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**DEPARTMENT OF AGRICULTURE**

**Office of the Secretary**

**Innovative Technologies and Practices for the Agriculture Innovation Agenda**

**[Docket No. USDA-2020-0008]**

**AGENCY:** Office of the Secretary, Agriculture (USDA).

**ACTION:** Request for written stakeholder input.

**SUMMARY:** The United States Department of Agriculture (USDA) is requesting comments and suggestions on the most innovative technologies and practices that can be readily deployed across U.S. agriculture to meet USDA's goal of increasing agricultural production by 40 percent to meet the needs of the global population in 2050 while cutting the environmental footprint of U.S. agriculture in half. This effort is a part of USDA's Agriculture Innovation Agenda (AIA), USDA's commitment to the continued success of American farmers, ranchers, foresters, and producers in the face of current and future challenges. Note: Technologies and practices that have potential to address these AIA goals, but that need substantial development or research before deployment, were captured in the recent USDA request for written stakeholder input published in the *Federal Register* on April 1, 2020, and open for comment until August 1<sup>st</sup>, 2020.

**DATES:** We will consider comments that we receive by **[Insert date 60 days after date of publication in the *FEDERAL REGISTER*]**. Comments received after that date will be considered to the extent practicable.

**ADDRESSES:** We invite you to submit comments on this notice. You may submit comments by either of the following methods:

- Federal Rulemaking Portal: Go to <https://www.regulations.gov/docket?D=USDA-2020-0003> and follow the instructions for submitting comments.
- Mail: Diane Gelburd, Ph.D.; Deputy Chief for Science and Technology, USDA Natural Resources Conservation Service; Room 5113, South Building, 1400 Independence Avenue, SW, Washington, DC 20250. In your comment, specify the docket ID USDA-2020-0008.

Comments will be available for viewing online at [www.regulations.gov](http://www.regulations.gov).

Comments received will be posted without change, including any personal information provided. In addition, comments will be available for public inspection at the above address during business hours from 8 a.m. to 5 p.m., Monday through Friday, except holidays.

**FOR FURTHER INFORMATION CONTACT:** Diane Gelburd; (202) 720-4527; or email [diane.gelburd@usda.gov](mailto:diane.gelburd@usda.gov).

**SUPPLEMENTARY INFORMATION:**

The United States Department of Agriculture (USDA) recognizes that there have been dramatic advances in agricultural production efficiency and conservation performance over the past two decades. As part of the Agriculture Innovation Agenda (AIA), to assist farmers in accessing and adopting new approaches, USDA requests input on the most innovative technologies, practices, and management tools that can be readily deployed through one or more USDA programs. Recommended approaches should enable the U.S. agriculture industry to meet USDA's goal to increase agricultural

production by 40 percent to meet the needs of the global population in 2050 while cutting the environmental footprint of U.S. agriculture in half.

USDA implements a range of programs including, but not limited to:

- Farm Service Agency programs (for example, the Conservation Reserve Program);
- Natural Resources and Conservation Service programs (for example, the Environmental Quality Incentives Program);
- Risk Management Agency crop insurance programs; and
- Rural Development community infrastructure and energy programs.

Each of these programs are well positioned to leverage “ready to go” technologies, practices, and management approaches to benefit farmers, consumers, and the environment in support of the AIA goals.

Through this notice, USDA’s goal is to identify the best “ready to go” innovations, as well as request input on how to best incorporate these innovations into USDA programs and accelerate their adoption. Input is requested from a range of stakeholders including, but not limited to: Private sector, not for profits, farmers, forest sector, trade associations, commodity boards, and others involved in the supply chain or development of widely applicable practices, management approaches, or technologies (for example, robotics, applications and end use tools, in-field management activities). For the purpose of this notice, “ready to go” means a practice, technology, or management approach that is fully developed, has been field tested, has completed independent research trials, is publicly available, and end-user accessible. Submissions will be most helpful if they include reference citations or website links to research, on-

farm trials, end-user group evaluation or other supporting documentation that the product is “ready to go” and has already been reviewed by the scientific or other appropriate community.

