



Haystack Farmstead (HF) Modular Meat Plant (MMP)

Business Plan for Processing Operations

10/25/21

Summary

This plan details strategy for operating the HF MMP under cooperative labor management with farmers and collaborators Brian Leach, HF, Pawlet, Seth Butler, Deep Roots Farm, Pawlet and Mara Hearst, Levy Lamb, Pawlet. The collaborators will have ongoing support and access to what is effectively HF MMP's "sister facility" – Higley Hill Processing in Wilmington, VT. This will be vital in the training and start-up phases.

The HF MMP is a 1120 sq. ft. modular, portable processing unit with ruminant and poultry capabilities to be located on Haystack Farmstead and owned by Leach. It will be operated part time under USDA inspection by collaborating farmers, processing 24 beef and 1650 chickens per year for Leach, 130 lambs for Hearst, 12 beef and 500 chickens for Butler.

Collaborators will help each other to perform their own processing, sharing variable and overhead costs as a percentage of labor hours required for their production. Slaughter-for-hire services will be provided to offset costs but will be limited in the early stages of operation. Leach will pursue Act 250 and zoning approval to operate the facility as a commercial slaughterhouse once on-farm operations have been proven. This will enable Leach and collaborators to provide more services for hire if it is in the collective interest or create opportunities for other Farmer-Operators and/or employees. This second, "commercial phase" is in preliminary planning stages but is of key interest as RFN/Southshire develops a processing and distribution hub in Bennington. The HF MMP, in conjunction with neighboring Mettowee Valley farms, could source substantial kill & quarter volumes to such a hub if operated commercially.

Organization Description

The HF MMP is to be legally owned, insured and operated by Brian Leach, sole proprietor of Haystack Farmstead. As an enterprise, it will function as a small cooperative with Leach, Hearst and Butler as the managing members. Final design, construction planning, operating procedures and production plans will be made as a group, and the physical work within the facility done by the same. The managing members and their farm enterprises are profiled here:

Mara Hearst, Levy Lamb:

Mara Hearst is a 1st generation farmer that has successfully built a reputable sheep grazing enterprise from scratch. Working as a server in a nearby, renowned farm-to-table restaurant where her lamb is also sold, Mara developed a passion taking food from field to plate and managing for quality and ethics at each step. She is also an active member of NOFA-VT's Jack Lazor Memorial Soil Health Cohort program. Mara's off farm work as a professional book-keeper and her HACCP experience with on-farm poultry production make her ideal for leading the team's HACCP plan development. Mara will also lead the formalization of the groups training plan, and will draw on her close ties in the restaurant industry to bring in craft butchering expertise.

Seth Butler, Deep Roots Farm:

Seth and Diane Butler and their four children Lillian, Garrett, Nathan, Noah, purchased their 277 acre farm in Pawlet from their family in 2019. They focus on diversified small scale production with regenerative practices. Operating with a small farm store and CSA model, the Butlers prioritize low stress and low impact production that integrates family and farm life in an enriching way.

Seth Butler grew up on a family farm in Hebron. With various family involved in neighboring enterprises of dairy, forestry, machining and mechanics, Butler developed a diverse skill-set that lends itself to this project. He, like Leach, believes that technology is an important part of farm life, but that small-scale, robust solutions are needed to give small producers more of a fighting chance.

Description of Operations

The HF MMP will operate under cooperative labor management, with Leach, Hearst, Butler planning their yearly production and assisting the others with processing to the extent they need help with theirs. The extent of borrowing required for the facility's construction is the largest variable in determining shared costs for the collaborators. If funded by WLEB, a loan of \$35,000 is pre-approved, contributing to total annual overhead of \$14,619 for the group. HF is anticipated to cover ~ 50% of these expenses, or \$7,310. Hiring other processors for the same production volume would cost HF \$14,500, or nearly twice as much. Additional slaughter-for hire services will be provided to balance out production days, offsetting overhead by \$4500 at minimum.

