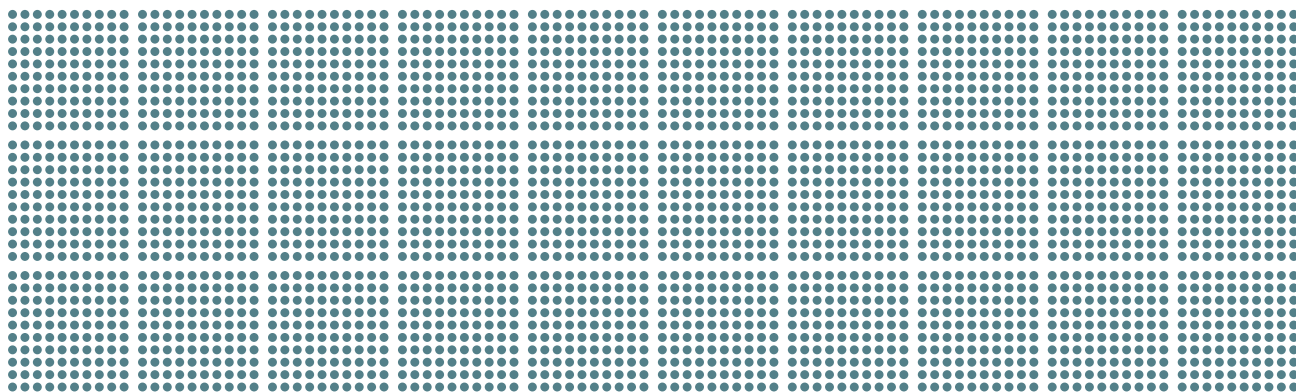


How do the materials allowed in organic processed foods compare to the materials allowed in all other food?

79 non-agricultural minor ingredients allowed in organic processing



3000+ substances comprise Everything Added to Food in the United States (EAFUS)



Compared to the 79 non-agricultural minor ingredients allowed in organic processing, more than 3,000 total substances comprise an inventory often referred to as Everything Added to Food in the United States (EAFUS), and this is only a partial list of all food ingredients that may be lawfully added to conventional food.

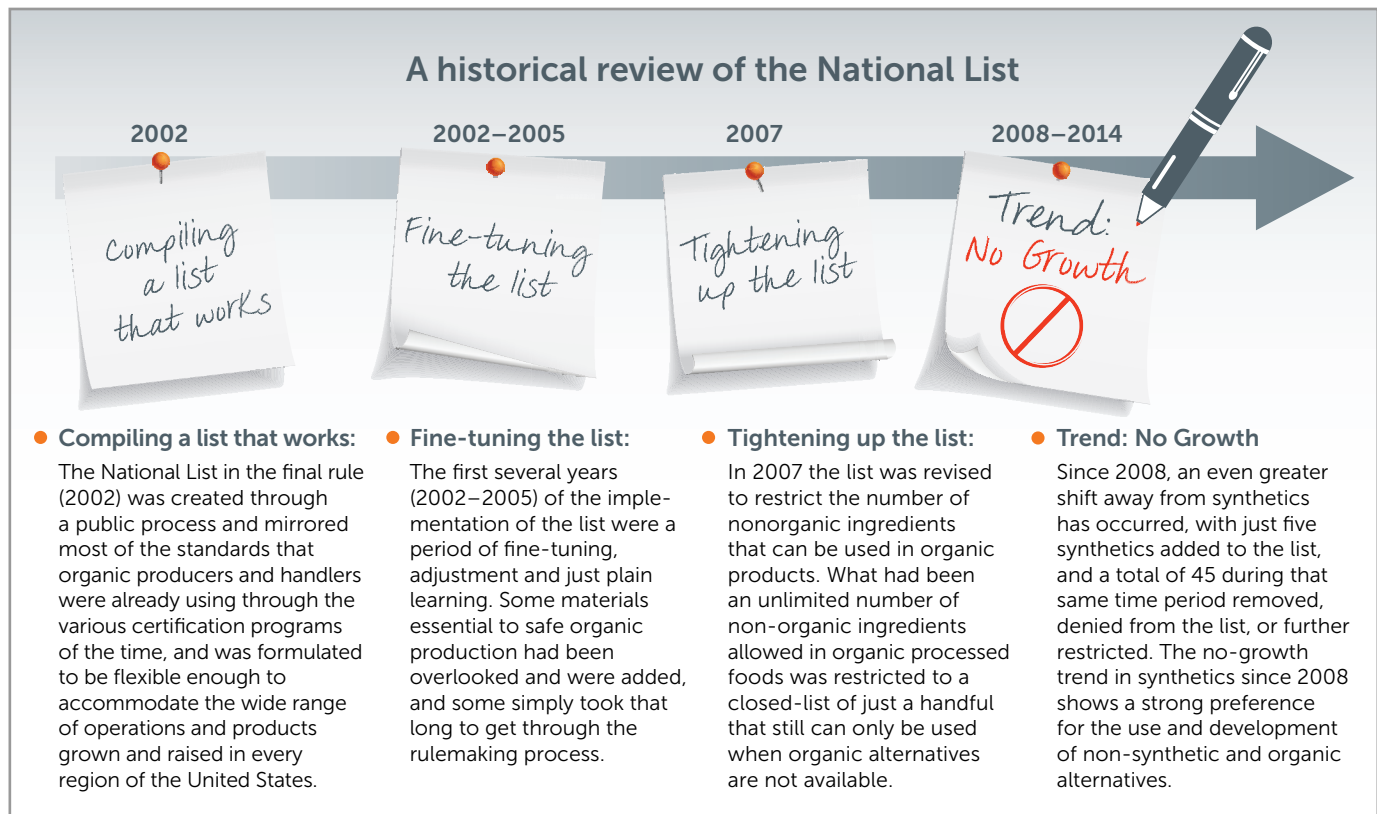
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It was 1997 and the National Organic Program (NOP) as we now know it was still evolving. On December 16 of that year, the first proposed rules to establish national organic standards were published by the NOP, erupting a roar of public discourse. The Department of Agriculture, which had just begun overseeing the National Organic Program, was swamped with over 275,000 public comments on the proposal, and the public interest in organic has only intensified since.

