



December 13, 2022

Secretary Tom Vilsack  
United States Department of Agriculture  
Departmental Administration  
1400 Independence Avenue, S.W.  
Washington, DC 20250

Terry Cosby, Chief  
Natural Resources Conservation Service  
United States Department of Agriculture  
1400 Independence Avenue, S.W.  
Washington, DC 20250

*Via electronic submission to regulations.gov*

Re: Request for Public Input About Implementation of the Inflation Reduction Act Funding, Docket ID:  
NRCS-2022-0015

Dear Chief Cosby

We appreciate the opportunity to comment on the Natural Resource Conservation Service's (NRCS) implementation of the Inflation Reduction Act (IRA). This funding will provide critical support to the agricultural sector to help address climate change.

The Farm Bill Law Enterprise (FBLE) brings together faculty, staff, and students from programs across seven law schools with expertise in agriculture, nutrition, and the environment. Our mission is to work toward a farm bill that reflects a thoughtful consideration of the long-term needs of our society, including economic opportunity and stability, public health and nutrition, public resources stewardship, and fair access and equal protection. We accomplish this mission through joint research, analysis, and advocacy and by drawing on the experience of our members, collaboratively building deeper knowledge, and equipping the next generation of legal practitioners to engage with the farm bill.

FBLE recently published a report with recommendations for the 2023 Farm Bill regarding [Climate & Conservation](#).<sup>1</sup> This comment draws directly from that report and primarily addresses Question 3: "How should NRCS target IRA funding to maximize improvements to soil carbon, reductions in nitrogen losses, and the reduction, capture, avoidance, or sequestration of carbon dioxide, methane, or nitrous oxide emissions, associated with agricultural production?" FBLE recommends that NRCS prioritize funding perennial agriculture and establishing robust infrastructure to support producers in transitioning to perennial systems and other regenerative practices.

---

<sup>1</sup> FARM BILL LAW ENTER., CLIMATE & CONSERVATION (2022), <http://www.farmbilllaw.org/wp-content/uploads/2022/08/Climate-and-Conservation-Report.pdf>.

### **Support perennial agriculture in working lands programs**

Perennial agriculture, which refers to the production of crops that are harvested multiple times and live for several seasons, offers a means of drastically reducing global greenhouse gas emissions while providing additional environmental and societal benefits. The suite of perennial crops and practices includes perennial forage crops, used in pasture and grazing systems; tree crops integrated into agroforestry, which includes alley cropping, silvopasture, forest farming, and multi-story cropping; perennial fruits and vegetables; emerging perennial grain crops;<sup>2</sup> and perennial legumes.<sup>3</sup> While all perennial-crop based systems offer carbon sequestration benefits due to reduced tillage, adding trees and other perennial plants to crop systems can increase carbon sequestration by 5-10 times or more.<sup>4</sup> These various crops and practices offer carbon sequestration through biomass (both above ground—e.g., woody trees—and below—e.g., more robust root systems) and soil organic carbon. Carbon sequestration through above-ground biomass is particularly advantageous because—compared to soil carbon, which is difficult to measure—it is more easily quantifiable and thus its benefits are verifiable.<sup>5</sup> Broad adoption of agroforestry practices across the temperate United States holds the potential to offset one-third of the country's current emissions from burning fossil fuels.<sup>6</sup>

EQIP and CSP could better promote carbon sequestration and climate change mitigation by more robustly supporting perennial agriculture. Doing so would entail ensuring that perennial practices are eligible for cost-sharing under the two programs and that those practices are sufficiently incentivized and available across the country. Currently, NRCS's national list of conservation practices includes several agroforestry practices, such as alley cropping and silvopasture, but does not provide standards for the full suite of perennial practices with conservation benefits, although the recent addition of perennial grains as a CSP enhancement is a step in the right direction.<sup>7</sup> Furthermore, these practices may or may not be among the practices that states choose to adopt for producers in their region. And, despite the proven benefits of these two practices, very little EQIP and CSP funding has been devoted to them over the last several years.<sup>8</sup> As part of increasing programmatic support for perennial practices, it will be necessary to increase staff training about the benefits of these practices and enhance producer outreach to ensure these practices are not just available, but actually implemented.

