Sample Grant Application: Grazing Operation

Maryland's 2024 Healthy Soils Competitive Fund

STATE OF MARYLAND MARYLAND DEPARTMENT OF AGRICULTURE
APPLICATION FOR FINANCIAL ASSISTANCE: **PROJECT NARRATIVE**

Healthy Soils Competitive Fund 2024

Applications to the Healthy Soils Competitive Fund will be assessed based on the submitted project narrative and project budget. Possible points awarded are listed above in the section titled "Application Ranking." To score highly you must address each question listed below in the project narrative with as much detail as possible. **Complete the project narrative and project budget and submit as an attachment.**

1. What challenges are you facing on your farm that you wish to address by adopting eligible conservation practices?

At Farm, we raise rotationally grazed grass-fed lamb and pastured poultry on 46 leased acres, with additional pasture acreage available on a seasonal basis. We face interconnected challenges because of the limited pasture acreage currently available to us on the site that we lease. From a soil health standpoint, we would like to improve our soil organic matter and biological activity. We have been enrolled in the citizen science Soil Health Benchmark Study overseen by Pasa and Future Harvest since 2022. In all of our pastures, the soil organic matter and biological activity scores are relatively low compared to other pastured livestock operations despite our long-term practice of management-intensive rotational grazing, with our poultry and sheep rotated every day to new pasture. From an economic standpoint, we struggle with managing parasites in our sheep, particularly in our growing lambs, and with the finances of buying in enough hay to sustain our flock of 200 sheep through the 2.5-3 months when our pastures are dormant.

2. What practice(s) are you proposing to adopt to address these challenges?

We propose implementing two practices to address these challenges. First, we hope to transition an additional 16 acres of land currently leased to a row crop operation on the site where our pastures are located to perennial pasture including a mix of grasses and legumes. This land will be seeded to a perennial pasture mix in late summer of 2024. At that time, we will measure key soil health indicators as a baseline for improvement using the Cornell Comprehensive Assessment of Soil Health (CASH). Our perennial pasture will be fertilized only with the manure from our grazing animals, no additional synthetic fertilizer will be used on these pastures following their transition, minimizing disturbance from fertilizer application.

Second, we hope to introduce multi-species grazing across our operation by incorporating pastured poultry into our existing rotations on the 35 acres of pasture we seeded in the fall of 2022 and 4 of the 10 acres of permanent pasture to which we also have access for grazing. While we currently rotate both our sheep and poultry, they do not move together. Poultry have only been rotated on a select number of small fields close to our house because of concerns about predation. The purchase of a new pasture coop outfitted to keep our hens and turkeys safe, and locating them close to the large sheep flock, will enable us to integrate these two enterprises in a more effective way.

We currently move the sheep in one-acre paddocks daily across these pastures, and plan to follow them with poultry. We plan to graze the pasture with a combination of sheep followed by laying hens, broiler chickens, and turkeys once the height reaches a minimum of 8 inches. We will create temporary paddocks using Premier portable netting and solar energizers. Sheep will be rotated to a new paddock when pastures have been grazed down to a minimum height of 6 inches, and poultry will be moved onto the paddock. We will work with Dr. Amanda Grev, forage specialist at the University of Maryland Extension, to determine ideal paddock sizes and rotation times for different seasons based on availability of forage.

These two changes will help us address the challenges above in the following ways:

a. Adding pastureland will enable us to do more summer and winter stockpile, extending our grazing, improving flock health, and reducing our hay costs.
b. In addition to stockpile, added pasture will help us to develop an adaptive grazing plan, in which we can vary our stocking density and paddock size to make optimal use of our available forage and maximize our positive impact on our soil health.
c. Following the sheep in the pasture with chickens and turkeys will help improve soil biology and soil organic matter more quickly than grazing sheep alone. Poultry will also help break down ruminant manure and consume parasite eggs and pupae, providing natural parasite control that will supplement our flock's genetic resistance and improved rotations.

