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RE: Docket No. USDA-2021-0010-0001: Notice of Request for Public Comment on the Climate-Smart Agriculture and Forestry Partnership Program

U.S. Department of Agriculture  
1400 Independence Ave SW  
Washington, DC 20250

November 01, 2021

Founded in 1883, ASTA's mission is to enhance the development and use of quality seed worldwide. Its membership consists of nearly 700 companies involved in seed production and distribution, plant breeding, and related industries in North America. ASTA members research, develop, produce, and distribute all varieties of seeds – including row crops, vegetables, flowers, ornamentals, grasses, forages, cereals and conservation seeds. ASTA member seed-products support agricultural producers of food products and farm commodities in the U.S. and around the world. ASTA promotes the development of better seed to produce better crops for a better quality of life.

Today's food and agriculture system faces unprecedented challenges, from climate change to a growing population, and rapidly evolving pests and diseases. Continued innovation in plant breeding and seed variety development are crucial to ensuring long-term economic, social, and environmental sustainability. The seed industry is founded on innovation, and innovation is a part of everything we do – from plant breeding and seed treatments to soil health and habitat restoration. Better seed means better life, for everyone.

ASTA is pleased to provide these comments to the United States Department of Agriculture (USDA) in response to its request for public comment on the Climate-Smart Agriculture and Forestry Partnership Program.

As a member of the Food and Agriculture Climate Alliance (FACA), ASTA supports the [\*Food and Agriculture Climate Alliance Carbon Bank Recommendations\*](#) that were provided in May, 2021. These recommendations outlined three objectives that USDA should advance through climate-smart pilot programs.

1. Maintain the confidence of farmers, ranchers, forest owners, and carbon credit purchasers in the value of climate-smart agricultural and forestry practices across the diversity of agricultural and forest production types, regions and sizes.
2. Ensure opportunities for participation in the carbon bank by all interested farmers, ranchers, and forest owners.
3. Encourage coordination, cooperation, and consistency across federal agencies and departments, and with states, public research institutions, and other stakeholders.

The seed industry plays a foundational role in enabling climate-smart agriculture production. Below are a few potential areas of focus for Climate Smart Agriculture and Forestry project activities, as it relates to seed.

### Plant Breeding Innovation

The development and commercialization of innovative plant products is already playing a significant role in assisting U.S. agriculture in reducing greenhouse gas emissions. Further crop improvements using new precision breeding methods, including gene editing, can hasten these positive trends. Seed companies are investing an average of 15% of sales income back into research and development annually, signaling a strong commitment to new innovation, and underscoring the importance of robust intellectual property rights protection.

ASTA members are committed to investing in research and development and depend on it to deliver products to farmers that address constantly evolving and interlocking threats from changing climate, water and temperature extremes, evolving diseases, and insect pressures. An increasingly warming climate means an increase in disease intensity, new strains, and the evolution of pests and diseases in areas where they formerly didn't exist. Plant breeders are also developing crops with built-in disease resistance that can thrive using less inputs, reducing their effects on ozone, water, and environment. In the face of these challenges, innovation in new plant breeding tools and technologies, and seed treatments are necessary to protect and increase productivity. New plant varieties enable farmers to grow more food on less land, providing sustainable intensification avoiding expansion of land under agriculture.

Federal and global policies will play a significant role in access to these products. It is important that policies be clear, and risk-proportionate and science based. It is also important that there is compatibility across global policies—otherwise, innovation will be limited to very few crop varieties, and the benefits will never be fully realized across the agriculture sector. Appropriate policies can incentivize investments in plant breeding innovation, such as gene editing, creating new jobs and market opportunities, and boosting sustainability throughout the agriculture and food value chain.

Public funding for agriculture research is critical to innovation. Investment in research, development, and deployment of innovative plant breeding methods will provide tools for plant breeders to develop new varieties in years instead of decades. We must prioritize the development of evolving plant breeding methods to address critical environmental challenges facing today's food production system for the future of our planet, our health and our food. Cutting-edge plant breeding methods enhance the efficiency and effectiveness of plant breeders' ability to develop varieties of crops that have a significant positive environmental impact.

Public/private collaborations are critical in advancing climate-smart agricultural and forestry practices. Appropriate policies can incentivize investments in plant breeding innovation, such as gene editing, while creating new jobs and market opportunities and boosting sustainability along the entire food value chain.

Better seed allows farmers to grow more, using less land and fewer resources; and in turn, provides consumers with access to wider varieties of safe, affordable, and nutritious foods. Plant breeding holds the key to addressing many of our collective global challenges – including human health and nutrition, soil stabilization, nutrient use reduction, carbon sequestration, and climate change. The public and private sectors both have an important role to play. It's critical that we continue moving forward, through a robust investment in research and development and education, to drive forward the next generation of innovative solutions to meet the new and emerging challenges of tomorrow.

### Cover Crops

Cover crop and conservation seed alike help to create important wildlife and pollinator habitats and can be used to restore lands devastated by wildfires, natural disasters, and invasive weeds, contributing to a healthy landscape and stable ecosystems and economies. Cover crops are an important means of increasing soil health and resiliency, improving farmer productivity, and enhancing carbon sequestration. ASTA members are working to develop new varieties of cover crops that address a range of issues including: improved water infiltration to increase water use efficiency and reduce runoff; nitrogen fixation to reduce synthetic nitrogen applications; increased root volume to stabilize soil and sequester carbon; and vigorous growth to enhance weed suppression thereby reducing herbicide use. All of these applications are vital to enhancing overall soil health and the ecosystem services provided by well-managed agriculture.

