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## Six Year Trend Analysis 2022 New York State Dairy Farms Selected Financial and Production Factors

# Dairy Farm Business Summary New York State Same 122 Farms 2017 - 2022

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## Six Year Trend Analysis New York Dairy Farms Selected Financial and Production Factors Dairy Farm Business Summary New York State Same 122 Farms, 2017 – 2022

#### Jason Karszes and Lauren Augello<sup>1</sup>

Trend analysis is an important use of benchmarking within a dairy business. While current year performance is important, understanding trends within the business and the industry may provide additional insight into strengths and areas of opportunity. To provide benchmark trends of various financial and performance factors over time, data was utilized from 122 farms that have participated in the Dairy Farm Business Summary and Analysis Project(DFBS) in New York State for six years, from 2017 through 2022. This information is reported on an average basis, the top 25% of farms as determined by average return on assets w/o appreciation over the six years, and the remaining 75% of farms. For selected factors, the trends and changes between the top 25% of farms and the remaining 75% are highlighted. The following tables present these benchmarks:

Table 1	Selected Characteristics, Six Year Comparison, Average All 122 Farms
Table 2	Top 25% of Farms vs Remaining 75% of Farms, Percent Change and Differences
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Table 9	"Legal 21" Farm Financial Ratios, Same 122 Farms

To utilize these tables, place your number for the appropriate benchmark next to or below the corresponding number for the appropriate year. Once all six years are recorded, then you can compare your trends to the benchmark trends. If your trends are different than the industry, then you can ask the question: "Why is it different" to help identify potential areas of improvements or strengths to continue to build. If you are a DFBS cooperator, you can work with your extension educator to look at these trends and comparisons between all farms and your farm business.

These benchmarks and comparisons are provided for use for comparison purposes only and represents the performance of those farms participating in the Dairy Farm Business Summary and Analysis Program in New York State. These numbers don't represent the average for all dairy farms across New York and are from farms that are generally considered above average dairy farms in New York. No analysis or interpretation of these benchmarks and ratios is provided.

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<sup>&</sup>lt;sup>1</sup> PRO-DAIRY Program, Department of Animal Science, Cornell University, Ithaca, NY



