



WORKING LANDSCAPES CERTIFICATES™ and NONGMOPLUS™

Supporting and Certifying More
Sustainable Agricultural Production

INSTITUTE FOR AGRICULTURE AND TRADE POLICY

MARCH 2014 JIM KLEINSCHMIT

The Working Landscapes Certificate™ (WLC) program was created by the Institute for Agriculture and Trade Policy (IATP) in 2006 to allow the emerging biomaterials sector to directly support farmers producing crops in a more sustainable manner. WLC criteria start with a non-GMO requirement, but also include consideration of water and soil quality, pollinator protection, greenhouse gas emissions, and other sustainability concerns. Over the last eight years, the WLC program has been refined and expanded, including the development of an accredited third party auditing system and harmonization with existing full supply chain verification systems.

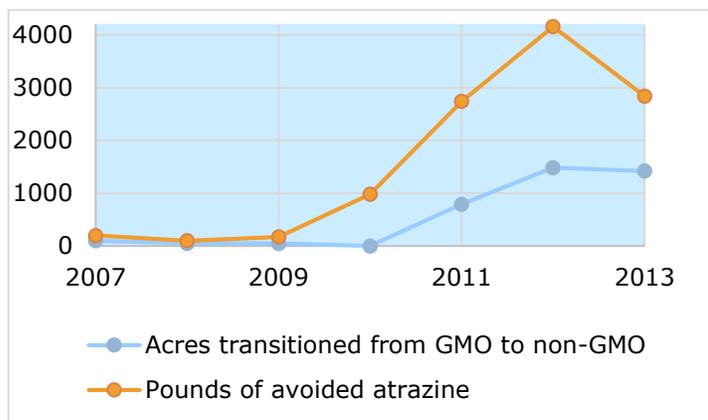
WLCs continue to fill a needed role in the biomaterials market, but this proven system is now also ready to be scaled up and broadened to include other crops and direct markets such as food and feed. With the spectacular growth and interest in non-GMO production, there is a clear need for verification systems that include not only GMO criteria, but also the other critical sustainability aspects covered by the WLC criteria. The Working Landscapes Certificates Program is one of the few systems ready to meet this new demand for what we call nonGMOplus™ production.

History of WLCs

Much of the emerging bioplastic industry has a problem when it comes to a specific aspect of sustainability—feedstocks, or the biobased materials (which in the U.S. is primarily corn) from which it makes its product. While the industry has significant control over the production of bioplastics and retain a level of influence over their product's use and materials that are added to it, their ability to source sustainable feedstock is actually quite low, because of the sector's relatively small feedstock use.

Compared to the corn going into feed, ethanol, high fructose corn syrup and other food ingredients, the amount used to make bioplastics is relatively insignificant. As a result, concerns about the sustainability of the corn used to make bioplastics are hard to address in a direct manner, as the processing facilities handle voluminous amounts of corn, all of which is undifferentiated, beyond basic moisture and quality criteria. Having corn directly sourced and processed into bioplastics is certainly logistically possible, but for an emerging industry whose product is already struggling to compete on a pure cost basis with its fossil fuel competitors, the associated costs are generally seen as prohibitive.

This is the challenge that the Working Landscapes Certificates program was initially created to address: how to legitimately certify more sustainable feedstock production, while connecting the most critical aspects of that sustainability back to the bioplastic products. Under the WLC program, participating farmers agree to raise crops according to verifiable and audited sustainable production criteria. The farmer then has two products to sell: the crop itself and the quantified ecological benefits associated with the more sustainable production practices—termed the *Working Landscapes Certificate*.™ The corn is sold to local buyers—in most cases, the corn mill where the bioplastic is produced. However, the corn produced under the WLC criteria is not guaranteed to be used in the production of the finished product—it is only the attributes of production that are linked to this finished product.



Why WLCs?

This offset approach is appropriate for the bioplastics sector for several reasons. First, there are the economic considerations mentioned earlier based on sourcing and identity-preserve issues. But higher cost, in and of itself, is not sufficient for an offset to be deemed appropriate or ethical. In addition to cost, there was also recognition that the bioplastic production process and the final non-edible use reduce or eliminate almost all health and safety concerns that would require a direct and identity-preserved linkage between the corn and the final products in food and feed markets.

