The National Organic Program
Impact of Harvey v. Johanns and
Restoring the NOP to pre-Lawsuit Status
A Report to Congress
March 2006

Executive Summary

Overview

On November 10, 2005, President Bush signed P.L. 109-97 into law -- the Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations Act of 2006 (Act). Included in the Act was language amending the Organic Foods Production Act of 1990 (OFPA). The amendments to OFPA restored various provisions of the National Organic Program (NOP) regulations that had been invalidated by the Court of Appeals for the First Circuit in Harvey v. Veneman (Harvey). Included in the appropriations language was a direction to the Secretary of Agriculture to undertake a study of the impacts of this decision on the program and the effects of the Act's amendments.

Impacts of the Court's Decision

Synthetics prohibited in processed organic products – Had the court's decision been allowed to stand for processed organic products, many in the organic industry believe that the impacts would have been enormously detrimental. Simply put, the loss of most of the approved synthetics on the National List that had been recommended by the National Organic Standards Board (NOSB) over more than a decade was believed to lead to a potential loss of billions of dollars in the growing organic industry. The losses would extend from farm to consumer, with a decline in the demand for raw farm products and a loss of confidence by consumers in the USDA organic seal.

Consumer confidence and recognition of the USDA seal likely was considered a major factor by Congress when it amended the OFPA. Research conducted as a result of the court's decision showed a measurable adverse impact that would have amounted to billions of dollars at retail. This stands to reason, since these companies had successfully petitioned the NOSB that these materials were critical, albeit minor, ingredients in facilitating the production of hundreds of products with retail sales value of nearly $2 billion. For the allegation underlying the lawsuit to be true – that consumers wanted no synthetics in organic products – it would imply zero or near-zero demand for these products and no growth occurring in these products since the synthetics had been added to the National List. But all of the challenged synthetics were part of the final regulations that were published in December 2000 and became effective in October 2002, many of the products were not available until after 2002, and none of the products could bear the USDA seal until that time.

Loss of the 80-20 feed exception – A rough estimate of the loss of the 80-20 feed exception for dairy was also calculated in this report, with losses ranging from $1 million to $5 million annually to the organic dairy sector, depending on location and climate, purchased feed, labor costs, and other factors. The West, for example, tends to be a feed-deficit region where farmers

purchase more feed and rely less on feed they can obtain from on-farm or other nearby sources. The farther the distance a farmer has to go to obtain feed, the more costly the feed will be, all other things being equal. Generally, for organic dairy operations, feed and labor are the most significant cost components, comprising upwards of 50 percent of the total variable costs of the operation.

Restoring the NOP

The NOP eliminated a disparate patchwork of standards loosely enforced by certifying groups in states and private organizations and put in place a uniform set of standards and compliance and enforcement procedures. In addition the NOP established a single point of contact at the Federal level to petition for changes to the standards and to petition the NOSB for materials to be used by certified operations. Indicators of growth in the organic sector since the regulations were implemented, especially growth in sales of organic products, suggest that far from the NOP having an adverse impact on the organic industry, processors, farmers, and consumers, the NOP was a positive and contributing force to growth in the organic industry.

Congress' Actions

Restoring the National List – Following Harvey's successful legal challenge of the use of synthetics in processed organic products, tension in the organic community began to escalate over what the National List might look like and how USDA might amend the NOP regulations. Further uncertainty over labeling changes added to market concerns. The action by Congress restored order to the organic business community by permitting contracts to be upheld and production to continue unimpeded by eliminating uncertainty over labeling and other regulatory changes that would have had to occur by June 2006.

Dairy herd conversion – Congress leveled the playing field for dairy farmers in amending OFPA by removing any penalties that dairy farmers faced with the so-called "4th year" additional transition year that dairy cows underwent due to lactation cycles. Congress did not change the basic requirement of OFPA, which requires dairy cows to be organically managed for at least 12 months. In providing the transition guideline, Congress may make entry in organic dairying easier, which may help ease the current milk shortages in the organic milk market at retail. Certainly it should help smaller dairy farmers faced with having to purchase higher priced organic feed, by allowing them to graze dairy livestock on land that is completing transition to organic certification.

Summary

The amendments passed by Congress effectively restored order to the organic business community by permitting contracts to be upheld and production to continue unimpeded by eliminating uncertainty over labeling and other regulatory changes that would have had to occur by June 2006. This action by Congress went far to alleviate concerns by many in the organic industry as new contracts were needed with farmers for crops for processed products such as organic juices and beverages. Congress continued to ensure that any changes to the NOP regulations would be done by engaging in notice and comment rulemaking. This ensures that the

organic standards will not be weakened, and the organic community's concerns will be addressed. The restoration of the NOP by Congress also significantly improves the climate for continued growth and investment in a unique market opportunity for U.S. agriculture in today's business climate.

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Background

On November 10, 2005, President Bush signed P.L. 109-97 into law -- the Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations Act of 2006 (Act). Included in the Act was language amending the Organic Foods Production Act of 1990 (OFPA). The amendments to OFPA restored various provisions of the National Organic Program (NOP) regulations that had been invalidated by the Court of Appeals for the First Circuit in Harvey v. Veneman (Harvey). The appropriations language also included a direction to the Secretary of Agriculture to undertake a study of the impacts of this decision on the program and the effects of the Act's amendments. This report fulfills that direction to the Secretary of Agriculture.

Study Requirements

Congress asked the Secretary to provide a report addressing the following:

A. An evaluation of any impacts of the court decision in Harvey v. Veneman (Harvey), 396 F.3d 28 (1st Cir. 2005);

B. A determination on whether restoring the NOP, as in effect on the day before the date of the court decision, would adversely affect organic farmers, organic food processors, and consumers;

C. Analysis on the issues regarding the use of synthetic ingredients in processing and handling;

D. Analysis on the utility of expedited petitions for commercially unavailable agricultural commodities and products; and,

E. A discussion on the use of crops and forage from land included in the organic system plan of dairy farms that are in the 3rd year of organic management.

Outcome of the Harvey Lawsuit

To understand the impact of the Harvey lawsuit, a brief review of the two counts on which Mr. Harvey prevailed (of the nine counts which he filed) is in order. In count 1, Harvey did not prevail, but the court ordered the U.S. Department of Agriculture (USDA) to issue a declaratory judgment to clear up ambiguities in interpretation of its regulation based on allegations made by Mr. Harvey. Each of these counts is discussed below, including how Congress addressed them in the amendment included in the appropriations legislation.