## PRODAIRY

### Selected Characteristics, Six Year Comparison Same 122 Farms

New York State, Dairy Farm Business Summary & Analysis Program

	New Tork Sta	ale, Da	aliy Fallii busi	11622	Summary & Ar	iaiysi	s Program			%
Size of Business	2017		2018		2019		2020	2021	2022	Change
average number of cows	998		1,067		1,129		1,172	1,201	1,232	23.4%
percent heifers to cows	87%		84%		80%		79%	77%	75%	
milk sold, pounds	26,036,735		27,653,276		29,751,464		30,950,615	32,517,785	33,439,461	28.4%
worker equivalent	20.9		21.7		22.3		22.6	22.5	22.9	
tillable acres per cow	1.93		1.85		1.80		1.81	1.82	1.80	-6.7%
corn grain acres per cow	0.15		0.21		0.11		0.14	0.18	0.18	
Rates of Production										
milk sold per cow, pounds	26,099		25,911		26,362		26,408	27,085	27,144	4.0%
cull rate	34%		32%		34%		35%	35%	33%	
net calf & cow sales, per cow	378		300		268		272	289	356	
Labor Efficiency										
cows per worker	47.7		49.1		50.7		51.9	53.4	53.9	13.1%
milk sold per worker, pounds	1,243,397		1,272,585		1,335,944		1,370,102	1,444,593	1,463,434	17.7%
Cost Control and Milk Price										
dairy feed & crop expense per cwt. milk	\$ 7.09	\$	7.14	\$	6.99	\$	7.49	\$ 8.25	\$ 9.82	
labor and machinery costs per cow	\$ 1,740	\$	1,740	\$	1,685	\$	1,728	\$ 1,760	\$ 1,834	
hired labor cost per cwt.	\$ 2.95	\$	2.96	\$	2.97	\$	3.08	\$ 3.08	\$ 3.25	
labor cost per hired worker equivalent	\$ 42,359	\$	43,336	\$	45,442	\$	48,173	\$ 50,800	\$ 54,173	27.9%
operating cost of producing milk per cwt. <sup>1</sup>	\$ 14.80	\$	14.97	\$	15.34	\$	15.77	\$ 16.07	\$ 19.44	
purch. input cost of producing milk per cwt.1	\$ 16.52	\$	16.62	\$	16.93	\$	17.36	\$ 17.60	\$ 21.08	
total cost of producing milk per cwt.1	\$ 18.83	\$	18.84	\$	19.06	\$	19.60	\$ 19.89	\$ 23.54	
net milk price per cwt.	\$ 17.42	\$	16.08	\$	18.28	\$	17.25	\$ 18.45	\$ 25.32	
Capital Efficiency(average for year)										
farm capital per cow	\$ 12,139	\$	11,743	\$	11,471	\$	11,895	\$ 12,495	\$ 13,539	11.5%
machinery and equipment per cow	\$ 1,885	\$	1,787	\$	1,733	\$	1,803	\$ 1,897	\$ 2,101	
net reinvestment per cow	\$ 908	\$	571	\$	577	\$	852	\$ 799	\$ 1,254	
Profitability										
net farm income without appreciation	\$ 509,894	\$	177,898	\$	744,399	\$	982,786	\$ 715,388	\$ 1,986,467	
net farm income w/o apprec. per cow	\$ 511	\$	167	\$	660	\$	839	\$ 596	\$ 1,612	
labor & management income per oper.	\$ 40,197	\$	(97,153)	\$	127,931	\$	205,216	\$ 78,714	\$ 572,189	
rate of return on equity capital w/o apprec.	3.9%		-0.3%		6.3%		8.0%	4.7%	14.9%	
rate of return on all capital w/o apprec.	3.9%		1.4%		5.8%		6.7%	4.2%	11.6%	
Financial Summary										
farm net worth, end of year	8,396,401		8,196,971		8,932,290		10,107,692	10,726,839	12,694,487	59.5%
debt to asset ratio	0.33		0.35		0.33		0.30	0.31	0.28	
farm debt per cow	\$ 3,999	\$	3,995	\$	3,780	\$	3,678	\$ 3,941	\$ 4,007	0.2%
retained earnings	\$ 296,654	\$	(87,319)	\$	451,326	\$	710,939	\$ 318,373	\$ 1,517,034	
valuation equity change	\$ 105,484	\$	(234,881)	\$	231,908	\$	94,217	\$ 237,108	\$ 303,740	

<sup>&</sup>lt;sup>1</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included in the calculation as an offset to the cost of milk production measures for 2020 in this report.





## Top 25% of Farms vs. Remaining 75% of Farms Percent Change and Differences, Selected Measures Same 122 Farms, 2017 - 2022 Dairy Farm Business Summary, New York State

Percent Percent Difference<sup>1</sup> 2017 2022 Change Change 2017 2022 Average Herd Size, Milking & Dry Top 25% 1,461 1,950 489 33.5% 72.7% 95.4% 75% 846 998 152 18.0% Milk per Cow, Lbs. Top 25% 26,419 27,906 1,487 5.6% 1.9% 4.7% 75% 25,919 26,658 738 2.8% Milk Sold per Farm, Lbs. Top 25% 38.608.152 54.429.475 15.821.323 41.0% 76.0% 104.7% 75% 21,937,359 21.2% 26,594,892 4,657,533 Cows per Worker Top 25% 51.1 59.6 8.50 16.6% 11.5% 17.4% 75% 45.9 10.8% 50.8 4.96 Milk Sold per Worker, Lbs. Top 25% 1,351,353 1,664,510 313,157 23.2% 13.7% 22.9% 75% 1,189,017 1,354,119 165,102 13.9% Hired Labor Cost per Cwt. \$0.16 5.5% -5.5% Top 25% \$2.84 \$3.00 -12.2% 75% \$3.01 \$0.41 13.5% \$3.42 Cost per Hired Worker Top 25% \$42,486 \$54,647 28.6% 0.5% 1.4% \$12,160 75% \$42,292 \$53,900 \$11,608 27.4% **Investment Per Cow** \$11,765 Top 25% \$13,442 \$1,677 14.3% -4.7% -1.2% 75% \$12,349 \$13,600 \$1,251 10.1% Machinery Invest. per Cow Top 25% \$1,635 \$196.00 12.0% -19.3% \$1,831 -19.4% 75% \$2,026 \$2,273 \$247.35 12.2% Debt Per Cow, End of Year \$3,283 6.4% -25.7% Top 25% \$3,493 \$210.00 -19.3% 75% \$4,419 \$4,330 -\$89.00 -2.0% Net Worth, Beginning of 2016 to End of 2021