Today's strict and comprehensive network of federal requirements and regulations that monitor and check the organic industry, from the farm gate to the dinner plate, was born out of a public outcry that started rumbling in the 1970s for a healthier and safer agricultural system that would not endanger the environment or pose risks to human health. That public sentiment culminated in the Organic Foods Production Act in the 1990 Farm Bill which ultimately created the current rules for the entire system of certified organic agriculture in the United States.

Organic production systems encourage a healthy environment with as few inputs as possible. Organic agriculture is governed by the basic rule of allowing natural substances and not allowing synthetic materials. But in the real world, sufficient quantities of an input essential to organic production and processing -- and not harmful to humans or the environment -- are not always available in an organic form, so exceptions to this rule have been made. These exceptions make up the "National List of Allowed and Prohibited Substances," or simply the "National List."

The National List identifies the synthetic substances that may be used in organic crop and livestock production, and prohibits the use of certain natural toxic substances in organic production. The list also identifies synthetic materials such as carbon dioxide, non-synthetic non-agricultural substances such as yeast, and non-organic agricultural substances, such as Turkish bay leaves, that may be used in organic handling and processing.



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LEARNING FROM OTHERS AND COMPILING A LIST THAT WORKS

It took five years for the National Organic Standards Board (NOSB), a group of fifteen public volunteers appointed by the Secretary of Agriculture who represent various sectors of the organic industry, to complete a massive review of the inputs in use by organic producers and processors, and of state, private, and foreign organic certification programs to help craft the final organic regulations.

It was from this extensive research and engagement with everyone in the organic chain, and following thousands of comments to federal regulators, that the National List was compiled, reworked and reworked again, and then officially established on Dec. 21, 2000. The list mirrored most of the standards that organic producers and handlers were already abiding by through the various certification programs of the time, and was formulated to be flexible enough to accommodate the wide range of operations and products grown and raised in every region of the United States

What are some of the allowable substances on the National List? For crop producers, the list includes things like newspapers for mulch and sticky traps for insect control. For livestock producers, it includes vaccines, an important part of the health regimen of an organic animal for which antibiotics are prohibited, and

chlorine for disinfecting equipment. For organic processors, the list includes ingredients essential to processed products that can't be produced organically, like baking soda, and certain vitamins and minerals and non-toxic sanitizers.

Of course, not all the allowed items on the National List are non-controversial. But all of the substances on the list are required to fulfill three critical criteria as specified by the Organic Foods Production Act: 1) Not be harmful to human health or the environment; 2) Be necessary to production because of unavailability of natural or organic alternatives, and 3) Be consistent with organic principles.

A NO-GROWTH TREND IN SYNTHETICS

The first several years of the implementation of the list were a period of fine-tuning, adjustment and just plain learning. Some materials essential to safe organic production had been overlooked and were added, like ozone gas for cleaning irrigation systems and animal enzymes for organic cheese production – both put on the list in 2003.

In 2007, the number of non-organic agricultural ingredients allowed in organic processed products was dramatically tightened. Processed products with the organic label must contain 95 percent certified organic ingredients. Before 2007, the agricultural ingredients that could be used in the remaining 5 percent category were not spelled out; ANY non-organic agricultural ingredient could be used if it was not available in organic form. In 2007, 38 specific substances were defined and added to the National List of non-organic ingredients allowed in a processed organic product. So with the addition of 38 materials to the National List,

Allowed synthetics since 2008: What is the trend?

No-Growth

with a strong preference for the use and development of nonsynthetic and organic alternatives.

5

synthetics have been added



Examples of synthetics added include a sanitizer used in processing facilities that is allowed only for secondary and indirect food contact surface sanitizing, a cheese wax used for organic mushroom production, a mite control product for honeybees for organic honey production.

45

have been removed, denied, or further restricted.



Removals:	8
Petitioned and denied:	36
Further restricted:	1

what had been an unlimited number of non-organic agricultural ingredients allowed in organic processed foods was reduced to a closed list of just several handfuls.

