LAND CORE

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and communities.

MEMO: PRECISION AGRICULTURE AND CONSERVATION CONSIDERATIONS FOR POLICY MAKERS

"Precision agriculture" technologies are poised to revolutionize the efficiency, resilience, and profitability of many US farming operations. Supporting the increased adoption of these technologies will be an essential part of US agriculture policy in the coming years.

As lawmakers consider the array of new federal policies, programs, and incentives aimed at facilitating these new efficiency-focused technologies, we would like to address a crucial concern regarding **the potential conflation of "economic efficiency" and "conservation efficiency".**

For example, GPS-tracked, self-driving combines might address issues of labor shortages and possibly reduce costs, making them economically efficient in a number of ways, but with only negligible, ancillary impacts on "conservation" or "sustainability." In contrast, certain precision fertilizer management technologies can provide significant conservation efficiency, reducing the amount of excess nutrients being wasted, and improving soil, water, and environmental quality.

Understanding this distinction is essential as we **consider the appropriate sources of funding for different types of precision agriculture technologies.**

Legislation that funds access to, or adoption of, precision agriculture technologies for the purpose of either improving sustainability or addressing conservation goals—especially initiatives that draw funding from conservation programs—should be restricted to the subset of specific precision agriculture technologies that actually address those goals.

Of the several current bills addressing precision agriculture, the PRECISE Act (H.R.1459/S.720) is one of the best examples of how well-intentioned legislation can embed this conflation in a way that will likely have significant adverse consequences. The bill states: "The term 'precision agriculture' means managing, tracking, or reducing crop or livestock production inputs, including *seed*, *feed*, fertilizer, chemicals, water, and *time*, at a heightened level of spatial and temporal granularity to improve efficiencies, reduce waste, and maintain environmental quality."

We have to be clear that the inputs of *time*, *seed*, and *feed* have very few, if any, direct benefits to conservation or sustainability. For example, the aforementioned GPS-tracked self-driving combine will almost definitely reduce the "input of time," creating an economic gain (assuming the cost of the machine does not outweigh the labor cost reductions); however, that same "input of time" will have negligible, if any, conservation impacts. Similarly, "seed" and" feed" input reductions are primarily generating economic benefit.

The PRECISE Act provides up to a 90 percent cost share through EQIP for adopting precision agriculture practices (including *any* technology that reduces *any* of the inputs in the bill's definition, in *any* amount). The bill also specifies precision agriculture under the practices covered under EQIP Conservation Incentive Contracts and expands CSP to incorporate precision agriculture as an eligible practice for additional increased payments.

We will do our farmers and the nation a disservice if we drain the coffers of our already burdened conservation programs with generous subsidies that are not tied to conservation outcomes or are for technologies that are largely, if not entirely, unrelated to conservation. This is critical at a time when on-farm and supply chain resilience through conservation is more important than ever.

To address this concern, we propose three recommendations as template suggestions for how to assess all new precision agriculture bills that either have conservation grant program funding or are claiming to address broader sustainability goals:

1. **Modify the definition of "precision agriculture" to remove inputs of time, feed, and seed, which are fundamentally economic factors.** (This removal of inputs should be extended to all USDA conservation or sustainability-related precision agriculture programs.)

2. **Implement a transparent evaluation process to assess conservation impact and funding eligibility:**

    - Require any technology manufacturers who would like their products to qualify for USDA grants or subsidies to submit specific input-reduction and conservation benefit assessments for their products, using a format to be provided to those manufacturers by the Secretary.
    - Direct the Secretary to establish a transparent, publicly available evaluation process to assess these claims and determine which precision agriculture practices have a direct and quantifiable impact on conservation.
    - Require a report to be submitted annually to Congress, including the estimated input reduction or environmental benefits received per category of equipment or technology that receives conservation or conservation-related funding (as per the Precision Agriculture Loan (PAL) Program Act (H.R.1495)). Use those results to better prioritize equipment subsidies thereafter.

3. **Link financial incentives to quantifiable conservation outcomes:**

    - Define the appropriate rate at which different precision agriculture technologies should be eligible for subsidies and financial incentives based on the above-mentioned conservation impact evaluation. **Avoid one-size-fits-all approaches**.

Additionally, to protect taxpayers, whether it is building soil health, a more functional on-farm/ranch biological nutrient system, or broader ecosystem health and resilience, any dollars that are diverted and spent on these new technologies must be either ecologically or economically as, or more efficient than, the tools we are using currently to achieve the same conservation outcomes.

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