\$21,496,181 \$9,479,716

\$9,824,370 \$3,188,497

78.9%

48.0%

81.1%

118.8%

\$12,016,465

\$6,635,873

Top 25%

75%

The percent difference between the top 25% and the remaining 75% of farms for the year.



Table 3

## Top 25% of Farms vs. Remaining 75% of Farms

## Selected Measures, Six Year Comparison Same 122 Farms, 2017 - 2022

Dairy Farm Business Summary, New York State

'	Dally Fallii bi	usiness sum	ilialy, ivew	TOIK State		
	2017	2018	2019	2020	2021	2022
Net Reinvestment Per Cow	1					
Top 25%	-\$1,084	-\$706	-\$722	-\$959	-\$758	-\$1,395
75%	-\$811	-\$492	-\$490	-\$784	-\$825	-\$1,164
Farm Capital per Cow	***	*	7	****	¥5-5	<b>+</b> 1,101
Top 25%	\$11,765	\$11,292	\$11,044	\$11,379	\$12,082	\$13,442
75%	\$12,349	\$12,008	\$11,730	\$12,220	\$12,759	\$13,600
Tillable Acres per Cow	. ,	. ,	. ,	. ,	. ,	. ,
Top 25%	1.69	1.61	1.53	1.49	1.47	1.50
75%	2.01	1.94	1.92	1.96	2.00	1.95
Corn Grain Acres per Cow						
Top 25%	0.09	0.14	0.07	0.08	0.11	0.12
75%	0.19	0.25	0.14	0.18	0.23	0.21
Crop Revenue, Per Cow						
Top 25%	\$158	\$128	\$42	\$34	\$180	\$176
75%	\$107	\$108	\$52	\$122	\$302	\$168
Cull Rate, Percent						
Top 25%	34%	29%	33%	35%	33%	34%
75%	34%	34%	35%	36%	36%	33%
Net Calf & Cow Income, per	r Cow <sup>2</sup>					
Top 25%	\$373	\$322	\$265	\$262	\$289	\$363
75%	\$382	\$287	\$270	\$278	\$291	\$351
Percent Heifers to Cows	·	•			·	·
Top 25%	85%	81%	76%	74%	74%	71%
75%	88%	87%	83%	82%	79%	78%
Operating Cost to Produce	Milk per Cwt.3					
Top 25%	\$13.93	\$14.06	\$14.47	\$14.96	\$15.53	\$18.14
75%	\$15.30	\$15.52	\$15.88	\$16.28	\$16.42	\$20.31
Total Cost to Produce Milk		•	•		·	•
Top 25%	\$17.79	\$17.68	\$17.97	\$18.57	\$19.15	\$22.07
75%	\$19.43	\$19.55	\$19.75	\$20.27	\$20.38	\$24.52
Net Farm Income Per Cow	******	+ 10100	<b>*</b>	¥	<b>,</b>	<b>*</b>
Top 25%	\$772	\$463	\$952	\$1,076	\$784	\$2,034
75%	\$364	-\$8	\$482	\$688	\$476	\$1,343
Net Milk Price per Cwt.	·		•	•	·	. ,
Top 25%	\$17.47	\$16.16	\$18.36	\$17.47	\$18.49	\$25.38
75%	\$17.39	\$16.04	\$18.23	\$17.11	\$18.42	\$25.28
Farm Operating Receipts pe						
Top 25%	\$21.53	\$19.97	\$21.61	\$22.55	\$22.31	\$29.91
75%	\$21.19	\$19.65	\$21.56	\$23.09	\$22.99	\$29.97
Working Capital as Percent						
Top 25%	28%	30%	35%	41%	41%	47%
75%	19%	16%	18%	23%	23%	27%
,						

