

Horse-Powered Buckwheat Blossom Farm and Planet Alpha Directly Measure GHGs for Offsets in Climate-Smart Ag Pilot

Climate-smart agriculture is advanced by direct measurement of soil emissions, including CO₂, CH₄, and N₂O, on a family farm in Wiscasset, Maine

CAMBRIDGE, MA, UNITED STATES, January 21, 2022 /EINPresswire.com/ -- President Joe Biden's

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Bruno D.V. Marino

goal of paying farmers to help manage climate change is facing a reality check due to the complexity and costs involved in climate-smart agriculture amid hype and doubt across the industry that farm offsets can reliably capture and store about 10% of US greenhouse gas emissions per year. A 142-acre horse-powered family farm, the [Buckwheat Blossom Farm](#), in Wiscasset, Maine, aims to demystify carbon farming by directly measuring soil GHG emission reduction offsets. But how does a family farm overcome the barriers to engaging carbon markets, given the uncertainty and costs of the GHG offset process?

BBF has teamed up with [Planet Alpha Corp](#), Cambridge, Massachusetts, to directly measure soil CO₂, CH₄ and N₂O emissions, the triarchy of gases required for a realistic metric of farming's impact on managing climate change, all at no cost to the farm. PAC monetizes emission reduction, an ecosystem service, for voluntary and compliance buyers across Maine and beyond. Offset prices reflect the social cost of emissions added to a 20-year zero fossil fuel CO₂ baseline.

Jeff and Amy Burchstead, owners of BBF, remarked, “We are very excited to play a quantifiable role in the proper cycling of greenhouse gases. We have always seen that one of our fundamental roles as farmers is to steward all of what the environment provides in a way that enhances plant, animal and human health. Planet Alpha will provide a way for us to capitalize on our careful stewardship by verifiable means.”

The BBF pilot project aims to be a model for the 200,000+ small family farms and ranches across the US as well as for large operations. Direct GHG measurement protocols and standardized

offsets ensure that no matter the program a producer enters, offsets will be comparable and verifiable for all sellers and buyers, a key concern in the expanding carbon farming sector.

The project addresses underrepresented farmers typically excluded from carbon programs resonating with USDA Secretary Vilsack's Growing Climate Solutions Act and Biden's methane emissions initiative. Direct measurement is a game-changer for all stakeholders equalizing commodity value and transparency of the process, in contrast to estimation protocols resonating with science-based target target initiatives.

Bruno D.V. Marino, PAC CEO, remarked,

"We recognize Amy and Jeff as unique environmental leaders that should be rewarded for their efforts. The pilot is a reality check on the carbon farming hype, emphasizing gas measurement requirements to manage net emissions balance (i.e., negative, neutral or positive). We aim for emission reductions, profitable farming of nutritious food and contributing to a green bioeconomy — this is where nature and human activity harmonize for resiliency to climate change and supply chain interruptions."

The scientific approach is based on established GHG measurement methods employed by the Harvard Forest carbon experiment and the National Ecological Observatory Network (NEON). The project employs PAC software with high-level data security, embedded third-party verifiers, blockchain, and AI processes to support monetization value.

The project seeks collaborators and partnerships. PAC is seeking an additional 10 pilot farm/ranch projects (horse- and tractor-powered) deploying the measurement-to-monetization process. An innovative GHG finance offset purchase agreement integrates investors, landowners and operators in an economically viable and transparent standardized process.

The pilot will phase in radiocarbon measurements, defining a two-carbon trading framework, QuantumCarbon, for differentiating natural from fossil-fuel-derived CO₂, continually verifying the status of farm operations as "fossil-fuel-free." The pilot also serves as a testbed for emerging sensors that are cheaper, better and faster, enabling affordable and effective measurement networks.



Buckwheat Blossom Farm Horse-powered Agriculture Managing Climate Change

A role for citizen science is also envisioned through [Natures' Notebook, accessible through the USA National Phenology Network](#). Changes in phenology, such as flowering, are tracked throughout the growing season, reflecting ecosystem function. GHG and phenological data will be integrated across the BBF project, which also conserves forests and wetlands, creating unique ecosystem services and products.

About Buckwheat Blossom Farm. Buckwheat Blossom Farm is a horse-powered small family farm employing ecological principles to promote health and mitigate climate change.

About Planet Alpha Corp. Planet Alpha Corp is an early-stage American company dedicated to the direct measurement of GHG emission reductions harmonizing markets for trading worldwide.

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