The immediate goal of the MMP is to support the needs of the collaborators. Slaughter for hire work will be brought on to build-out the kill days so that the facility and crew runs at capacity. At current projections, 15 days will need to be dedicated to poultry which will come in the form of 5-day processing weeks, one for each of 3 bird growth cycles. Beef slaughter operations will occur at minimum once per month, with 4 beef killed and quartered per day. Of these, 2 will be for Leach, 1 for Butler, and 1 slaughter-for-hire. Sheep operations will be offset to occur on different days than beef, with 10 or 11 of Hearst's lambs matched with 5-10 slaughter-for-hire. Hearst and Butler's cut and wrap needs can be met with 6 days of fabrication total on the month. The carcass cooler can be filled early in the month, allowing the carcasses to age as much as 3 weeks before fabrication occurs. This unique capability will give the collaborators another premium, niche marketing attribute. Months with poultry processing will require large animal fabrication complete with the cooler empty one week earlier than normal.

Products and Marketing

HF MMP Collaborators will maintain their existing product lines and prepare for new products and marketing efforts as the MMP is brought online. Leach aims to maintain beef production levels at 24 finishers, selling primal cuts for 25 months now to the Vermont Butcher Shop (VBS) at premium pricing of \$4.50 lb. hanging. The MMP stands to improve margins and logistics for the beef enterprise and add additional value thanks to a longer available aging period. This approach will be tested and if successful, HF and VBS will work together to promote it at a premium.

The most significant marketing effort will be required in the area of poultry production, which was a new revenue stream for HF in 2021. Leach's goal for the enterprise is total vertical integration for margins. HF grew and harvested 5 acres of wheat for chicken feed in 2021, and plans to grow more cereals and legumes to feed a total ration. Leach contracted Butler to assist in the fabrication of a novel and highly effective "poultry schooner" which enables a group of 600 broilers to be fed in-field with 2x daily moves. The MMP completes the picture for a vertically integrated, Organic, Pasture-Raised Chicken product that will be marketed at the highest available premiums.

HF will continue to grow birds under contract with Southshire Meats, Bennington and simultaneously cultivate more direct sales to households and premium retailers. Experience with VBS has shown that wholesale arrangements directly to premium retailers without brokerage or transport commissions can be viable. Leach aims to find this same sweet spot with poultry and keep production levels modest. Further diversification to sheep and/or swine is a possibility made more feasible by integrated grains and meat processing. Butler and Hearst have similar aims to integrate their processing first to improve margins, then subsequently use the added capacity to pursue new opportunities.

Considerations for Viability

As a component of HF's diversified operations, success of the MMP on HF and at large depends on the following factors:

- 1) **Access to skilled and reliable operators:** Achieved through collaboration with other farmer-processors under cooperative and leasing models.
- 2) **Alignment with farming operations that produce premium quality stock:** Achieved through continued pursuit of well-functioning pasture, housing infrastructure and diligent management.
- 3) **Access to marketing channels** that will utilize the value adding capabilities of the farm and the facility. This needs to be cultivated constantly, but quality product and reliable supply form the bedrock of good sales arrangements.
- 4) **Reasonable initial investment:** The open source nature of the MMP is an excellent candidate for grant funding, because most of the research and development costs can be absorbed in early projects, making subsequent duplicates or variants more cost effective. The HF MMP can lead to systems that are predictable, functional and affordable enough that they can be safely financed. For this project, fully financing the build would likely put undue financial pressure on the collaborators and the risk and pressure could be discouraging.
- 5) **Opportunities for Leasing and/or Slaughter for Hire (SFH):** Leach and other collaborators do not aim to become full-time processors, but all agree that SFH services should be provided to a reasonable extent. At current production projections, there are 51 days of plant operation, leaving considerable room for SFH. Beyond the availability of the original collaborators, supplemental part-time laborers or Farmer-Operators could be

identified. For these reasons, Leach will pursue conditional zoning approval to operate the on-farm facility commercially, like the precedent of Higley Hill in Wilmington.