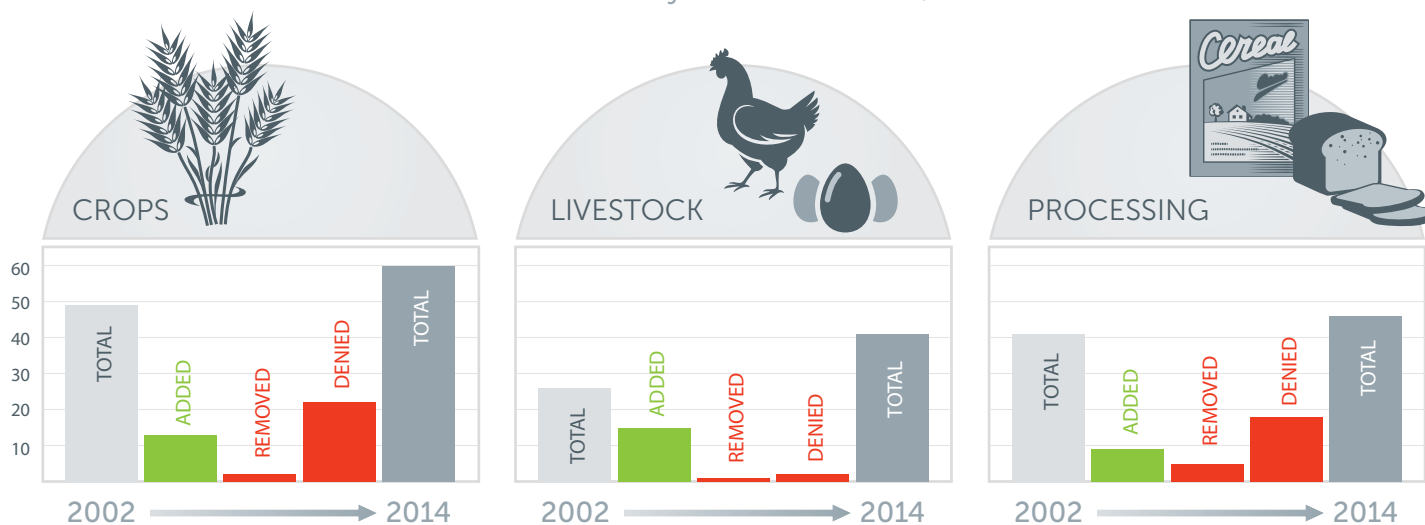
Since 2008, an even greater shift away from synthetics has occurred, with just five synthetics added to the list, and a total of 45 during that same time period removed, denied from the list, or further restricted.

The synthetics added include a sanitizer in processing facilities used only for secondary and indirect food contact, a cheese wax used for organic mushroom production, a mite control product for organic honey production. Substances no longer allowed in organic products or denied permission to be added include non-organic hops in organic beer, bleached lecithin, unmodified rice starch and dozens of synthetic substances and other materials. Additional restrictions recently added include a requirement to use organic yeast in certified products for human consumption and a requirement to use organic colors.

The no-growth trend in synthetics since 2008 shows a strong preference for the use and development of non-synthetic and organic alternatives.

A real-life example of a determined individual working within the NOSB system to replace an allowed synthetic material on the National List with a certified organic substitute occurred just last year. The head of the company, which makes rice-based ingredients that food manufacturers use as alternatives to synthetic ingredients, submitted a petition in 2010 to remove silicon dioxide from the National List since his company had developed a rice-based certified organic alternative to the synthetic. In 2013, the NOSB amended the use of silicon dioxide and weighed in favor of organic rice hulls when available.

National List Scorecard: Synthetics Added, Removed or Denied



	Synthetics on the National List in 2002	Synthetics Added	Synthetics Removed	Synthetics Petitioned and Denied*	Synthetics on the National List in 2014
CROPS	49	13	2	22	60
LIVESTOCK	26	15	1	2	41
PROCESSING	41	9	5	18	46

* Requested for addition to the National List but denied

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ENABLING ORGANIC TO GROW AND PRESERVING THE SYSTEM'S INTEGRITY

The system was more arduous and took longer than expected, but it worked. It was proof that the National List has the foresight to include synthetic ingredients when there are no organic or natural alternatives, and thereby enabling the organic industry to evolve and grow, but more importantly, the system provides a method to retire a synthetic substance and implement the organic alternative when it becomes available. And in the particular case of the maker of the rice-based organic alternative, it was a win-win deal for the company, with sales growing by over 150 percent!

The National List represents a process that is rigorous, fair and one that works. It reflects realistic organic practices, while taking into account current obstacles to ideal production. It encourages public scrutiny, comment and engagement.

In the last ten years, organic food sales in the United States have jumped from around \$10 billion in 2003 to over \$30 billion in 2013, a 300 percent growth explosion. The number of certified organic farms in the country, according to USDA's recently released 2012 Agricultural Census, is approaching 13,000, compared to 3,000 tops in the mid 1990s.

More certified organic farmers, more organic products, more organic processors and handlers, an organic farm-to-table supply chain that is growing every day, but still adhering to a tight set of stringent guidelines—that's what the National List has made possible.