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FRRCC
Agriculture Producing Solutions

Farm, Ranch, and Rural Communities Committee

September 29, 2009

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Jackson:

As Chair of the Farm, Ranch, and Rural Communities Committee (Committee), I am pleased to transmit to you seven advice letters on various topics that the Committee has been examining over the past several months.

On behalf of the Committee, I would like to extend my gratitude for this opportunity to engage with the U.S. Environmental Protection Agency on the pressing environmental and agricultural issues that confront our nation. Through improved communication and cooperation, I believe we can achieve more effective solutions to the challenges that we must collectively face now and in the many years to come.

Sincerely,

James R. Moseley
Chair

Enclosures

cc: Lawrence Elworth, Agricultural Counselor to the Administrator
Rafael DeLeon, Director, Office of Cooperative Environmental Management
Alicia Kaiser, Designated Federal Officer, FRRCC

Issue: EPA Inspection Policy regarding Concentrated Animal Feed Operations (CAFOs)

Recommendations:

The Farm, Ranch, and Rural Communities Committee (FRRCC) recommends that EPA:

- give 48 hours advance notice of inspections to CAFO operators, except in case of evidence of violation or complaint;
- make extending an invitation to the state regulatory agency a standard inspection protocol for all CAFO inspections;
- provide CAFO operators with a verbal report of any deficiencies noted during an inspection prior to leaving the site, and provide CAFO operators with a written inspection report in a timely manner following an inspection, preferably within six weeks;
- clarify the purpose of CAFO inspections in all CAFO-related documents made available to producers, and offer producers compliance assistance to demonstrate a cooperative approach in protecting the environment prior to enforcement action; and
- ensure that all documents regarding CAFO inspections and regulations are neutral and fact-based, and partner with the National Association of State Departments of Agriculture (NASDA) to achieve this.

Background:

Agriculture is the backbone of our nation's economy and ensures our nation's food security. American farmers and ranchers work diligently to supply a safe and affordable food supply for our growing nation while protecting the environment. This information needs to be at the forefront of all regulatory efforts in order to prevent economic hardship to agriculture. EPA CAFO inspections generally offer useful guidance in protecting the environment. Over the last five years, CAFOs have made remarkable progress. The FRRCC offers the following recommendations regarding CAFO inspections to create a better working relationship between EPA and agriculture.

In an effort to improve communications and enhance cooperation between EPA and the agriculture community, the FRRCC recommends that EPA give 48 hours advance notice of inspections to CAFO operators, except in case of evidence of violation or complaint. Advance notice will allow EPA to communicate the reason for the inspection, identify what materials and facilities will be inspected, and provide an overview of the general process and nature of the inspection. This advance notice will allow the CAFO operator to provide information regarding biosecurity protocols of the farm/ranch with the EPA inspector prior to the inspection, which would allow EPA to comply with the CAFO biosecurity policy without posing a threat to the farm/ranch. (Biosecurity policies are critical for livestock farms and must be followed according to the policy of the farm/ranch). The 48-hour advance notice will also allow the farm/ranch

operator to be present for the inspection and ensure all materials are organized in preparation for the inspection, which will result in improved efficiency, communication, and cooperation.

The FRRCC recommends that EPA make extending an invitation to the state regulatory agency a standard inspection protocol for all CAFO inspections. Invitations to state regulatory agencies have not always been extended in the past. Producers are generally more comfortable with their state regulatory agency inspector, and the state regulatory agency inspector will be able to "translate" for the producer on issues with which they may not be familiar. The presence of the state regulator will put the producer at ease, improving communications between the producer and EPA. Having a state regulator present also will benefit the state regulatory agency, as agency staff can witness firsthand any compliance issues.

The FRRCC encourages EPA to clarify the purpose of CAFO inspections in all CAFO-related documents made available to producers. It is our understanding that the purpose of the CAFO inspection is to monitor compliance with the Clean Water Act. We encourage EPA to work with producers to protect the environment and use inspections as a teaching/learning opportunity which offers guidance in improving the care given to the environment. This approach will not only improve our environment, but will enhance the image of the Agency in the eyes of agricultural producers as working to and prioritizing the protection of the environment and not regulating of producers beyond their ability to operate as a viable business. We encourage EPA to offer producers compliance assistance to demonstrate a cooperative approach in protecting the environment prior to enforcement action.

Unfortunately, such a tone of cooperation and collaboration often is not present in EPA-produced materials regarding CAFO inspections, which tend to have an underlying negative tone that assumes non-compliance on the part of agriculture. This tone creates anxiety for agriculture and hinders a positive working relationship with EPA. An example of this is found in "Concentrated Animal Feeding Operations – Livestock Operations Inspection, What to Expect When EPA Inspects Your Livestock Operation." Below is the opening paragraph of the document:

> "The U.S. Environmental Protection Agency inspects livestock facilities to make sure the operators comply with federal environmental laws. Note, EPA may conduct inspections even in States that are authorized to administer (including issuing permits) federal environmental laws. **Poorly managed livestock operations can pollute rivers, lakes, estuaries, and groundwater. Where pollution occurs it is most often caused by runoff of feedlots, spills from lagoons, and problems caused by incorrect land application of manure.** This fact sheet explains what you can expect during an EPA inspection. It tells you what a typical inspector will be looking for and what may happen afterwards. Not all inspections are the same. Yours will depend on what kind of operation you have and on EPA's reason for conducting the inspection."

The sentences above in bold print set the premise for apprehension within agriculture regarding CAFO inspections. The general tone of these documents implies that agriculture in general is harmful to the environment, which is an inaccurate representation of the agricultural community. We recommend EPA recognize the remarkable progress agriculture has made and continues to make in protecting our environment and improving soil, air, and water quality. The FRRCC

recommends that all documents regarding CAFO inspections and regulations be neutral and fact-based. The FRRCC recommends that EPA partner with NASDA to review all CAFO documents to address issues of tone and to ensure that they are neutral and fact-based.

