



April 21, 2016

Regulatory Analysis and Development  
Animal Plant Health Inspection Service  
United States Department of Agriculture  
4700 River Road Unit 118  
Riverdale, MD 20737-1236

Docket No. APHIS-2014-0054

Submitted electronically via [www.regulations.gov](http://www.regulations.gov)

**RE: NSAC Comments on the Notice of Intent to Prepare a Programmatic Environmental Impact Statement**

On behalf of the represented member organizations of the National Sustainable Agriculture Coalition (NSAC),<sup>1</sup> we submit the following comments on the U.S. Department of Agriculture Animal and Plant Health Inspection Service's (APHIS) request for comment on a notice of intent to prepare a programmatic environmental impact statement (PEIS) in connection with the agency's anticipated proposed rule governing the importation, interstate movement, and environmental release of certain genetically engineered (GE) organisms.

As part of the environmental analysis required under the National Environmental Policy Act (NEPA), APHIS has provided a range of alternatives that the agency is considering with regard to the forthcoming proposed regulations, and discusses the scope of analysis the agency is preparing to undertake. NSAC appreciates the opportunity to provide comment on these issues.

NSAC is a grassroots alliance that advocates for federal policy reform that supports the long-term

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<sup>1</sup> Agriculture and Land Based Training Association, Salina, CA; Alternative Energy Resources Organization, Helena, MT; California Certified Organic Farmers, Santa Cruz, CA; California FarmLink, Santa Cruz, CA; C.A.S.A. del Llano (Communities Assuring a Sustainable Agriculture), Hereford, TX; Catholic Rural Life, Des Moines, IA; Center for Rural Affairs, Lyons, NE; Clagett Farm/Chesapeake Bay Foundation, Upper Marlboro, MD; Community Alliance with Family Farmers, Davis, CA; Dakota Rural Action, Brookings, SD; Delta Land and Community, Almyra, AR; Ecological Farming Association, Soquel, CA; Farmer-Veteran Coalition, Davis, CA; Flats Mentor Farm, Lancaster, PA; Florida Organic Growers, Gainesville, FL; GrassWorks, New Holstein, WI; Hmong National Development, St. Paul, MN; Illinois Stewardship Alliance, Springfield, IL; Institute for Agriculture and Trade Policy, Minneapolis, MN; Interfaith Sustainable Food Collaborative, Sebastopol, CA; Iowa Natural Heritage Foundation, Des Moines, IA; Izaak Walton League of America, St. Paul, MN; Kansas Rural Center, Whiting, KS; Kerr Center for Sustainable Agriculture, Poteau, OK; Land Stewardship Project, Minneapolis, MN; MAFO, St. Cloud, MN; Michael Fields Agricultural Institute, East Troy, WI; Michigan Integrated Farm and Food Systems, East Lansing, MI; Michigan Organic Food and Farm Alliance, Lansing, MI; Midwest Organic and Sustainable Education Service, Spring Valley, WI; National Center for Appropriate Technology, Butte, MT; Nebraska Sustainable Agriculture Society, Ceresco, NE; Northeast Organic Dairy Producers Alliance, Deerfield, MA; Northern Plains Sustainable Agriculture Society, LaMoure, ND; Northwest Center for Alternatives to Pesticides, Eugene – OR; Ohio Ecological Food and Farm Association, Columbus, OH; Oregon Tilth, Eugene, OR; Organic Farming Research Foundation, Santa Cruz, CA; Rural Advancement Foundation International – USA, Pittsboro, NC; Union of Concerned Scientists Food and Environment Program, Cambridge, MA; Virginia Association for Biological Farming, Lexington, VA; Wild Farm Alliance, Watsonville, CA.

social, economic, and environmental sustainability of agriculture, natural resources, and rural communities. NSAC member organizations are leaders in the sustainable agriculture and food systems sector, and have worked with farmers and communities to pioneer practices, systems, and supply chains that support the multiple goals of sustainability. These include certified organic, sustainable, non-genetically engineered, and farm identity-preserved products, systems, and supply chains that are impacted by the regulation of GE, or lack thereof.

Many of the farmers that NSAC works with and represents choose to grow only non-GE crop varieties because the markets they serve demand GE-free products; because they have concerns about potential adverse health, environmental, or agronomic impacts of GE crop technologies; or because they are USDA certified organic and not allowed to grow GE crops. These producers sustain substantial economic losses when their products contain unintended GE material at levels exceeding market or organic certifier specifications.

In addition, exposure of organic or non-GE fields to GE pollen, pesticides, and herbicides from neighboring farms utilizing GE crop technology packages can lead to adverse ecological and agronomic consequences for the non-GE producer, as well as tensions among farmers. Thus, the outcomes of biotechnology regulation decisions directly impact the economic, environmental, and social sustainability of our nation's agriculture and rural communities, and are therefore of great concern for NSAC.

NSAC has submitted comments to each of USDA's recent requests for comment on the issue of agricultural coexistence (in March 2014 and April 2015), as well as the recent request for comments on APHIS' biotechnology regulations more broadly (June 2015) in response to the agency's decision to withdraw the 2008 proposed rule regarding biotechnology regulations. We also commented on some of the issues addressed in this notice in our prior comments regarding APHIS' decision to deregulate a new GE corn variety, engineered by Monsanto to withstand the application of both dicamba and glufosinate (October 2015), in addition to the White House Office of Science and Technology Policy's call for comments on updating the Coordinated Framework for Biotechnology Regulation (November 2015). Those comments expand upon some of the points we raise below, and we have included them as an appendix to this submission.

NSAC strongly believes the environmental impacts associated with biotechnology regulation should be broadly assessed, with the ultimate goal of developing a robust and meaningful regulatory framework that ensures all American farmers can thrive. We appreciate your consideration of our views.

Sincerely,



Sophia Kruszewski  
Policy Specialist



Ferd Hoefner  
Policy Director

## **I. GENERAL COMMENTS ON BIOTECHNOLOGY REGULATORY OVERSIGHT**

As we have elaborated in prior docket submissions,<sup>2</sup> NSAC strongly believes that USDA must establish a robust regulatory framework to oversee the biotechnology approval process.

To do so, USDA must:

- Develop a regulatory process that is transparent and informed by independent science;
- Include a diversity of farmers – and particularly those most impacted by potential contamination from genetically engineered crops – and other stakeholders from agriculture, academia, and the public throughout the regulatory and review process;
- Build into the approval process the authority to take into consideration the social, environmental, and economic risks that each new biotechnology product and process pose;
- Implement a rigorous post-commercialization monitoring system of biotechnology products that informs future regulatory decisions;
- Develop regulations that improve oversight and tracking on experimental field trials of biotechnology products;
- Require implementation of contamination prevention practices for GE crop producers and users to safeguard organic and non-GE producers;
- Create robust compensation mechanisms for farmers affected by GE contamination resulting in harm, including but not limited to economic losses; and
- Support non-regulatory actions that bolster research and education for non-GE seed and crop production.

Without these critical safeguards integrated into a comprehensive regulatory framework, farmers and the environment on which they depend will be at risk. With these considerations in mind, NSAC offers the following recommendations and responses to APHIS's notice of intent to prepare an environmental impact statement.

## **II. COMMENTS ON THE SCOPE OF THE PEIS**

We commend APHIS for proposing to assess the impacts of the forthcoming proposed GE rules comprehensively.<sup>3</sup> The notice lays out a broad list of aspects of the human environment that may be impacted by changes to the oversight of GE crops, and which the agency has identified for inclusion in the PEIS. This list includes:

- Potential impacts on U.S. agriculture and forestry production (*e.g.*, conventional, biotechnology-based, and organic);
- Potential impacts on current and potential future uses of products of biotechnology in agriculture and forestry;
- Agronomic practices employed in biotechnology crop production that may have environmental consequences or impacts (*i.e.*, tillage, crop rotation, and agronomic inputs);
- Potential impacts on aspects of the physical environment that include soil quality, water resources, air quality, and climate change;

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<sup>2</sup> See Appendix, NSAC Comments Submitted in March 2014, April 2015, and June 2015.

<sup>3</sup> Notice of Intent to Prepare an Environmental Impact Statement, 81 Fed. Reg. 6225, 6226 (Feb. 5 2016).

- Potential impacts on aspects of the biological environment such as animal and plant communities, weed and insect resistance to herbicides and insecticides (respectively), the potential gene flow and weediness of regulated GE crop plants, and biodiversity;
- Potential impacts on consumer health and agricultural worker safety, and on animal feed and health; and
- Socioeconomic considerations, including the potential impacts of regulated GE crop plants on the domestic economic environment, international trade, and coexistence among all forms of U.S. agriculture, conventional, biotechnology-based, and organic, in providing market demand for food, feed, fiber, and fuel.<sup>4</sup>

We urge the agency to ensure that this broad view is maintained throughout the entirety of the NEPA process, and provide the following comments and recommendations to supplement the list.

#### **A. Impacts on our Nation's Agricultural Economy and non-GE Farmers**

We commend the agency for recognizing that the scope of this PEIS must be broad and address potential impacts to all sectors of agriculture, particularly those sectors (i.e. organic, non-GE, and identity-preserved) that are most impacted by the consequences of a regulatory system that fails to control, protect against, and fairly assign liability for contamination.

USDA's latest Organic Production Survey documented that from 2011-2014, 92 organic operations reported over \$6.1 million in crop losses from GE contamination, equaling about \$66,000 on average per affected farm.<sup>5</sup> That is a substantial increase from the 2006-2010 time period, when 13 organic farms experienced average losses of about \$6,000 from crop losses related to GE contamination.<sup>6</sup> This exponential increase in GE contamination, and the associated losses to organic farmers, is shocking. The inability to keep GE traits contained, and the lack of structure in place to assign such liability, has led to a culture whereby the non-GE producer must bear the costs associated with GE contamination, relieving the biotechnology industry of any incentive to improve the technology or its management to avoid this outcome. This is an unfair and untenable system, and the reality of these impacts should be considered in evaluating potential GE regulations.

The growth of the organic sector presents an important opportunity for American farmers to diversify and become more resilient and profitable. The PEIS and future regulations must account for the decreased viability of the domestic organic sector as a result of contamination attributable to GE-based agriculture. Current efforts to fully capture the environmental and related economic losses resulting from this contamination are limited; there must be a full accounting of those costs. We continue to see the rejection of organic grain as a result of GE contamination while demand for organic grain increases. There is tremendous opportunity for American farmers to meet this demand, but the loss of market access due to actual contamination - or the risk of contamination - means a loss of economic opportunity. The demand for organic grain will be met, but not by American farmers. The PEIS therefore must fully account for the cumulative impacts of this technology to the organic sector as a whole, including what the future loss of economic and environmental opportunities will mean to American farmers struggling to stay competitive.

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<sup>4</sup> *Id.*

<sup>5</sup> See 2014 NASS Organic Production Survey, Table 19

[http://www.agcensus.usda.gov/Publications/2012/Online\\_Resources/Organics/organics\\_1\\_019\\_019.pdf](http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Organics/organics_1_019_019.pdf)

<sup>6</sup> *Id.*

## B. Environmental Impacts

We also strongly support the agency's recognition that specific practices that are part of the biotechnology package can result in adverse environmental impacts, and encourage the focused attention the agency intends to pay to issues such as weediness, soil quality, climate change, and gene flow. These are all critically important considerations for the agency's PEIS.