<sup>&</sup>lt;sup>1</sup>Net Reinvestment per cow is the total capital reinvested in the farm minus any capital sales

<sup>&</sup>lt;sup>2</sup>Net calf & cow income, per cow = cattle revenue plus calf revenue - purchased replacement - expansion cattle expense

<sup>&</sup>lt;sup>3</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included as an offset to the cost of production measures for 2020 in this report.



**Table 3 Continued** 

						Table S	Continued
		2017	2018	2019	2020	2021	2022
Hired Labor	Cost per Cwt.						
	Top 25%	\$2.84	\$2.78	\$2.75	\$2.85	\$2.84	\$3.00
	75%	\$3.01	\$3.07	\$3.11	\$3.23	\$3.23	\$3.42
Purchased F	eed per Cwt.						
	Top 25%	\$5.61	\$5.69	\$5.58	\$5.85	\$6.62	\$7.87
	75%	\$5.69	\$5.79	\$5.72	\$6.15	\$6.70	\$7.79
Livestock Ex	penses, Total pe	er Cwt. <sup>4</sup>					
	Top 25%	\$3.10	\$3.02	\$3.03	\$3.25	\$3.29	\$3.69
	75%	\$3.36	\$3.14	\$3.22	\$3.41	\$3.42	\$4.09
Machinery &	Fuel Expenses	per Cwt.5					
Š	Top 25%	\$1.77	\$1.69	\$1.77	\$1.76	\$1.90	\$2.46
	75%	\$2.10	\$2.05	\$2.19	\$2.16	\$2.31	\$3.06
Machinery D	epreciation Exp	ense per Cwt.					
-	Top 25%	\$0.92	\$0.81	\$0.79	\$0.79	\$0.79	\$0.85
	75%	\$1.01	\$0.93	\$0.89	\$0.91	\$0.84	\$0.94
Crop Input C	osts per Cwt.6						
	Top 25%	\$0.97	\$0.88	\$0.81	\$0.88	\$0.91	\$1.23
	75%	\$1.18	\$1.15	\$1.06	\$1.16	\$1.30	\$1.74
Additional Fix	xed Costs per C	wt. <sup>7</sup>					
	Top 25%	\$1.47	\$1.48	\$1.44	\$1.44	\$1.45	\$1.62
	75%	\$1.55	\$1.53	\$1.55	\$1.68	\$1.70	\$1.94
Interest Cost	s per Cwt.						·
	Top 25%	\$0.45	\$0.54	\$0.54	\$0.39	\$0.31	\$0.40
	75%	\$0.69	\$0.82	\$0.86	\$0.64	\$0.54	\$0.66
Total Farm C	perating Expen	ses per Cwt.					
	Top 25%	\$16.61	\$16.50	\$16.39	\$16.95	\$17.94	\$20.89
	75%	\$17.87	\$17.85	\$18.01	\$18.76	\$19.53	\$23.05

<sup>&</sup>lt;sup>4</sup>Livestock Expenses = sum of replacement livestock, breeding, vet, milk marketing, bedding, milking supplies, cattle lease, custom boarding, bST, livestock professional fees, and other livestock expenses categories

<sup>&</sup>lt;sup>5</sup>Machinery & Fuel Expenses = sum of machine hire, rent, & lease, machine repairs & parts, and fuel, oil, & grease expense categories