Count 1 -- In count 1, Harvey alleged that accredited certifying agents (ACAs) and their clients were ignoring or circumventing a critical part of the National List, a section known as §205.606 which deals with commercially unavailable agricultural ingredients in organic form. The National List is a significant portion of the NOP regulations which contains the listing of all allowed synthetics and prohibited natural substances, as well as commercially unavailable agricultural substances applicable to organic operations. The required procedure under §205.606 is to petition the citizen advisory National Organic Standards Board (NOSB) to recommend that a nonorganic agricultural (natural) substance be placed on the National List if it is commercially unavailable in organic form. By placing the substance on the list, a certified organic operation would be able to use a conventional source of the agricultural substance as an ingredient and still comply with organic labeling requirements. (Note that synthetics are not placed on this section of the List; only *agricultural* substances that are not available in organic form would be allowed on this section of the National List.)

Harvey alleged that certifying agents were allowing their clients to self-determine that such organic ingredients were unavailable, permitting them to use conventional substitutes whenever they felt the need, bypassing the National List procedures and the NOSB. USDA argued successfully this was not so. The five agricultural substances listed on 205.606 were the only substances identified as commercially unavailable in organic form; these five listed substances could be used from conventional sources as ingredients in products labeled organic or "made with [specified organic ingredients]".

However, the court did state that there could be an ambiguous interpretation with this part of the regulations as it was written. The court directed the Secretary to reaffirm the intent and meaning of §205.606 in the *Federal Register* to the public and to all certifying agents within 30 days of the court final order being issued. The court further ordered the Secretary to make clear to the public that National List procedures must be used if operations believe an organic agricultural substance to be commercially unavailable and therefore want to use a nonorganic agricultural substance in its place. USDA complied with this order by the court within the 30-day deadline.

In the Act, Congress amended OFPA to further address this part of the National List procedure. Congress authorized the Secretary to establish emergency procedures to place agricultural substances on the National List for a period of up to 12 months in the event that they become commercially unavailable in organic form. This amendment is discussed in a later section of this report.

Count 3 -- Under count 3, Harvey challenged the use of any synthetic in any processed organic product bearing the USDA organic seal. The court agreed, citing that no synthetics were permitted in processing (called handling under the Act and regulations) or post-harvest handling of organic products that bear the USDA organic seal. Originally, Harvey did not distinguish between different types of processed products based on their organic content.[1] Later, Harvey

[1] On his appeal, Harvey challenged that OFPA specifically forbids "the addition of synthetic ingredients in processing…only synthetics used in production, *i.e.*, farming, may be included on the National List. The only other exception in the Act with regard to synthetics in processing is for substances required by other health and safety laws. The challenged regulations must be vacated except to the extent that they implement this limited exception." The court agreed, citing that no synthetics were permitted in processing (called handling under the Act and

and amici petitioned and the Court issued an "errata" to its decision, finding that synthetics could be used in products labeled as "made with organic (ingredients)" only.

The court found that "both §205.600(b) and 605(b) were contrary to OFPA and exceeded the Secretary's rulemaking authority by permitting the addition of synthetic ingredients and processing aids in handling and processing of products that contain of minimum of 95 percent organic content and which are eligible to bear the USDA organic seal."[2] The court also stated explicitly that this declaration did not apply to synthetic ingredients and processing aids authorized by 7 U.S.C. §6519(f) or §6510(a) (7). (These latter references in OFPA refer to authorizations for synthetics for health and sanitary purposes or for synthetics authorized by other statutes or regulations.) The court remanded the case to the district court for the entry of summary judgment in favor of Harvey.

On remand, the parties entered into a consent order and the matter was remanded to the Secretary to conduct rulemaking within 360 days (by June 4, 2006) of the date of the final order. The consent order provided for a two-year delay in the effective date for compliance with its decision on this issue. "So as to prevent consumer confusion, commercial disruption and unnecessary litigation, the Secretary shall temporarily exempt nonconforming products placed in the stream of commerce as organic, while new rules are being promulgated and afterward, while producers, handlers and processors come into compliance with them. The new implementing rules shall become effective two years after the date of this order and judgment, after which no non-conforming products may enter the stream of commerce."[3]

When Congress passed the amendment, it restored the National List to its pre-lawsuit status by permitting synthetics to be used in handling, along with restoring the criteria by which synthetics are evaluated by the NOSB.

Count 7 -- Count 7 dealt with what is known as the "80-20" feed provision for dairy livestock. Under this provision of the NOP regulations, during the first 9 months of converting an entire herd of dairy cows to organic production, transitioning dairy livestock could be fed up to 20 percent nonorganic feed, with the remainder of their feed required to be organic. The purpose of this regulation was to alleviate the burden of entry that dairy livestock producers felt they faced compared to crop producers. For crop production a three-year transition period for their land is required. Dairy cattle, on the other hand, would face an additional 4th year required for livestock to be managed organically before milk products could be marketed as organic, because dairy cattle do not lactate before they are at least one year old. Thus, an exception was created to help offset the additional costs of entry and to ease what was believed, at the time, to be a likely shortage of feed supplies when the industry was emerging.

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regulation) or postharvest handling on organic products that bear the USDA organic seal. When the Court of Appeals for the First Circuit issued its decision, it interpreted OFPA to clearly forbid the use of any synthetic in any postharvest or handling of an organic product.

[2] U.S. Court of Appeals for the First Circuit, Harvey v. Veneman, Appeal from the U.S. District Court for the District of Maine, No. 04-1379, January 26, 2005.

[3] U.S. District Court for the District of Maine, Consent Final Judgment and Order, Harvey v. Johanns, Civil No. 02-216-P-H, June 9, 2005.

