Small Grains on Very Small Farms

Great Day Gardens - Forest, VA

April 2024

Have you ever considered diversifying your farm with a small grain enterprise? We thought about this for years, and finally tried it out from 2022 to 2024. Thanks to on-farm research funding from Southern SARE, we piloted small plantings of wheat and rye on our farm to test the practicality and economics of integrating wheat and rye with our vegetable enterprise.

To share our results, we are publishing this series of enterprise budgets for Wheat and Rye at 1-and 5-Acre scales. These budgets are based on our cropping system that utilized the tools we already had on our market farm. This included a 39 HP tractor, tandem disc for incorporating seed, and hand tools for cutting the grain. The only specialized equipment was an Almaco portable plot thresher that we rented from a peer farmer. We have found that having a mechanical thresher of some kind is necessary for even the smallest of small grain plantings.

Break Ever				
	1 Acre	5 Acres		
Rye	\$5.95	\$4.92		
Wheat	\$6.69	\$5.59		

Unfortunately, the break-even prices we found for both crops are well above a marketable price for wholesale customers, and most retail customers. However, heritage grain seeds are often sold above these prices, and retail customers may be willing to pay more for a product with a great story and good marketing. Our suggestion is that pursuing grain production at this scale is suitable only for:

- Farms with access to a seed market, especially for rare varieties.
- Farms with access to a committed retail base willing to pay much more.
- Farms with access to a threshing device.
- Farms with access to custom combining services.

Even if these conditions are met, the labor requirements of this enterprise prevent it from being scalable much over 1 acre. In the end, we found that this was not a viable enterprise for our farm without significant investments in equipment. However, we believe it could be viable under the right circumstances, and wanted to share what we learned with anyone who may be motivated to try this out!

1 Acre	Wheat						
			Quantity	Unit	\$/Unit	Total	
Receipts		Wheat	859	lbs.	\$6.69	\$5,746.19	
		Straw	67	bales	\$5.00	\$335.00	
Total Rec	eipts						\$6,081.19
Cultivatio	n Costs						
Cullivatio	Supplies						
	Supplies	Seed	100	lbs.	\$2.00	\$200.00	
		Clover Seed		lbs.	\$5.00	\$200.00	
				lbs.			
	Lohor	Nitrogen Fertilizer	10	ws.	\$4.36	\$43.60	
	Labor	Cail Dranaration	2	haura	фоо оо	фсо oo	
		Soil Preparation		hours	\$20.00	\$60.00	
		Seeding		hours	\$20.00	\$45.00	
		Fertilizing		hours	\$20.00	\$131.60	
<del>-</del>		Overseeding Clover	1	hours	\$20.00	\$20.00	4=0= 00
	ivation Cost	:S					\$525.20
Harvest C							
	Supplies						
		Thresher Rental	1		\$895.00	\$895.00	
	Labor						
		Cutting		hours	\$15.00	\$2,640.00	
		Threshing	49	hours	\$15.00	\$735.00	
Total Harv	est Costs						\$4,270.00
Processir	ng Costs						
	Supplies						
		Bags	18	bags	\$0.51	\$9.18	
	Labor						
		Transportation and Cle	12	hours	\$20.00	\$240.00	
	Services						
		Cleaning	859	lbs.	\$0.28	\$240.52	
		Milling	859	lbs.	\$0.81	\$695.79	
	Transport	ation					
			150	miles	\$0.67	\$100.50	
Total Proc	essing Cos	ts					\$1,285.99
Total Cost	is						\$6,081.19