In assessing the sustainability impacts associated with corn, it is clear that they reside more on the farm than in the lab or factory. How a farmer undertakes corn production could have significant impacts—positive or

negative—on water and soil quality, biodiversity, air and greenhouse gas emissions and other environmental considerations. An offset tied to corn produced in more sustainable ways from the same “feedshed,” or agricultural region from which the corn is usually produced/purchased, is an appropriate way to deal with the thorny feedstock sustainability problem of bioplastics.

I like that we are treating our soils and end-users better. We are taking care of the environment, trying to be good stewards of the land and impacting the end-user. We've learned what some of these products can do down the line and bringing awareness to more people about where their products come from is rewarding - hopefully we are on the front end of something that becomes big.

Kerry Knuth, WLC farmer



Working Landscape Certificates™ on the Farm

WLCs are voluntary and created on a geographic (i.e., per acre) basis. This approach avoids the incentive a “per bushel” payment would create to produce more than may be appropriate based on other landscape considerations (water quality, wildlife habitat, etc.). Farmers selling WLCs take specific, verified steps to improve the environmental impact of their commodity crop production. Some of the production criteria include:

- Use of non-Genetically Modified (GMO) crop varieties to protect biodiversity
- No continuous annual crop production on WLC acres
- Soil testing on contracted acres and fertilization according to test results and state agronomic recommendations to assure that nutrients are used efficiently and are not likely to leach or run-off
- No use of chemicals that are known human or animal carcinogens, including atrazine
- Use of cover crops or assurance that at least 70 percent of crop residues remain in the field to minimize soil erosion

IATP consulted with many experts and farmers in the establishment of the criteria, and monitors science and farm education to ensure that recommended practices match latest research. For example, IATP continues to work closely with the Pesticide Action Network North America on maintaining and updating its chemical list.

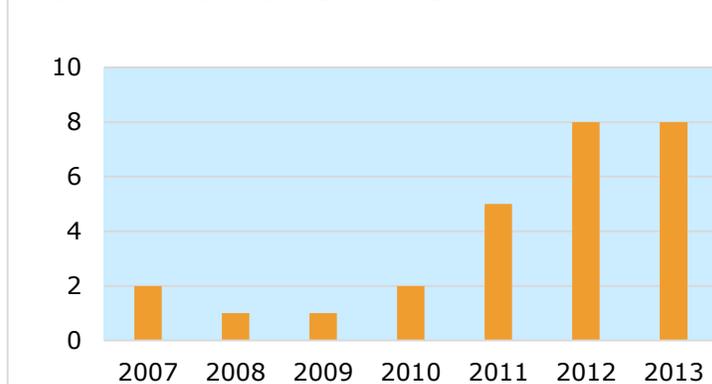
WLC farmers also fill out farm plans that include detailed information about all aspects of their crop production, but also include whole farm considerations such as energy use, chemical handling, storage, safety issues, and other sustainability aspects that are not as directly associated with the WLC crop production.

To date, the response from farmers to the WLC program has been overwhelmingly positive. Admittedly, many are initially hesitant to make some of the changes to their farming practices that the WLC program requires. But, after considering the lower costs associated with the seed and the payment for producing the WLCs, they find that the program is profitable in many ways, including not negatively affecting their yield. As a result, we've retained almost all of our initial growers and added several more, with a large number of additional farmers eager to participate.

It was very rewarding to find that one of our dryland (WLC) fields with non-GMO yielded as well as our irrigated. We can guarantee that this was the best this field has ever yielded in its production life and it was a pleasant surprise that it was on a non-GMO field.

Angie Knuth, WLC farmer

NUMBER OF GROWERS



WLCs in the Marketplace

From 2008–2011, IATP and Green Harvest Technologies (GHT) collaborated to build the program into its present form. In 2012, IATP began working with the [Nebraska Farmers Union](#). Farmers Union is responsible for farmer outreach, WLC sales and contracting, while IATP is responsible for WLC program outreach, criteria oversight and certification accreditation. Interested companies buy WLCs from Farmers Union, which contracts in the winter/spring with farmers. IATP and Farmers Union set prices, in consultation with WLC farmers and agricultural experts. In 2012, the WLC program harmonized its criteria with the European-based International Sustainability and Carbon Certification's [ISCC+](#), which conducts full supply chain certification for companies interested in more transparent sourcing and production. In 2013, third party certification was introduced for all participating farms, conducted by experienced organic certifiers that had been accredited and trained for WLC criteria.