Harvey challenged this provision, and the court agreed. The court found that the OFPA did not permit less than 100 percent organic feed for livestock that are to be marketed or represented as organic. The court said that OFPA "clearly requires a single type of organic handling for twelve months before sale of dairy products as organic…whereas the final rule requires two different levels of organic feed during that twelve-month period…the statutory and regulatory directives directly conflict on this point."[4] The court went on to address the Secretary's attempt to introduce conversion through rulemaking because OFPA is "silent of the question of dairy herd conversion."[5] The court rejected that argument, saying "the twelve-month requirement…has little meaning if it does not govern situations in which a dairy animal is being 'converted' to organic production, and nothing in the Act indicates that the standards for organic production are different for entire herds than for single animals…Nothing in the Act's plain language permits creation of an 'exception' permitting a more lenient phased conversion process for entire dairy herds."[6]

The court concluded that the Secretary had overstepped his regulatory authority. On remand, the district court's consent order required the Secretary to conduct notice and comment rulemaking and to publish in the *Federal Register* final rules implementing the court's order not more than 360 days (by June 4, 2006) from the date of the order. However, recognizing the adverse impact of its order, as it did on count 3 dealing with synthetics, the court included a similar delay in the implementation in its order: "So as to prevent consumer confusion, commercial disruption and unnecessary litigation, dairy farmers who, at the time that the new rule becomes effective, are in the process of converting their herds to organic production in conformance with the invalidated conversion rule, may complete conversion in conformance with the invalidated conversion rule."[7]

In amending the OFPA through the Act, Congress did not restore the 80-20 feed provision. Instead, a transition guideline was added for dairy livestock. This transition guideline permits crops and forage from land included in the organic system plan of a dairy in its third year of organic management to be fed to dairy animals during the 12 months of management prior to milk and milk products being sold as organic.

A. Impacts of the Court Decision

Congress directed the Secretary to provide an evaluation of any impacts of the court decision. Following is a discussion of the impact of the court's decision related to the loss of synthetics and the 80-20 feed provision on the organic industry and related impacts on consumers.

[4] U.S. Court of Appeals for the First Circuit, Harvey v. Veneman, Appeal from the U.S. District Court for the District of Maine, No. 04-1379, January 26, 2005.
[5] Ibid.
[6] Ibid.
[7] U.S. District Court for the District of Maine, Consent Final Judgment and Order, Harvey v. Johanns, Civil No. 02-216-P-H, June 9, 2005.

Impact of Decision Related to Synthetics

Had the court's decision been allowed to stand for processed organic products, many in the organic industry believe that the impacts would have been enormously detrimental. Simply put, the loss of most of the approved synthetics[8] on the National List that had been recommended by the NOSB over more than a decade was believed to lead to a potential loss of billions of dollars in the growing organic industry. The losses would extend from farm to consumer, with a decline in the demand for raw farm products and a loss of confidence by consumers in the USDA organic seal.

We understand that consumer confidence and recognition of the USDA seal was considered by Congress when it amended the OFPA. Research shows that familiarity with the USDA seal is more closely associated with the likelihood of organic purchases than awareness of the National organic standards without recognition of the seal. In a random survey of over 1,000 households, over half of the respondents that had seen the USDA organic seal on products reported an increased likelihood of purchasing organic products. Nearly 80 percent of respondents that had seen the organic seal but were not familiar with the standards reported increased confidence in the integrity of organic products as a result of the standards. Even non-organic consumers (nearly 30 percent) said they recognize the USDA seal, despite not purchasing organic products (they cited price as the major reason for not purchasing organic products).[9] Other studies confirmed similar results. In a survey commissioned by Whole Foods, 40 percent of people who purchase organic foods notice the USDA green organic logo and clear organic labeling on foods and beverages they purchase.[10]

The Organic Trade Association (OTA) – the trade association that represents organic businesses in North America – commissioned a study in early 2005[11] to gather economic evidence and evaluate the impacts of the loss of processed organic products across the United States. A survey of nearly 1,300 organic businesses was undertaken. Businesses included farmers, processors, ingredient suppliers, brokers, retailers, exporters, farm input suppliers, certifiers, and service providers. With a 10 percent response rate received from the survey, the responses offer an illustration of the impact of the lawsuit on various segments of the organic industry with respect to the questions posed by the survey.

Among the 18 questions posed to businesses in the study's survey were questions designed to measure the impact of the loss of synthetics on sales at various points in the marketing chain; exit and entry into the organic market; availability of substitute inputs; labeling changes;

[8] Harvey also withdrew his objection, and the court agreed, to any synthetic on the National List that was recommended for health or sanitary purposes.

[9] Strochlic, Ron. "Regulating Organic: Impacts of the National Organic Standards on Consumer Awareness and Organic Consumption Patterns," California Institute for Rural Studies (CIRS), USDA-AMS 12-25-A-4264 Cooperative Agreement, December 2005.

[10] Food Navigator USA, navigator.com "Organic Market Growing, Headed by Fruit and Vegetable," November 21, 2005, http://www.foodnavigator-usa.com/news/print.

[11] Lohr, Luanne. "Economic Effects of *Harvey v. Veneman:* Results of an Industry Survey." Draft Report. September 2, 2005. Provided to the Organic Trade Association (OTA). (Permission to use obtained from the OTA and the author.)

business demographics; and product continuation. Information and results were reported both for respondents and the organic industry (e.g., business demographics provide a benchmark against which some of the responses could be evaluated).

Results reported by respondents showed a measurable impact which, if extrapolated to the entire industry, would have been as economically adverse. This stands to reason, since these companies had successfully petitioned the NOSB that these materials were critical, albeit minor, ingredients in facilitating the production of hundreds of products with retail sales value of nearly $2 billion. For Harvey and the amice's allegation to be true – that consumers wanted no synthetics in organic products – it would imply zero or near-zero demand for these products and no growth occurring in these products since the synthetics had been added to the National List[12]. But all of the challenged synthetics were part of the final regulations that were published in December 2000 and became effective in October 2002, many of the products were not available until after 2002, and none of the products could bear the USDA seal until that time.