<sup>&</sup>lt;sup>6</sup>Crop Input Costs = sum of fertilizer & lime, seeds & plants, spray & other crop expenses, and crop, professional fees expense categories

<sup>&</sup>lt;sup>7</sup>Fixed Costs = sum of land, building & fence repair, taxes, rent & lease, insurance, utilities, other professional fees, and miscellaneous expenses categories



## Six Year Per Cwt. Comparison Same 30 Farms, Top 25% Sorted by Return on Assets w/o Appreciation New York State, Dairy Farm Business Summary & Analysis Program

Table 4

Year

			Ye	ear		
	2017	2018	2019	2020	2021	2022
number of cows	1,461	1,607	1,734	1,845	1,904	1,950
milk sales in pounds	38,608,152	42,413,560	46,671,436	49,647,912	52,617,584	54,429,475
milk per cow	26,419	26,391	26,911	26,912	27,634	27,906
RECEIPTS						
milk sales	\$18.52	\$17.36	\$19.50	\$18.75	\$19.85	\$27.02
dairy cattle sales	\$1.58	\$1.30	\$1.17	\$1.02	\$1.00	\$1.22
dairy calf sales	\$0.19	\$0.10	\$0.09	\$0.16	\$0.24	\$0.39
other livestock sales	\$0.03	\$0.05	\$0.02	\$0.01	\$0.01	\$0.01
crop sales	\$0.60	\$0.48	\$0.16	\$0.12	\$0.65	\$0.63
government receipts	\$0.12	\$0.12	\$0.21	\$1.96	\$0.09	\$0.16
custom machine work	\$0.07	\$0.08	\$0.09	\$0.09	\$0.09	\$0.12
gas tax refund	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
other	\$0.43	\$0.47	\$0.37	\$0.43	\$0.39	\$0.35
non-cash transfer (subtract)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Farm operating receipts	\$21.53	\$19.97	\$21.61	\$22.55	\$22.31	\$29.91
EXPENSES						
Hired labor	\$2.84	\$2.78	\$2.75	\$2.85	\$2.84	\$3.00
Feed						
dairy grain & concentrate	\$5.61	\$5.69	\$5.58	\$5.85	\$6.62	\$7.87
dairy roughage	\$0.39	\$0.41	\$0.47	\$0.52	\$0.62	\$0.62
nondairy feed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
professional nutritional services	\$0.01	\$0.01	\$0.01	\$0.01	\$0.00	\$0.00
Machinery						
machine hire, rent & lease	\$0.45	\$0.43	\$0.49	\$0.51	\$0.55	\$0.62
machine repairs & parts	\$0.88	\$0.76	\$0.82	\$0.88	\$0.90	\$1.05
fuel, oil & grease	\$0.44	\$0.51	\$0.46	\$0.37	\$0.45	\$0.78