The program expanded significantly in the 2011-12 season, based on the steady involvement of [Stonyfield Farm](#) and [Danone Germany](#) and the additional participation and interest from a number of other companies, with total production encompassing over 1300 acres (550 hectares) in 2011 and over 2000 acres (800 hectares) in 2012.

Most of the funds go directly to the farmers—a fact that was key to Stonyfield's involvement, Nancy Hirshberg added. "We see this money being used as a market lever to drive farmers to more sustainable practices," she says.

“The program was a Godsend to us. The investment in the WLC program really enabled us to make this move (to bioplastics). Without it, we couldn’t have done it.”

Gary Hirshberg (former CEO, Stonyfield)

A short video on the Stonyfield experience can be found [here](#):



From WLCs to nonGMOplus™

Working with the bioplastics industry has provided the support needed to develop, refine and implement a successful farm certification program that incorporates non-GMO and other sustainability criteria. The partnership with Nebraska Farmers Union and the third party certification system provide the infrastructure to grow the program work. Now IATP is interested in taking the next steps to scale this project up and broaden it to include both direct markets and other crops. The (re)emerging non-GMO market is a prime candidate.

Consumers around the U.S. are increasingly concerned about GMOs in their food. While ballot initiatives to require GMO labeling for food have been defeated in California and Washington (largely due to huge influxes of cash from global food and agricultural companies), the effort has succeeded in other states and is only gaining momentum. Even leading supporters of GMO crops acknowledge that it is practically inevitable that there will be some level of

GMO labeling soon, whether on a voluntary or mandatory level.

This development has real sustainability implications, but the use or non-use of GMO seed says little about the other impacts of that crop production. Non-GMO does not guarantee reduced (or less harmful) pesticide use or better water quality impacts, for example. With non-GMO certified production far and away the fastest growing segment in the food industry today, there is an important and time sensitive opportunity to go beyond the seed and address other key sustainability issues associated with agriculture—the very same areas that the WLC program has included successfully for the last 8 years in its work with farmers.

Year	Total acreage	Payment to farmer per WLC	Total paid to farmers
2007	100	\$50	\$5,000
2008	50	\$50	\$2,500
2009	86	\$50	\$4,300
2010	490	\$60	\$29,400
2011	1,370	\$60	\$82,260
2012	2,080	\$100	\$208,000
2013	1,422	\$100	\$142,200

Criteria that support better water quality, soil health, pollinator protection and reduced greenhouse gas emission need to be associated with non-GMO production to ensure that this growing market truly supports more sustainable farming systems. The Working Landscapes Certificates Program, with its history of work with farmers on GMOs and other sustainability issues and established infrastructure, is ready to fill that void in both the much larger direct and identity-preserved markets of food and feed. We are calling this direct market certification approach **nonGMOplus™** to distinguish it from the existing WLC offset system.

Next Steps

While the WLC system is well-proven and has been developed in a way that allows it to scale up and out to other crops, there are some clear next steps to increase the program's effectiveness as a direct certification system for nonGMOplus™:

- Incorporate non-GMO identity-preserve and testing criteria.** Under the current WLC system, farmers are required to undertake the appropriate measures to limit GMO contamination of their crops, and to segregate the crop during storage. However, beyond those measures, the farmers are not required to meet the type of strict GMO contamination limits that are currently standard in the food and feed markets. We want to work with existing WLC farmers and others to ensure that they understand and are able to comply with the criteria established by the [non-GMO project](#).
- Broaden criteria to include additional crops and stronger emphasis on crop rotations and continuous living cover.** Currently, the WLC program only applies to one crop - field corn. We recognize that certifying one crop in one year is not sufficient for a sustainable farming system. Research increasingly points to the value of longer crop rotations and continuous living cover (which includes cover crops) to reduce nutrient runoff and pest/weed impacts, which reduces the need for pesticides.

IATP is assessing expansion of the WLC program to include other common crops. We are considering criteria for soybeans, wheat, small grains, and forage crops such as alfalfa. We also are looking at how cover crops and continuous living cover can be included within the criteria.

- Strengthen key sustainability components.** While the WLC criteria are expansive, new science and concerns continue to arise. Working with leading researchers, farmers and market partners, we work to ensure that the WLC criteria reflect the latest science and practical know-how about water quality, soil health, greenhouse gas emissions, and pollinator impacts associated with agricultural production.



For more information about IATP's Working Landscapes Certificates™ and nonGMOplus™ programs, please contact:

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