However, in addition to genetic drift, we note that particle drift from pesticides can pose a significant problem. Particularly for farmers that cultivate sensitive crops, like many specialty crops, the potential for yield loss is quite real. Non-target crop loss is especially likely in regions where horticultural crops are grown in close proximity to row crops, and could impact areas where farmers are diversifying into growing fresh fruits and vegetables to meet increasing consumer demand for locally-produced fresh fruits and vegetables. In places like Iowa and Illinois, more and more patches of land between commodity crop production is now being devoted to specialty crops. The viability of these new operations – and the growing local and regional markets they serve – could be at risk of crop yield loss if herbicide drift is not kept in check. We therefore strongly urge the agency to consider pesticide drift and the likelihood of nontarget crop loss, in addition to genetic flow between GE and non-GE crops, as it considers environmental and economic impacts of GE technologies.

With regard to climate change, we strongly urge the agency to consider the life cycle assessment of agricultural biotechnology. Only through a proper assessment of the inputs involved in the production, use, and disposal of the entire biotechnology package (including the inputs used to develop the herbicides the crops are designed to withstand), can the agency present a true picture of the climate impacts GE technologies pose. For example, in addition to the input required to develop the crop technology package, GE crop technologies are often associated with extensive use of nitrogen fertilizers and herbicides, which require large amounts of fossil fuels to produce, and have toxic impacts to aquatic and terrestrial organisms that are essential to ecosystem health, such as pollinators. We encourage APHIS to consider where these products end up after their use in the life cycle assessment, and the impacts to aquatic and terrestrial ecosystems surrounding the GE farms.

Moreover, studies have strongly linked glyphosate use to declining habitat for monarch butterflies.<sup>7</sup> Failure to adequately consider the impacts of herbicide use, particularly postemergence applications, that can accelerate the loss of milkweed and monarch caterpillar habitat puts USDA and EPA commitments,<sup>8</sup> as well as the taxpayer dollars that have supported them, at risk. What's more, a recent report by the United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services found that the decline of pollinators is “primarily due to changes in land use, intensive agricultural practices and pesticide use, alien invasive species, diseases and pests, and climate change.”<sup>9</sup> A comprehensive PEIS must therefore take into account the complete suite of direct, indirect, and cumulative impacts of biotechnology on pollinators, including a consideration of the full GE crop technology package, together with associated land use and other agricultural impacts.

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<sup>7</sup> See Pleasants, JM and KS Oberhauser. “Milkweed loss in agricultural fields because of herbicide use: effect on the monarch butterfly population.” Insect Conservation and Diversity (2012), available at [http://www.mlmp.org/results/findings/pleasants\\_and\\_oberhauser\\_2012\\_milkweed\\_loss\\_in\\_ag\\_fields.pdf](http://www.mlmp.org/results/findings/pleasants_and_oberhauser_2012_milkweed_loss_in_ag_fields.pdf)

<sup>8</sup> See e.g. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/plantmaterials/home/?cid=STELPRDB1256245>; [http://www.epa.gov/oppfead1/cb/csb\\_page/updates/2015/protecting-monarch-butterfly.html](http://www.epa.gov/oppfead1/cb/csb_page/updates/2015/protecting-monarch-butterfly.html)

<sup>9</sup> UN Intergovernmental Science Policy Platform, available at: <http://www.ipbes.net/article/press-release-pollinators-vital-our-food-supply-under-threat>.

GE crops cannot be assessed in isolation of the chemical herbicides and pesticides they are designed to withstand, which have increased extinction rates of invaluable pollinators; harmed beneficial insects that are critical to food production; and have been shown to create weed resistance at “epidemic” levels.<sup>10</sup> APHIS’ PEIS must therefore account for the health, environmental and social effects of the chemical inputs associated with the full GE crop/technology package. We appreciate the agency’s acknowledgement of the need to consider these issues in the Federal Register notice, and encourage APHIS to maintain this strong level of commitment throughout the PEIS process.

Finally, on the issue of environmental impacts, it is important that the agency take note that – while proponents of GE technology often highlight the increased adoption of no-till made as a result of GE cropping systems – the research evidence shows that it is the *combination* of no or reduced till with high biomass cover crops and tight rotations (no bare fallow periods) that enhances soil health, soil organic matter, and soil carbon sequestration. Indeed, new research is showing that cover cropping and diversified crop rotation – typical of organic and other sustainable agricultural systems – have positive impacts on soil carbon storage, soil water holding capacity, and nutrient cycling and retention, which may outweigh those of systems that only use no-till without these diversified practices. GE cropping systems that rely on increased use of herbicides can restrict farmer options for diversified rotations. The scientific information and data used to assess these technologies must reflect these new findings; it is critical that the regulatory process not forestall the ongoing integration of new science and understanding about the environmental consequences of GE.

### **C. Social and Cultural Impacts**

We also note that – in considering the recent petition to deregulate MON 87419 – APHIS acknowledged its duty to assess the social, cultural, and biological impacts of new GE varieties prior to approving them. We strongly supported the consideration of such concerns because it recognizes the broader socio-economic context within which these decisions are made. However, we were disappointed by the cursory analysis of such factors in the Environmental Assessment that accompanied the Finding of No Significant Impact for Monsanto’s dicamba and glufosinate resistant corn. We continue to worry that these factors are put forward merely to appease a certain segment of stakeholders, and fervently hope that these concerns will be considered as seriously as any others in the PEIS process.

The steady deregulation of herbicide tolerant crops is leading us down a path that commits our food system to low-diversity, highly homogenized cropping systems. In fact, USDA has itself recently supplied good evidence that herbicide resistant crops are a significant obstacle to the development of more diversified and sustainable agriculture systems. An ERS report from 2013 shows that, by reducing the time and labor costs of weed management for well-capitalized farms, glyphosate-resistant crops were a key factor in the latest surge of farm consolidation and increasing farm size that has occurred over recent decades.<sup>11</sup> This process deprives rural areas of a skilled workforce, and very large farms without skilled labor resources can only consider very simple and time efficient approaches to weed management. Thus, when an outbreak of herbicide-resistant weeds occurs, large-scale farmers simply do not have the time, labor, or management ability to integrate cover

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<sup>10</sup> See Evans, JA et al, “Managing the Evolution of Herbicide Resistance” Pest Management Science (May 11, 2015) <http://onlinelibrary.wiley.com/doi/10.1002/ps.4009/pdf>. See also Mortensen, DA et al, “Navigating a Critical Juncture for Sustainable Weed Management,” BioScience 62:1, p75-84 (Jan 2012).

<sup>11</sup> Macdonald, J.M., Korb, P., Hoppe, R.A., 2013. Farm Size and the Organization of U.S. Crop Farming. USDA Economic Research Service, Washington D.C.

crops, inter-row cultivation, or perennial forages for weed control. Instead, they look anxiously to the commercialization of a new herbicide-resistance trait/herbicide package as a short-term solution.

USDA has even acknowledged that not deregulating a new herbicide tolerant variety would result in more sustainable practices as farmers combat herbicide tolerant weeds:

Cover cropping and crop rotation, both of which have shown promise in reducing weed pressure, may increase. . . Crop rotation also may become more diverse to leverage differences in crop ecology to shift the dominant weed species and thereby lessen the size of the resistant weed seed bank.<sup>12</sup>

If USDA has a mandate to evaluate the full social, economic, cultural, and environmental impacts of new biotechnologies, these biotechnologies therefore must be evaluated in light of impacts on the viability of family-scale farms. New herbicide-resistant traits will likely have the effect of accelerating farm consolidation and the further loss of family-scale farms with skilled managers with the motivation and ability to build diversified, sustainable cropping systems.

Another cultural impact the PEIS process should consider is the loss of the time-honored farmer practice of saving and selecting crop seeds. Utility patents on GE crop varieties prohibit farmers from saving and replanting their own seed. Over the past ten thousand years, farmers around the world have saved and selected crop seed, and thereby developed a great diversity of crop strains and landraces adapted to the farmers' specific environments, climates, soils, and production systems. Such adapted strains require less pesticides and fertilizers to yield in the regions in which their seed has been saved and selected, and indigenous landraces continue to offer vital genetic resources to address today's agricultural challenges through public plant breeding and cultivar development. Indeed, the displacement of indigenous crop varieties and landraces by GE technology has significantly undermined farm prosperity and food security domestically and overseas.

These cultural concerns provide important context for any new GE regulations, and should help determine whether any conditions should be established prior to the release of new GE varieties into commerce, in addition to a science-based risk assessment of the full technology package. We therefore fully support their consideration during the PEIS process.

#### **D. Cumulative Impacts**

We strongly encourage the agency to ensure that all of the potential impacts identified above receive a meaningful and robust analysis during the PEIS process. We note that NEPA requires the agency to consider these impacts both separately and cumulatively, and we recommend the agency pay particular attention to cumulative impacts in its analysis.

### **III. COMMENTS ON THE DEFINITION OF BIOTECHNOLOGY**

As we discussed in our June 2015 comments, APHIS has the legal authority to regulate GE crops on the basis of whether they pose a plant pest risk, as well as broad noxious weed authority that would

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<sup>12</sup> United States Department of Agriculture-Animal and Plant Health Inspection Service. 2014. Dow AgroSciences petitions (09-233-01p, 09-349-01p, and 11-234-01p) for determinations of Nonregulated status for 2,4-D-resistant corn and soybean varieties, Final Environmental Impact Statement.

allow USDA to regulate for the indirect impacts of herbicide resistant weeds.<sup>13</sup> NSAC continues to urge USDA to broadly interpret their noxious weed authority to protect against harm not only to plant or plant products, but also to natural resources, public health, and the environment.

In the notice, APHIS also presents a potential new definition of the term biotechnology.<sup>14</sup> As proposed, the term would be defined as:

Laboratory-based techniques to create or modify a genome that result in a viable organism with intended altered phenotypes. Such techniques include, but are not limited to, deleting specific segments of the genome, adding segments to the genome, directed altering of the genome, creating additional genomes, or direct injection and cell fusion beyond the taxonomic family that overcomes natural physiological reproductive or recombination barriers. This definition does not include and is intended not to include traditional breeding, marker assisted breeding, or chemical or radiation-based mutagenesis.

NSAC supports such a broad definition of “biotechnology” and believes APHIS should maintain a comprehensive view of the term to ensure adequate oversight of technologies with potential adverse impacts on the agricultural economy, natural resources, public health, and the environment.

#### **IV. COMMENTS ON THE PROPOSED ALTERNATIVES**

APHIS has presented four proposed alternatives that will be considered by the PEIS. While we believe significant additional information must be provided to the public in order to understand the various options presented, we are generally supportive of Alternative Three, which provides the only approach to regulatory oversight that is sufficiently robust and in line with the principles described in our comments in Part I above.

We understand that, under NEPA, the agency will consider a “no action” alternative. However, it has been well established that the current regulatory structure is inadequate to protect the interests of non-GE farmers (including organic and non-GE identity-preserved farmers) or the public interest in environmental health. We therefore do not support a “no action” alternative.

We also note that Alternative Four does not satisfy the purpose of the action, which is to establish new regulations overseeing the use of agricultural biotechnology. A voluntary approach does not satisfy this purpose, and therefore should not be considered as a viable option for the agency moving forward.

Alternative Two establishes a process whereby certain GE plant products or insects could be exempt from regulation, and whereby APHIS would regulate “only when necessary.” We are not confident that such an approach, without substantial additional changes to the regulatory framework as described in our recommendations in Part I above, would adequately protect against unintended adverse consequences of GE crops and products on non-GE farmers or the environment.

The losses suffered by non-GE farmers from contamination, as well as the herbicide-resistant weed epidemic farmers are facing, provide ample evidence that current environmental analyses, post-

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<sup>13</sup> See Appendix.

<sup>14</sup> 81 Fed. Reg. 6227.



commercialization monitoring, field experimentation tracking, and regulatory safeguards for non-GE farmers are failing to provide adequate assurance that any biotechnology products should be exempt from regulatory oversight.