ASTA has prioritized communication with its members, growers, and other stakeholders surrounding cover crop adoption, focusing on training needs, and education. There is a widespread concern surrounding practical impediments that are preventing cover crops from becoming more widely adopted. Farmers may not be aware of the direct economic benefits of cover crops or may lack the technical know-how to incorporate them into their operations. There are several entities conducting education and training for farmers on cover crops, but additional funding is needed to heighten these initiatives. Minimizing bureaucratic hurdles for enrolling in the U.S. Department of Agriculture (USDA) programs and multi-year contracts will further encourage producers to use beneficial conservation practices. Additional funding is needed to make sure that farmers have access to the programs that offset cover crop expenses.

Further investments should be made to ensure agricultural professionals who provide technical assistance to producers on the uses and benefits of cover crops have the necessary training and education. Providing regionally appropriate instruction, and agronomically relevant information to USDA employees, extension agents, Soil Water and Conservation District employees, and other professionals who advise producers would help to reduce significant barriers in adoption.

As farmers continue to embrace cover crops as an important environmental and economic sustainability tool, the seed industry will continue to innovate, to produce new and better cover crop varieties to meet that demand. Future, long-term success will require growers, seed companies, and local, state and federal governments to work in close coordination with one another, under policies that provide certainty and transparency. As the use of cover crops continues to rise, evaluation is becoming increasingly important. Farmers would benefit from a clear and transparent methodology to add species and varieties to the state recommended lists. This improved certainty will encourage private sector investment in variety development. We

encourage USDA to explore existing programs, including the National Turf Evaluation Program, when establishing a pilot project for cover crop evaluation.

### Environmental and Conservation Seed

The seed industry plays an important role in providing quality seed for land restoration, rehabilitation, reclamation, and conservation. Environmental and conservation seed helps to restore lands devastated by wildfires, natural disasters, and invasive weeds. It serves as the foundation of healthy landscapes, contributing to stable ecosystems and economies, while providing critical erosion-control and biodiversity benefits.

Federal agencies, including the Bureau of Land Management, U.S. Forest Service, and U.S. Fish & Wildlife Service, are responsible for managing over 200 million acres in the western U.S. These acres are increasingly susceptible to wildfire events that have grown in size and consistency over the course of the last decade. Collectively, these agencies rely heavily upon the seed industry to supply an incredibly diverse range of native seed species – both cultivated and wild-land collected – often on a just in time basis, reacting to large wildfire events and / or habitat restoration projects that require immediate treatment. Hundreds of thousands of pounds are procured from the seed industry each year in this manner, with little to no lead time and significant seasonal demand fluctuation. As a result, the seed industry takes great risk to ensure the availability of such seed products, which are often difficult to grow or challenging to collect in the wild.

At the same time, these federal agencies are requiring more diversity in seed species, specifically with respect to locally adapted native seed that brings additional complexity and risk to the seed industry's ability to grow and collect such items in sufficient quantities, such as to be prepared for instances that trigger large demand. As such, the seed industry would benefit greatly from federal seed procurement programs with funding that is specifically, and transparently dedicated toward seed procurement. Additional investment and the prioritization of funds specifically dedicated to seed procurement would help ensure that high quality, adaptable, diverse seed is available where and when it's needed. This would benefit all stakeholders – the seed industry, federal agency district managers, landowners, and others – and importantly would provide for a more resilient and sustainable ecosystem.

### Seed Treatments

The USDA should continue to ensure that producers have the tools needed to promote resiliency, including through seed treatments. Seed treatments help protect the developing seed during its most vulnerable time – at planting and germination. The treatment's highly targeted, precise approach means less impact on the surrounding environment. This is one of the many valuable and innovative tools that enable America's farmers to be more productive, while using less land – that's a win for farmer's bottom line and a win for the environment. Continued innovations in seed treatments will allow farmers to meet new and emerging challenges while realizing healthy yields – all while protecting our land and natural resources for the future.

## Public Seed Banks

Changes in climate are likely to lead to many forms of stress on crops. Access to a wide range of germplasm is critically important for plant breeding and the provision of seeds of crop genotypes that are tolerant of such stresses. Public seed banks and repositories of crop germ plasm are underfunded and need more support in the U.S. and worldwide.

The National Plant Germplasm System (NPGS) is a network of 20 labs that preserve the genetic diversity of crop plants. The NPGS collects unique plant germplasm from around the world and provides access for plant breeders in the U.S. and globally. Scientists must have access to these plant materials to help bring forth new varieties that can resist pests, diseases, and environmental stresses. Additional resources for the NPGS system would greatly improve the systems capacity and capabilities.

## Conclusion

Everything starts with seed, and quality seed is the foundation of sustainable agriculture production. The issues outlined here should be considered and prioritized as USDA establishes the Climate-Smart Agriculture and Forestry Partnership Initiative. Innovation in plant breeding and seed variety development is essential to successfully produce climate-smart agricultural commodities. Expanding access to conservation tools including cover crops and environment and conservation seed provide both economic and environmental benefits. Investments in research infrastructure including public seed banks and germplasm repositories will support food security efforts today and in the future.

Again, ASTA appreciates the opportunity to provide a response to this Request for Information. We are looking forward to working with USDA on this critically important initiative.

Sincerely,

A handwritten signature in black ink that reads "A. W. LaVigne". The signature is written in a cursive, flowing style.

Andrew W. LaVigne  
President and CEO