In conclusion, the FRRCC believes in the EPA CAFO inspection process and deems it important in protecting our environment. We recognize the achievements of agriculture in recent years and encourage EPA to continue to improve communication and cooperation with agriculture by implementing the FRRCC's recommendations.

Issue: Cooperation with the National Association of State Departments of Agriculture (NASDA)

Recommendations:

The Farm, Ranch, and Rural Communities Committee (FRRCC) recommends that EPA:

- expand its relationship with NASDA to work on education, implementation, evaluation, and research needs for environmental regulations related to agriculture; and

- contact NASDA at its earliest convenience to explore ways that NASDA can help the Agency to undertake the challenges surrounding agriculture today.

Background:

The Farm, Ranch, and Rural Communities Committee (FRRCC) recognizes that the National Association of State Departments of Agriculture (NASDA) possesses unique abilities to assist the Environmental Protection Agency (EPA or Agency) and the agricultural community in improving environmental stewardship and compliance.

NASDA has provided significant value to EPA in the pesticide program for implementation and compliance. Similar benefits can exist for the clean water and air requirements in both point-source and non-point-source agriculture regulations.

Generally, state Departments of Agriculture have good relationships with farmers, conservation districts, the USDA Nature Resource Conservation Service (NRSC), farm and livestock associations, and state environmental agencies. We recognize that NASDA can help encourage state departments of agriculture to play a more important role in the formation of state partnerships for more effective and economic implementation of national environmental law.

We also encourage EPA to expand their relationship with NASDA to work on the education, implementation, evaluation, and research needs for the environmental regulations related to agriculture. Both EPA and the agricultural community, as well as the citizens of our nation, will benefit in protecting the environment and maintaining an abundant food supply.

The special functions that NASDA can provide should also serve to reduce many of the problems and stresses that both EPA employees and farmers are experiencing. In many ways, the science for identifying the problems has advanced much more rapidly than the science of finding the solutions. We believe NASDA can help EPA to arrive more quickly at these solutions, and the FRRCC therefore encourages the Agency to contact NASDA at its earliest convenience in 2009 to explore ways that NASDA can help the Agency to undertake the challenges surrounding agriculture today.

Issue: Producer Recognition Program

Recommendations:

The Farm, Ranch, and Rural Communities Committee (FRRCC) recommends that EPA:

- establish an environmental stewardship awards program to recognize agricultural producers who have superior environmental management systems or have helped develop or advance an especially beneficial or high-impact innovation in agricultural conservation;

- design the initial environmental stewardship awards program to focus on permitted CAFOs;

- give a first-place and runner-up national award for each species, eg, cattle, swine, broilers, dairy, turkeys, layers, etc.;

- have an appropriate EPA representative present national award winners with a plaque and farm sign at their national convention; and

- appoint a task force of individuals from the FRRCC, EPA, State Departments of Agriculture, environmental organizations, agricultural trade associations, and land grant institutions to review existing environmental stewardship award programs and develop the selection criteria specific to this program.

Background:

In its charge to the FRRCC, EPA has expressed the desire to improve communication and cooperation between the EPA and the agricultural community. This is difficult when the agricultural community views EPA primarily as an agency that drafts regulations and issues penalties against facilities found to be out of compliance. We believe that EPA currently lacks a mechanism by which it can work in a positive and proactive manner with agricultural producers. The proposed environmental stewardship award program is one way that EPA can recognize producers in a very positive and public way for their stewardship efforts.

"Agriculture Producing Solutions" is the motto that EPA gave the FRRCC. This recognition program will afford EPA the opportunity to showcase some of the superior environmental stewardship solutions that have been produced by agricultural producers. The main objective of this recognition program is to promote positive relations between the EPA, agricultural trade associations, and the individual livestock and poultry producers. This program should also encourage and incentivize environmental stewardship across the nation.

Guidelines:

The initial program should be established for permitted concentrated animal feeding operations (CAFOs), but we recommend that EPA move quickly to expand the initiative either to have

additional award programs for additional agricultural sectors and/or expand the program to encompass more of the agricultural community. While the award program and selection criteria should identify and reward producers who go beyond the requirements of regulations, we recommend beginning with a program focused on CAFOs as the standards established by CAFO regulations can provide a clear baseline and common frame of reference for the program. We recommend that any permitted CAFO that has not been the subject of a formal enforcement proceeding in the last three years be eligible for nomination and that CAFOs advancing to the national competition from either a state or EPA region be co-sponsored by the state agency with environmental regulatory authority over their facility. Any state or EPA regional environmental stewardship award winner should automatically advance to the national awards competition.

While the specific application and selection criteria should be developed by EPA in consultation with an expert and diverse advisory committee, we strongly recommend that the application criteria cover stewardship of air, water, and soil. There are several environmental stewardship award programs that may be used as models. We recommend that EPA appoint a task force comprised of individuals from the FRRCC, EPA, State Departments of Agriculture, environmental organizations, agricultural trade associations, and land grant institutions to review existing environmental stewardship award programs and develop the selection criteria specific to this program.

In conclusion, the Farm, Ranch, and Rural Communities Committee believes that implementing the recommended environmental stewardship award program will improve communication and cooperation with the agricultural community. In addition, by showcasing stewardship of natural resources in a very positive way, it will promote the adoption of similar practices across the nation which is good for agriculture and for the environment.

Issue: Improving Communications with the Agricultural Community

Recommendations:

The Farm, Ranch, and Rural Communities Committee (FRRCC) recommends that EPA:

- Continue to improve and enhance positive communications with agricultural organizations and individual farmers by means of additional and effective methods;

- Create an electronic news update specifically for farmers and farm organizations named "AgNews Notes," for example, to be distributed quarterly or more frequently as is deemed appropriate;

- Utilize this electronic news update to further educate EPA's agricultural constituents about new environmental regulations, offer ideas for compliance assistance, provide examples of highly effective and successful environmental stewardship strategies and practices, and list key EPA points of contact on a variety of agriculture-related issues; and

- Promote a healthy partnership with the agricultural community through meaningful two-way communications.