Potential Failure Points and Corrective Actions

- 1) Collaborators fail to support each other due to schedule conflicts, disagreement or disinterest:** Collaboration can be a difficult practice to sustain. Farmers are often drawn to the work for the independence and creative control. Personal motivation is often rooted in this, as much of the menial labor many owner-operators do, they do gladly for themselves. Leach aims to create a situation that brings farmers together when they need each other but provide ample independent space and creative control. Efficacy of the MMP is key here: If the facility and collaboration create tangible value in excess of the required time and energy, collaborators will feel motivated to participate.
- 2) The facility doesn't get completed:** Leach has been attempting to build the MMP for several years, but running a farm simultaneously has meant scarce time and financial resources to bring it to completion. Recognizing the pitfalls of this approach, he is approaching the project with the strategy of engaging others and contracting more of the build. This results in a larger project budget, but fundraising appropriately is a prudent effort when the importance of timely completion is considered.
- 3) The facility is completed, but marketing gains and margin improvement for collaborators does not keep pace with facility overhead:** In order for the HF MMP to work, it must achieve USDA inspection and it must absorb the processing requirements for the collaborators and their farm enterprises. With this and partial grant funding, collaborators will see their processing costs reduced by 60% with a reasonable time commitment. Once Slaughter for Hire (SFH) is phased in, collaborators can offset their processing costs entirely, producing net additional income. It is imperative that facility overhead does not materialize before the processing activity shifts. Payments for the financed portion of the budget will be deferred for a year to allow time for construction.
- 4) The facility fails to obtain conditional zoning approval, preventing it from commercial operation:** Leach plans to operate the facility 1-2 years as an on-farm facility prior to pursuing a transition to commercial operation. Physical changes to the site will be limited with the transition, with an additional 160 sq. ft. carcass cooler being the only planned addition to facilities. Neighbor setbacks are substantial and additional truck traffic will be negligent compared to existing use of VT-30. These factors considered; conditional zoning approval is likely for commercial operation. However, the baseline production goals illustrated in this plan can all be achieved with the facility operating as an Act-250 exempt, on-farm facility. If more facility utilization is desired, HF has carrying capacity to add additional species. Thus, commercial transition failure does not pose a financial threat or burden, it would simply be a missed opportunity.