	2017	2018	2019	2020	2021	2022
Livestock						
replacement livestock	\$0.02	\$0.03	\$0.08	\$0.14	\$0.13	\$0.17
breeding fees	\$0.18	\$0.16	\$0.14	\$0.17	\$0.17	\$0.18
veterinary & medicine	\$0.63	\$0.58	\$0.54	\$0.52	\$0.54	\$0.55
milk marketing	\$1.05	\$1.20	\$1.15	\$1.28	\$1.36	\$1.64
bedding	\$0.33	\$0.30	\$0.30	\$0.31	\$0.32	\$0.35
milking supplies	\$0.28	\$0.28	\$0.31	\$0.32	\$0.30	\$0.33
cattle leased	\$0.01	\$0.00	\$0.01	\$0.02	\$0.00	\$0.01
custom boarding	\$0.40	\$0.36	\$0.36	\$0.35	\$0.30	\$0.26
bST	\$0.05	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
livestock, professional fees	\$0.06	\$0.05	\$0.06	\$0.07	\$0.07	\$0.08
other livestock expense	\$0.10	\$0.05	\$0.07	\$0.07	\$0.10	\$0.11
Crops						
fertilizer & lime	\$0.33	\$0.34	\$0.32	\$0.32	\$0.38	\$0.61
seeds & plants	\$0.42	\$0.34	\$0.31	\$0.36	\$0.35	\$0.40
spray & other crop expense	\$0.21	\$0.19	\$0.17	\$0.18	\$0.17	\$0.20
crop, professional fees	\$0.02	\$0.01	\$0.01	\$0.01	\$0.02	\$0.02
Real estate						
land, build., fence repair	\$0.26	\$0.28	\$0.32	\$0.33	\$0.31	\$0.40
taxes	\$0.24	\$0.22	\$0.21	\$0.21	\$0.23	\$0.22
rent & lease	\$0.27	\$0.28	\$0.25	\$0.27	\$0.24	\$0.21
Other cash expense						
insurance	\$0.16	\$0.15	\$0.16	\$0.16	\$0.15	\$0.18
utilities	\$0.33	\$0.35	\$0.30	\$0.28	\$0.34	\$0.43
interest paid	\$0.45	\$0.54	\$0.54	\$0.39	\$0.31	\$0.40
other, professional fees	\$0.11	\$0.11	\$0.10	\$0.10	\$0.08	\$0.09
miscellaneous	\$0.11	\$0.09	\$0.10	\$0.09	\$0.10	\$0.08
Farm operating expenses	\$16.61	\$16.50	\$16.39	\$16.95	\$17.94	\$20.89
Expansion Cattle	\$0.34	\$0.16	\$0.20	\$0.07	\$0.05	\$0.14
Extraordinary Expense	\$0.02	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00
Machinery Depreciation	\$0.92	\$0.81	\$0.79	\$0.79	\$0.79	\$0.85
Building Depreciation	\$0.72	\$0.73	\$0.70	\$0.73	\$0.70	\$0.75
Total Accrual Expenses	\$18.61	\$18.21	\$18.07	\$18.55	\$19.48	\$22.62
Net Farm Income w/o Appreciation	\$2.92	\$1.75	\$3.54	\$4.00	\$2.84	\$7.29



#### Selected Characteristics, Six Year Comparison Same 30 Farms, Top 25% Sorted by Return on Assets w/o Appreciation

Table 5

New York State, Dairy Farm Business Summary & Analysis Program

				Υ	ear/			
		2017	2018	2019		2020	2021	2022
Size of Business								
average number of cows		1,461	1,607	1,734		1,845	1,904	1,950
average number of heifers		1,242	1,298	1,326		1,358	1,401	1,389
percent heifers to cows		85%	81%	76%		74%	74%	71%
milk sold, pounds	;	38,608,152	42,413,560	46,671,436		49,647,912	52,617,584	54,429,475
worker equivalent		28.57	30.24	30.99		31.92	32.16	32.70
total tillable acres		2,464	2,587	2,654		2,743	2,793	2,915
Rates of Production								
milk sold per cow, pounds		26,419	26,391	26,911		26,912	27,634	27,906
hay DM per acre, tons		3.50	3.30	3.50		3.20	3.90	3.40
corn silage per acre, tons		19.00	19.00	18.40		17.70	19.10	18.60
grain acres per cow		0.09	0.14	0.07		0.08	0.11	0.12
cull rate		34%	29%	33%		35%	33%	34%
net calf & cow sales, per cow	\$	373	\$ 322	\$ 265	\$	262	\$ 289	\$ 363
_abor Efficiency								
cows per worker		51.1	53.1	56.0		57.8	59.2	59.6
milk sold per worker, pounds		1,351,353	1,402,565	1,506,016		1,555,386	1,636,119	1,664,510
Cost Control and Milk Price								
grain & conc. purchased as % of milk sales		30%	33%	29%		31%	33%	29%
dairy feed & crop expense per cwt. milk	\$	6.97	\$ 6.98	\$ 6.85	\$	7.25	\$ 8.15	\$ 9.72
labor and machinery costs per cow	\$	1,614	\$ 1,536	\$ 1,566	\$	1,595	\$ 1,671	\$ 1,916
hired labor cost per cwt.	\$	2.84	\$ 2.78	\$ 2.75	\$	2.85	\$ 2.84	\$ 3.00
labor cost per hired worker equivalent	\$	42,486	\$ 42,873	\$ 45,415	\$	48,510	\$ 50,751	\$ 54,647
operating cost of producing milk per cwt.1	\$	13.93	\$ 14.06	\$ 14.47	\$	14.96	\$ 15.53	\$ 18.14
purch. input cost of prod. milk per cwt.1	\$	15.59	\$ 15.61	\$ 15.96	\$	16.49	\$ 17.01	\$ 19.73
total cost of producing milk per cwt.1	\$	17.79	\$ 17.68	\$ 17.97	\$	18.57	\$ 19.15	\$ 22.07
net milk price per cwt.	\$	17.47	\$ 16.16	\$ 18.36	\$	17.47	\$ 18.49	\$ 25.38