---

<sup>2</sup> Examples of perennial crops include fruit trees, and olive trees; perennial forage include orchard grass and alfalfa, while example of perennial vegetables are asparagus and rhubarb. *Perennial Crops: New Hardware for Agriculture*, THE LAND INST., <https://landinstitute.org/our-work/perennial-crops/>. Grains, legumes, and oilseeds, however, are virtually all annuals. J.D. Glover et al., *Increased Food and Ecosystem Security via Perennial Grains*, 328 SCIENCE 1638, 1638 (2010); see also Thomas S. Cox et al., *Prospects for Developing Perennial Grain Crops*, 56 BIOSCIENCE 649, 649 (2006).

<sup>3</sup> *Perennial Legumes*, THE LAND INST. (April 1, 2022), <https://landinstitute.org/our-work/perennial-crops/legumes/>.

<sup>4</sup> Eric Toensmeier, *Perennial Staple Crops and Agroforestry for Climate Change Mitigation*, INTEGRATING LANDSCAPES: AGROFORESTRY FOR BIODIVERSITY CONSERVATION & FOOD SOVEREIGNTY 439–51 (2017), [https://www.researchgate.net/publication/322709905\\_Perennial\\_Staple\\_Crops\\_and\\_Agroforestry\\_for\\_Climate\\_Change\\_Mitigation](https://www.researchgate.net/publication/322709905_Perennial_Staple_Crops_and_Agroforestry_for_Climate_Change_Mitigation).

<sup>5</sup> PETER H. LEHNER & NATHAN A. ROSENBERG, *FARMING FOR OUR FUTURE: THE SCIENCE, LAW, AND POLICY OF CLIMATE-NEUTRAL AGRICULTURE* 209–10 (2021).

<sup>6</sup> Ranjith P. Udawatta & Shibu Jose, *Agroforestry Strategies to Sequester Carbon in Temperate North America*, 86 AGROFORESTRY SYS. 225 (2012), <https://link.springer.com/article/10.1007/s10457-012-9561-1> [<https://perma.cc/Q63Y-8KLP>].

<sup>7</sup> *Conservation Practices*, NAT. RES. CONSERVATION SERV., [https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/cp/ncps/?cid=nrcs143\\_026849](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/cp/ncps/?cid=nrcs143_026849).

<sup>8</sup> See Lingxi Chenyang, Andrew Currie, Hannah Darrin & Nathan Rosenberg, *Farming with Trees: Reforming U.S. Farm Policy to Expand Agroforestry and Mitigate Climate Change*, 48 ECOLOGY L.Q. 1, 31 (2021), [https://www.ecologylawquarterly.org/wp-content/uploads/2021/09/48.1-Chenyang\\_Internet-1.pdf](https://www.ecologylawquarterly.org/wp-content/uploads/2021/09/48.1-Chenyang_Internet-1.pdf); NRCS *Conservation Programs, Conservation Stewardship Program (CSP)*, NAT. RES. CONSERVATION SERV., [https://www.nrcs.usda.gov/Internet/NRCS\\_RCA/reports/fb08\\_cp\\_cstp.html](https://www.nrcs.usda.gov/Internet/NRCS_RCA/reports/fb08_cp_cstp.html).

One state's leadership in targeting support for agroforestry may offer a model for supporting perennial agriculture through working lands programs more broadly. In 2017, Missouri's NRCS office established a dedicated pool of EQIP funding for "Agroforestry and Woody Crop Establishment."<sup>9</sup> Missouri NRCS identified six core practices —alley cropping, multi-story cropping, riparian forest buffers, silvopasture, tree/shrub establishment, and windbreak/shelterbelt establishment— eligible for funding and targeted support.<sup>10</sup> The office set aside 1% of its general EQIP allocation to support this effort.<sup>11</sup> While this funding pool has provided unique opportunities for Missouri landowners—who may also benefit from the knowledge and regional expertise of the Center for Agroforestry at the University of Missouri—some challenges to its efficacy include the program's limited budget and limited producer awareness of conservation programs.<sup>12</sup> Lessons learned from this initiative can provide helpful guidance in implementing similar programs nationwide.