NSAC supports a more robust approach to the regulatory oversight of biotechnology, and we fully intend to provide additional comment to the agency throughout the NEPA process, and as it proceeds in developing a new proposed rule.



## National Sustainable Agriculture Coalition

March 4, 2014

The Honorable Thomas Vilsack  
Secretary of Agriculture  
U.S. Department of Agriculture  
1400 Independence Avenue SW  
Washington, DC 20250

Submitted electronically via [www.regulations.gov](http://www.regulations.gov)

Docket No. APHIS-2013-0047

### **Re: Comments on the Request for Public Input on Enhancing Agricultural Coexistence**

Dear Secretary Vilsack:

On behalf of the represented member organizations<sup>1</sup> of the National Sustainable Agriculture Coalition (NSAC), I submit the following comments on the U.S. Department of Agriculture's (USDA) request for public input on enhancing agricultural coexistence (Docket No. APHIS-2013-0047).

NSAC is a grassroots alliance that advocates for federal policy reform supporting the long-term social, economic, and environmental sustainability of agriculture, natural resources, and rural communities. NSAC member organizations are leaders in the sustainable agriculture and food systems sector, and have worked with farmers and communities to pioneer practices, systems, and supply chains that support the multiple goals of sustainability. These include certified organic, sustainable, non-genetically engineered (GE), and identity-preserved systems and supply chains that are impacted by a coexistence framework.

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<sup>1</sup> Agriculture and Land-Based Training Association - Salinas, CA; Alternative Energy Resources Organization - Helena, MT; California Certified Organic Farmers - Santa Cruz, CA; California FarmLink - Santa Cruz, CA; C.A.S.A. del Llano (Communities Assuring a Sustainable Agriculture) - Hereford, TX; Center for Rural Affairs - Lyons, NE; Clagett Farm/Chesapeake Bay Foundation - Upper Marlboro, MD; Community Alliance with Family Farmers - Davis, CA; Dakota Rural Action - Brookings, SD; Delta Land and Community, Inc. - Almyra, AR; Ecological Farming Association - Soquel, CA; Farmer-Veteran Coalition - Davis, CA; Fay-Penn Economic Development Council - Lemont Furnace, PA; Flats Mentor Farm - Lancaster, MA; Florida Organic Growers - Gainesville, FL; GrassWorks - New Holstein, WI; Hmong National Development, Inc. - St. Paul, MN and Washington, DC; Illinois Stewardship Alliance - Springfield, IL; Institute for Agriculture and Trade Policy - Minneapolis, MN; Iowa Natural Heritage Foundation - Des Moines, IA; Izaak Walton League of America - St. Paul, MN/Gaithersburg, MD; Kansas Rural Center - Whiting, KS; The Kerr Center for Sustainable Agriculture - Poteau, OK; Land Stewardship Project - Minneapolis, MN; Michael Fields Agricultural Institute - East Troy, WI; Michigan Food & Farming Systems (MIFFS) - East Lansing, MI; Michigan Organic Food and Farm Alliance - Lansing, MI; Midwest Organic and Sustainable Education Service - Spring Valley, WI; National Catholic Rural Life Conference - Des Moines, IA; The National Center for Appropriate Technology - Butte, MT; Nebraska Sustainable Agriculture Society - Ceresco, NE; Northeast Organic Dairy Producers Alliance - Deerfield, MA; Northern Plains Sustainable Agriculture Society - LaMoure, ND; Northwest Center for Alternatives to Pesticides - Eugene, OR; Ohio Ecological Food & Farm Association - Columbus, OH; Organic Farming Research Foundation - Santa Cruz, CA; Rural Advancement Foundation International - USA - Pittsboro, NC; Union of Concerned Scientists Food and Environment Program - Cambridge, MA; Virginia Association for Biological Farming - Lexington, VA; Wild Farm Alliance - Watsonville, CA.

Many of the farmers that NSAC works with and represents choose to grow only non-GE crop varieties because the markets they serve demand GE-free products; because they have concerns about potential adverse health, environmental, or agronomic impacts of GE crop technologies; or because they are USDA certified organic. These producers sustain substantial economic losses when their products contain unintended GE material at levels exceeding market or organic certifier specifications. In addition, exposure of organic or non-GE fields to GE pollen, pesticides, and herbicides from neighboring farms utilizing GE crop technology packages can lead to adverse ecological and agronomic consequences for the non-GE producer, as well as tensions among farmers. Thus, the challenges of coexistence among contrasting farming systems directly impact the economic, environmental, and social sustainability of our nation's agriculture and rural communities, and are therefore of great concern for NSAC.

We appreciate USDA's attention to agricultural coexistence issues and believe that there is a significant need for a robust framework that ensures that the diverse sectors of American agriculture can thrive. This framework must include:

- Sound, science-based information that empowers farmers to make good decisions regarding their production systems and to implement stewardship practices that enhance coexistence;
- Effective measures to prevent contamination of organic and other non-GE farm products and crop seed with unintended GE content;
- A fair and workable system of compensation in the event that GE contamination leads to economic losses for organic and non-GE producers; and
- Mechanisms for preventing and responding to problems associated with drift of agricultural chemicals associated with GE crops onto neighboring farms, including concerns for not damaging crops and natural resources such as pollinator habitat.

Our comments focus first on the critical aspects of a viable coexistence framework, including:

- The need to use existing authority to update and revise the existing regulatory framework on GE crop technologies;
- The need to establish a strong contamination prevention framework;
- The need for a fair compensation mechanism when contamination occurs; and
- The need for addressing pressing research needs related to coexistence and the use of GE products.

We then respond to the questions in the Federal Register notice concerning voluntary communication and collaboration strategies.

The following people from NSAC member organizations contributed to the drafting of these comments: Mark Schonbeck with Virginia Association for Biological Farming, Doug Gurian-Sherman with the Union of Concerned Scientists, Harriet Behar with the Midwest Organic and Sustainable Education Service, Alicia Harvie with FarmAid, and Brian Snyder with the Pennsylvania Association for Sustainable Agriculture.

We look forward to working with you to establish a workable and robust coexistence framework that allows for the diverse sectors of American agriculture to thrive.

Sincerely,

A handwritten signature in cursive script that reads "Ariane Lotti".

Ariane Lotti  
Assistant Policy Director, National Sustainable Agriculture Coalition

## COMMENTS ON AGRICULTURAL COEXISTENCE

### I. Critical Aspects of a Viable Agricultural Coexistence Framework

NSAC appreciates USDA's efforts to facilitate a much-needed discussion about agricultural coexistence. The advent of genetically engineered (GE) crop varieties and the associated technology packages has brought critical new challenges regarding the compatibility of different agricultural production systems within rural America.

USDA took a step forward by reconvening the Advisory Committee on Biotechnology and 21<sup>st</sup> Century Agriculture (AC21). This committee identified a number of core issues, many of which remain unresolved. For example, AC21 members acknowledged that contamination of non-GE crops with unintended GE content can and does take place, but members were "not in agreement about the extent to which a systemic problem exists and whether there is enough data to warrant a compensation mechanism to address it."<sup>2</sup> The report further acknowledged that there are insufficient data to accurately assess the extent of the contamination issue.

The AC21 also identified compensation for non-GE producers suffering economic losses owing to unintended GE presence in their product as a major issue, but reached no consensus on a fair compensation mechanism. Viewpoints within AC21 varied so widely that there was little support for the recommendation of the report "that compensation mechanisms ... be modeled on existing crop insurance."<sup>3</sup> Finally, AC21 aptly outlined needs for more research into issues of crop seed purity, preservation of genetic diversity and regionally adapted cultivars.

Given the scope of issues discussed by AC21 and the challenges around coexistence, we are disappointed by the limited scope of the questions USDA asks in the Federal Register notice requesting public input on enhancing agricultural coexistence (Docket No. APHIS-2013-0047). Before determining "how we can best foster communication and collaboration among those involved in diverse agricultural systems on the topic of coexistence as well as how USDA can best communicate and collaborate with those entities,"<sup>4</sup> a number of issues, including those outlined above, need to be addressed. Without addressing these issues, the voluntary communication and collaboration efforts being explored by USDA will do little to establish and facilitate a system of true coexistence in which certain agricultural practices do not damage or preclude the use of other agricultural practices.

NSAC believes that agricultural coexistence can be successful only when *all* producers feel secure that their choices of production system and markets will not be compromised or foreclosed due to impacts of contrasting production systems employed by other producers.

We make recommendations below on issues that must be addressed before USDA moves forward with voluntary communication and collaboration strategies for addressing issues of agricultural coexistence. These include:

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<sup>2</sup> *Enhancing Coexistence: A Report of the AC21 to the Secretary of Agriculture*. November 2012. Page 9.

<sup>3</sup> *Ibid*, page 15.

<sup>4</sup> 78 Fed. Reg. 65961

- The need to use existing authority to update and revise the existing regulatory framework on GE crop technologies;
  - The need to establish a strong contamination prevention framework;
  - The need for a fair compensation mechanism when contamination occurs; and
  - The need for addressing pressing research needs related to coexistence and the use of GE products.
- A. USDA must use broad authority granted through the Plant Protection Act of 2000 to revisit and substantially strengthen the regulatory framework for genetically modified organisms.**

The Secretary of Agriculture possesses expansive authority under the Plant Protection Act (PPA) of 2000 to broadly assess and regulate economic, environmental, public health, agricultural, and other impacts of genetically modified organisms (GMOs). PPA provides broad authority, under its noxious weed provisions, for USDA to regulate possible direct or indirect environmental and economic harm caused by GE products. In particular, the noxious weed provisions of PPA are intended to supplant provisions in the Noxious Weed Act (NWA). The broader language defining noxious weeds in the PPA compared to NWA reflects the intent of Congress that USDA should address the broader issues encompassed by the updated language.

Congress expressly gave USDA this expanded authority, yet USDA has failed to implement this broader authority. USDA has twice released draft regulations but those proposed regulations also narrowly defined plant pests, including noxious weeds, and failed to meet Congressional intent. USDA has not finalized the regulations and continues to rely on outdated regulations in C.F.R. Part 340.

Given the challenges identified in establishing a viable coexistence framework for agriculture and the need to update the regulatory framework governing the release of GE crops and products, USDA should abandon earlier versions of draft regulations for PPA that defined the noxious weed provisions of PPA narrowly and instead issue a new version of these regulations that reflect the full effects of GE crops, including their potential for damage.

In its Federal Register notice on coexistence, USDA focuses on voluntary adoption of “stewardship practices” by farmers to prevent or limit unwanted gene flow, and good communication between GE and non-GE producers as a means to coexistence. Farmers are of course already relying on voluntary measures, yet contamination persists. As long as provisions to prevent contamination are borne only by non-GE farmers, potentially effective measures that can be undertaken by those selling GE seed will not be implemented. A strategy based solely on voluntary measures will be insufficient for addressing coexistence issues. A regulatory response is also essential.

Until USDA promulgates new regulations, efforts to achieve viable and workable coexistence strategies will fall short of achieving the needed changes and structures to prevent GE contamination, address the economic harmed caused by GE crops, provide for adequate compensation, and create a robust regulatory framework for new, more complex, stacked GE products.

**Recommendation:** USDA should abandon earlier versions of draft regulations for PPA that defined the noxious weed provisions of PPA narrowly and instead issue a new version of these regulations that reflects the full effects of GE crops, including their potential for damage, in order to establish a viable agricultural coexistence framework.