Background:

EPA was created to promulgate and enforce environmental regulations, and its current budget is mostly directed towards inspection, compliance, and enforcement actions. However, because agricultural producers seldom read the Federal Register, new regulations and policies often come as a surprise and leave producers wondering "what else have I missed?". As an unintended and unfortunate consequence, EPA is often misunderstood, feared, and/or viewed negatively within the agricultural community. Through expanded and improved communications, we believe the level of perceived negativism could be reduced and ultimately reversed, allowing a greater level of partnering and collaboration to enhance the nation's air, water, wildlife habitat, and soil quality.

Guidelines:

The "AgNews Notes" format would include, but not be limited to, these main topics:

- Animal agriculture generally, with particular attention to challenges and opportunities related to CAFOs;

- Status of renewable fuels policy and regulations;

- Developments and critical information about water quality, air quality, wildlife habitat, and climate change impacts and benefits of agriculture; and

- Nutrient and manure management.

The type of information to be shared would include, but not be limited to, these items:

- Recent updates and/or clarifications on current EPA final regulations and/or law pertaining to agriculture;
- Status updates and/or further clarification of newly proposed, but not yet enacted, EPA regulations and/or law pertaining to agriculture;
- Current status of pending agriculture-related lawsuits in which EPA is involved;
- Lists of key EPA points of contact and their contact information for submitting questions and/or comments on a variety of agriculture-related issues;
- Promotion and recognition (with pictures) of recently announced environmental stewardship awards and/or land conservation programs at the state, region, and national level;
- Clarification of on-site CAFO inspection guidelines; and
- Information on new research and/or new data that would be helpful for producers.

The e-newsletter should be distributed on a quarterly basis at a minimum, although on a monthly basis would offer more timely information. Each article would be preceded by a short abstract of the entire article, which would allow each reader to quickly review the major points and then decide to read the entire article or not.

The FRRCC recommends the EPA Agricultural Counselor's Office be the main coordinator of this electronic news update. It should be distributed to all interested agricultural and environmental organizations. These entities could then include desired articles into their own newsletters and/or forward the entire newsletter to their respective members and subscribers.

A suggested listing of organizations would include the: National Corn Growers Association (NCGA), American Soybean Association (ASA), National Pork Producers Council (NPPC), US Poultry and Egg Association (USPEA), American Dairymen's Association (ADA), National Association of State Departments of Agriculture (NASDA), Environmental Council of the States (ECOS), FFA (formerly Future Farmers of America), 4-H, National Cattlemen's Beef Association (NCBA), American Farm Bureau (AFB), National Chicken Council (NCC), United Egg Producers (UEP), American Egg Board (AEB), National Turkey Federation (NTF) and all state agriculture governmental agencies.

EMERGING ISSUES:
LAND USE CHALLENGES AND U.S. EPA OPPORTUNITIES

Maintaining an adequate inventory of high quality, sustainable agricultural land is essential to the viability of American agriculture and our nation's security as exemplified by our ability to provide both a reliable, cost effective domestic food, fiber, fuel, and feed supply. In addition, sustainable agricultural land supports opportunities in the global marketplace, thus providing for the economic viability of agriculture while feeding the world's population.

The US EPA is tasked with protecting the environment for the benefit of the nation, as well as the world, by establishing the environmental parameters within which all industries, including agriculture operate. Agriculture interfaces with EPA on many levels including public policy, regulation of pesticides, biotechnology, bio-energy, nano-technology and emerging sciences, air and water quality, and climate change.

In addition to EPA, other federal, state, and local agencies also regulate agriculture. Unfortunately, competing regulations and public policies, coupled with other land use pressures and market economics often lead to uncertainty, industry instability, loss of productive farmland and the conversion of farm and ranch lands to competing uses. Productive farmland is being lost to non-agricultural uses, including suburban and commercial development, environmental restoration, and recreational pursuits.

The increasing demands on our nation's land base are likely to have significant environmental consequences. Although managing all the factors that influence land use changes is not entirely the EPA's mandate, its policies and interaction with other federal and state agencies can have a significant impact on the dynamics of sustained production.

EPA's role: *While land use planning is a state and local matter in the USA, actions by the Federal government do impact those other levels of government in doing their work. Working with other Federal Agencies and the States, EPA should develop a framework approach that reflects the critical importance of the products of farming and ranching as a basic need, and of maintaining an adequate supply of high quality farm and ranch land for the national security of our citizens.*

Urbanization - In urbanizing areas, competing land uses (defined as residential or commercial development) are also major contributors to increases in land values, which can significantly benefit individual landowners; but which increases the burden on those farmers remaining in business and/or desiring to pass a farm on to the next generation. Increasing property taxes, restrictions on farming practices, conflicts with new neighbors and inconsistent local land use policy are among the challenges facing these farmers – often ultimately leading to premature sale. Additionally, Census of Agriculture data suggest a disproportionately higher rate of conversion of prime and unique farmland than other classes of land, potentially robbing the nation of future capacity of the very land that is most efficient for food and fiber production. Reversion to, and reliance on, less productive lands in meeting society's food, fiber, and fuel demands may have deleterious impacts on soil, water, and air resources, and the economic viability of farming could be further threatened.

Many local and state entities have instituted farmland protection policies and programs in attempts to mitigate some of these forces, including agricultural zoning, use-value taxation, right-to-farm ordinances, and conservation easements with varying degrees of success. Generally, the most successful of such efforts have been combined with "smart growth" initiatives that also address the need for additional housing and commercial development.