<sup>&</sup>lt;sup>1</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included as an offset to the cost of production measures for 2020 in this report.



### **Table 5 Continued**

	2017	2018	2019	2020	2021	2022	5 Year %
Capital Efficiency(average for year)							Change
farm capital per cow	\$ 11,765	\$ 11,292	\$ 11,044	\$ 11,379	\$ 12,082	\$ 13,442	14.3%
machinery and equipment per cow	\$ 1,635	\$ 1,526	\$ 1,484	\$ 1,548	\$ 1,639	\$ 1,831	12.0%
asset turnover ratio	0.50	0.45	0.55	0.55	0.54	0.66	
net reinvestment per cow	\$ 1,084	\$ 706	\$ 722	\$ 959	\$ 758	\$ 1,395	
Profitability							
net farm income without appreciation	\$ 1,128,476	\$ 744,284	\$ 1,650,646	\$ 1,985,614	\$ 1,492,447	\$ 3,967,122	
net farm income w/o apprec. per cow	\$ 772	\$ 463	\$ 952	\$ 1,076	\$ 784	\$ 2,034	
net farm income with appreciation	\$ 1,485,930	\$ 489,133	\$ 2,132,677	\$ 2,322,115	\$ 2,201,711	\$ 4,951,927	
net farm income with apprec. per cow	\$ 1,017	\$ 304	\$ 1,230	\$ 1,259	\$ 1,156	\$ 2,539	
labor & management income per oper.	\$ 205,796	\$ 39,330	\$ 393,881	\$ 498,417	\$ 262,676	\$ 1,196,682	
net non-farm withdrawals per cwt.	\$ 0.83	\$ 1.27	\$ 1.09	\$ 0.95	\$ 1.47	\$ 1.95	
rate of return on equity capital with apprec.	10.1%	2.0%	13.7%	13.3%	11.3%	23.7%	
rate of return on all capital with apprec.	8.4%	2.7%	11.2%	10.8%	9.1%	18.6%	
rate of return on equity capital w/o apprec.	7.3%	4.0%	10.2%	11.1%	7.1%	18.7%	
rate of return on all capital w/o apprec.	6.3%	4.1%	8.7%	9.2%	6.1%	14.9%	
Financial Summary							
farm net worth, end of year	\$ 12,897,107	\$ 12,987,605	\$ 14,533,217	\$ 16,558,611	\$ 17,834,842	\$ 21,496,181	78.9%
debt to asset ratio	0.28	0.29	0.27	0.25	0.25	0.24	
farm debt per cow	\$ 3,283	\$ 3,235	\$ 2,974	\$ 2,935	\$ 3,147	\$ 3,493	6.4%
debt coverage ratio	2.79	1.53	2.80	3.17	1.99	4.96	
working capital, as % of expenses	28%	30%	35%	41%	41%	47%	
retained earnings	\$ 807,171	\$ 207,036	\$ 1,140,165	\$ 1,512,517	\$ 721,361	\$ 2,903,043	
valuation equity change	\$ 60,469	\$ (424,663)	\$ 284,888	\$ 3,683	\$ 478,429	\$ 595,940	