Encouraging perennial agriculture in working lands programs is a matter of both clearly defining eligible practices and offering sufficient incentives to promote uptake. With IRA funding, NRCS should, in consultation with experts in perennial agriculture and agroforestry:

- Identify additional perennial practices that should be eligible for EQIP and CSP dollars.
- Work with all states to ensure that these new practices, along with current perennial practices on the national list, are implemented in that region.
- Develop CSP bundles with for perennial agricultural systems.
- Earmark funds for supporting agroforestry and perennial practices; encourage states to set aside a separate funding pool for such practices, as was done in Missouri.
- Expand technical assistance capacity for perennial agriculture among NRCS staff.

### **Limit investments in livestock agriculture**

Over the last several decades, the livestock and poultry industries have increasingly concentrated animals at large, confined operations. The largest 5.7% of concentrated animal feeding operations (CAFOs) house 89% of all livestock in the United States.<sup>13</sup> Animals raised in CAFOs produce 3 to 20 times more manure than people, yet no sewage treatment infrastructure exists for their waste.<sup>14</sup> Manure handling systems release greenhouse gases, pollute the air, emit odors, and attract insects.<sup>15</sup> Direct emissions from livestock production operations—typically, CAFOs<sup>16</sup>—amount to nearly half of agriculture's total contribution to

---

<sup>9</sup> LAUREN CARTWRIGHT ET AL., UNIV. OF MO. CTR. FOR AGROFORESTRY, USING NRCS TECHNICAL & FINANCIAL ASSISTANCE FOR AGROFORESTRY AND WOODY CROP ESTABLISHMENT THROUGH THE ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (2017),

<https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pub/pdf/agguides/agroforestry/af1016.pdf>.

<sup>10</sup> *Id.*

<sup>11</sup> LAUREN CARTWRIGHT, NRCS DEDICATED EQIP FUNDING POOL FOR AGROFORESTRY AND SPECIALTY WOOD CROPS (Nov. 29, 2016) (sliddeck for Green Lands Blue Waters Conference), [https://greenlandsbluewater.org/Cartwright\\_Dedicated\\_EQIP\\_Funding\\_for\\_AF\\_GLBW\\_2016.pdf](https://greenlandsbluewater.org/Cartwright_Dedicated_EQIP_Funding_for_AF_GLBW_2016.pdf).

<sup>12</sup> See SAVANNA INST. & THE ASSOC. FOR TEMPERATE AGROFORESTRY, 2020 PERENNIAL FARM GATHERING ABSTRACTS 18 (2020), <https://www.savannainstitute.org/wp-content/uploads/2020/12/Abstracts-for-AFTA-presentations-panels-and-posters.pdf>.

<sup>13</sup> PETER H. LEHNER & NATHAN A. ROSENBERG, *supra* note 5, at 44.

<sup>14</sup> CARRIE HRIBAR, UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS AND THEIR IMPACT ON COMMUNITIES 7 (2010), [https://www.cdc.gov/nceh/ehs/docs/understanding\\_cafos\\_nalboh.pdf](https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf) [<https://perma.cc/ELS9-RWK6>]; see also D. LEE MILLER & GREGORY MUREN, NAT. RES. DEF. COUNCIL, CAFOS: WHAT WE DON'T KNOW IS HURTING US (2019), <https://www.nrdc.org/sites/default/files/cafos-dont-know-hurting-us-report.pdf>.

<sup>15</sup> D. LEE MILLER & GREGORY MUREN, *supra* note 14.