EPA's Role: *Within the context of climate change and air quality responsibilities, EPA has an opportunity to provide input and offer funding incentives for land use planning policies that promote smart, green growth in areas experiencing the pressures of urbanization and thus minimize sprawl. EPA should work with USDA to equip, via grants and collateral materials, local jurisdictions with the proper planning tools and funding to create local, executable manifestations of federal policies and recommendations.*

Market Forces - Over the past decade, world wide carry-over stocks of feed grains have shrunk to historic lows while global population growth, industrial uses, and biofuels have increased demand for basic commodities. The resulting increased volatility in agricultural commodity markets has led to significant opportunities for some sectors of agriculture, but also increased risks in other sectors. Farmers must make thoughtful business decisions such as whether to plant higher value crops, become vertically integrated, or intensify production on existing acreage. For example, in the Grain Belt region, there is a concern that high land values push some farmers in the direction of a crop monoculture, which may have significant environmental consequences—and could increase economic risks. Farmer adoption of technological advances such as improved pesticides, integrated pest management, biotech seeds, GPS-related precision farming, and enhanced efficiency fertilizers, have helped mitigate environmental impacts.

EPA's Role*: EPA should continue to play a role in emerging issues by relying on sound, practical science when implementing regulations, to avoid unsettling or artificial influences on the stability of commodity markets. EPA should also continue to work closely with other federal agencies that regulate agriculture such as the US Department of Agriculture (USDA), US Department of Energy (DOE), and US Fish & Wildlife Service (FWS). Further, the EPA should consider and continually evaluate regulations that will minimize damaging land practices that might have unintended negative impacts on farming practices.*

Emerging Farmers and Generational Transition - Generational planning and farm transfers present economic and social dilemmas to farmers planning retirement, how farmland and operational assessments are divided, and how to manage transitions so that successors are not overburdened with unreasonable debt, tax, and environmental impact liability. The U.S. Census indicated that from 1982 to 1997, there was a precipitous 58% drop in the number of new farmers nationally. Another census statistic reveals that we now have three times as many farmers over the age of 65 as under the age of 35. Conservative estimates indicate that one-third to one-half of the nation's farmland will change hands in the next decade.

Additionally, according to the 2002 Census of Agriculture, 37.7 percent of farmland was leased. "Ninety-five percent of non-operator landlords were individuals/families or partnerships. Of these

landlords, 55 percent were at least 65 years old, and another 11 percent were between 60 and 64 years of age." (Hoppe 2006) Leasing land is one of the most economic ways for new farmers to get started and for established farmers to maintain profitability. Leased land requires less upfront capital than purchased land, thus improving the bottom line; however, leasing arrangements are critical to environmental stewardship and environmental protection.

As market forces generally guide how land will continue to be used, the uncertainty of future regulations adds an interesting dynamic to the mix. For those faced with generational transfer, compliance with regulations may be an unreasonable cost influencing transfer decisions, and for farmers leasing land (continuing or beginning farmers), the short-term nature of most farm leases makes it difficult to incur regulatory costs that need to be amortized over long periods.

EPA's Role: *EPA should acknowledge that there is a growing sector of the farming population that is reaching retirement. As regulatory, economic, and social factors influence agricultural sustainability, their impacts are amplified upon retirement-age farmers, as well as beginning farmers taking over these operations. EPA should make it a practice to support and/or develop collateral materials linking farmers to resources for succession planning, as well as directing farmers to points of contact within the USDA. EPA should work with the USDA and their conservation programs to ensure that environmental compliance is being met, and that voluntary management practices that translate into laudable environmental stewardship receive primary consideration and due recognition.*

Biofuels - First generation, renewable biofuels play an important role in helping the nation diversify and domesticate its energy portfolio. They set the stage (via infrastructure, policy advancement, and industry acceptance) for advanced, renewable fuels produced from energy crops and waste.

According to the Renewable Fuels Association report: "Understanding Land Use Change and the U.S. Ethanol Expansion" (Nov. 2008), historical trends indicate that increased U.S. ethanol demand has not been a significant driver of global land use change. Further, increased crop productivity (growing more on the same amount of land) has primarily provided the growth in production necessary to meet heightened demand for crop-based food, fuel, and feed. Continued gains in productivity may mitigate the need for large amounts of new agricultural lands.

It is imperative that EPA, at the forefront of climate change policy, use lifecycle (LCA) greenhouse gas (GHG) analysis tools and methodologies that are science-based and field-verified. EPA should analytically compare the environmental costs and benefits of all forms of energy in the context of fulfilling the mandates of the Energy Independence and Security Act of 2007 (EISA) and the Renewable Fuel Standard (RFS) program through a comprehensive LCA approach.

EPA's Proposed Rule for implementation of the expanded Renewable Fuel Standard (RFS) as released for public comment contains unprecedented, untested, and far-reaching indirect land use assumptions and projections which will adversely affect markets for U.S. farmers and impede our national efforts to reduce dependence on foreign oil while improving our environmental footprint. We are concerned that EPA has attributed an undue degree of land use causation to U.S. biofuels production and that EPA's assumptions do not adequately consider the other market factors (population growth, food and feed demand, timber prices, etc.) that have historically driven international land use decisions.

Further, to address the increasing concern that the emerging biofuels market has resulted in intensified farming at the expense of environmental sustainability, EPA must be diligent in its analysis of land use impacts at both domestic and global levels.

***EPA's Role**: EPA, in accordance with the Energy Independence and Security Act of 2007 (EISA), is responsible for revising and implementing regulations to ensure that the U.S. energy portfolio includes renewable fuel. The Renewable Fuel Standard (RFS) program prescribes the volume of renewable fuel required to be blended into gasoline from 9 billion gallons in 2008 to 36 billion gallons by 2022. EPA needs to work closely with other federal agencies to ensure that biofuels can be used to achieve national goals of energy security and greenhouse gas reductions. EPA needs to require the use of sound science and transparent LCA when evaluating the impacts of biofuels and alternative energy, greenhouse gas emissions, and criteria pollutants that may be associated with agricultural land use and crop utilization trends. EPA should work with USDA and the private sector to ensure that sound science-based nutrient management is practiced and that water and air quality are adequately protected. EPA should also increase coordination with USDA, DOE, and Commerce (NIST) in the development and execution of a national Biofuels Strategy. Consultation with professional societies like the American Society of Agronomy, the Soil Science Society of America, and the Crop Science Society of America is strongly encouraged to ensure consideration of the most rigorous scientific assessment in LCAs.*

Regulations - The agricultural industry is faced with a growing list of environmental regulations, which occasionally are in conflict with one another—or with those promulgated by local and state agencies. These conflicting policies and regulations can put exceptional demands on the economic feasibility of farming operations, especially with regard to small to mid-scale farms. Recent experience with environmental compliance suggests that alternative approaches, such as voluntary, incentive-driven programs that are "outcome-oriented" can be effective at achieving environmental goals. EPA should make a concerted effort to explore such alternatives.