## **B. USDA must focus on contamination prevention.**

Before moving ahead with voluntary communication and collaboration strategies, USDA should focus first and foremost on developing *effective means to prevent the unintended presence of GE material in organic and other non-GE crop seeds and crop harvests*. The crux of the coexistence issue is the right of all farmers to choose what they produce and how, and what markets to serve, free from human-caused interference related to contrasting production systems. For the organic and non-GE producer, this means freedom from the threat of GE contamination, both in crop seed and in pollen brought into their field by wind or insects. Although all farmers should implement good stewardship practices to limit gene flow from GE into non-GE fields, the non-GE farmer who does not utilize or benefit from this technology must not be expected to bear the brunt of the responsibility for preventing GE contamination.

Currently, the burden to prevent contamination falls primarily on the non-GE farmer. Numerous reports indicate that contamination has substantial impact on the livelihoods of those growing non-GE crops. Non-GE markets reject contaminated crops, and preventative measures, such as buffers or altered planting schedules that prevent overlap in crop flowering periods, result in reduced income. Buffers represent farmland that is underutilized or can lose premiums, while adjusted planting schedules prevent farmers from taking advantage of optimum planting dates. So far, the burden of prevention of contamination and loss of income is borne by those imposed upon by the production of GE crops. This represents an asymmetric and unfair burden on non-GE farmers.

**Recommendation:** USDA should initiate a dialogue among coexistence stakeholders to develop a strategy focused around preventing the contamination of non-GE crop seeds and harvests by GE pollen and drift.

### **1. Better data are needed on the scope of contamination.**

As part of a strategy to prevent GE contamination, it is critical for USDA to understand the scope of contamination. The incidence of unintended GE presence in organic, identity preserved, and other non-GE crop seed and crop harvests, and the incidence and frequency of economic losses to non-GE producers, including crop seed growers, is simply not known. USDA has not undertaken systemic efforts to collect this vital information. Furthermore, non-GE farmers may be reluctant to speak out about GE contamination of the crops for fear of loss of markets, tension with neighboring GE farmers, or retaliation by GE technology patent holders.

**Recommendation:** A top research priority for USDA should be to undertake a systematic survey of the incidence of unintended GE content in crop harvests on non-GE farms, and in crop seeds produced or planted by non-GE producers. In addition, economic losses (rejection or price dockage by non-GE markets) need to be documented. Because of the sensitive nature of this information, farmers must be offered the option of providing this information to USDA anonymously.

## **2. Research is needed to inform contamination prevention strategies.**

USDA must compile sound, research-based information on effective contamination prevention strategies for *each crop for which commercially available GE varieties are being produced*, including isolation distances, buffers (hedgerows, windbreaks, etc), modifications of planting date (if these are economically feasible for producers), and other measures. In some cases, this information is not available, and must become a priority topic for USDA research.

**Recommendation:** USDA should prioritize research needs for establishing effective contamination prevention strategies for each crop for which a commercially available GE variety is being produced.

## **3. GE contamination includes both genetic contamination and contamination from chemical drift used in GE crop production.**

In addressing contamination issues, we urge the USDA to consider the entire technology package of which a given GE crop is part – which can include increase risks of pesticide drift or development of pest resistances. For example, Roundup Ready crops entail a greatly increased use of glyphosate, which could potentially increase risk of herbicide drift as well as the documented evolution of weeds resistant to glyphosate. While the spread of glyphosate-resistant weeds onto organic farms may have little impact (since USDA certified organic does not allow this herbicide), other non-GE identity preserved producers who rely on judicious use of glyphosate as part of their management systems may be forced to switch to older, more toxic herbicides.

Recent requests for deregulation of GE crops with resistance to 2,4-D or dicamba herbicides raise new concerns, because the new herbicide resistant crops will likely lead to several-fold increase in the use of these volatile materials, which are notorious for drift problems resulting in damage to broadleaf crops. Organic producers are subject to potential decertification of fields subject to chemical drift, and *all* specialty crop producers are vulnerable to severe crop damage or complete loss if their crops are exposed to these herbicides.

Widespread planting of corn and other crops engineered to synthesize the microbial pesticide *Bt* throughout their life cycle has led some lepidopterous (caterpillar) pests to develop resistance to *Bt*. Migration of these pests into organic and non-GE crop fields can reduce or abolish the efficacy of *Bt* spray applications, one of the safest pest control materials, and one that is allowed for USDA organic certification.

**Recommendation:** As part of a contamination prevention framework, USDA should establish mechanisms for preventing and responding to problems associated with drift of agricultural chemicals associated with GE crops onto neighboring farms, including concerns for maintaining the integrity of specialty crops and natural resources such as pollinator habitat.

### **C. If contamination occurs, USDA must provide adequate compensation.**

One of the main charges to AC21 was to discuss types of compensation mechanisms for economic losses due to GE contamination. Taken within the broader discussion about agricultural coexistence and GE contamination prevention, this is an important issue because contamination does occur and non-GE farmers suffer a loss. We provide recommendations below for establishing a fair compensation mechanism.



## 1. Crop insurance is not a good model for compensation.

NSAC disagrees with the AC21's recommendation that if the Secretary determines based on loss data that there is a need for a compensation mechanism, that that mechanism should be based on a crop insurance model. We agree with the statement that "any compensation mechanism that may be put in place that is perceived by one segment of agriculture as placing unfair burdens on that sector will only divide agriculture."<sup>5</sup> Yet, the committee's recommendation of a crop insurance model in which organic and non-GE producers take out additional crop insurance to cover GE contamination related losses, places unfair burdens on one segment of agriculture. Placing the burden on non-GE producers who do not stand to benefit from the technology, or on taxpayers (through insurance subsidies), would be the least fair options of all.

While a crop insurance model could "build on existing structures administered by USDA's Risk Management Agency and its Farm Service Agency,"<sup>6</sup> it is a fundamentally flawed approach. Unlike events that farmers usually insure against, GE contamination is a man-made occurrence that is not inevitable. Furthermore, GE contamination is often not an isolated incident that is linked to one instance or pathway of contamination.

**Recommendation:** USDA should not adopt a crop insurance model to address compensation issues arising from GE contamination of non-GE seeds, crops, and harvests.

## 2. Patent holders should pay for losses due to contamination through a fund.

Fairness and logic dictate that those who enjoy the economic gains from the use of GE crop technologies should also bear the onus of compensating non-GE producers for losses related to unintended trespass of GE material into their fields or crop seeds. While GE producers do profit from the sale of these crops, it is the GE technology patent holders who make the majority of profits related to GE technology. Thus, they should bear the primary responsibility, both for preventing GE contamination of non-GE crops, and for compensating non-GE farmers adversely affected by such compensation.

We strongly recommend that USDA develop and implement a general compensation fund, funded primarily by GE crop technology patent holders. Patent holders retain effective ownership of GE seed, and therefore should accept the responsibility of adequate stewardship of the technology and compensation of those harmed by contamination. The exact form and size of the general compensation fund will need to be determined based on the outcome of USDA's research into the extent of GE contamination and associated economic impacts to organic, IP, and other non-GE producers.

**Recommendation:** USDA should adopt a compensation mechanism based on a fund model and should rely on GE patent holders to provide the majority of funds to compensate for losses of GE contamination.

## D. USDA should address pressing research needs related to agricultural coexistence.

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<sup>5</sup> *Enhancing Coexistence: A Report of the AC21 to the Secretary of Agriculture*. November 2012. Page 9.

<sup>6</sup> *Ibid*, page 10.

**1. USDA should move forward on implementing the Research and Seed Quality recommendations from AC21.**

NSAC strongly supports the AC21 recommendations regarding Research and Seed Quality.<sup>7</sup> As noted earlier in our comments, quantification of incidence of unintended GE content in non-GE crops and crop seeds, and of economic losses resulting therefrom, should be high priorities for research conducted or funded by USDA. We also strongly concur that crop-by-crop assessment of existing GE-contamination mitigation techniques for both crop seed and crop harvest and development of improved techniques are critical to the future of agricultural coexistence.

We also agree strongly that “continued seed industry attention to the continued maintenance of an ample supply of regionally adapted, high quality, GE, IP non-GE, conventional, and organic seeds for people wishing to produce such crops will be critical in order for the associated agricultural sectors to flourish,”<sup>8</sup> and we support the AC21 recommendation that USDA task the National Genetics Resources Advisory Council to work with the seed industry to develop an ongoing evaluation plan to ensure that this goal is accomplished. Development of an “organic seed finder” and similar services for other IP non-GE producers would be useful tools for farmers.

**Recommendation:** USDA should swiftly move to implement the Research and Seed Quality recommendations from AC21.

**2. USDA should address additional research needs related to the use of GE crops.**

NSAC urges USDA to address other urgent GE-related research needs related to potential agronomic, environmental, human-health, and livestock-health impacts of GE crop varieties and technology packages. Although the AC21 Final Report asserts that “GE products in the marketplace ... have been evaluated by scientific experts and regulators, and have been determined to be as safe for humans and the environment as conventional crops,”<sup>9</sup> not all AC21 members agreed with this assertion and there is abundant evidence that it is not entirely true. In his additional comments, for example, AC21 member Charles Benbrook states that “neither the Food and Drug Administration, nor any other U.S. government agency, conducts an independent evaluation of the nutritional quality or safety of GE foods ... the FDA simply accepts the assertions by the technology provider.”<sup>10</sup>

There are a number of research issues that need to be addressed around issues of GE product safety:

- **Independent scientists must have access to patented GE crop germplasm:** GE patent holders have limited the access of independent scientists to patented GE crop germplasm to conduct more in-depth studies to fully investigate potential health and environmental concerns raised in preliminary studies – basically shutting down research into these vital questions.

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<sup>7</sup> Ibid, pages 21-25.

<sup>8</sup> Ibid, page 23.

<sup>9</sup> Ibid, page 6.

<sup>10</sup> Ibid, page 29.

- **Regulations used to evaluate current GE crops are inadequate, according to many scientists and others:** USDA relies on the very limited plant pest provisions of the Plant Protection Act. The limitations can be summarized as a lack of sufficient rigor, as noted by the National Research Council in its 2002 report evaluating USDA regulation of GE crops. Many of those limitations have not been remedied. For example, the epidemic of resistant weeds that have been exacerbated by the overuse of glyphosate herbicides likely cannot be adequately regulated under the plant pest provisions, despite causing great harm to farmers and the environment.
- **Development of future GE crops:** There is no assurance that future crops will not cause harm, especially if the current severe limitations of USDA GE regulations are not corrected.

Additionally, several incidents of contamination have also occurred prior to deregulation and commercialization that have resulted in substantial cost to farmers and disruption of export markets. The focus on post-commercialization GE crops does not address this problem. USDA has not tested for the extent of possible contamination at this stage of development of GE crops, and should do so to better determine vulnerabilities. USDA also needs to strengthen field trial confinement requirements to limit such incidents in the future, and provide for a means of compensation to farmers harmed by these incidents.

**Recommendations:** USDA should address additional research needs related to the use of GE technologies. Specifically, in order to assess more independently the safety and ecological, agronomic, and health impacts of GE technologies, USDA should require patent holders to release their GE crop germplasm and isogenic non-GE varieties needed as proper controls for evaluation and review by independent scientists; and revise existing regulations to require sufficient scientific rigor in evaluating current and future GE crops. Additionally, USDA should strengthen GE field trial confinement requirements to prevent GE contamination events during the pre-commercialization period.

## II. Responses to the Questions Posed in the Federal Register Notice

We offer the following comments on specific questions in the Federal Register notice for Docket No. APHIS-2013-0047, within the broader context provided above. While good farmer-to-farmer communication and cooperation are laudable goals, we emphasize that such voluntary communication strategies are not, by themselves, the solution to the coexistence challenges posed by GE crop technologies.

