



American Society of Agronomy • Crop Science Society of America • Soil Science Society of America

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June 22, 2020

RE: NIFA request for stakeholder input on the Urban, Indoor and other Emerging Agricultural Production Research, Education and extension Initiative.

Dear Director Rein,

The American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) represent more than 8,000 scientists in academia, industry, and government, 12,500 Certified Crop Advisers (CCA), and 781 Certified Professional Soil Scientists (CPSS). We are the largest coalition of professionals dedicated to the agronomic, crop and soil science disciplines in the United States. Many of our members and certificants work in urban areas and are familiar with vertical farms, urban gardens, and indoor production. The Societies are pleased that NIFA is supporting research, education, and Extension to develop urban and indoor agriculture and that NIFA has requested stakeholder input to determine the areas of greatest need.

The Societies support the **agricultural production** phase of urban and indoor systems as NIFA's highest priority area. However, our members and certificants stress that greater yields must not come at an environmental cost. For urban and indoor agriculture production to flourish, research to determine and develop **production management and integrated pest management practices** are urgently needed. For example, insect and pathogen control indoors and in urban, outdoor settings using traditional methods may be challenging because of the potential for pesticide drift or unwanted circulation of chemicals indoors. However, other means of pest control (manual) are often less effective and can be time-consuming, labor intensive, and expensive. Air quality research may be important for mitigating local or indoor impacts of spraying, of the high humidity associated with indoor systems, and of using insects indoors for pest management or growing them as livestock.

There are also challenges associated with Organic production. While it may have a marketing advantage in urban areas, the use of manures and composts as a source of plant nutrients indoors or in outdoor urban settings may not be feasible or acceptable.

Issues intrinsic to plants themselves may complicate production in urban settings. For example, most plants require a specific, uninterrupted dark period to flower properly and set fruit, something that is less of an issue on farms in rural America but which proves challenging in well-lit urban and suburban environments. Genetic selection and plant breeding could be used to alter traits in ways that enable production of some crops despite urban lighting.

However, of nearly equal importance to production management practices is **identifying and promoting the horticultural, social, and economic factors that contribute to successful urban and indoor production**. Our members and certificants recognize that there are fewer farmers in the United States than ever before, and their average age is increasing. For urban and indoor agriculture to succeed, it needs talented young and new farmers to engage, but beginning farmers, especially those in urban areas, rarely have the benefit of agricultural experience or mentorship.

To invest in solving urban and indoor production challenges while also engaging urban communities, USDA NIFA should leverage this limited funding to create centers of excellence for urban agriculture in or near urban areas. These centers would encourage the involvement of students, particularly students of color and others who are underrepresented in agriculture and agricultural science, through school programs and internships. Engaging underrepresented youths is essential for retaining their interest in college and beyond, ultimately creating a more diverse group of professionals. K-12 programs developed locally in these centers would introduce students to urban agriculture production, nutrition, and food sovereignty. They would provide experiential learning opportunities, for example in the form of after-school programs, internships, mentorships, and summer jobs. They would further engage adults in urban communities through education and outreach. The centers would incubate local talent while providing a venue for locally relevant research on culturally and ethnically important crops.

Centers across the country could also be clearinghouses for the national coordination of best practices for outreach. They could feature “indoor” field days, for example, with education and demonstrations, including the **analysis of new agricultural sites in urban areas, from soil testing to local community needs**. Soil quality and accompanying education and extension regarding safe sites for planting are paramount, especially considering the risks involved in harvesting and eating foods grown in contaminated soils and the subsequent potential for alienation from food production within the community.

In line with these goals, centers could also work with local governments to integrate urban agriculture into urban planning and design and to negotiate land tenure issues when competing priorities for landlords threaten to uproot thriving urban farms and disrupt the communities they serve. Because of the many years it takes to condition a soil for food production, there is a huge loss of community gathering and knowledge-sharing when this occurs.

Members and certificant are also particularly concerned with ensuring water quality and food safety in urban systems, so NIFA-supported centers should be involved in developing **new technologies that minimize energy, lighting systems, water, and other inputs**. And once such technologies have been developed, they should be included in national best practices and local demonstrations.

Lastly, the current Covid-19 crisis has demonstrated that the “just-in-time” distribution scheme that the U.S. agricultural system has relied upon leaves producers and consumers vulnerable to disruption. Urban and indoor agriculture should be considered essential pieces of the food system puzzle, and economic modeling of **markets and distribution** is necessary to bring these pieces together.

Thank you for your consideration of these comments, and we look forward to working with USDA strengthens its urban agriculture portfolio.

Sincerely,

A handwritten signature in black ink, appearing to read 'N. Goesser', written in a cursive style.

Nicholas J. Goesser, CEO

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