***EPA's Role:** EPA needs to ensure that regulations are realistic, feasible, and effective. Environmental regulators, including EPA, should coordinate efforts to ensure that policies and regulations affecting agriculture do not lead to the permanent loss of farmland or threaten the security of a domestic food, fuel, and feed supply. EPA should continue to create a climate that encourages innovation and voluntary compliance.*

August 25, 2009

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, D.C. 20460

Re: FRRCC Position on Nanotechnology and Agriculture

Dear Administrator Jackson:

The members of the Farm, Ranch, and Rural Communities Advisory Committee (FRRCC or Committee) congratulate you on your nomination and subsequent confirmation as Administrator of the U.S. Environmental Protection Agency (EPA). We look forward to working with you and your staff, and to establishing a productive and positive working relationship.

In this regard, we are pleased to submit this letter, which is intended to accomplish three goals: outline the reasons why the Committee believes that nanotechnology has the potential to revolutionize sustainable agriculture and food production; urge EPA to work closely with the U.S. Department of Agriculture (USDA) to coordinate on issues of shared interest pertinent to agriculture and rural communities; and express the Committee's interest in serving as a source of credible and timely information pertinent to EPA's critical role in fostering nanotechnology applications relevant to farms, ranches, and rural communities.

Nanotechnology's Importance to the Agricultural Community

As EPA's *Nanotechnology White Paper* (http://www.epa.gov/OSA/nanotech.htm) (White Paper) notes, nanotechnology is defined as "research and technology development at the atomic, molecular, or macromolecular levels using a length scale of approximately one to one hundred nanometers in any dimension; the creation and use of structures, devices and systems that have novel properties and functions because of their small size; and the ability to control or manipulate matter on an atomic scale." EPA's White Paper specifically acknowledges nanotechnology's potential application in the agricultural sector and its many potential benefits to enhance sustainable agriculture and food production. A listing of some of the more prominent applications of nanotechnology especially relevant to agriculture and food production, including pathogen/chemical detection, improved soil fertility, water retention, plant/animal production, and aquaculture, are listed in Attachment 1, along with additional background information on EPA's nanotechnology initiatives as they relate to EPA's Office of Prevention, Pesticides, and Toxic Substances program offices.

EPA's Role in Engaging the Agricultural Community

The enormous potential nanotechnology offers the agricultural sector can be best realized efficiently and effectively by ensuring that you and relevant others within pertinent EPA program offices are aware of these promising applications and developments, and that the diverse nanotechnology stakeholder interests included within the agricultural community are prominently featured to promote promising nanotechnology agrifood applications. FRRCC members are aware of the many questions that have arisen regarding a wide range of topics involving the implications and applications of nanotechnology that invite legal, regulatory, science policy, technical, ethical, and social issues. Largely missing from this debate, however, is a robust discussion of EPA's role in engaging the agricultural sector to identify issues of most interest, as well as EPA's role in analyzing and educating stakeholders to realize the full potential of agrifood nanotechnology.

EPA is, of course, a participating member of the National Nanotechnology Initiative (NNI). The NNI coordinates nanotechnology research and development across the federal government. EPA is one of nine federal agencies that are investing in nanotechnology implications research. These agencies coordinate their activities through the NNI Nanoscale Science, Engineering, and Technology Subcommittee (NSET) and its Nanotechnology Environmental Health Implications (NEHI) workgroup. USDA also participates in the NNI and the NSET.

It is in this area that the FRRCC believes it can play a useful role in identifying, tracking, and advising you of key developments and areas of interest critical to nanotechnology achieving its full potential in the agricultural, rural, and farm communities. The FRRCC's Emerging Issues Workgroup has identified nanotechnology as an emerging issue and one on which it has committed regularly to focus and engage to foster greater understanding of how nanotechnology will facilitate sustainable agriculture. Members believe that the information exchanged within the NSET and NEHI workgroup could serve as the basis of more specific efforts on which the FRRCC could expand and facilitate interaction and coordination between EPA and USDA and other agencies and entities as appropriate. FRRCC members would welcome an opportunity to meet with pertinent members of your staff to identify an initial list of topics and issues on which to focus in this regard.

FRRCC's Role in Facilitating Nanotechnology Outreach

The FRRCC also believes that agrifood nanotechnology would benefit from greater discussion and visibility in the diverse agricultural community and offers to assist EPA in this regard. Greater focus on how EPA, in collaboration with other stakeholders, including USDA Cooperative State Research, Education, and Extension Service (CSREES) and Forest Service, among other entities, might strengthen nanotechnology outreach and education is an area of keen interest among Committee members. The FRRCC is interested in working with EPA to identify specific opportunities to facilitate greater outreach on these issues. The FRRCC

would welcome an opportunity to meet with pertinent EPA staff to discuss specific measures that could be undertaken to bolster outreach and education along these lines.

We appreciate this opportunity to offer these suggestions, and look forward to working with EPA to ensure nanotechnology achieves its full potential in enhancing agriculture and food production.

Respectfully submitted,

EPA Farm, Ranch, and Rural Communities Committee

Attachment

Attachment

Nanotechnology Status Update of the
EPA Farm, Ranch, and Rural Communities Advisory Committee

Nanotechnology and Non-Pesticide Applications That Benefit Agriculture

Overview

The U.S. Environmental Protection Agency (EPA) has devoted considerable time and effort in applying its authority under various federal environmental laws to identifying, assessing, and mitigating the potential risks and quantifying the considerable benefits of engineered nanoscale materials. The ongoing work of EPA's Office of Pesticide Programs (OPP) is described elsewhere in this report. This section focuses on the considerable efforts of EPA's Office of Pollution Prevention and Toxic Substances (OPPTS) under the core chemical management law, the Toxic Substances Control Act (TSCA), to ensure engineered nanoscale materials that are chemical substances are managed appropriately and in a way that ensures their sustainability and instills public confidence.