*Question 1. As we seek improved communication and collaboration among agriculture stakeholders, we are interested in identifying information needs and exploring successful communication methods.*

- *When you or members of your organization seek information related to coexistence, what type of information are you seeking and where do you go to get it? Why?*

*Response:*

Farmers need accurate information regarding several aspects of GE crop varieties in order to make sound decisions regarding whether and how to use GE technology on their farms, and how to avoid unintended GE material in non-GE crops. These include:

- Agronomic risks as well as potential benefits associated with GE varieties. Known risks include evolution of herbicide resistant weeds where herbicide tolerant GE crops are grown with increased use of the corresponding herbicides; and evolution of pest resistance from planting crops engineered to produce *Bt*. Potential risks also include impacts of GE crops on soil life, and changes in nutritional quality of feed grains and forages that can lead to potential livestock health problems.
- Potential environmental and human health risks of GE crop varieties have not been adequately researched. Preliminary studies have revealed some potential concerns that need to be evaluated further through additional research by impartial scientists. However, GE crop patent holders have denied independent scientists permission to use the GE varieties for research, thereby preventing the needed studies from taking place.
- Accurate information is needed on outcrossing distances for different GE crops, and appropriate minimum buffer distances to meet the criteria for non-GE markets, and the higher criteria for non-GE crop seed production, or for GE crops with “functional” traits like amylase corn. Traits for industrial or pharmaceutical genetically engineered crops not intended for the food supply raise additional issues that must be addressed.
- Sound advice on other measures that GE farmers should take to minimize gene flow beyond farm boundaries, and that non-GE farmers should take to avoid or minimize risks to their crops.
- Maps or other means to identify location of both GE and non-GE production of different crops, so that farmers are informed about potential sources of GE pollen, or locations of sensitive non-GE crop production.
- Accurate information regarding purity (freedom from unintended GE content) of non-GE crop seed from different sources.
- Much more complete and accurate information on the incidence of economic losses to non-GE farmers from unintended presence of GE material in crop seed or crop harvests. More information on the dollar losses incurred by farmers affected.
- Research into drift from pesticides used as part of GE crop production and the potential effects of drift on specialty crops and on natural resources, such as pollinator habitat.

A lot of this information is not yet available, and should be top priority for USDA-funded research, as discussed above.

As the number of GE traits and the number of crop species for which GE crop varieties are released for commercial production increase, the need for additional research to generate vital information will multiply. Whether this research is conducted intramurally by USDA, or through extramural grant programs such as the Biotechnology Risk Assessment Research Grants (BRAG) Program or the Agriculture and Food Research Initiative, this research need will entail a considerable investment of tax dollars. The BRAG program has only received minimal funding to examine important research questions about biotechnology impacts and hazards and as USDA seeks to establish a more viable coexistence framework, it should provide more funding to examine GE crops through programs like BRAG.

Taking steps now to generate and integrate adequate research data for existing GE crops will help USDA and the farming community get a more accurate view of the fundamental issues raised by AC21, and may thereby facilitate more informed decisions regarding future GE crops and traits.

- *What information regarding coexistence, in what format, is currently available (printed or electronic brochures, factsheets, blog posts, websites, discussion forums, etc.)? Is this information useful? Why or why not? What additional information, in what format, would be useful to you or members of your organization?*

*Response:*

There is not sufficient information available to farmers on the issue of coexistence to be useful and practical. While there are certain informational resources available, the risk is that the resources will be focused exclusively on providing information to organic and non-GE farmers about how to avoid GE contamination, which would continue placing all of the burden of preventing contamination on non-GE farmers.

Much of existing information available to farmers related to GE crops is released by GE patent holders and vendors of GE crop seeds. This information is inherently biased, as it is designed in part to market the technology, and will thus emphasize or even embellish the benefits of GE crop technology, and downplay its potential risks and drawbacks. Farmers need *unbiased, third-party* information in order to make sound decisions regarding production system and stewardship measures to promote coexistence.

At the farm level, additional information is needed so that farmers using GE crops know how to avoid contaminating nearby non-GE crops. This information could include practices and strategies on-farm to avoid pollen and pesticide drift and contamination of nearby crops.

- *Please indicate your preferences with respect to receiving information or communications from USDA. Would you be interested in receiving information or communications from non-USDA sources? How might you or your organization, as agricultural stakeholders, want to be involved in disseminating information?*

*Response:*

As noted in response to the last question, farmers need accurate, unbiased information from impartial sources. Independent researchers or educators, or non-governmental organizations working with farmers, especially those working with organic, sustainable, and IP non-GE producers could provide this information. USDA and Cooperative Extension can play a role in compiling and disseminating this information, provided that they adhere closely to principles of impartiality and sound science, and do not simply accept GE seed industry materials as “information.”

- *Where should USDA focus its efforts to best foster communication and collaboration amongst stakeholders? What would best facilitate farmer-to-farmer communication and collaboration?*

*Response:*

As discussed in depth above, USDA must first focus on efforts to prevent or minimize GE contamination of non-GE crops, and on conducting the large volume of research needed in order to provide an adequate science-based foundation for effective contamination prevention and thus agricultural coexistence. Because on-farm stewardship and farmer-to-farmer communication cannot alone be expected to prevent GE gene flow – especially in strongly outcrossing crops such as corn, canola, alfalfa, and sugarbeet – USDA must assess the needs for regulatory measures to protect non-GE crop seed and crop harvests from unintended GE presence. USDA must then promulgate and enforce appropriate regulations on each GE crop to prevent contamination of non-GE crop seeds and crop harvests.

Without this foundation, efforts to achieve coexistence through farmer-to-farmer communication alone will fail to protect the non-GE producer from unwanted GE presence in their crops, and will thus not yield true coexistence. The strong focus on farmer-to-farmer communication and collaboration places on both non-GE and GE farmers the burden of solving problems that are inherent to the GE crop technologies themselves, and thus not readily solvable by farmers themselves.

The question at hand is one of collaboration and communication amongst *all stakeholders* – including GE patent holders, GE seed vendors and distributors, as well as producers, crop seed growers, and others along the production chain. GE seed patent holders and vendors must be required to provide GE farmers with accurate information regarding their crops, including outcrossing distances and other parameters related to risk of GE trespass onto non-GE farmers’ fields, and stewardship measures that the farmer should take to minimize risk. Contracts between GE seed suppliers and farmers must include a requirement to implement these stewardship measures.

- *Please share any examples of and feedback regarding successful communication models, including those that have worked well for other issues.*

*Response:*

Most states have pesticide laws that are enforced when a pesticide is known to have moved from the targeted area over the property line to another field. Depending on the state, the fines levied per occurrence may be sufficient to encourage the pesticide applicator to be more careful the next time, or they may not be strong enough to prevent repeat events. This would be an example of a feedback model that has shown some effectiveness in preventing contamination, but it could be improved by having federal enforcement for GE contamination when a patented seed causes damage.

It is important to note that management of GE contamination may require a somewhat different model from pesticide drift contamination, since GE traits can propagate and spread from generation to generation, while pesticide residues persist and decline in a manner determined by a particular chemical’s half life under existing environmental conditions.

*Question 2. As part of USDA’s outreach and education efforts, we are interested in identifying education needs and exploring the creation of “outreach toolkits” that will encourage communication, planning, and crop-specific practices to facilitate successful coexistence.*

- *What tools and educational services are already available? Are these tools and services useful? What tools and educational services would be useful to you?*

*Response:*

There is a need for educational services and tools for GE farmers to understand contamination prevention protocols. Classes for farmers that use GE seeds could complement written contamination prevention materials included in outreach materials or contracts. Tools for GE farmers to help them reduce gene flow can also include appropriate provisions in contracts with GE patent holders.

Seed vendors who carry GE crop varieties must be educated as to the nature of each GE crop / variety, and what are the risks it carries, and what the farmer who buys the seed must know. While a lot of this should be contained in the technology agreement that the farmer signs with the patent holder, it would be helpful for vendors to know just what they are handling, including its risks as well as its potential benefits. Outreach toolkits should be designed for vendors for this purpose.

- *How might USDA assist farmers to better understand the contracts they enter into (e.g., contracts to provide organic products and IP products for specialty markets) and their commitments with respect to coexistence?*

*Response:*

This question needs to be broadened to include contracts that both GE and non-GE farmers enter into with seed providers (GE) and markets/buyers (both). GE crop technology agreements should be written to ensure that farmers understand their obligations to neighboring farmers (to prevent unwanted gene flow) as well as to their GE seed providers. Organic and IP non-GE farmers need to understand their marketing contracts in terms of tolerances for unintended GE content.

- *What geographic information, in what format, is available regarding the location of crops that are planted and grown using different types of agricultural systems (e.g., pinning maps)? Is the information updated regularly? What are stakeholders doing to make this type of geographic information more widely available? What can USDA do to assist in these efforts?*

*Response:*

USDA can assist in the effort of providing geographic information by creating a database or registry to track where GE crops are planted so that non-GE farmers can easily access information about GE crops in their area. A database or registry, regularly maintained, could help track sources of GE contamination.

Such a tool could also address the challenge that non-GE farmers face currently in trying to figure out who is farming the land adjoining theirs and what is being planted. With the majority of land being operated by nonresident landowners, larger operations farming the land using a variety of custom operators to perform various activities, and land leases only one year rather than multiple years, it has become difficult to find the entity that is buying the seed and planting it. A farmer cannot assume the landowner is able to provide contact information for the person who both makes the decisions on crop planting as well as the person actually doing it. It is a huge burden to place on

the non-GE farmer to ask them to find and discuss planting protocols and other issues with the manager of the neighboring land, especially when management of farming operations has become very complex.

- *Would a decision support system, i.e., a computer-based information system that could be used to support data-based, planting-related decisions, with topics such as when and where to plant, suitable isolation distances, and gene flow, be useful? Why or why not? If such a decision support system would be useful, what data would be needed for the system to be effective?*

*Response:*

Trying to identify a decision support system for farmers at this point is very premature. There simply is not a sufficient database of impartial, science-based information to create valid algorithms for each crop and each GE trait, without which no credible decision support system can be generated. Information for crop species with existing GE varieties in production is scant and often biased; information for additional crop species with GE varieties in development does not yet exist.

*Question 3. Farmers and others in the food and feed production chain have an important role in collaborating to make coexistence work, particularly with reference to stewardship, contracting, and attention to gene flow. As we seek to improve collaboration among those involved in diverse agricultural systems, we are interested in hearing what practices and activities that support collaboration are available or in use and how USDA can help make collaboration and coexistence work for everyone involved.*

Because much of the problem of unintended GE presence in non-GE crops relates to the nature of the technology itself, and not to farmer practices or stewardship, the GE technology patent holders must play the primary role in making coexistence possible, with strong backing from USDA in its regulatory capacity with regard to GE crops. For example, a strongly outcrossed, functional GE crop variety like amylase corn for biofuel may pose such a severe threat to the marketability of flour and starch from corn that USDA may need to impose strict regulations on where GE amylase corn can be grown – or even possibly ban it altogether. Similarly, non-GE crop seed production will need a much higher level of regulatory protection from GE contamination.

Efforts to place the burden on farmers' shoulders will not help improve relationships and may end up pitting farmer against farmer, thus severely undermining the social sustainability of rural communities across America.

- *What are factors that might prevent or promote the broad adoption of local, voluntary solutions aimed at facilitating coexistence?*

*Response:*

Factors that prevent the broad adoption of local, voluntary solutions include many of the issues discussed above:

- Lack of adequate information;
- Lack of a robust regulatory framework to prevent contamination;
- Lack of adequate and fair compensation mechanisms when contamination does occur; and



- Inherent nature of strongly outcrossed species.