5 Acres	Wheat						
			Quantity	Unit	\$/Unit	Total	
Receipts		Wheat	4295	lbs.	\$5.59	\$24,028.95	
		Straw	335	bales	\$5.00	\$1,675.00	
Total Rece	eipts						\$25,703.95
Cultivation	n Costs						
	Supplies						
		Seed	500	lbs.	\$2.00	\$1,000.00	
		Clover Seed	25	lbs.	\$5.00	\$125.00	
		Nitrogen Fertilizer	50	lbs.	\$4.36	\$218.00	
	Labor						
		Soil Preparation	15	hours	\$20.00	\$300.00	
		Seeding	11.25	hours	\$20.00	\$225.00	
		Fertilizing	32.9	hours	\$20.00	\$658.00	
		Overseeding Clover	5	hours	\$20.00	\$100.00	
Total Culti	vation Cost	S					\$2,626.00
Harvestin	g Costs						
	Supplies						
		Thresher Rental	1		\$895.00	\$895.00	
	Labor						
		Cutting	880	hours	\$15.00	\$13,200.00	
		Threshing	245	hours	\$15.00	\$3,675.00	
Total Harv	esting Cost	is .					\$17,770.00
Processin	g Costs						
	Supplies						
		Bags	90	bags	\$0.51	\$45.90	
	Labor						
		Transportation and Cl	24	hours	\$20.00	\$480.00	
	Services						
		Cleaning	4295	lbs.	\$0.28	\$1,202.60	
		Milling	4295	lbs.	\$0.81	\$3,478.95	
	Transport	ation					
			150	miles	\$0.67	\$100.50	
Total Proc	essing Cos	ts					\$5,307.95
Total Cost	:S						\$25,703.95

1 Acre	Rye						
			Quantity	Unit	\$/Unit	Total	
Receipts		Rye	911	lbs.	\$5.95	\$5,418.38	
		Straw	71	bales	\$5.00	\$355.00	
Total Rec	eipts						\$5,773.38
Cultivatio	n Costs						
	Supplies						
		Seed	100	lbs.	\$0.75	\$75.00	
		Clover Seed	5	lbs.	\$5.00	\$25.00	
		Nitrogen Fertilizer	10	lbs.	\$4.36	\$43.60	
	Labor						
		Soil Preparation	3	hours	\$20.00	\$60.00	
		Seeding	2.25	hours	\$20.00	\$45.00	
		Fertilizing	6.58	hours	\$20.00	\$131.60	
		Overseeding Clover	1	hours	\$20.00	\$20.00	
Total Cult	ivation Cost	S					\$400.20
Harvest C	osts						
	Supplies						
		Thresher Rental	1	month	\$895.00	\$895.00	
	Labor						
		Cutting	118	hours	\$15.00	\$1,770.00	
		Threshing	91	hours	\$15.00	\$1,365.00	
Total Harv	est Costs						\$4,030.00
Processir	ng Costs						
	Supplies						
		Bags	19	bags	\$0.51	\$9.69	
	Labor						
		Transportation and C	12	hours	\$20.00	\$240.00	
	Services						
		Cleaning	911	lbs.	\$0.28	\$255.08	
		Milling	911	lbs.	\$0.81	\$737.91	
	Transport	ation					
			150	miles	\$0.67	\$100.50	
Total Proc	essing Cos	ts					\$1,343.18
Total Cost	is						\$5,773.38

5 Acres	Rye						
			Quantity	Unit	\$/Unit	Total	
Receipts		Rye	4555	lbs.	\$4.92	\$22,389.90	
		Straw	355	bales	\$5.00	\$1,775.00	
Total Rece	eipts						\$24,164.90
Cultivation	n Costs						
outaratio.	Supplies						
		Seed	500	lbs.	\$0.75	\$375.00	
		Clover Seed		lbs.	\$5.00		
		Nitrogen Fertilizer	50	lbs.	\$4.36	\$218.00	
	Labor						
		Soil Preparation	15	hours	\$20.00	\$300.00	
		Seeding	11.25	hours	\$20.00	\$225.00	
		Fertilizing	32.9	hours	\$20.00	\$658.00	
		Overseeding Clover	5	hours	\$20.00	\$100.00	
Total Culti	vation Cost	S					\$2,001.00
Harvestin	g Costs						
	Supplies						
		Thresher Rental	1		\$895.00	\$895.00	
	Labor						
		Cutting	590	hours	\$15.00	\$8,850.00	
		Threshing	455	hours	\$15.00	\$6,825.00	
Total Harv	esting Cost	ts					\$16,570.00
Processin	g Costs						
	Supplies						
		Bags	95	bags	\$0.51	\$48.45	
	Labor						
		Transportation and (	Cl€ 24	hours	\$20.00	\$480.00	
	Services						
		Cleaning	4555		\$0.28	\$1,275.40	
		Milling	4555	lbs.	\$0.81	\$3,689.55	
	Transport	ation					
			150	miles	\$0.67	\$100.50	
	essing Cos	ts					\$5,593.90
<b>Total Cost</b>	S						\$24,164.90