Regulatory Framework

EPA's OPPTS manages programs under TSCA, pursuant to which EPA evaluates new and existing chemical substances and their potential risk to human health and the environment. Nanoscale materials that are chemical substances are subject to TSCA. A key goal of OPPTS is to ensure that the strong legal framework that EPA has developed for approving new and reviewing existing chemical substances under TSCA is well suited to identify and address the potential risks posed, and benefits presented, by chemical engineered nanoscale materials.

Non-Pesticide Applications of Nanotechnology That Benefit Agriculture

There are many promising emerging applications of nanotechnology that benefit agriculture. EPA acknowledges many of them in its Science Policy Council *Nanotechnology White Paper.*[1] EPA notes that one of the "near-term research products of nanotechnology for environmental applications is the development of new and enhanced sensors to detect biological and chemical contaminants."[2] A useful overview of nanotechnology applications in the area of agriculture, food production and processing, human life, rural community, economy and the environment is found in the report of the Nanoscale Science and Engineering for Agriculture and Food Systems National Planning Workshop, led by the U.S. Department of Agriculture (USDA) Cooperative State Research, Education, and Extension Service (CSREES) (http://www.nseafs.cornell.edu).

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1 EPA, *Nanotechnology White Paper* (Feb. 2007), available at http://www.epa.gov/OSA/nanotech.htm.

2 *Id.* at 24.

The use of nano-enabled sensors offers great promise in detecting pathogens harmful to crops. Other promising applications include, in no particular order:

- ***Plant/animal production*** -- use of nanotechnology to improve the cultivation of plants/animals, including transgenics.
- ***Veterinary medicine*** -- use of nanotechnology to enhance animal health and/or safety of animal-derived foods.
- ***Bioprocessing*** -- use of nanotechnology for improved food processing/quality.
- ***Nano-bioindustrial products*** -- use of nanotechnology for developing industrial products from agriculture or its byproducts.
- ***Smart monitoring and treatment delivery*** -- use of nanotechnology to monitor and/or deliver molecules for treatment in agricultural production/crops.
- ***Fertilizer*** -- use of nano-enabled materials in fertilizer production.
- ***Seeding*** -- use of nanotechnology in improving germination of seeds.
- ***Soil binders*** -- use of nanotechnology as a soil enhancer to prevent erosion.
- ***Particle design*** -- use of nanotechnology to improve soil fertility and water retention.
- ***Soil cleanup*** -- use of nanotechnology to remediate soil.
- ***Disease detection*** -- use of nanotechnology for animal diagnostic purposes.
- ***Aquaculture*** -- use of nanotechnology in water cleaning products and developing nano-enabled vaccines for fish.

OPPTS is well-suited to address the challenges posed by nanotechnology. OPPTS's programmatic initiatives have positioned them to respond effectively and comprehensively to the new chemical notices that have been submitted, and those likely to be submitted in the years ahead. These new chemical notices may well provide the technology supporting the applications noted above that benefit the agricultural community.

Significant OPPTS Nanotechnology Initiatives

EPA has received and reviewed several new chemical notices under TSCA Section 5 for nanoscale materials, including carbon nanotubes (CNT). In the fall of 2008, EPA negotiated a Premanufacture Notice (PMN) Consent Order with a company requiring the company to undertake certain activities, including conducting a 90-day inhalation toxicity rodent study on multi-walled CNTs. The Consent Order also requires the company to abide by certain personal protective clothing and equipment (PPE) practices, including requiring the use of impervious gloves and National Institute for Occupational Safety and Health (NIOSH)-approved respirators when managing the nanoscale material. On November 5, 2008, EPA issued a final Significant New Use Rule (SNUR) for 56 substances, two of which are nanoscale substances.[3] On October 31, 2008, EPA published a notice outlining the TSCA requirements potentially applicable to CNTs, and to advise manufacturers of CNTs of EPA's position that CNTs must be listed on the TSCA Inventory.[4] After March 1, 2009, CNTs that are manufactured for commercial purposes and that are not listed on the TSCA Inventory or otherwise exempt could be the subject of compliance monitoring efforts. To assist manufacturers in understanding the regulatory status of chemical nanoscale materials, EPA prepared a policy statement dated January 2008, *TSCA Inventory Status of Nanoscale Substances -- General Approach*.[5]

To assist EPA in its development of a firmer scientific foundation for making regulatory decisions, EPA launched the Nanoscale Materials Stewardship Program (NMSP) on January 28, 2008. The NMSP has two parts. Under the Basic Program, participants are invited voluntarily to report available information on the engineered nanoscale materials they manufacture, import, process, or use. Under the In-Depth Program, participants voluntarily develop data over a longer period of time, alone or in consortia, for a particular nanoscale material.

On January 12, 2009, EPA released its interim report on the NMSP.[6] As of December 8, 2008, 29 companies or associations submitted information to EPA covering 123 nanoscale materials and a further seven companies have outstanding commitments to the Basic Program. As of December 8, 2008, four companies have agreed to participate. EPA states that, based on the current interim results, "the NMSP can be considered successful." EPA notes that a number of environmental health and safety data gaps still exist, however, and "EPA is considering how to best use testing and information gathering authorities under [TSCA] to help address those gaps."[7]

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3 73 Fed. Reg. 65743 (Nov. 5, 2008).

4 73 Fed. Reg. 64946 (Oct. 31, 2008).

5 Notice of availability provided at 73 Fed. Reg. 4861 (Jan. 28, 2008).

6 EPA, *Nanoscale Materials Stewardship Program: Interim Report* (Jan. 2009), available at http://www.epa.gov/oppt/nano/nmsp-interim-report-final.pdf. EPA intends to issue a final NMSP report in January 2010.