Growth in the sales of these products and product categories has been in double-digit rate, as evidenced by numerous market studies undertaken by private market research firms. According to OTA's 2004 Manufacturers' Survey, the organic foods industry reached sales of $10.8 billion in 2003 and has grown at an average rate of 19.5 percent annually since 1997; market researcher *Euromonitor* predicted that sales of packaged organic foods alone could be worth $8.6 billion at retail by 2009, up from $5.1 billion in 2003.[13]

The OTA study also revealed that many of the synthetics are actually used in fresh products, as ripening agents or to enhance shelf-life, or to substitute for other, less-desirable manufactured synthetics. Others are vitamins and minerals, leavening agents, antioxidants, fumigants, or materials to prevent fungal and bacterial growth from occurring. According to Lohr's survey, among respondents, about 50 percent of growers used at least one synthetic on the National List. Growers use materials for cleaning, grain protection, or ripening. This is supported by other purchase data evidence, that reports fruits and vegetables as the number one category of organic products purchased by consumers, followed by non-dairy beverages (which would include juices made from fruits), bread and bread products (made from grains), and dairy products, in this order.[14] Carbon dioxide and ethylene are primary materials for distributors, growers, and importers handling fruits and grains. Together, all respondents reported the value of sales of organic products using these two materials at more than $1 billion in 2004.[15]

The most often used synthetic materials reported by manufacturer respondents to the OTA business survey were tocopherols (vitamin E), vitamins and minerals generally, and lecithin-bleached. Bleached lecithin is derived from egg yolks or soybeans, and is used as an emulsifier -- e.g., in salad dressings, to keep two dissimilar things together like oil and vinegar. (Only bleached lecithin is considered synthetic by the NOSB; unbleached lecithin is considered non-

[12] The amice argued that consumers were misinformed; but this assumes that consumers do not read labels, or only read the front panels and ignore ingredient listings on packages, doubtful given evidence related to nutrition labeling, which appears on side panels of most food product packages.
[13] Food Navigator USA, navigator.com, November 21, 2005.
[14] Whole Foods, The 2005 Whole Foods Market® Organic Foods Trend Tracker, conducted August 2005, published November 18, 2005.
[15] Lohr, p.15.

synthetic and both are allowed in organically-labeled products.) Manufacturer respondents alone reported sales value of over $540 million for products using these most-used synthetics on the National List.

Altogether, the most frequently used synthetics on the National List reported by *all* respondents were tocopherols, ascorbic acid (vitamin C), vitamins and minerals, carbon dioxide, and chlorine (as a disinfectant). The sales value of the products using these synthetics was reported at nearly $1.8 billion by manufacturers, ingredient suppliers, distributors, growers, retailers, and importers.[16]

Despite the minor use that these synthetics comprise of the final product -- 5 percent or less -- several respondents reported that without the use of the material, it would be impossible to offer the product in organic form due to the lack of input substitutes. Examples given included ethylene for ripening tropical fruit (e.g., bananas), carbon dioxide for classes of spice extracts and grain storage, calcium hydroxide for sugar, and bleached lecithin in a variety of products.[17] Interestingly, Fisher reports there is no chemical difference between ethylene produced from naturally-decaying fruit and that produced in a laboratory, but bananas will not ripen off the tree without ethylene. And naturally-sourced ethylene can pose problems with foodborne bacteria and pathogens as a result of rotting or decaying fruit as its source.[18]

Without a particular synthetic, if there is no substitute, the firm may be forced to cease production of the organic product. Ceasing production has broad impacts that extend well beyond the manufacturer. These impacts would include multiplier effects from the loss of local jobs in the community and lower incomes, to include ancillary losses due to lower demand for packaging, equipment, sales, distribution, and other services. Finally but not least of all for the organic community, ceasing production of processed organic products would ultimately lead to reduced demand at the farm level for the raw farm inputs.

Lohr estimated various costs due to the loss of the synthetics to the respondents only, without extrapolating to the entire industry. Estimates of losses due to product elimination totaled almost $393 million for the respondents (recall the response rate to be 10 percent of the surveyed businesses). Adjustment costs -- those costs incurred due to reformulation, labeling changes, finding substitutes, switching to a "made with" label, or absorbing increased costs -- approached $1.5 billion for respondents. And price premium reduction cost estimates totaled $22 million. These price premium costs are absorbed only by the manufacturers and ingredient suppliers, and are incurred when the product is no longer sold for a price premium over the conventional counterpart product because demand is not sufficiently inelastic to absorb the higher cost being passed forward. Altogether, the sum of these costs represent the direct costs that industry could bear as a result of losing the 29 synthetics that could be used in products eligible to bear the USDA organic seal, or nearly $1.9 billion.

[16] Ibid.
[17] Lohr, p.16.
[18] Fisher, Barbara, "Tigers & Strawberries, Those Darned Chemicals V: The Final Confrontation," October 13, 2005; published on the OTA website at http://tigerberries.blogspot.com/2005.

In Lohr's survey, a sizeable percentage of firms also reported they planned to stop using organic ingredients -- 25 percent overall. By subsector, 25 percent of manufacturers, a third of ingredient suppliers, two-thirds of importers, and 20 percent of retailers responded that they would cease the use of organic ingredients -- fueling exit from the industry.[19]

In all cases, the costs that firms would bear would tend to exacerbate potential exit within the organic industry, which would have a destabilizing effect on the entire organic industry. In the short run, uncertainty and exit would prompt more aggressive competition among remaining input suppliers for remaining market sources and among output buyers for remaining market outlets. Businesses that remain could experience price shocks and undergo further consolidation in the industry. To the extent that one motivating reason for the lawsuit may have been a concern that large firms were entering the industry to expand production by introducing processed organic products full of synthetics, further consolidation as a result of adjustments in the industry would hardly be a desirable outcome following the ban of the synthetics.

In all, after adjustments for costs, substitutions, consolidations, label changes, and exit, Lohr estimated that wholesale losses could range from $738 million to nearly $1 billion, while retail losses could reach more than $1.2 billion, for total losses of at least $1.9 billion. In addition, structural change in the industry is likely as up to 25 percent of manufacturers could stop producing organic products and remaining firms try to comply through reformulation of products.[20]

Impact of Lawsuit on Dairy

The loss of the 80-20 feed exception can be measured depending on various feed costs, for average farm sizes, and for the sector as a whole using 2003 estimates of the number of certified dairy livestock in the United States -- the latest year for which numbers are available.[21] Generally, for organic dairy operations, feed and labor are the most significant cost components, comprising upwards of 50 percent of the total variable costs of the operation.[22] Organic feed is significantly more expensive than conventional feed, and various quotes run as high as double the cost of conventional or nonorganic feed rations. According to one study, higher feed cost was the largest and most important difference between organic and nonorganic dairy production, with the additional expense of feeding organic dairy cows being 54 percent of the price differential received for organic milk[23]. In this study, for a 48-cow organic herd, purchased feed cost $1,003 per cow, or $298 per cow more than for a conventional dairy operation. For the entire year, the average farm spent approximately $49,000 for purchased organic feed for the 48-cow herd in this study.