Voluntary solutions are simply not sufficient for addressing the challenges surrounding GE contamination.

- *Please provide examples of effective coexistence practices (e.g., between neighboring farmers or among regional networks of farms) and on-farm and off-farm techniques for mitigating the potential economic risks from occurrences that affect successful coexistence. How might they be made to be more effective?*

*Response:*

Effective coexistence practices must be based on proven contamination prevention strategies and the burden of ensuring successful coexistence must not be solely on the non-GE farmer.

Successful coexistence occurs mainly when only primarily self-pollinated GE crops are grown (e.g. soybean, for which a 30-foot buffer or a good hedgerow may be adequate), or when neighboring GE and non-GE producers are growing different crops (e.g., a GE corn field will not affect a nearby organic orchard so long as the corn farmer takes care to avoid pesticide drift, or an effective hedgerow exists between field and orchard). However, if a new enterprise introduces a strongly cross-pollinated GE crop into a region where organic or non-GE production of that crop species is already underway, coexistence is likely to fail. Similarly, a newly establishing organic or non-GE farming enterprise may not be able to grow certain cross-pollinated crops if existing farms are already producing GE varieties of those crops and are unwilling to examine contamination prevention strategies.

- *What types of coexistence practices could be supported in potential joint coexistence plans, i.e., voluntary written plans specifying farming practices (such as farmer-to-farmer communication, cropping plans, temporal and physical isolation, and harvesting techniques) that can be used to support coexistence and identify preserved production? What might an effective, supportable, joint coexistence plan look like? How might USDA encourage adoption of joint coexistence plans?*

*Response:*

For any GE and non-GE production of a crop occurring within the outcrossing distance, farmer-to-farmer communication leading to adjustments in crop plans, planting dates, and location of plantings to effect adequate isolation could potentially lead to coexistence, especially for the more self-pollinated crops. However, these efforts at cooperation will entail sacrifices on the part of one or both producers to address a problem that is inherent in the technology, and only secondarily related to farmer practices per se. Although instances of successful “win-win” negotiations may exist, it would be unrealistic to expect either the GE or the non-GE farmer to make sacrifices in cropping flexibility and potential earnings in order to prevent GE contamination of a non-GE crop.

*Question 4. We also welcome any recommendations regarding collaborative meeting formats that would best ensure coexistence issues will be frankly and fully explored at the public forum that USDA intends to hold following the close of the public comment period.*

We support the need for ongoing dialogue about coexistence issues that will be frankly and fully explored at a public forum hosted at USDA. Any such meeting should include a discussion of contamination prevention strategies, fair compensation mechanisms, and an acknowledgement of contamination and loss that non-GE farmers experience.

The dialogue should include a broad, balanced group of stakeholders, including:

- Truly independent, unbiased scientists who can speak to the outcrossing distances and other relevant parameters for each species of crops for which GE varieties are commercially available, and scientists who can speak to the availability and purity of non-GE seed;
- Non-GE farmers and businesses;
- Farmer-based organizations that work with non-GE farmers; and
- Representatives from the GE and non-GE seed industries.



## National Sustainable Agriculture Coalition

May 11, 2015

Regulatory Analysis and Development  
USDA, PPD, APHIS, Station 3A-03.8  
4700 River Road, Unit 118  
Riverdale, MD 20737-1238

Submitted electronically via [www.regulations.gov](http://www.regulations.gov)

### **Re: Public Comments on Docket No. APHIS-2013-0047**

On behalf of the represented member organizations<sup>1</sup> of the National Sustainable Agriculture Coalition (NSAC), we submit the following comments on the U.S. Department of Agriculture's (USDA) request for public input on enhancing agricultural coexistence (Docket No. APHIS-2013-0047).

NSAC is a grassroots alliance that advocates for federal policy reform that supports the long-term social, economic, and environmental sustainability of agriculture, natural resources, and rural communities. NSAC member organizations are leaders in the sustainable agriculture and food systems sector, and have worked with farmers and communities to pioneer practices, systems, and supply chains that support the multiple goals of sustainability. These include certified organic, sustainable, non-genetically engineered (GE), and identity-preserved systems and supply chains that are impacted by a coexistence framework.

Many of the farmers that NSAC works with and represents choose to grow only non-GE crop varieties because the markets they serve demand GE-free products; because they have concerns about potential adverse health, environmental, or agronomic impacts of GE crop technologies; or because they are USDA certified organic. These producers sustain substantial economic losses

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<sup>1</sup> Agriculture and Land-Based Training Association - Salinas, CA; Alternative Energy Resources Organization - Helena, MT; California Certified Organic Farmers - Santa Cruz, CA; California FarmLink - Santa Cruz, CA; C.A.S.A. del Llano (Communities Assuring a Sustainable Agriculture) - Hereford, TX; Center for Rural Affairs - Lyons, NE; Clagett Farm/Chesapeake Bay Foundation - Upper Marlboro, MD; Community Alliance with Family Farmers - Davis, CA; Dakota Rural Action - Brookings, SD; Delta Land and Community, Inc. - Almyra, AR; Ecological Farming Association - Soquel, CA; Farmer-Veteran Coalition - Davis, CA; Fay-Penn Economic Development Council - Lemont Furnace, PA; Flats Mentor Farm - Lancaster, MA; Florida Organic Growers - Gainesville, FL; GrassWorks - New Holstein, WI; Hmong National Development, Inc. - St. Paul, MN and Washington, DC; Illinois Stewardship Alliance - Springfield, IL; Institute for Agriculture and Trade Policy - Minneapolis, MN; Iowa Natural Heritage Foundation - Des Moines, IA; Izaak Walton League of America - St. Paul, MN/Gaithersburg, MD; Kansas Rural Center - Whiting, KS; The Kerr Center for Sustainable Agriculture - Poteau, OK; Land Stewardship Project - Minneapolis, MN; Michael Fields Agricultural Institute - East Troy, WI; Michigan Food & Farming Systems (MIFFS) - East Lansing, MI; Michigan Organic Food and Farm Alliance - Lansing, MI; Midwest Organic and Sustainable Education Service - Spring Valley, WI; National Catholic Rural Life Conference - Des Moines, IA; The National Center for Appropriate Technology - Butte, MT; Nebraska Sustainable Agriculture Society - Ceresco, NE; Northeast Organic Dairy Producers Alliance - Deerfield, MA; Northern Plains Sustainable Agriculture Society - LaMoure, ND; Northwest Center for Alternatives to Pesticides - Eugene, OR; Ohio Ecological Food & Farm Association - Columbus, OH; Organic Farming Research Foundation - Santa Cruz, CA; Rural Advancement Foundation International - USA - Pittsboro, NC; Union of Concerned Scientists Food and Environment Program - Cambridge, MA; Virginia Association for Biological Farming - Lexington, VA; Wild Farm Alliance - Watsonville, CA.

when their products contain unintended GE material at levels exceeding market or organic certifier specifications. In addition, exposure of organic or non-GE fields to GE pollen, pesticides, and herbicides from neighboring farms utilizing GE crop technology packages can lead to adverse ecological and agronomic consequences for the non-GE producer, as well as tensions among farmers. Thus, the challenges of coexistence among contrasting farming systems directly impact the economic, environmental, and social sustainability of our nation's agriculture and rural communities, and are therefore of great concern for NSAC.

To our disappointment, NSAC was not invited to attend the USDA Stakeholder Workshop held in Raleigh, NC on March 12 and 13<sup>th</sup>. Therefore our comments here are formed based on feedback we received from some of our members who were in attendance, and from our review of the documents that followed the workshop. Particularly, the documents detailing USDA's actions already underway and new or proposed actions related to the topic, which we address below.

Our comments focus on the specific questions raised in the Federal Register notice regarding the stakeholder meeting and next steps in bringing stakeholders together to identify solutions, as well as USDA's proposed and current activities to address this issue.

Sincerely,



Juli Obudzinski, Senior Policy Specialist  
National Sustainable Agriculture Coalition



Sophia Kruszewski, Policy Specialist  
National Sustainable Agriculture Coalition

## I. General Coexistence Comments

In March 2014, NSAC submitted comments to the coexistence docket APHIS-2013-0047, attached as an Appendix below. Our comments today continue to draw from that same foundational premise: that any attempts to discuss or advance notions of “coexistence” across all sectors of agriculture first requires a robust framework to ensure that the diverse sectors of American agriculture can thrive. This framework must include:

- Sound, science-based information that empowers farmers to make good decisions regarding their production systems and to implement stewardship practices that enhance coexistence;
- Effective measures to prevent contamination of organic and other non-GE farm products and crop seed with unintended GE content;
- A fair and workable system of compensation in the event that GE contamination leads to economic losses for organic and non-GE producers; and
- Mechanisms for preventing and responding to problems associated with drift of agricultural chemicals associated with GE crops onto neighboring farms, including concerns related to damage to crops and natural resources such as pollinator and beneficial insect habitat.

A viable coexistence framework must also include the following critical aspects:

- The need to use existing authority to update and revise the existing regulatory framework on GE crop technologies;
- The need to establish a strong contamination prevention framework;
- The need for a fair compensation mechanism when contamination occurs; and
- The need for addressing pressing research needs related to coexistence and the use of GE products.

We note that some of these aspects were present in the coexistence stakeholder meeting, but not all. For example, from what we have seen and heard, discussions did not adequately address compensation for loss; mechanisms to prevent and respond to problems with chemical drift (in addition to genetic drift); and the need to update agency authority and revise the existing regulatory framework on GE crop technologies.

We appreciate the Administration moving forward with convening a stakeholder meeting on the topic of coexistence. However, we are troubled by the shortage of stakeholder representation from the sustainable agriculture community, including organic and non-GE representation.

USDA needs broad feedback on its activities related to coexistence, and hence this comment period is particularly important. We hope that it leads to constructive discussion at USDA and in future stakeholder and advisory committee meetings.

NSAC is generally supportive of many of the current and proposed new actions by the Department to take some critical, but practical next steps, such as a dedicated focus on our national germplasm collection, research on economic harm from GE contamination on non-GE markets, and the development of a baseline for the availability of suitable improved cultivars for organic and non GE markets.

However, we still believe that these recommendations and proposed activities fall short on proposing a long-term solution to this serious issue facing our nation's agricultural sector. We therefore submit the following recommendations on the current activities already underway or completed by the Department.

## **II. Comments on USDA's Activities Already Underway or Completed**

### **1. Establish a Fair Compensation Proposal and Level Playing Field**

While we are supportive of strengthening crop insurance options for organic and diversified farming systems -- including the development of additional organic price elections and the refinement and promotion of the whole-farm revenue protection (WFRP) policy -- we continue to oppose the use of crop insurance as the mechanism to compensate producers who suffer economic losses due to GMO contamination. Crop insurance is not a workable model for compensation, as outlined in our previous comments (see Appendix A). We would instead urge USDA to establish a fair compensation proposal, in which the patent holder is responsible for segregation and traceability from seed to plate and is held responsible for the economic and market harm their products cause.

Additionally, USDA should level the playing field so that the burden of preventing contamination is not solely placed on organic and other non-GMO operations. Responsibility must be tied to ownership. Those who patent, promote, and profit from GE products should be responsible for preventing contamination and covering damage in cases where prevention fails.

### **2. Increase Seed Availability for Organic and Diversified Producers**

We support the development of the Organic Seed Finder to better understand the availability and accessibility of organic seeds throughout the county, and identify gaps in seed diversity, quality, or appropriateness for specific production systems. We are also supportive of the reestablishment of the National Genetic Resources Advisory Council (NGRAC) and its charge to develop a plan for how USDA should work with industry and other stakeholders to evaluate the pool of commercially available non-GE and organic seed varieties and identify market needs for producers serving GE-sensitive markets.