<sup>16</sup> See Peter Lehner & Nathan Rosenberg, *Chapter 30: Agriculture, in*, LEGAL PATHWAYS TO DEEP DECARBONIZATION IN THE U.S. 775 (Michael B. Gerrard & John Dernbach, eds., 2019),

U.S. greenhouse gas emissions.<sup>17</sup> Livestock operations emit both methane and nitrous oxide, which are 25 and 298 times more potent as greenhouse gases than carbon dioxide, respectively.<sup>18</sup> Manure management is the fourth largest methane emitter of all U.S. sources, while enteric fermentation (animal digestion) is the first.<sup>19</sup> Together they comprise over 36% of methane emissions from all anthropogenic activities in the United States.<sup>20</sup> These numbers do not even account for emissions released in the production of animal feed, to which approximately half of U.S. cropland is devoted.<sup>21</sup> Beyond greenhouse gas emissions, waste from CAFOs contaminates water systems, including groundwater that many rural communities rely on for drinking water and surface water that becomes inhospitable to aquatic life (i.e., dead zones).<sup>22</sup> Their presence further threatens human health by serving as a breeding ground for pathogens and by encouraging non-therapeutic use of antibiotics in animals, thus supporting increases in antibiotic-resistant microbes and, in turn, diminishing the efficacy of antibiotics in fighting disease.<sup>23</sup>

In light of this harm and the purpose of the IRA funding, none of the supplemental funds should go to supporting CAFOs or similar factory farming operations. Congress signaled this preference as well by making EQIP's 50% set aside for livestock practices inapplicable to the IRA funds.<sup>24</sup> To the extent that funds go to livestock-related practices, NRCS should:

- Limit livestock-related investments, if any, to sustainable practices like silvopasture and rotational grazing.

### **Build robust infrastructure to support climate-change mitigation moving forward**

The IRA's additional investments and focus on climate-change mitigation embody the thrust of FBLE's recommendations. We support these increases and offer a few additional considerations:

- **Increased funding for climate-friendly practices, enhancements, or bundles in CSP.** FBLE recommends that CSP be revamped as a climate change mitigation program and this influx of resources can be the first step toward that end. To ensure success, NRCS should continue working on streamlining the program, offer training and more robust assistance to producers trying to understand and navigate the program, and increase transparency in the selection process. As NRCS identifies IRA-qualifying practices, it should confer with producers on cost-share arrangements (e.g., whether current payments are adequate) and provide this information to Congress for the next farm bill cycle so that Congress can raise statutory caps on payments where appropriate.
- **Increased funding for ACEP-ALE.** Between 2001 and 2016, 11 million acres of farmland were converted to urban and low-density residential uses.<sup>25</sup> Once paved over or converted, the ability of these lands to sequester significant amounts of carbon is severely limited. Farmland enrolled in ACEP-ALE is permanently preserved for agricultural use, thereby protecting the sequestration potential of these lands. The increased IRA funding is critical because the program is consistently

---

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3361393](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3361393). It is difficult to isolate CAFOs' contributions to these numbers due to an extreme lack of data on the number of CAFOs operating in the United States and their size, type, location, pollution controls, waste storage and disposals practices, etc. *See* D. LEE MILLER & GREGORY MUREN, *supra* note 14.

<sup>17</sup> CARRIE HRIBAR, *supra* note 14.

<sup>18</sup> U.S. ENV'T. PROT. AGENCY, U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2017 ES-3 (2019), <https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf>.

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> Peter Lehner & Nathan Rosenberg, *Chapter 30: Agriculture*, *supra* note 16.

<sup>22</sup> CARRIE HRIBAR, *supra* note 14, at 3–4.

<sup>23</sup> *Id.* at 9–10.

<sup>24</sup> Pub. L. 117–169, § 21001(a)(1)(B)(i), 136 Stat. 1818, 2015 (2022).

<sup>25</sup> JULIA FREEDGOOD ET AL., AM. FARMLAND TR., FARMS UNDER THREAT: THE STATE OF THE STATES (2020), [https://s30428.pcdn.co/wp-content/uploads/sites/2/2020/09/AFT\\_FUT\\_StateoftheStates\\_rev.pdf](https://s30428.pcdn.co/wp-content/uploads/sites/2/2020/09/AFT_FUT_StateoftheStates_rev.pdf).

oversubscribed.<sup>26</sup> Additionally, NRCS should prioritize these lands for other types of conservation assistance. Because these lands will remain as farmland in perpetuity, there is an opportunity to maximize their carbon sequestration potential. NRCS should require and support producers in developing and implementing a conservation plan on ACEP-ALE parcels.