[19] Op.Cit., p. 12.
[20] Op.Cit., p. 27.
[21] Greene, Catherine. Certified organic livestock, 2003, numbers obtained from the author on permission; forthcoming from the Economic Research Service (ERS), U.S. Department of Agriculture.
[22] Dalton, Timothy J., Lisa A. Bragg, Rick Kersbergen, Robert Parson, Glenn Rogers, Dennis Kauppila, Qingbin Wang. "Cost and Returns to Organic Dairy Farming in Maine and Vermont for 2004," University of Maine Department of Resource Economics and Policy Staff Paper #555, November 23, 2005.
[23] Ibid.

A rough estimate of the loss of the 80-20 feed exception can be determined using this study's farm cost numbers. Using the estimated per-cow feed numbers, if a dairy farmer had to switch from using nonorganic feed to all organic feed and purchase all of the organic feed, the loss to the dairy farmer is slightly more than the cost of feeding one dairy cow organic feed for an entire year, or about 2.7 percent higher than using the 80-20 feed exception.

Table 1. Cost of Losing 80-20 Feed Provision
Based on Vermont-Maine Dairy Study Cost Estimates

Organic feed per cow	$1,003 per year or $84 per month
Nonorganic feed per cow	795 per year or $66 per month
9 months: 20% nonorganic feed cost:	(0.2)*($66)*(9) = $119
80% organic feed costs:	(0.8)*($84)*(9) = $605
3 months: 100% organic feed:	(1.0)*($84)*(3) = $252
Total Feed Using 80-20	$976
12 months using organic feed only:	12 months*$84/cow = $1,003
Difference (loss) of 80-20, 48-cow herd	12 mo*$27/cow loss = $1,296

For the sector, based on Economic Research Service's (ERS) estimate of approximately 74,435 certified dairy cows in 2003, the loss of this provision using the above cost estimates would amount to around $2 million. But this assumes that all of the dairy cows in the sector are converted to organic in the same year and all farm operator6s use the 80-20 feed provision in that same year. This is likely an overstatement since we do not have any estimates of the dairy cattle that are being transitioned (they would not have completed certification requirements and so would not be counted in ERS' certifying agent study).

However, an estimate can be constructed for a growing industry that is ***adding*** new dairy cows to the industry. In 2000, there were just over 38,000 certified dairy livestock, increasing to nearly 49,000 by 2001, and 67,000 in 2002. With repeated media reports of skyrocketing milk prices and shortages in the U.S. organic dairy market in the last year, it would not be surprising to expect continued growth in livestock numbers.

Therefore, another way to estimate the loss is to calculate the number of dairy cows ***added*** to the sector each year and assume they were all fed using the 80-20 feed transition provision. Between 2000 and 2001, 11,000 certified dairy cows were added. Another 18,000 cows were added by 2002, and 7,435 in 2003. On average, 12,145 dairy cows were added each year since 2000. At an additional cost of $27 per cow to use the 80-20 feed provision, the loss of this transition would have cost dairy farmers approximately $327,915 per year, or nearly $1 million over the 3-year period.

Different estimates were obtained from discussions with Western state industry experts in dairy feed and nutrition, and budgets developed by certifying agents who work with certified dairy operations in the Northeast.[24] These estimates resulted in higher costs due to the loss of the 80-20 feed provision, to as much as $416 per cow, or assuming an addition of an average of 12,000 cows per year added to the sector, a loss of nearly $5 million per year to the sector.

Depending on location and climate, costs may vary considerably. The West, for example, tends to be a feed-deficit region where farmers purchase more feed and rely less on feed they can obtain from on-farm or other nearby sources. The farther the distance a farmer has to go to obtain feed, the more costly the feed will be, all other things being equal. So it is not surprising that costs could vary by region or climate. With increased entry into the dairy industry, attracted by higher prices, there would also be higher competition for feed – especially with the loss of the 80-20 feed provision for the first year of transition. This would drive up the cost of feed, adding to these cost estimates. Furthermore, these additional costs would have to be absorbed somewhere. They must either be passed forward to consumers in the form of higher fluid milk and dairy product prices -- already at high premiums relative to conventional dairy product prices -- or they would have to be absorbed by farmers. However, Congress did amend OFPA for transitioning dairy farmers and this is discussed below.

B. <u>Impact of Restoring the NOP</u>

Congress also posed the following question: if the NOP is restored as it operated as in effect on the day before the date of the court decision, would there be adverse impacts on organic farmers, food processors, or consumers?

USDA responds to this question in the negative. Restoring the NOP as it was in effect on the day before the court decision returns the program to the status as it was being administered by USDA. At that time, USDA was not engaged in any rulemaking to amend the NOP regulations with respect to dairy feed, synthetics, or commercial availability. Specifically, on the day before the court decision was issued, USDA was defending the NOP and engaged in analyzing how to mitigate the potential negative impacts of the decision. USDA supported and continues to support the NOP as a highly successful marketing tool for farmers, businesses, and consumers.

Success of the National Organic Program is evidenced by several growth indicators in the organic market. In order for products containing organic raw farm product to bear the USDA seal no later than 2002, farm products must have been grown on land placed into organic production by at least 2000. (The NOP regulation requires a 3-year transition for certification.) So one measure of growth in the organic sector is to examine the increase in acreage and livestock since 2000.

USDA's ERS provides estimates of acres and animals placed into organic production since 1997, based on surveys of certifying agents and organic operations. The latest numbers available are for 2003, and the growth in acreage and livestock has been significant. According to the National Agricultural Statistics Service (NASS), which conducts the Census of Agriculture,

[24] Information provided in conversations with Pacific Nutrition-Consulting (PNC) and from NOFA-VT budgets for estimating the cost of the transition year for dairy farmers using the 80-20 feed provision.

during the period 1997-2002, there was a slight increase in the share of small farms (fewer than 50 acres), from 33 to 35 percent of all farms in the United States, while there was a decline in the share of mid-size farms. The Census of Agriculture also recorded a 37 percent increase in direct marketing by farmers from 1997 to 2002; however, while many small organic growers do market directly to consumers, direct marketing also includes many other enterprises. Therefore this number overstates the growth in organic marketing.

But growth in organic farming -- associated typically with smaller farm sizes -- has increased by a far greater percentage. Acres in organic production increased by more than 20 percent since the NOP regulations went into effect, and numbers of animals in organic production have more than doubled. The number of certified farm operations as reported by ERS also increased by more than 20 percent from 2000 to 2003. Table 2 shows a summary of growth in organic production since the year the National Organic Standards were published.

