

Farmer-to-farmer biochar education and demonstration sites for improved soil health through application of locally generated biochar

Project Summary:

This project will empower small to medium farmers to incorporate biochar into their practices to improve soil health. Participants will learn the benefits of biochar for soil health and learn to generate and apply biochar made with locally available resources. Soil and compost-amended with biochar will be assessed using microscopy to demonstrate the beneficial impacts on soil biology.

Four locally manufactured Kon-Tiki model biochar kilns will be delivered to participating farms, with River Valley Regeneratives serving as one of the sites. The Technical Advisor and Project Coordinator will support the farmers to generate and apply biochar with locally available wood products. This will be achieved through one on-one site visits and email/phone consultations.

Once each farmer becomes comfortable with the process, they will host one full-day workshop with the project team. The workshops will be open to all regional farmers and include a lecture followed by in-field participation. Local farmers will be notified of the workshops through listservs, farm support partners, participant social media accounts, and word of mouth. The project team will also develop educational resources which will be incorporated into existing toolkits of Compost for Good, the Composting Association of Vermont, and others. The project team will continue to host workshops and site visits past the project window.

Project Team:

- *John Bonaparte* - Bare Bones Farm in Bombay; site host; community compost liaison and soil health champion
- *Ian Driscoll* - Driscoll Farm in Saranac - biochar enthusiast; site host
- *Amanda Meier* - SUNY Professor with biochar experience and research; technical consultant; best practices and research
- *John Culpepper* - Co-founder Compost for Good; certified soil health microscopist. John will offer technical assistance, research and support for the site hosts and workshops. He will also offer microscopic assessments of soil and/or compost before and after inoculation with biochar.
- *Jon Norman* - Co-owner River Valley Regeneratives LLC; Owner The Workshop in VVille - finalize kon tiki construction and delivery
- *Justin Pallack* - Heat Keepers - Huge biochar enthusiast; introduced us to the kontiki kiln
- *Lucas Michelotti* - Running Roots Farm - Site host and translation of materials into Spanish
- *Jennifer Perry* - River Valley Regeneratives; Compost for Good co-founder; Project management (invoicing, reporting, meetings, chief whip cracker)

Project timeline: March 1, 2025 - September 30, 2026

| Task | Description | Role | Target Date |
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| Best practices research | Research into current and emerging biochar best practices including impacts on soil health, feedstock sourcing, ideal application rates, potential benefits and unintended negative consequences. Research will be archived and summarized in a shared folder. | Technical Advisor (5 hrs), Microscopist (10 hrs) and Project Manager (6 hrs) | March 2025 - Sept 2026 |
| Curriculum development | Develop a summary of best practices and competency assessments to be shared with the site host farmers and to guide the in-person trainings. Information will be compiled into a single document. All materials will be translated into Mohawk and Spanish. | Technical Advisor (8 hrs), Project Manager (6 hrs), Running Roots Farm (10 hrs) and Bare Bones Farm (10 hrs) | March 2025 - May 2025 |
| Demonstration site host set up and training | Four Kon-Tiki kilns purchased from a local manufacturer and delivered to the demonstration sites. Wood will be procured from a local source, cut and split to specifications and delivered. | Technical Advisor (12 hrs), Project Manager (20 hrs), Site Host Farmers 30 hrs each), & The Workshop (5 hrs) | May, 2025 - Sept 2025 |
| Pre and post application demonstrations | Compost and/or soil samples will be assessed (including a treatment and control plot prior to application) quantitatively through microscopy for biological diversity and species identification. This process will be repeated post application. | Soil Scientist/Microscopist (30 hrs) | April - July 2025 |
| Workshops | Four workshops will be held at each of the demonstration sites. One of these workshops will be hosted at First Nation Akwesasne and will be translated into Mohawk targeting Mohawk farmers. | Technical Advisor (32 hrs) ; Project Manager (48) | Sept 2025; June 2026; July 2026; Aug 2026 |

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| <p>Ongoing assistance</p> | <p>Farmers interested in ongoing support for biochar generation and application will be encouraged to contact the project team for remote consultations and sharing of best practices. Soil health partners including Compost for Good, Cornell Cooperative Extension and the Composting Association of Vermont, will have access to training and best practices materials generated and will include them in their toolkits.</p> | <p>Technical Advisor (5 hrs); Project Manager (10 hrs); Project Partners</p> | <p>January 2026 - March 2026</p> |
| <p>Reporting and data gathering</p> | <p>Data from participating farmers including increase in sales, quantities of biochar produced and applied, and other project benefits will be collected after workshop completion. Reporting will be conducted as required by SARE. Final reports and results will be shared through the project team's extensive partner networks, social media posts, presentation at future soil health conferences and workshops (TBD), inclusion in academic curriculum at SUNY Plattsburgh and others to be identified.</p> | <p>Project Manager (10 hrs), Technical Advisor (5 hrs), Soil Scientist/Microscopist (15 hrs) with input from site host farmers</p> | <p>March 1, 2025 - September 30, 2026</p> |