3. How do you plan to manage the proposed conservation practice(s)? (For example, you may intend to adopt Integrated Pest Management and begin to monitor fields for pest and disease pressure, selectively manage issues instead of broadly spraying at predetermined times) If appropriate for your project, please include a timeline illustrating how your practice(s) will be implemented over the three-year grant period.

Year 1 (summer 2024-spring 2025)

- Establish baseline financials prior to integration of poultry and new pasture. Create financial tracking spreadsheet to ensure that costs and benefits of practices are tracked over the course of the project.

- August: Mow/graze existing vegetation on new pastures. Construct pasture coop.

- September 1: Drill pasture mix.
- October: Monitor germination, patch where needed.
- November: Take soil samples from existing and new pastures for baseline CASH analysis. Sample farm-produced compost using Penn State Extension soils lab. Apply compost to new pastures before December cutoff. Begin integration of poultry into rotation on existing pastures following soil sampling.
- January: evaluate prior season financials, compare to baseline, determine poultry production levels for upcoming season, consult with technical advisor on adaptive grazing strategies for upcoming season
- April: first graze of new pasture, sheep followed by poultry
- June: second graze

Year 2 (summer 2025-spring 2026)

- August: third graze
- October: fourth graze,
- November: take soil samples for CASH analysis. Apply farm-produced compost to existing pastures before December cutoff.
- December: fifth graze
- January: evaluate year 2 financials, compare to baseline, determine poultry production levels for upcoming season, consult with technical advisor on adaptive grazing strategies for upcoming season
- March: sixth graze
- May: seventh graze

Year 3 (summer 2026-spring 2027)

- July: eighth graze
- September: ninth graze
- November: tenth graze, take soil samples for CASH analysis. Apply farm-produced compost to existing pastures before December cutoff.
- January: eleventh graze, evaluate year 3 financials, compare to baseline and create summary to share with others,determine poultry production levels for upcoming season, consult with technical advisor on adaptive grazing strategies for upcoming season
- March: twelfth graze
- May: thirteenth graze

4. How will managing the proposed conservation practice(s) in this way address the challenges you are facing? What are you hoping the outcomes will be? (For example, you may be hoping to increase soil biological activity, organic matter, soil structure, and/or water holding capacity, among other metrics)

Converting an additional 16 acres of row crop land to perennial pasture will enable us to make our grazing rotations more adaptive. Managing 60 acres of pasture with one-acre paddocks rotated daily provides 60 days of rest between sheep grazing events. Adding 16 acres to our existing available acreage will enable us to incorporate longer rest periods - for example, to allow grassland birds to nest and fledge in select areas and to assist with parasite management and control in our sheep flock. We plan to work with our technical advisor annually to vary the size of our paddocks and/or the frequency of our rotations based on forage availability. Manage stocking density more effectively in this way will help build soil biology. Incorporating pastured poultry into our grazing management will also help promote soil biological activity and reduce parasite pressure on the flock by spreading and incorporating manure, allowing us to decrease use of dewormers which can have a negative effect on soil biology.

From a soil health outcomes perspective, while we don't anticipate the length of the project being long enough to see a significant change in soil organic matter, we hope that providing a longer rest period and incorporating poultry into our rotation on our existing fields will have an impact on our active carbon scores, which can be a leading indicator of improvements in soil biological health. We predict a small uptick in organic matter and perhaps a larger (but still likely small) increase in active carbon over the course of the project.

From an economic perspective, we are also hopeful that we will see a reduction in parasite infestation in our sheep flock and an improvement in the quality of our pastured eggs. These economic impacts will be a co-benefit of our soil health work, but will also have added benefits for soil health as reduced parasite infestation results in reduced dewormer use, eliminating the impacts of dewormers on soil biology.