7 *Id.* at 3.

In addition, since EPA issued the interim report, OPPTS has received over a dozen new chemical notifications involving nanoscale substances and issued a consent order. Finally, OPPTS is working on a TSCA Section 4 rule for CNTs, the first such Section 4 rule pertinent to nanoscale chemical substances.

International Collaboration

OPPT has worked extensively with international organizations to understand and address the environmental applications and implications of nanotechnology. The Organization for Economic Cooperation and Development (OECD) has established a Working Party on Manufactured Nanomaterials (WPMN) and is engaged in a variety of projects to further our understanding of the properties and potential risks of nanomaterials:

- Development of a Database on Environmental Health and Safety (EHS) Research;
- EHS Research Strategies on Manufactured Nanomaterials;
- Safety Testing of a Representative Set of Manufactured Nanomaterials;
- Manufactured Nanomaterials and Test Guidelines;
- Cooperation on Voluntary Schemes and Regulatory Programs;
- Cooperation on Risk Assessments;
- The Role of Alternative Methods in Nanotoxicology; and
- Exposure Measurement and Exposure Mitigation.

EPA is actively participating in the Working Party and contributes to all of these projects. Of particular relevance to the in-depth component of EPA's NMSP is the project on Safety Testing of a Representative Set of Manufactured Nanomaterials. The WPMN has identified a representative list of engineered nanoscale materials for EHS testing, including: fullerenes (C_{60}); single-walled and multi-walled CNTs; silver nanoparticles; iron nanoparticles; carbon black; titanium dioxide; aluminum oxide; cerium oxide; zinc oxide; silicon dioxide; polystyrene; dendrimers; and nanoclays.

The WPMN has also published a list of testing endpoints in the following areas: nanomaterial information/identification; physical-chemical properties; material characterization; environmental fate; environmental toxicology; mammalian toxicology; and material safety.

The WPMN also launched a Sponsorship Program for Testing Manufactured Nanomaterials. The OECD will act as a clearinghouse for the sponsorship program and will prepare a guidance manual for sponsors. EPA is sponsoring ecological effects and environmental fate, transport, and transformation research on fullerenes, single-walled CNTs, multi-walled CNTs, and silver.

Not directly supporting the OECD but likely to provide useful contributing data, EPA is also conducting ecological and fate research for cerium, titanium dioxide, and zero-valent iron. For all seven of these material types, EPA also will conduct targeted human health effects research. "Targeted" means focused on those exposure scenarios, pathways, and material types (as transformed through environmental interaction) that would appear to be of greatest potential concern.

Finally, and importantly, OECD recently hosted a conference in Paris, France on July 15-17, 2009, titled *International Conference on Potential Environmental Benefits of Nanotechnology: Fostering Safe Innovation-Led Growth.* One of the workshops at the conference focused entirely on the enhanced environmental sustainability of agriculture through nanotechnology, and featured speakers from the U.S. Department of Agriculture, the National Academy of Agricultural Research Management, India, the ETC Group, Canada, the Agricultural Instrumentation Center, Brazil, and Clemson University and the University of California.

The International Organization for Standardization (ISO) has established a Technical Committee to develop international standards for nanotechnology. The scope of TC 229 is standardization in the field of nanotechnologies that includes either or both of the following: (1) understanding and control of matter and processes at the nanoscale, typically, but not exclusively, below 100 nanometers in one or more dimensions where the onset of size-dependent phenomena usually enables novel applications; and (2) utilizing the properties of nanoscale materials that differ from the properties of individual atoms, molecules, and bulk matter, to create improved materials, devices, and systems that exploit these new properties. TC 229 is developing standards for terminology and nomenclature, metrology and instrumentation, including: specifications for reference materials; test methodologies; modeling and simulation; and science-based health, safety, and environmental practices. EPA participates in TC 229, and national input is developed by the U.S. Technical Advisory Group to ISO/TC 220, a group that is accredited and administered by the American National Standards Institute.

Nanotechnology and EPA's OPP

Overview

The goal of the U.S. EPA's OPP is to be well positioned upon receipt of an application for registration of a pesticide that is a product of nanotechnology or that contains nanoscale ingredients (both referred to as "nanoscale pesticides") so that OPP can provide information to the public on how EPA is assuring the safety of future nanoscale pesticides, transmit clear guidance to pesticide applicants of any additional data needs for nanoscale pesticides as soon as possible, and provide a scientifically sound and transparent process for evaluating nanoscale pesticides.

Regulatory Framework

No person can distribute or sell any pesticide that is not registered by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Under FIFRA, all pesticides must meet the same stringent regulatory standards before EPA can register them. Consequently, nanoscale

pesticides must meet the same safety standards as all other pesticides. EPA believes FIFRA and its implementing regulations provide an effective framework for regulating nanoscale pesticides.

OPP Nanotechnology Workgroup

OPP is actively considering the science, policy, and regulatory implications of nanoscale pesticides. OPP has formed an intra-office workgroup of 20 members to develop a regulatory framework and to assist in the examination of hazard, exposure, policy, regulatory, and international issues arising in connection with nanoscale pesticides.

The OPP Nanotechnology Workgroup is divided into four sub-groups. It includes individuals with expertise in chemistry, environmental law and policy, toxicology, exposure and risk assessment, and other areas.

1. Policy/Regulatory: Coordinate the development of a regulatory framework appropriate for nanoscale pesticides.

2. Exposure: Examine issues relating to the fate, the potential for dietary and/or non-dietary worker and residential exposures to nanoscale pesticides, and potential aquatic/terrestrial exposure.

3. Hazard: Examine issues relating to potential hazards to humans and the ecosystem from nanoscale pesticides.

4. International: Monitor and collect information on international activities involving nanoscale pesticides and, more broadly, nanotechnology.