HF MMP: Project Budget

10/22/2021

Component	Projected Cost Ea.	Qty.	Ext.	Notes	By Category:	
Stone Fill	\$ 8.00		356 \$	2,848.00	Cubic Yards	Site Prep/Excavation: \$ 10,558.00
Mounting Blocks	\$ 20.00		14 \$	280.00	For Setting Sections	Envelope Construction: \$ 69,900.00
Grading Work	\$ 150.00		6 \$	900.00	Dozer Hourly Rate	Facility Equipment: \$ 34,301.00
Mound Septic Maters	\$5,330		1 \$	5,330.00	Sand, Plumbing, Pumps, Transfer Tank	
Mound Excavation	\$150		8 \$	1,200.00	Backhoe, Dozer, Hand-Work	
KF_1	\$ 8,800.00		1 \$	8,800.00	Kill Floor Section 1	
KF_2	\$ 8,800.00		1 \$	8,800.00	Kill Floor Section 2	
RC_KF	\$ 6,500.00		1 \$	6,500.00	Raised Ceiling - Kill Floor	
PF_1	\$ 8,800.00		1 \$	8,800.00	Processing Floor Section 1	
PF_2	\$ 8,800.00		1 \$	8,800.00	Processing Floor Section 2	
CC_20	\$ 13,600.00		1 \$	13,600.00	Carcass Cooler	
WIR_20	\$ 14,600.00		1 \$	14,600.00	Walk-In Refridgeration Unit, Dual Purpose	
Stun Chute	\$ 3,200.00		1 \$	3,200.00	Custom Stun Chute: Fold-Away	
Stunner	\$ 1,475.00		1 \$	1,475.00	Captive Bolt	
Cradle	\$ 550.00		1 \$	550.00	Cradle for Beef Dressing	
Splitting Saw	\$ 3,250.00		1 \$	3,250.00	Dressing	
Poultry Scaldler	\$ 2,750.00		1 \$	2,750.00	Poultry Processing	
Poultry Plucker	\$ 610.00		1 \$	610.00	Poultry Processing	
Evisceration Table	\$ 750.00		1 \$	750.00	Poultry Processing	
Bilge Assembly	\$ 490.00		1 \$	490.00	Drainage well with pump and plumbing	
Hand Sinks	\$ 350.00		3 \$	1,050.00	With knee valves	
Wash Sinks	\$ 530.00		2 \$	1,060.00	For kill floor and processing floor	
Band Saw	\$ 2,380.00		1 \$	2,380.00	Fabrication	
Meat Grinder	\$ 1,650.00		1 \$	1,650.00	Fabrication	
Vacuum Sealer	\$ 4,985.00		2 \$	9,970.00	For packaging, with cart	
Cutting Boards, Knives	\$ 526.00		1 \$	526.00		
Powered Sharpener	\$ 260.00		1 \$	260.00		
Racks, Shelving	\$ 280.00		2 \$	560.00	for dry storage area	
Lighting	\$ 150.00		20 \$	3,000.00	per fixture	
Outlets	\$ 55.00		14 \$	770.00	per fixture	
			Total	\$ 114,759.00		
Contracting & Consulting						
	Planning		\$	5,000.00		
	Media		\$	10,000.00		
	Construction		\$	25,000.00		
Contracting Subtotal				\$ 40,000.00		
			Cash Required	\$ 154,759.00		
Existing Grants			\$	24,500.00		
Loan Amount			\$	35,000.00		
Budget Request			\$	95,259.00		
In Kind - Training			\$	10,000.00		
In Kind - Design Work			\$	40,000.00		
In Kind - Manufacturing Facilities Access			\$	20,000.00		
In Kind - Fabrication Work			\$	40,000.00		
In-Kind Total				\$ 110,000.00		
Total Budget:				\$ 264,759.00		

HF MMP: Baseline Planned Production Activity

10/22/2021

Farm	Product Type	Per Annum	Ave. Hanging Weight	Ext. (lb.)	Labor Per Carcass	Labor Hours Req.	Price Hanging	Product Revenue	Conventional Processing Cost	Ext.
Haystack Farmstead	Beef, Kill & Quarter	24	750	18,000	4	96	4.5	\$ 81,000.00	0.26	\$ 4,680.00
	Chicken, Whole Bird, Wrapped	1650	4.5	7,425	0.16	264	4.5	\$ 33,412.50	1.33	\$ 9,875.25
Levy Lamb	Lamb, Kill & Quarter + Cut & Wrap	130	60	7,800	2.5	325	8	\$ 62,400.00	2.08	\$ 16,224.00
Deep Roots Farm	Beef, Kill & Quarter + Cut & Wrap	12	750	9,000	12	144	4.5	\$ 40,500.00	1.25	\$ 11,250.00
	Chicken, Whole Bird, Wrapped	500	4.5	2,250	0.16	80	6	\$ 13,500.00	1.33	\$ 2,992.50
Off-Farm Customer 1	Beef, Kill & Quarter	12	750	9,000	4	48	0.26	\$ 2,340.00		
Off-Farm Customer 2	Lamb Kill & Quarter	90	60	5,400	2.5	225	0.4	\$ 2,160.00		
						909		\$ 235,312.50		\$ 45,021.75

Labor burden divided 3 ways 303
 Number of 6 hr. days from above 51
 Number of 3-day work-weeks from above 17

Column Key

Per Annum Production: Each enterprises' planned livestock thruput

Average Hanging Weight: The weight of the animals after slaughter/evisceration operations

Hanging Weight Extended: The yearly total planned hanging weight

Labor Per Carcass: Actual individual labor hours to complete the process, based on Higley Hill Actuals

Labor Hours Required: Total labor requirements for the year

Price Hanging: The prices the enterprises sell the products for. Note that in the case of Off-Farm customers, this is the [rate charged for services rendered](#)

Product Revenue: Resulting annual revenue for the products

Conventional Processing Cost: What it would cost to have this work performed at other regional slaughterhouses.