Table 2. Growth in U.S. Organic Agriculture[25]

Organic Agriculture	2000	2002	2003	%chg	%chg
Acreage (000 acres)				(00-02)	(00-03)
Pasture	557.2	625.9	745.3	12.3	33.8
Crops	1,218.9	1,299.6	1,451.6	6.6	19.1
Total acres	1,776.1	1,925.5	2,196.9	8.4	23.7
Animals (number)					
Beef cattle	13,829	23,284	27,285	68.4	97.3
Milk cows	38,196	67,207	74,435	75.9	94.9
All livestock	56,028	108,362	124,346	93.4	121.9
Poultry (000)	3,159	6,271	8,780	98.5	177.9
Organic operations (no.)*	6,592	7,323	8,035	11.1	21.9

*Number does not include subcontracted organic farm operations.

Other indicators of success of the NOP as it existed prior to the lawsuit include the numbers of certifying agents applying for accreditation in order to provide certification services, the demand by foreign governments for some form of recognition in order to facilitate international trade in organic products, and the trade balance in organic products. Just prior to implementation of the NOP regulations, USDA anticipated that approximately 50 certifying agents would seek accreditation under the regulations to provide certification services. Instead, 133 applications have been received and 97 certifying agents were accredited to provide certification of operations worldwide to the NOP standards. Nearly half of the certifying agents are foreign-based, but many U.S. certifying agents also provide certification services globally as well. Several countries or provinces of foreign countries have recognition by the United States of their organic standards or conformity assessment programs -- the United Kingdom, New Zealand,

[25] Greene, Catherine. U.S. certified organic farmland acreage, livestock numbers, and farm operations, 1992-2003, Economic Research Service, USDA, available from ERS Briefing Room, 2006, at http://www.ers.usda.gov.

Quebec, British Columbia, and the Standards Council of Canada; and Japan recognizes the NOP crop standards with conditions.

In addition, a growing U.S. trade deficit in organics indicates a shortage of domestic product and a strong domestic demand that must be filled by imported organic product. Some of the largest increases in imported products recently entering the United States are feed grains from Brazil and China, to satisfy demand for organic livestock production requirements. A recent article from *The Organic Monitor* reported that imports of organic products into the United States were valued at $1.5 billion, while U.S. organic exports were only $150 million, and shortages of feed and milk powder were one of the major sources of the recent strong demand for imports.[26] The trade deficit was projected to continue to grow unless the U.S. organic market continues to expand further.

Finally, the organic "success story" was repeated over and over as double-digit growth propelled sales at retail to more than $15 billion by 2005. No one in the organic industry was concerned that such rapid growth was adverse for the business community, including the farmers supplying the raw product to processors. Recall the growth measures quoted at the beginning of this report -- growth in the organic foods industry had reached $10.8 billion in 2003 and had grown at an average rate of 19.5 percent annually since 1997; market researchers predicted sales of packaged organic foods alone could be worth $8.6 billion at retail by 2009, up from $5.1 billion in 2003. Of far greater concern after the lawsuit and court's decision was the potential for halting growth and how businesses might react, with the effects that would ripple forward to consumers and back to farmers.

The NOP eliminated a disparate patchwork of standards loosely enforced by certifying groups in states and private organizations and put in place a uniform set of standards and compliance and enforcement procedures. In addition the NOP established a single point of contact at the Federal level to petition for changes to the standards and to petition the NOSB for materials to be used by certified operations.

All of these indicators, especially growth in sales of organic products, suggest that far from the NOP having an adverse impact on the organic industry, processors, farmers, and consumers, the NOP was a positive and contributing force to growth in the organic industry.

C. Use of Synthetics in Processing and Handling

There were 36 synthetics on §205.605(b) of the National List that were challenged under the Harvey lawsuit.[27] Prior to the lawsuit:

- *All* of the 36 synthetics could be used for products labeled as "made with organic [specified ingredients]", which requires a minimum of 70 percent organic content.
- *None* of the 36 synthetics could be used for products labeled as "100 percent" organic.

[26]Organic Monitor, London. "USA: Growth Stifled by Undersupply" December 15, 2005.
[27] 7 C.F.R. §205.605 Nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as "organic" or "made with organic (specified ingredients or food group(s))."

- Two of the 36 synthetics were designated for disinfecting and cleaning equipment or food contact surfaces.
- Five of the 36 synthetics could only be used in "made with" organic products.[28]

Thus, of the total 36 synthetics on the National List, 29 could be used in products with a minimum of 95 percent organic content, or products bearing the USDA organic seal. (They could also be used in 70-percent minimum, or "made with" organic products, but such products could not bear the USDA seal if they were labeled that way.) These 29 synthetics could constitute up to 5 percent of the final product labeled as organic which may bear the USDA seal.

What are these synthetics? Many are vitamins and minerals. There is an actual listing of vitamins and minerals on this part of the National List. (They were listed as the 19th synthetic on the subparagraph (b) of this part of the List, "(19) Nutrient vitamins and minerals, in accordance with 21 CFR 104.20, Nutritional Quality Guidelines for Foods.") There was also a separate allowance for ferrous sulfate: "(11) Ferrous sulfate, for iron enrichment or fortification of foods when required by regulation or recommended (independent organization)."[29]

Tocopherols are also permitted. Tocopherols are antioxidants, also known as vitamin E. As required by the NOSB and accepted by the NOP, tocopherols must be derived from vegetable oil when rosemary extracts are not a suitable alternative. According to Fisher[30], tocopherols are commonly found in foods such as green leafy vegetables, vegetable oils, nuts and wheat germ. In food production, they are used as a preservative, to delay the degradation of oils and fats into rancidity. They are used in snack foods, cereals, and naturally expressed vegetable oils.

Ascorbic acid is also uniquely identified on the National List, but known commonly as vitamin C and allowed to be used in any way in the production of organic foods. Ascorbic acid, or vitamin C, is also an antioxidant and helps preserve processed foods and boost the nutrient value of foods. Vitamin C is one of the few vitamins that humans are incapable of producing but which is necessary for life; recall sailors who contracted scurvy from long periods at sea without vitamin C and suffered bone and dental disease (rickets). Vitamin C is found in citrus fruits, peppers, tomatoes, broccoli, potatoes, papaya, calf liver, oysters, and cod roe. It is synthesized from glucose -- a natural sugar.[31]

Although calcium hydroxide is not in itself a vitamin or mineral it is used to enhance the nutrition of corn by loosening the outer hull of the kernel and in the process rendering more of the grain's protein and vitamins available for absorption. According to Fisher, for many people in the world who rely on corn and corn products as a staple in their diet, without such treatment (which has been used by Native Americans for thousands of years to produce "posole" or masa), some people could develop a serious disease known as pellagra -- a deficiency of niacin. In food production, calcium hydroxide is also used to make soda and alcoholic beverages; masa is used to make corn chips and tortillas.