The workgroup has particularly focused on potential exposure and hazards of nanoscale pesticides and how these concerns may or may not be addressed by traditional testing paradigms and risk assessment.

As with the TSCA new chemicals program, OPP encourages entities to meet with OPP staff before submitting a FIFRA registration application to ensure FIFRA applicants are fully aware of OPP's approach to the regulation under FIFRA of nanopesticides. As OPP receives applications for nanoscale pesticides, OPP staff will consider whether data provided with the application are sufficient to support registration of nanoscale pesticides, or whether additional testing would be required and, if so, what tests should be conducted. OPP will presume that any active or inert ingredient that is or contains nanoscale material is a "new" ingredient for regulatory purposes under FIFRA. FIFRA registration applicants may seek a determination that a nanoscale material is not a "new" FIFRA active or inert ingredient by the submission of test data demonstrating similarities in key properties of the nanoscale ingredient when compared to the macro-scale form of the ingredient, if there is one, for which there are data.

The workgroup will assist in the assessment of the potential exposures and risks associated with nanoscale pesticides/biocides on a case-by-case basis to ensure consistent review and regulation across OPP.

Past, Ongoing, and Planned Activities

OPP began receiving inquiries about registering nanoscale pesticides in 2006. All inquiries to date have involved antimicrobial uses. OPP has received four applications for nanoscale pesticides from four companies. There have been numerous inquires to OPP about registering nanoscale pesticides and, in addition to the four registration applications, OPP has had several pre-meetings with companies that wish to register a nanoscale pesticide

OPP participated in a case study conducted by the Woodrow Wilson International Center for Scholars and the Grocery Manufacturers/Food Products Association (GMA/FPA). OPP collaborated with the U.S. Food and Drug Administration (FDA), USDA, and other stakeholders in this effort. The case study examined two hypothetical antimicrobial nanoscale pesticides to be used in food packaging. The project identified emerging issues, discussed the state of existing data on specific nanoscale materials, and suggested scientific and regulatory needs.

OPP has also coordinated with the OECD Working Party on Pesticides (WGP) and Task Force on Biocides (TFB) to develop a survey to gather basic information from OECD member countries on their respective involvement with pesticides/biocides and nanotechnology, and to identify the various OECD member countries' regulatory approaches to nanotechnology-related pesticide/biocide issues.

On May 1, 2008, the International Center for Technology Assessment (ICTA) filed a petition for rulemaking requesting EPA to regulate products containing nanoscale silver as pesticides. The petition has an appendix identifying over 260 consumer products that allegedly rely on nanotechnology or incorporate nanoscale materials. The petition expressed concern about the potential human health and environmental risks of nanoscale materials, particularly nanoscale silver, and requested that EPA classify nanoscale silver as a pesticide and require registration. EPA has requested comment on the ICTA petition. OPP expects to issue a formal response to the petition after review of the public comment and coordination with EPA's Office of Enforcement and Compliance.

Additional activities include: discussion of test guidelines with EPA/Office of Research and Development (ORD) and EPA/OPPTS; coordination with ORD, OECD, and others on nanoscale silver testing worldwide; and collaboration with the Silver Institute to encourage manufacturers to seek registration when making pesticidal claims for products containing nanoscale silver.[8]

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[8] *See also* EPA, Pesticide issues in the works: nanotechnology, the science of small, http://www.epa.gov/pesticides/about/intheworks/nanotechnology.htm (updated Jan. 29, 2009).

August 25, 2009

The Honorable Lisa Jackson, Administrator
U. S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Jackson:

At the EPA Farm, Ranch, and Rural Communities Committee meeting this week we were briefed on the recent decision in the 6th Circuit Court of Appeals in the National Cotton Council v. EPA case on NPDES permits for pesticide applications. We are disappointed that the 6th Circuit has denied the National Cotton Council's petition for rehearing of a January 7 decision by a three-judge pane striking down EPA's Final Rule entitled, "Application of Pesticides to Waters of the United States in Compliance with FIFRA" 71 Fed. Reg. 68,483 (November 27, 2006). While the panel stayed its decision for two years to allow EPA to develop and implement a general permitting plan, we are very concerned about the decision's potential ramifications to farmers and other pesticide users as well as the very heavy administrative and resource burden on EPA that such a program would impose on the Agency. During these difficult economic times, we all must strive to make our government more efficient and our farmers more competitive in the global market. It is our firm belief that requiring farmers or USDA-APHIS and Forest Service general permits prior to pesticide applications would not only add cost of doing business but interfere with the successful eradication of exotic pests by the Federal, state, and local governments.

The panel's decision seems to turn every pesticide sprayer into a "discernible, confined, and discrete conveyance" of a point source of pollution as defined under the Clean Water Act. At the same time the decision agrees with earlier EPA determination that pesticides are not pollutants—but goes on to add the confusing and complicating language that excess or residual pesticide can be a "chemical waste" if such material reaches water, which would necessitate a NPDES permit in advance of such application—issued by EPA. The decision also seems to add conflicting and confusing language about "biological pesticides" that would appear to indicate that the panel did not understand the difference between such materials and synthetic chemical pesticides—both of which are regulated by the same scientific standards by EPA under FIFRA. It seems that the merits of the case have been misunderstood by the 6th Circuit, especially inclusion of terrestrial applications in their decision—an issue that was not even before the court.

We also believe that subjecting FIFRA compliant pesticides to the additional regulatory requirements of the Clean Water Act are duplicative and burdensome to farmers and EPA and will not help protect the environment. The pesticide registration and re-registration process under FIFRA already considers the effects of pesticides on both human health and aquatic resources. If a pesticide must satisfy the FIFRA requirement that it will not have an "unreasonable adverse effect on the environment", then it is reasonable to

exclude the application of that pesticide from the permitting requirement of CWA. An administrative or legislative finding along the above line can mitigate the regulatory burden and provide the Agency with the flexibility it needs to make sure the environment is well protected, using EPA's long established process of science-based risk assessments.

Respectfully submitted,

U.S. EPA Farm, Ranch, and Rural Communities Committee