In addition, USDA should commit to increasing departmental resource prioritization to ensure more organic, non-GE, and public cultivar development more generally. NSAC has long advocated for increased federal support for public plant and animal breeding programs in order to reverse the dangerous trends of diminishing numbers of public plant breeders, loss of biodiversity, and the narrowing of crop and livestock genetic resources. Reprioritizing USDA resources to support this type of research is critical to ensure a diverse stock of plant and animal genetics in order to meet future challenges related to food security and resiliency to the impacts of a changing climate.

We also strongly support independent risk assessment of current and proposed biotech crops for economic and environmental harms through the Biotechnology Risk Assessment Grant (BRAG) program.

### **III. Comments on USDA's Planned or New Activities**

In addition to the activities that USDA is currently pursuing, we also recommend that stronger steps be taken in the future to reach a viable and long-term strategy to ensure that farmers of all kinds are able to pursue a diversity of production methods without fear of economic loss from contamination. We therefore propose the following recommendations on future activities of the Department:

#### **1. Improved Data Collection and Analysis on Environmental and Economic Implications**

We are supportive of the proposed new initiatives to better understand the economic implications of coexistence, including the Economic Research Service report examining these issues and the collection of data on economic losses faced by organic farmers related to GE contamination.

However, USDA should more fully analyze the specific environmental implications of GE contamination and the implications of managing GE crops, including the increased risk of pesticide drift or development of pest resistances. For example, Roundup Ready crops entail a greatly increased use of glyphosate, which could potentially increase risk of herbicide drift as well as the documented evolution of weeds resistant to glyphosate. While the spread of glyphosate-resistant weeds onto organic farms may have little impact (since USDA certified organic does not allow this herbicide), other non-GE identity preserved producers who rely on judicious use of glyphosate as part of their management systems may be forced to switch to older, more toxic herbicides.

These economic and environmental impacts are of critical importance to the ideas underpinning “coexistence” – how one system of agriculture can directly and indirectly impact the viability of the other.

#### **2. USDA Outreach and Education Strategy**

We have previously commented on the proposed USDA Coexistence Education and Outreach Strategy, and maintain that while this strategy may prove useful, in order to be effective it must be based on sound scientific evidence, and communicate prevention strategies that include actions and accountability on behalf of technology providers and users, and not solely the producer who suffers losses due to contamination. For example, USDA should work with seed companies in order to educate farmers at the point of sale on best production practices to avoid contamination and drift.

In addition, USDA cannot rely solely on communication and outreach to farmers – this isn't enough to prevent contamination. USDA proposes to increase education, collaboration, and outreach on the topic of coexistence. Communication between neighboring farmers is a good thing, but communication alone is not a viable solution to preventing and dealing with contamination. The last thing we need is to pit farmers against each other when communication and prevention fails. To avoid this result, we again emphasize the need for a comprehensive, meaningful coexistence framework that includes, as just one example, the much-needed mechanism to provide fair compensation for contamination-related loss.

### **3. Update GMO Regulations and Establish Mandatory Measures that Prevent GE Contamination**

Finally, as USDA begins the process of updating regulations that govern its oversight of GE crops, we urge the agency to develop stronger GMO regulations that ensure shared responsibility for contamination prevention. Updated regulations should mandate prevention practices on the part of both owners and users of GE crops, establish a fair compensation mechanism for those harmed by contamination events, and address the broader economic and environmental issues related to GMOs.

USDA should establish mandatory measures that prevent GE contamination. Voluntary solutions to contamination are insufficient – it's what we have now and it isn't working. USDA must mandate best practices to prevent GE contamination by farmers who use GE seed and require concrete contamination prevention measures on those farms to supplement measures already used by organic and other non-GMO producers. It costs more money to clean up contamination than it does to prevent it, and USDA should be leading the way in support of this common-sense maxim.

### **V. Conclusion**

In closing, while we support the efforts currently underway or proposed by the Administration as it relates to coexistence, we believe that, in sum, these activities do not provide the necessary comprehensive framework to protect all farmers from economic losses due to unintended presence of GE material in farm products. The proposed measures fail to include robust regulatory improvements for preventing contamination to begin with and placing responsibility where it belongs: with the patent holders.

NSAC and the farm, food, and rural organizations we represent wish to remain engaged in the conversation as the Department works to find a way forward on this pressing issue. We thank you for giving serious consideration to our recommendations, and we look forward to working with you to establish a workable and robust coexistence framework that allows for the diverse sectors of American agriculture to thrive.





June 22, 2015

Biotechnology Regulatory Services  
Animal Plant Health Inspection Service  
United States Department of Agriculture  
4700 River Road Unit 146  
Riverdale, MD 20737-1236

Docket No. APHIS-2008-0023  
RIN 0579-AC31

Submitted electronically via [www.regulations.gov](http://www.regulations.gov)

**Re: NSAC Comments on the Withdrawal of the Proposed Rule Regarding the Importation, Interstate Movement, and Release Into the Environment of Certain Genetically Engineered Organisms.**

On behalf of the represented member organizations of the National Sustainable Agriculture Coalition (NSAC),<sup>1</sup> we submit the following comments on the U.S. Department of Agriculture's (USDA) request for stakeholder input on the withdrawal of the biotechnology regulation proposed rule. NSAC is a grassroots alliance that advocates for federal policy reform that supports the long-term social, economic, and environmental sustainability of agriculture, natural resources, and rural communities. NSAC member organizations are leaders in the sustainable agriculture and food systems sector, and have worked with farmers and communities to pioneer practices, systems, and supply chains that support the multiple goals of sustainability. These include certified organic, sustainable, non-genetically engineered, and farm identity-preserved products, systems, and supply chains that are impacted by the regulation of genetically engineered (GE) organisms, or lack thereof.

Many of the farmers that NSAC works with and represents choose to grow only non-GE crop

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<sup>1</sup> Agriculture and Land-Based Training Association - Salinas, CA; Alternative Energy Resources Organization - Helena, MT; California Certified Organic Farmers - Santa Cruz, CA; California FarmLink - Santa Cruz, CA; C.A.S.A. del Llano (Communities Assuring a Sustainable Agriculture) - Hereford, TX; Center for Rural Affairs - Lyons, NE; Clagett Farm/Chesapeake Bay Foundation - Upper Marlboro, MD; Community Alliance with Family Farmers - Davis, CA; Dakota Rural Action - Brookings, SD; Delta Land and Community, Inc. - Almyra, AR; Ecological Farming Association - Soquel, CA; Farmer-Veteran Coalition - Davis, CA; Flats Mentor Farm - Lancaster, MA; Florida Organic Growers - Gainesville, FL; GrassWorks - New Holstein, WI; Hmong National Development, Inc. - St. Paul, MN and Washington, DC; Illinois Stewardship Alliance - Springfield, IL; Institute for Agriculture and Trade Policy - Minneapolis, MN; Interfaith Sustainable Food Collaborative - Sebastopol, CA; Iowa Natural Heritage Foundation - Des Moines, IA; Izaak Walton League of America - St. Paul, MN/Gaithersburg, MD; Kansas Rural Center - Whiting, KS; The Kerr Center for Sustainable Agriculture - Poteau, OK; Land Stewardship Project - Minneapolis, MN; Michael Fields Agricultural Institute - East Troy, WI; Michigan Food & Farming Systems - East Lansing, MI; Michigan Organic Food and Farm Alliance - Lansing, MI; Midwest Organic and Sustainable Education Service - Spring Valley, WI; National Catholic Rural Life Conference - Des Moines, IA; The National Center for Appropriate Technology - Butte, MT; Nebraska Sustainable Agriculture Society - Ceresco, NE; Northeast Organic Dairy Producers Alliance - Deerfield, MA; Northern Plains Sustainable Agriculture Society - LaMoure, ND; Northwest Center for Alternatives to Pesticides - Eugene, OR; Ohio Ecological Food & Farm Association - Columbus, OH; Oregon Tilth - Corvallis, OR; Organic Farming Research Foundation - Santa Cruz, CA; Rural Advancement Foundation International - USA - Pittsboro, NC; Union of Concerned Scientists Food and Environment Program - Cambridge, MA; Virginia Association for Biological Farming - Lexington, VA; Wild Farm Alliance - Watsonville, CA.


varieties because the markets they serve demand GE-free products; because they have concerns about potential adverse health, environmental, or agronomic impacts of GE crop technologies; or because they are USDA certified organic and not allowed to grow GE crops. These producers sustain substantial economic losses when their products contain unintended GE material at levels exceeding market or organic certifier specifications.

In addition, exposure of organic or non-GE fields to GE pollen, pesticides, and herbicides from neighboring farms utilizing GE crop technology packages can lead to adverse ecological and agronomic consequences for the non-GE producer, as well as tensions among farmers. Thus, the outcomes of biotechnology regulation directly impact the economic, environmental, and social sustainability of our nation's agriculture and rural communities, and are therefore of great concern for NSAC.

NSAC welcomes the opportunity to submit comments on the Animal Plant Health Inspection Service's (APHIS) questions regarding the regulation of GE organisms. NSAC believes that stronger regulations can and should be implemented pursuant to USDA's existing regulatory authority under the Plant Protection Act. This is a very important opportunity for APHIS to improve biotechnology regulations that advance the complementary goals of public health, environmental sustainability, and economic viability for farmers and rural communities.

Our comments focus on the four specific questions APHIS has raised for stakeholder engagement to identify solutions and offer input to the future regulatory activities of APHIS, as well as USDA's current regulatory authority to address this issue. We appreciate your consideration of our views.

Sincerely,

  
Sophia Kruszewski  
Policy Specialist

  
Carla Curle  
Policy Intern

## GENERAL COMMENTS

To ensure a robust GE regulatory framework, NSAC recommends that USDA:

- Develop a regulatory process that is transparent and informed by independent science;
- Include farmers and other stakeholders throughout the regulatory and review process;
- Build into the process the authority to take into consideration the social, environmental, and economic risks that each new biotechnology product and process pose;
- Implement a rigorous post-commercialization monitoring system of biotechnology products that informs future regulatory decisions;
- Develop regulations that improve oversight and tracking on experimental field trials of biotechnology products;
- Require implementation of contamination prevention practices for GE crop producers and users to safeguard organic and non-GE producers;
- Create robust compensation mechanisms for farmers affected by GE contamination resulting in harm, including but not limited to economic losses; and
- Support non-regulatory actions that bolster research and education for non-GE seed and crop production.

With these considerations in mind, NSAC offers the following recommendations and responses to APHIS's questions regarding GE regulations.

**Question 1: Should APHIS regulate based on the characteristics of biotechnology products and the potential risks they may pose, or by the process by which they were created? In either case, what criteria should be used to determine what APHIS regulates? Are there products and processes APHIS should not regulate?**

NSAC supports a fully informed regulatory process driven by the identification of risk, the evaluation of products and processes through independent science and research, and the assessment of scientific uncertainty on various biotechnology issues. We therefore are not convinced that the question APHIS poses is a simple “either/or” question.

The current regulatory criteria developed under the Coordinated Framework of 1986 uses a solely product based approach and assumes that the process of biotechnology itself poses no unique risks.<sup>2</sup> However, a National Academy of Sciences report states that genetic engineering itself should be the trigger for regulatory review. They specifically write, “even if the risks of all conventionally bred crops are considered to be ‘acceptable,’ there is still a logical scientific justification for GE crops to enter into regulatory oversight.”<sup>3</sup> The product-based approach to regulating biotechnology fails to address the higher rates of potentially harmful and unintended effects that genetic engineering poses when compared to conventional plant breeding.<sup>4</sup>

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<sup>2</sup> The Pew Charitable Trust. *Guide to U.S. Regulation of Genetically Modified Food and Agricultural Biotechnology Products*. The Pew Initiative on Food and Biotechnology. Washington, DC. 2001.