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[28] Harvey withdrew his challenge to the five synthetics designated on the National List as only allowed in "made with" products and the two designated for cleaning and sanitizing equipment and surfaces.
[29] 7 C.F.R. §205.605, see under §205.605(b), numbers 11 and 19.
[30] This discussion of synthetics drawn from Fisher's article "Those Darned Chemicals ," see note 18.
[31] Op.Cit.

What of the remaining 24 synthetics? Most are used as thickeners, emulsifiers, preservatives, flavor enhancers, leavening agents, or to reduce or eliminate bacterial or fungal populations. As preservatives, the synthetics were deemed by the NOSB to be superior to other manufactured synthetic preservatives that were considered incompatible with organic principles and practices. A short review of most of these synthetics in Fisher's article shows that many of these may have a complicated nomenclature but are, in fact, derived from natural substances or are found in nature (in plants, animals, or are gases in the earth's atmosphere).[32]

Fisher concluded at the end of her review that "so long as American consumers demand that there be organic convenience foods like cold cereals, crisp crackers, fruity yogurt drinks, fizzy natural sodas, macaroni and cheese mixes and bread, and so long as we prefer to eat ripe bananas and tofu, we are going to have to accept some additives in our food. Additives serve a lot of functions which make processed foods edible, tasty and last longer than a day or two. They also help clean processing equipment and keep it free of harmful foodborne bacteria. So if we want bacteria-free cereal, tofu, soda, bananas and gluten-free baked goods -- we are going to have to have some chemicals in our food. If you don't want any of them, then take my advice: don't eat processed foods. Or tofu. Or bananas."[33]

What's on the National List?

• As binders, thickeners or emulsifiers[34], alginates, glycerine, lecithin, mono- and diglycerides, pectin, and xanthum gum are all used. Glycerine and mono- and diglycerides are fats that can be found in humans, while alginates and xanthum are derived from bacteria, and pectin is found in plant cell walls.
• As an emulsifier, sodium phosphate is permitted, but only in dairy foods to keep protein and fat from separating, as in cheese.
• As leavening agents[35], ammonium bicarbonate, potassium acid tartrate, and calcium phosphates; ammonium bicarbonate is the "grandfather" of baking soda and powder.
• Used as preservatives or to sterilize produce -- carbon dioxide, ethylene, ozone -- all gases or found in the atmosphere; ozonated water reduces bacterial and fungal populations on fruits and vegetables by 90 percent with no residues as chlorine leaves; ethylene ripens fruit; carbon dioxide is a packaging agent in produce.
• As a coagulant, magnesium chloride can only allowed be derived from sea water, and is used to make tofu "silky."
• To enhance flavor because they are both sour and salty, potassium and sodium citrates derived from citric acid are allowed; also sometimes used as preservatives.
• As a sterilizer, hydrogen peroxide is also permitted to sanitize milk cartons so that milk subjected to high temperature can be transported over long distance and maintain shelf-life without deterioration; while chlorine leaves residues, hydrogen peroxide breaks down to harmless water and oxygen.

[32] Ibid.
[33] Op.Cit.
[34] An emulsifier keeps two unlike substances together, such as oil and vinegar in salad dressings to prevent them from continually separating.
[35] A leavening agent is a material to enhance rising, such as yeast in bread.

Harvey challenged the use of any synthetic in any processed organic product bearing the USDA organic seal. On appeal, Harvey challenged that OFPA specifically forbids "the addition of synthetic ingredients in processing…only synthetics used in production, *i.e.*, farming, may be included on the National List. The only other exception in the Act with regard to synthetics in processing is for substances required by other health and safety laws. The challenged regulations must be vacated except to the extent that they implement this limited exception."[36] The court agreed, citing that no synthetics were permitted in processing (called handling under the Act and regulations) or post-harvest handling on organic products that bear the USDA organic seal. When the Court of Appeals for the First Circuit issued its decision, it interpreted OFPA to clearly forbid the use of any synthetic in any postharvest handling or processing of an organic product.

The court made no distinction at the time among types of organic products; it merely stated that the law forbade *all synthetics to be used in postharvest handling or processing* of *any* organic product[37]. By the time Harvey and the amici returned to court to obtain a clarification for the list of synthetics – some should be allowed for health or safety, others for nutritional purposes if recommended by an independent authority, and all were acceptable if they appeared in a "made with" product – concerns had already arisen. Tension among various groups in the organic community had begun to escalate over what the National List might look like and how USDA might amend the NOP regulations. Further uncertainty over possible labeling changes added to market concerns. Congress was asked to restore the program to its pre-Harvey status through a legislative amendment.

The amendment passed by Congress effectively restored order to the organic business community by permitting contracts to be upheld and production to continue unimpeded by eliminating uncertainty over labeling and other regulatory changes that would have had to occur by June 2006.

D. Utility of Expedited Petitions for Commercial Unavailability

Congress included in the amendments a provision that permits the Secretary to establish emergency procedures to place agricultural substances on the National List for a period of up to 12 months in the event that they become commercially unavailable in organic form. As part of this study, Congress asked the Secretary to analyze the utility of expedited petitions for commercially unavailable agricultural substances.

This provision relates to the portion of the National List found at §205.606. There are presently five substances on this part of the National List -- cornstarch (native), gums (various types specified), kelp, lecithin (unbleached), and pectin (high methoxy). These substances are all

[36] U.S. Court of Appeals for the First Circuit, Harvey v. Veneman. Brief of Plaintiff-Appellant Arthur Harvey, No. 04-1379; March 8, 2004.