To aid in submission of comments, we request responses to the following questions on the types of innovative technologies, practices, and management approaches that USDA may want to consider for integration and deployment in USDA programs, as well as the best ways to integrate these into program delivery. For the purpose of this notice, “innovation” means any idea, practice, or object that is perceived as new or generally has low adoption, and when judged as a whole has the following characteristics<sup>1</sup>:

- A relative advantage (efficiencies gained by the innovation relative to current tools or procedures),
- Is compatible with the pre-existing system,
- Can or has been be trialed or tested,
- Produces observed effects or is effective,
- Has potential for reinvention (that is, using the tool for initially unintended purpose), or
- May be complex or difficult to learn.

When providing responses to this notice, please provide the following information where they apply:

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<sup>1</sup>This list of characteristics was Adapted from Rogers, E.M. (1962). Diffusion of Innovation Theory.

1. What is the innovation, how does it meet the AIA goals, and how could it demonstrate significant gains in agricultural productivity, significant reductions in U.S. agriculture's environmental footprint, or both?
2. How does the innovation target one or more of the following areas?
  - Agricultural productivity: Increase agricultural production by 40 percent by 2050 to meet estimated future demand.
  - Food loss and waste: Advance our work toward the United States' goal to reduce food loss and waste by 50 percent in the United States by the year 2030, from the 2010 baseline.
  - Carbon Sequestration and Greenhouse Gases: Enhance carbon sequestration through soil health (that is, terrestrial sequestration) and forestry, leverage the agricultural sector's renewable energy benefits for the economy, and capitalize on innovative technologies and practices to achieve net reduction of the agricultural sector's current carbon footprint by 2050.
  - Water Quality: Reduce nutrient loss by 30 percent nationally by 2050.
  - Renewable Energy: Increase the production of renewable energy feedstocks and increase biofuel production efficiency and competitiveness to achieve market-driven blend rates of 15 percent of transportation fuels in 2030 and 30 percent of transportation fuels by 2050.

3. How “ready to go” and adoptable is the innovation based on the following?
  - Relative Advantage. The degree to which an innovation is seen as better than the idea, program, or product it replaces for increasing agricultural productivity or decreasing agriculture’s environmental footprint, in either efficiency or effectiveness.
  - Compatibility: How consistent the innovation is with the values, experiences, and needs of the potential adopters.
  - Complexity: How difficult the innovation is to understand, use, or both.
  - Transferability: The extent to which the innovation can be adopted or can be easily made adoptable.
  - Observability. The extent to which the innovation provides tangible results.
4. If you are familiar with USDA programs, which USDA program(s) could the innovation be deployed through and how could it be reasonably integrated into that program in a way that will move the agricultural industry beyond its current state?
5. How could USDA support the deployment and adoption of the innovation in the field and what barriers to adoption do you think USDA can help overcome?

6. Are there specific ways that USDA programs are inadvertently hindering adoption of innovative technologies and, if so, how can USDA alleviate those barriers?
7. If you are presently working with USDA on this innovation, how is USDA already supporting its deployment and adoption?

Stakeholder input will inform USDA as it works to develop and execute a comprehensive “ready to go” technology strategy, including rapid deployment of the top technologies, practices, and management approaches that will enable U.S. farmers, ranchers, and natural resource managers to help meet global food, fiber, fuel, feed, and environmental demands.

Note: Technologies and practices that have potential to address these AIA goals, but need substantial development or research before deployment, should have been captured in the recent USDA request for written stakeholder input, titled “Solicitation of Input From Stakeholders on Agricultural Innovations,” which was published in the *Federal Register* on April 1, 2020 (85 FR 18185) (<https://www.regulations.gov/docket?D=USDA-2020-0003>). Comments to that request were due on August 1, 2020.

**Stephen Censky,**  
*Deputy Secretary,*  
*U.S. Department of Agriculture.*

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