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The Advancing Cutting Edge (ACE) Agriculture Act

From high fertilizer prices to extreme weather and poor soil health, American farmers and ranchers face major challenges today. Yet, the development of novel agricultural technologies and approaches to help solve these issues has not kept pace. While these technologies have the potential to yield game-changing benefits for agriculture and food, private capital often considers them too financially risky for investment and the U.S. Department of Agriculture (USDA) instead prioritizes lower-risk research projects to reliably, yet incrementally, deliver results.

The 2018 Farm Bill established the Agriculture Advanced Research and Development Authority (AgARDA) at USDA to fill this gap and invest in high-risk, high-reward research and development in agriculture and food. Modeled after the successful DARPA and ARPA-E programs, AgARDA spurs innovation through the development of breakthrough technologies and practices to address water conservation, soil health, disease and pest management, and extreme weather variability. The research and solutions advanced from AgARDA will help our farmers and ranchers meet the challenges of a changing agricultural landscape, increase production to address a growing global population, and help U.S. agricultural products compete in global markets.

The Advancing Cutting Edge (ACE) Agriculture Act would reauthorize, expand, and adequately fund AgARDA to secure America's ability to produce an abundant, safe, and affordable food supply and give our farmers and ranchers the tools they need to meet the challenges of the 21st century.

The Advancing Cutting Edge (ACE) Agriculture Act would:

- Double the authorization of the existing AgARDA program from \$50 to \$100 million to ensure investment in more agricultural innovation projects.
- Expand AgARDA's scope to:
 - Address animal and plant pathogens and pests to help farmers and ranchers increase production capacity and competitiveness.
 - Include opportunities for projects to help farmers and ranchers use less water; enhance soil health; and mitigate, reduce, and/or sequester greenhouse gas (GHG) emissions from farms and ranches.

AgARDA funds projects to help address:

- **Pathogens and pests:** Improve early detection of emerging pathogens and pests and coordinate vaccine development for known pathogens, such as African Swine Fever.
- **Drought:** Catalyze technological breakthroughs and practices to monitor, analyze, and distribute data on soil moisture in fields to help farmers and ranchers better manage their resources.
- **Soil health:** Boost soil health and reduce GHG emissions from farm operations.
- **Extreme weather:** Develop crops to become genetically resistant to drought, heat, and high-speed winds.
- **Increasing production demand:** Cut food waste, optimize food production on less land, and increase nutrient content of food.