[37] U.S. Court of Appeals for the First Circuit, Case Summary. Errata Issued March 16, 2004. The court deleted its statement, "The Act is neither ambiguous nor inconsistent; §6510 bars the addition of 'any synthetic ingredient during the processing or any postharvest handling of the product,' and §6517 furthers that prohibition." The court also added a footnote: "The ban on the addition of synthetic substances in handling applies only to those products labeled organic or 100% organic. The statute does not prohibit the addition of synthetic substances to foods labeled 'made with organic ingredients' provided the other requirements of the Act are met. See 7 U.S.C. §6505(c)."

considered agricultural substances, but unavailable in organic form to meet commercial demand. They may only be used in products that are labeled as organic or "made with" organic ingredients; they may not be used in a "100 percent" organic product.

One reason for expedited petitions is that the normal process for placing a material on the National List is lengthy. On average, it can take a minimum of 18 months, but in most cases, it takes several years to get a material on the National List. In the case of synthetics, for example, the petitioner must supply substantial information along with a request for review. The review process begins with a technical advisory panel (TAP) review of the petitioned synthetic by scientific experts. The TAP review and petitioner information is then supplied to the NOSB and, at a public meeting, the petitioner as well as the public are afforded an opportunity to comment on the synthetic before the NOSB makes a recommendation to the Secretary. Next, the Department proposes notice and comment rulemaking, allowing all interested parties an opportunity to comment on whether the synthetic should be allowed on the National List. The synthetic is prohibited for use until a final rule becomes effective.

The above process does not work as well for agricultural -- e.g., natural -- substances that may temporarily become commercially unavailable in organic form due to an emergency or unforeseen or uncontrollable event. As Congress established in the amendment to OFPA, the Secretary is required to engage in notice and comment rulemaking to establish the "expedited procedures" under which an agricultural material would be placed on §205.606 for up to 12 months if it becomes commercially unavailable in organic form. Rulemaking would ensure that all interested parties have the opportunity to participate in the dialogue and ensure that any concerns are carefully noted and addressed.

Expedited procedures could be particularly important for minor ingredients that make up 5 percent or less of a final product but are essential in the production of the product. As the organic market continues to evolve, more and more minor ingredients are being developed in organic form. Suppose, for example, that there was a crop failure due to natural disaster or some other unforeseen event -- and a certain organic spice became unavailable temporarily. If that organic spice had no substitute, was vital to the production of a final organic product, and could become available again within 12 months in organic form, it would seem less disruptive to the market for production to continue with a substitute conventional spice ingredient. The alternative would be suspending production of the product with its ripple effects on producers, consumers, and others -- contrasted with allowing production to continue for 12 months until a new supply of the organic spice becomes available again.

USDA will engage in notice and comment rulemaking and work with the NOSB to develop procedures that ensure the integrity of the seal and the maintenance of NOP standards. Procedures will be developed that permit businesses to adapt to unforeseen events and to continue to operate smoothly during otherwise disruptive periods, thereby encouraging investment and enhancing growth and stability in the organic business community.

E. Use of Crops and Forage for Dairy in 3rd Year of Organic Management

When Congress passed the amendments to OFPA, the 80-20 feed exception for converting dairy herds as included in the NOP regulation was not restored. However, Congress did amend the Act to permit dairy farmers to graze their dairy livestock on land that is being converted to organic production during its 3rd year of transition. Thus, the loss of the 80-20 feed exception is mitigated by the action that Congress took. In effect, dairy cows can be placed on pasture being converted to organic and their milk will be organic at the same time as crops being harvested from that land – at the end of the third year when the land has been fully converted to organic management.

This does not mean that dairy cows can be fed prohibited substances or genetically modified organisms (GMOs). The land on which the dairy cows are being managed could not have any prohibited substances applied to it for 3 years prior to crops being harvested from that land; if the dairy cow grazes on that land, she is not consuming "conventional" feed. At the end of the 12 months of organic management on that land, the milk from that dairy cow is analogous to the crops harvested from that same field at the end of that third year -- both are eligible to be sold as organic provided all other requirements of the regulation are met.

Congress leveled the playing field for dairy farmers when they amended OFPA in this area by removing any penalties that dairy farmers faced with the so-called "4th year" additional transition year that dairy cows underwent due to lactation cycles. And Congress did not change the basic requirement of OFPA. Dairy cows must be organically managed for at least 12 months; after these 12 months of organic management, only her *milk and milk products* may be represented as organic.

The status of the dairy cow is a different story. The dairy cow is only organic if she was raised organically from the last third of the mother's gestation. When a dairy cow is slaughtered, she cannot be sold as organic slaughter stock unless she was raised organically from the last third of the mother's gestation, the same as other slaughter livestock (except poultry, which must be raised organically beginning with the second day of life).

In providing the transition guideline, Congress may make entry into organic dairying easier, which may help ease the current milk shortages in the organic milk market at retail. Certainly it should help smaller dairy farmers faced with having to purchase higher priced organic feed, by allowing them to graze dairy livestock on land that is completing transition to organic certification.

Summary

Had Congress not addressed the problems facing industry, and the lawsuit been allowed to stand for processed organic products, many in the organic industry believe that the impacts would have been enormously detrimental. Simply put, the loss of most of the approved synthetics on the National List that had been recommended by the NOSB over more than a decade was believed to lead to a potential loss of billions of dollars in this growing industry. The losses would extend

from farm to consumer, with a decline in the demand for raw farm product and a loss of confidence by consumers in the USDA organic seal.

The amendments passed by Congress effectively restored order to the organic business community by permitting contracts to be upheld and production to continue unimpeded by eliminating uncertainty over labeling and other regulatory changes that would have had to occur by June 2006. This action by Congress went far to alleviate concerns by many in the organic industry as new contracts were needed with farmers for crops for processed products such as organic juices and beverages.

For dairy farmers, Congress leveled the playing field by amending OFPA to remove any penalties that dairy farmers faced with the "4th year" additional transition year that dairy cows underwent due to lactation cycles. And Congress did not change the basic requirement of OFPA. In providing the transition guideline, Congress may make entry in organic dairying easier, which may help ease the current milk shortages in the organic milk market at retail. Certainly it should help smaller dairy farmers faced with having to purchase higher priced organic feed, by allowing them to graze dairy livestock on land that is completing transition to organic certification.

Finally, Congress continued to ensure that any changes to the NOP regulations would be done by engaging in notice and comment rulemaking. This goes a long way to ensuring that the organic standards will not be weakened, and the organic community's concerns will be addressed. The restoration of the NOP by Congress also significantly improves the climate for continued growth and investment in a unique market opportunity for U.S. agriculture in today's business climate.

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