2008) [hereinafter Climate Change – Basic Information]. *See also Agriculture and Food Supply*, *supra* note 7.

[189] *See* Nitrous Oxide: Sources and Emissions, *supra* note 141; INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at 6-16, 6-17; Climate Change – Basic Information, supra note 143; Extreme Events, supra note 143. As previously mentioned, the EPA has already acknowledged that the level of greenhouse gases have been increasing in the Earth's atmosphere, the increase of these gases is linked to mankind. They also have mentioned that the increase of greenhouse gases has caused the Earth's climate to change and this change can negatively impact on agriculture in the United States. *See id.; see also Agriculture and Food Supply*, supra note 7.

[190] However the law requires that any disaster relief payments a farmer receives must be declared. But, this does not necessarily ruin a State's standing. It could be argued that if farmers who receive federal disaster relief or crop insurance payments are being paid conventional prices for their damaged organic crops instead of the higher organic prices, then whatever those farmers report on their income tax is also at the lower conventional price. As such, the amount of money that the state can generate by taxing that same farmer would also be less. Thus, there is less tax revenue generated by the state. *See* Internal Revenue Service United States Department Of Treasury, Crop Insurance and Crop Disaster Payments - Agriculture Tax Tips, http://www.irs.gov/businesses/small/industries/article/0,,id=99034,00.html (last visited Feb. 21, 2008). Since all fifty states currently have some certified organic farmland and the organic sector as a whole generates about $14 billion dollars a year, tax revenue lost in this manner could be devastating. *See* RAWSON, *supra* note 25, at 1-2.

Court's discussion regarding causation and redressability would reach the same outcome when applied to the injuries of the States and private organic producers.[191]

However, the EPA may hesitate to regulate because the organic food sector comprises such a small portion of the market.[192] This may cause the courts to be even more hesitant to find an abuse of discretion. But the organic sector is expanding at the rate of twenty percent every year.[193] Eventually, as both the organic sector and the levels of nitrous oxide in our atmosphere increase, the possibility of a weather-related incident which forces organic food producers to settle for conventional prices will become more likely as time goes on. The EPA may eventually be forced into action if this escalation continues.

X. CONCLUSION

Nitrous oxide is extremely effective at absorbing heat in our atmosphere.[194] Conventional agricultural soil management practices, including the use of synthetic nitrate fertilizer, have been the number one cause of nitrous oxide emissions in the U.S. for years.[195] Under the Clean Air Act and *Massachusetts*, the EPA may be required to regulate the use of synthetic nitrate fertilizer because of the large volume of nitrous oxide emissions its use generates.[196] This would encourage a shift from conventional farming practices to organic practices while imposing a limit on

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[191] Massachusetts v. Envtl. Prot. Agency, 127 S.Ct. 1438, 1457-1458 (2006). As noted earlier, causation is satisfied merely by the EPA's refusal to take a "small incremental step" that would only result in a modest reduction in worldwide greenhouse gas emissions. Redressability is shown by the mere fact that regulation would help slow the onset of global warming. Although *Massachusetts* draws no bright line on these elements, they seem to be somewhat light burdens of proof. *See id.* at 1458; *see supra* notes 165-174 and accompanying text. The analysis in *Massachusetts* also applies to the situation of States and organic producers because, similar to Massachusetts's loss of coastline, their damages are caused by global warming triggered by the EPA's failure to regulate air pollutants.

[192] RAWSON, *supra* note 25, at 1. Although the organic sector generates $14 billion dollars a year, organic foods only comprise 2% of total U.S. retail food sales.

[193] RAWSON, *supra* note 25, at 1.

[194] INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at ES-9; *Nitrous Oxide: Science*, *supra* note 150. Nitrous oxide is three hundred times more efficient at trapping heat in the earth's atmosphere than carbon dioxide and lingers in the Earth's atmosphere for approximately 120 years.

[195] INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note 141, at 6-1; *see id.* at ES-9, 2-18, 2-19, 6-2, 6-18, 6-19; *see also* Nitrous Oxide: Sources and Emissions, *supra* note 141.

[196] INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS, *supra* note ES-9, 1-4, 2-18, 2-19, 6-1, 6-2, 6-18, and 6-19; *see also* Nitrous Oxide: Sources and Emissions, *supra* note 141.

the nitrous oxide emissions of the farmers who choose not to convert. However, to make the shift economically favorable to farmers, the government must not let the guidelines of the OFPA become so diluted that the "USDA Organic" label is meaningless in the eyes of consumers. If this were to happen, the premium prices that the booming organic sector currently enjoys[197] would vanish and there would be no marketplace incentive for farmers to convert to organic production. Because synthetic nitrate fertilizer is prohibited from use on organic crops under current organic certification guidelines,[198] maintaining the integrity of the "USDA Organic" label would maximize the impact of EPA regulation on nitrous oxide emissions caused by the use of synthetic nitrate fertilizer. Only by the combination of a strong "USDA Organic" label and effective EPA regulation will Americans be able to breathe a little deeper about agriculture.

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[197] RAWSON, *supra* note 25, at 3. Between 2000 and 2004, some organic crops commanded price premiums at twice the value as their conventional counterparts.
[198] 7 C.F.R. § 205.105a-205.105(g) (2007).