5. How will the proposed management sequester carbon and/or reduce greenhouse gas emissions? How are you estimating the benefits (e.g., reduction in number of equipment or tillage passes, reduction in carbon intensive inputs, COMET modeling, etc.)?

According to COMET modeling, combining cropland conversion to pasture on 16 acres with prescribed grazing to improve non-irrigated pasture condition and replacing synthetic N with compost on the new pasture plus our existing 35 acres, we would achieve approximate carbon sequestration and greenhouse gas emissions reduction of 39 tonnes CO2 equivalent per year.

6. How will you or other farmers potentially benefit from the outcomes of the proposed project? Do you plan on expanding implementation to other fields in your operation or sharing information with other farmers in the future?

We will work with partners at the Soil Health Benchmark Study and the Million Acre Challenge grazers network, along with the Mountains to Bay Grazing Alliance, to offer a field day on converting row crop to pasture land and multispecies grazing, with a focus on the soil health and economic benefits. We will also write a brief newsletter article for the MAC newsletter and offer to participate in a lunch and learn to explain our process and results.

7. Are you willing to work with MDA over the course of the grant term to share success stories and lessons learned? How would you be willing to share that information (e.g., data sharing, hosting a field day, or being a part of another information sharing event)

We are happy to work with MDA throughout the project to share lessons learned, whether through soil health and financial data sharing, field day hosting, being part of a farmer panel, writing a blog post or case study, or others. We believe that transparency is critical for farmers to learn from one another and look forward to sharing what is working and what isn't in our project and our farm as a whole.

8. If you are proposing a research project, what farms are you working with? Please be sure to identify specific partners and submit maps of implementation areas.

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APPLICATION FOR FINANCIAL ASSISTANCE: **PROJECT BUDGET**

Healthy Soils Competitive Fund 2024

Please complete the project budget table below and outline expected costs of implementation over the next three years. Costs described should be specific to the proposed practice(s) and associated management. No overhead or indirect costs are eligible. Only complete rows as necessary, as not every item listed will be relevant to every application. Be sure that the submitted project narrative and budget justify one another.

Please provide the best available information to date on the Project.

Item	**MDA Grant Request**	**Other funding sources**
Labor Cost $ **(include estimated labor hours)**	50% of labor costs: $300 (20 hrs @ $30/hr) farmer labor to seed $300 (20 hrs @ $30/hr farmer labor construct poultry house) $16,425 (1 hr per day x 365 days x 3 years @$30/hr) farmer labor to rotate livestock $90 (2 hrs/yr x 3 years @ $30/hr) farmer labor to collect soil samples $225 (5 hrs/yr x 3 yrs @ $30/hr) farmer labor to analyze financial impacts [$17340]	50% of labor costs in-kind: $300 (20 hrs @ $30/hr) farmer labor to seed $300 (20 hrs @ $30/hr farmer labor to construct poultry house) $16,425 (1 hr per day x 365 days x 3 years @$30/hr) farmer labor to rotate livestock $90 (2 hrs/yr x 3 years @ $30/hr) farmer labor to collect soil samples $225 (5 hrs/yr x 3 yrs @ $30/hr) farmer labor to analyze financial impacts [$17340]
Fringe/Benefits $		
Materials $	$5,500 seed $11,000 20’x40’ HenGear pastured poultry house	

	$1700 ($425 x 4) HenGear roll-out nest boxes for poultry house $250-Lumber & Hardware for perches and mounting nest boxes $300-Feeders $500-Watering system [19,250]	

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Direct Expenses $	$75 no-till drill rental $250 shipping for seed $1000 transportation for poultry house $100 Poultry flooring [$1425]	$1600 for 160 Chickens already owned, will need to restock in year 2 and year 3 Chicken Feed-ongoing ($700/ton-lasts 90days)
Subcontractor $ (include **sub-contractor name and value of service)**		
Travel $ **(itemize by mileage, meals, lodging, etc.)**		
Other Expenses $		
TOTAL	$38,015	$18,940

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