<sup>3</sup> National Academy of Sciences, Committee on Environmental Impacts Associated with Commercialization of Transgenic Plants, Board on Agriculture and Natural Resources. *Environmental Effects of Transgenic Plants: The Scope and Adequacy of Regulation* (2002), p. 79, 83.

<sup>4</sup> National Academy of Sciences, National Research Council. *Safety of Genetically Engineered Foods: Approaches to Assessing Unintended Health Effects* (2004), p. 64.

Given the rapidly changing methods and processes used to create new biotechnology products, a process-based approach to regulation could present challenges as concerning as those posed by a product-based approach. We therefore believe that the decision to take any approach – whether product, process, or a hybrid approach– must be preceded by significant research, risk assessment, and public education on each of the options under consideration, and the various hazards and benefits associated with each.

In order for the public to properly consider and provide feedback on a product- vs. process-based approach, we believe there must be significant and comprehensive research and public education on the topic to allow for informed public input into this incredibly complex topic. Given the significant impacts any approach will have on the farming community – particularly those that choose not to use biotechnology or products produced with biotechnology – we believe that there is a strong need for more information and independent studies evaluating the environmental and socio-economic risks associated with biotechnology products and processes before we can provide adequate input.

NSAC is very concerned with the secondary risks to farmers that accompany the usage of GE crops on neighboring farms. Therefore, it is crucial that the regulatory method APHIS utilizes fully assesses and takes into consideration the risks – including environmental, social, and economic – and impacts of genetic contamination.

***Recommendation:*** USDA should research and evaluate the various options under consideration for the regulation of biotechnology – including product, process, hybrid, or alternative approaches – and should provide the public with clear, objective information assessing the relative risks and benefits of each approach, followed by another opportunity to weigh in. This research and analysis should be conducted without delay, as the current product-based regulatory system has many shortcomings; unintended effects from existing GE products are well documented. USDA should also ensure that the approach to biotechnology regulation under consideration at APHIS takes into account the need for a comprehensive regulatory framework that addresses not only the regulation of the technology and products, but also the secondary environmental and socioeconomic impacts of the full technology package’s use in the field.

**Question 2: The Plant Protection Act gives APHIS the authority to protect plant health through regulatory programs. APHIS has implemented the plant pest authority as part of their biotechnology regulations. Should APHIS add noxious weed provisions to their to biotechnology regulations and if so, how? What protection goals should APHIS consider?**

We support the application of APHIS’ noxious weed authority to the regulation of biotechnology under the Plant Protection Act. It is crucial to organic and other non-GE producers, including specialty crop producers, that this broad noxious weed authority be applied to biotechnology products because of the inherent risks of contamination.

The term “noxious weed” refers to any plant or plant product that can directly or indirectly cause damage to crops and other interests of agriculture, natural resources, the public health, or the environment.<sup>5</sup> Applying the noxious weed provision to the regulation of biotechnology is crucial

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<sup>5</sup> Public Law 106-224. Plant Protection Act. Commerce and trade. Exports and imports. *Title IV-Plant Protection Act*. 2000.

under APHIS authority, as the Plant Protection Act gives USDA the responsibility of preventing the spread of noxious weeds.

By incorporating the noxious weed authority in its biotechnology regulations, APHIS should consider developing provisions that will prevent against:

- Crop and seed contamination through gene flow, pollen drift, and other modes;
- Increased pesticide and herbicide usage and the associated development of pest and weed resistance;
- Increased weediness of GE crops already being grown;
- Economic harm to farmers and producers in other agricultural markets (non-GE, organic); and
- Impacts on non-target organisms and on the biodiversity of a region.

It is crucial that the biotechnology regulatory system addresses the full technology package that comprise new products (i.e. Enlist™ Corn and Soybeans and Enlist Duo™ herbicide), as the unintended effects may not be as powerful in isolation. This has been well documented with the case of Roundup Ready® soybeans, cotton, and corn and the widespread reliance on Roundup® resulting in weed resistance.<sup>6</sup> Not only has this created herbicide-resistant weeds that infest fields, reduce crop productivity, and cause farmers millions of dollars in losses, it has continued the pesticide treadmill by creating markets for new GE technologies that rely on applications of more noxious herbicides and mixtures of herbicides. The use of these new herbicides will have harmful effects on ecological systems, human health, and farmers' livelihoods.

**Recommendation:** Herbicide resistance in weeds can cause real and lasting problems for farmers, whether they use the technology or not. APHIS must use its authority under the Plant Protection Act to protect the livelihoods of farmers, public health, and our natural resources from the spread of noxious weeds and the associated damages from these GE crop-herbicide technology packages.

**Question 3: Are there legal authorities given to USDA outside the Plant Protection Act that APHIS should examine to regulate or oversee the products of biotechnology? What are they, and how would they be used?**

Aside from the Plant Protection Act, there are several authorities that we recommend USDA examine as it considers its authority to regulate biotechnology.

First, the 2008 Farm Bill directed USDA to take actions on “regulations to improve management and oversight” of biotechnology crop production that would augment the agency’s existing authority under the Plant Protection Act.<sup>7</sup> Specifically, section 10204(a)(1) directed USDA to take action on each of the “lessons learned” from the Liberty Link rice contamination event in 2006. A critical lesson learned from the Liberty Link event was that GE researchers and developers had to submit a corrective action plan to address contamination. Clearly, USDA found value in and had authority to require GE researchers and developers to establish plans related to contamination. Therefore,

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<sup>6</sup> Owen, Micheal DK, and Ian A. Zelaya. "Herbicide resistant crops and weed resistance to herbicides." *Pest Management Science* 61.3 (2005): 301-311.

<sup>7</sup> Food, Conservation, and Energy Act of 2008, Pub. L. 110-234, section 10204.

USDA should require prevention plans as well as require corrective action plans to be in place before a GE research and development project is underway.<sup>8</sup>

Second, USDA has authority to protect the USDA Organic Seal and implement the National Organic Program (NOP). NOP's mission is "ensuring the integrity of USDA organic products in the U.S. and throughout the world." NOP standards prohibit the use of GE inputs in products sold or labeled as organic. Consumers and foreign buyers look to the organic seal as an indicator of GE-free production methods. Therefore, to ensure the integrity of organic production, USDA must develop regulations that minimize the likelihood that organic products are inadvertently contaminated by GE inputs. APHIS should review NSAC and our member organizations' numerous comments to USDA regarding steps to prevent contamination of organic products. Any new APHIS regulation should include elements of contamination prevention – focusing on the actions that must be taken by GE users to prevent contamination.

Third, USDA has authority over the purity and quality of seed that is sold and over germplasm resources in this country. The National Plant Germplasm System is a cooperative effort by State and Federal agencies and private organizations to safeguard the genetic diversity of agricultural and other plant varieties. APHIS should consider programs such as this and others that promote diversity within our agricultural system when overseeing products of biotechnology.

Finally, it is important to remember that the existing Coordinated Framework of 1986 gives regulatory authority to three different agencies: USDA, FDA, and EPA. NSAC stresses the significance of a coordinated and comprehensive regulatory process for biotechnology with transparent communications between all agencies and stakeholders. FDA and EPA should adopt this opportunity for stakeholder engagement to improve their own biotechnology regulations to ensure human, environmental, and economic viability.

**Question 4: What non-regulatory solutions or policy alternatives could or should be considered to complement APHIS's regulatory program?**

While non-regulatory approaches are important complementary actions to regulation, NSAC strongly believes that those efforts should not replace any existing or future biotechnology regulatory program. As we stated in our comments on the "coexistence" docket: a robust federal regulatory program that considers and addresses the risks GE crops present to farmers' choices and socioeconomic and environmental health is of the utmost importance to ensuring all sectors of agriculture can thrive. Accordingly, the agencies involved in biotechnology regulation must be comprehensive and coordinated in their efforts, and any non-regulatory actions must complement, and not supplant, regulatory requirements and oversight.

There are a number of non-regulatory or policy approaches that can complement a more rigorous framework for GE regulation.

1. Increasing funding for public sector, non-GE breeding and research efforts to increase biodiversity and resiliency within our agricultural system.

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<sup>8</sup> See Lessons Learned and Revisions Under Consideration for APHIS' Biotechnology Framework, *available at* <http://www.aphis.usda.gov/newsroom/content/2007/10/content/printable/LessonsLearned10-2007.pdf>

2. There is also a need to educate all agricultural sectors on the risks surrounding biotechnology products and the actions required to continue on a path towards coexistence. The new regulatory authority should mandate contamination prevention and ensure that benefits exceed the risks presented by these new biotechnology products. We raised this issue in our comments on the “coexistence” docket, and believe they are equally relevant here:<sup>9</sup>

We are supportive of the reestablishment of the National Genetic Resources Advisory Council (NGRAC) and its charge to develop a plan for how USDA should work with industry and other stakeholders to evaluate the pool of commercially available non-GE and organic seed varieties and identify market needs for producers serving GE-sensitive markets.

In addition, USDA should commit to increasing departmental resource prioritization to ensure more organic, non-GE, and public cultivar development more generally. NSAC has long advocated for increased federal support for public plant and animal breeding programs in order to reverse the dangerous trends of diminishing numbers of public plant breeders, loss of biodiversity, and the narrowing of crop and livestock genetic resources. Reprioritizing USDA resources to support this type of research is critical to ensure a diverse stock of plant and animal genetics in order to meet future challenges related to food security and resiliency to the impacts of a changing climate.

We also strongly support independent risk assessment of current and proposed biotech crops for economic and environmental harms through the Biotechnology Risk Assessment Grant (BRAG) program.

3. USDA should level the playing field so that the burden of preventing contamination is not solely placed on organic and other non-GMO operations. Responsibility must be tied to ownership. Those who patent, promote, and profit from GE products should be responsible for preventing contamination and covering damage in cases where prevention fails.

USDA should more fully analyze the specific environmental implications of GE contamination and the implications of managing GE crops, including the increased risk of pesticide drift or development of pest resistances. For example, Roundup Ready crops entail a greatly increased use of glyphosate, which could potentially increase risk of herbicide drift as well as the documented evolution of weeds resistant to glyphosate. While the spread of glyphosate-resistant weeds onto organic farms may have little impact (since USDA certified organic does not allow this herbicide), other non-GE identity preserved producers who rely on judicious use of glyphosate as part of their management systems may be forced to switch to older, more toxic herbicides.

**Recommendation:** USDA should continue to pursue non-regulatory actions, such as research and education, but these actions should be complementary to, and should not supplant, a robust regulatory framework. We have included our comments to the coexistence docket, which provide more detail on what such a robust regulatory framework should look like as an appendix to these comments.

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<sup>9</sup> See the attached Appendix for our full comments to the coexistence dockets in both 2014 and 2015.

## **CONCLUSION**

In closing, we believe that the current regulatory process and authority given to APHIS under the Plant Protection Act is severely lacking and actions must be taken to protect the viability and vitality of farmers and the environment from the impacts that can result from poorly- or under-regulated agricultural biotechnology. The various agencies involved in biotechnology regulation must be comprehensive and coordinated in their efforts, and any non-regulatory actions must serve as complementary, and not supplant, regulatory action in order to most effectively protect all stakeholders.

NSAC and the farm, food, and rural organizations we represent wish to remain engaged in the conversation as APHIS continues this process. We thank you for giving serious consideration to our recommendations, and we look forward to working with you to establish a transparent and robust regulatory framework for biotechnology that allows the diverse sectors of American agriculture to thrive.