- **Increased funding for the Regional Conservation Partnership Program.** This program has been successfully and innovatively used to support regional initiatives to address common conservation goals. Some projects have already promoted expansion of agroforestry in their region.<sup>27</sup> As NRCS grows the program, it should work to document success to share with Congress and stakeholders as evidence supporting further investments.
- **Increased funding for technical assistance.** Many practices advancing climate change mitigation and resilience require technical support from NRCS staff and other agricultural experts to encourage uptake and effective implementation. Farmers report that NRCS staff are critical to successful implementation of conservation practices on their land.<sup>28</sup> However, stakeholders have expressed that many of the NRCS offices are understaffed and of the staff members NRCS offices do have, many of them lack on-farm experience.<sup>29</sup> These staff have also seen a significant rise in their responsibilities without a commensurate investment in increasing staff capacity.<sup>30</sup> The increased capacity from IRA funding will be critical to the success of expanding these other programs and their focus on climate change mitigation. FBLE will continue to advocate for robust, baseline support for technical assistance in the farm bill. With IRA funds, NRCS should work on expanding the breadth of expertise among its staff, adding staff with experience in agroforestry and other forms of perennial agriculture, and promoting staff understanding of its more complex programs like CSP.

We encourage NRCS to document its expanded climate change mitigation efforts, both its successes and shortcomings, so that these findings can inform future legislation and funding priorities. NRCS can be instrumental in helping policymakers determine where additional statutory changes or flexibilities are needed to ensure funds make the most impact. We further encourage NRCS to adopt an equity lens in administering funds and to continue working to streamline applications and providing technical assistance to ensure funding is accessible to producers of various means, sizes, and technical capacities.

Sincerely,

Farm Bill Law Enterprise  
[farmbilllaw.org](http://farmbilllaw.org)

---

<sup>26</sup> AM. FARMLAND TR., MAXIMIZING THE ECONOMIC AND ENVIRONMENTAL BENEFITS OF ACEP-ALE 2 (Nov. 2020), [https://s30428.pcdn.co/wp-content/uploads/2020/11/AFT-Maximizing\\_the\\_Economic\\_and\\_Environmental\\_Benefits\\_of\\_ACEP-ALE.pdf](https://s30428.pcdn.co/wp-content/uploads/2020/11/AFT-Maximizing_the_Economic_and_Environmental_Benefits_of_ACEP-ALE.pdf).

<sup>27</sup> See, e.g., *Illinois Working Lands, Water, and Wildlife Conservation Partnership*, THE CONSERVATION FUND, <https://www.conservationfund.org/projects/illinois-working-lands-water-and-wildlife-conservation-partnership> (last visited Dec. 2, 2022).

<sup>28</sup> CTR. FOR RURAL AFFAIRS, A FARMER'S VIEW: A LOOK AT THE CONSERVATION STEWARDSHIP PROGRAM 11 (2018), <https://www.cfra.org/sites/default/files/publications/a-farmers-view-a-look-at-the-conservation-stewardship-program.pdf>.

<sup>29</sup> *NRCS Water Quantity Listening Session*, COLO. AG NEWS NETWORK (Dec. 17, 2020) (at 15:35, 30:53 of afternoon session), <https://barnmedia.net/2020/12/17/12-17-20-listen-to-the-usda-nrcs-western-states-public-listening-session-from-today-online-inside-the-barn/>; Phillip Brasher, *Biden's CSP Expansion Could Face Hill Resistance, Staffing Questions*, AGRI-PULSE (Sep. 30, 2020), <https://www.agri-pulse.com/articles/14572-bidens-csp-expansion-would-face-hill-resistance-staffing-questions>.

<sup>30</sup> See FARM BILL L. ENTER., PRODUCTIVITY & RISK MANAGEMENT 19 (2018), [http://www.farmbilllaw.org/wp-content/uploads/2018/03/FBLE\\_Productivity-and-Risk-Management\\_Final.pdf](http://www.farmbilllaw.org/wp-content/uploads/2018/03/FBLE_Productivity-and-Risk-Management_Final.pdf)