HF MMP: Slaughter for Hire (SFH) Projections

Baseline Team Production Days:	51					
Facility Available Production Days (Commercial Operation):	260					
	Required Production Days above Baseline:					
	0	3	6	11	29	149
	Total Production Days:					
	51	54	57	62	80	200
Beef, Kill & Quarter	12	12	12	12	12	172
Beef, Kill & Quarter + Cut & Wrap		4	4	4	24	24
Lamb Kill & Quarter	90	90	90	90	90	890
Lamb, Kill & Quarter + Cut & Wrap			20	20	40	40
Chicken, Whole Bird, Wrapped				750	750	6750
Revenue from Scenario	\$ 4,500.00	\$ 8,250.00	\$ 10,050.00	\$ 14,538.75	\$ 35,088.75	\$ 121,398.75
Baseline Internal Production	44,475					
SFH Production in Hanging Wgt.	14,400	17,400	18,600	21,975	38,175	233,175
Total SFH in Hanging Wgt.	58,875	61,875	63,075	66,450	82,650	277,650

Column Key

On-Farm Operation (Baseline)

This baseline scenario is the approximate ceiling of SFH under "On Farm" Act 250 exemption. The total SFH production and MMP collaborator production matches that of the host farm, Haystack Farmstead. Revenue from SFH offsets MMP operating costs

Commercial Operation

This scenario depicts much higher facility utilization assuming conditional use zoning approval for commercial operation. In the right-most column, the MMP is used for mixed cut & wrap SFH, and 120 additional days of mixed species kill & quarter to support the Southshire Meats regional food hub in Bennington. The labor demand to secure this revenue is beyond the capacity of the collaborator pool, so supplemental staff would be needed. It is estimated that such a utilization scheme could bring ~\$45,000 of net profit for the host farm.

HF MMP: Process Details, from Higley Hill Actual Operations

Note: Higley Hill is an on-farm facility in Wilmington operating under USDA Inspection for ruminants and poultry.

Species	Product Type	Typical Crew	Work Period	Labor Total	Daily Production (carcasses)	Hours per carcass	Hanging Weight per Carcass	Total Hanging Weight Production	lb./hr	Rates, Hanging	Typical Revenue per Carcass
Beef	Kill & Quarter	2	8	16	4	4	750	3000	187.5	\$ 0.26	\$ 195.00
	Cut & Wrap	2	8	16	2	8	750	1500	93.75	\$ 1.25	\$ 937.50
Sheep(Lamb)	Kill & Quarter	2	2	4	8	0.5	60	480	120	\$ 0.40	\$ 24.00
	Cut & Wrap	1	8	8	4	2	60	240	30	\$ 1.50	\$ 90.00
Chicken	Whole Bird Wrapped	4	6	24	150	0.16	4.5	675	28.125	\$ 1.33	\$ 5.99

HF MMP: Operating Cost Estimates**10/22/2021****Variable Costs**

	cost/ lb hanging	total cut & wrap production	annual projected cost
Sealing Bags	\$ 0.04	26475	\$ 1,059.00
Carcass Cooler	cost/mo. est		
	\$ 60.00		\$ 720.00
Walk-In Freezer			
	\$ 120.00		\$ 1,440.00
Hot Water			
	\$ 50.00		\$ 600.00
Lighting & Misc. Electrical			
	\$ 150.00		\$ 1,800.00
		Subtotal	\$ 5,619.00

Debt Expense

Montly Payment	Note: \$35k loan, 5% interest, 5 year sch.		
	\$650		\$ 7,800.00

Insurance

\$ 920.00

Testing Fees

cost/mo. est			
\$100			\$ 1,200.00

Total Overhead \$ 15,539.00