## Six Year Per Cwt. Comparison Same 92 Farms, Remaining 75% Sorted by ROA w/o Appreciation

New York State, Dairy Farm Business Summary & Analysis Program

			Υ	ear		
	2017	2018	2019	2020	2021	2022
number of cows	846	891	931	953	971	998
milk sales in pounds	21,937,359	22,840,140	24,234,082	24,853,671	25,963,503	26,594,892
milk per cow	25,919	25,628	26,029	26,089	26,734	26,658
RECEIPTS						
milk sales	\$18.46	\$17.20	\$19.38	\$18.45	\$19.77	\$27.02
dairy cattle sales	\$1.48	\$1.19	\$1.07	\$1.05	\$1.03	\$1.31
dairy calf sales	\$0.20	\$0.07	\$0.07	\$0.14	\$0.23	\$0.33
other livestock sales	\$0.07	\$0.12	\$0.05	\$0.07	\$0.14	\$0.09
crop sales	\$0.41	\$0.42	\$0.20	\$0.47	\$1.13	\$0.63
government receipts	\$0.17	\$0.16	\$0.24	\$2.36	\$0.17	\$0.14
custom machine work	\$0.06	\$0.06	\$0.06	\$0.06	\$0.08	\$0.07
gas tax refund	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
other	\$0.34	\$0.43	\$0.48	\$0.50	\$0.43	\$0.38
non-cash transfer(subtract)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Farm operating receipts	\$21.19	\$19.65	\$21.56	\$23.09	\$22.99	\$29.97
EXPENSES						
Hired labor Feed	\$3.01	\$3.07	\$3.11	\$3.23	\$3.23	\$3.42
dairy grain & concentrate	\$5.69	\$5.79	\$5.72	\$6.15	\$6.70	\$7.79
dairy roughage	\$0.30	\$0.30	\$0.29	\$0.34	\$0.32	\$0.36
nondairy feed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
professional nutritional services	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Machinery						
machine hire, rent & lease	\$0.56	\$0.52	\$0.61	\$0.62	\$0.61	\$0.73
machine repairs & parts	\$0.99	\$0.90	\$0.99	\$1.10	\$1.11	\$1.31
fuel, oil & grease	\$0.55	\$0.63	\$0.59	\$0.44	\$0.59	\$1.02

Table 6



**Table 6 Continued** 

	2017	2018	2019	2020	2021	2022
Livestock						
replacement livestock	\$0.05	\$0.02	\$0.06	\$0.07	\$0.07	\$0.12
breeding fees	\$0.23	\$0.23	\$0.20	\$0.22	\$0.22	\$0.24
veterinary & medicine	\$0.63	\$0.58	\$0.60	\$0.58	\$0.57	\$0.61
milk marketing	\$1.07	\$1.16	\$1.15	\$1.34	\$1.35	\$1.74
bedding	\$0.36	\$0.34	\$0.37	\$0.37	\$0.36	\$0.42
milking supplies	\$0.39	\$0.35	\$0.36	\$0.37	\$0.36	\$0.40
cattle leased	\$0.01	\$0.01	\$0.02	\$0.01	\$0.01	\$0.02
custom boarding	\$0.40	\$0.29	\$0.29	\$0.30	\$0.31	\$0.34
bST	\$0.04	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
livestock, professional fees	\$0.07	\$0.06	\$0.06	\$0.07	\$0.07	\$0.06
other livestock expense	\$0.10	\$0.10	\$0.10	\$0.08	\$0.10	\$0.14
Crops						
fertilizer & lime	\$0.43	\$0.42	\$0.38	\$0.45	\$0.54	\$0.87
seeds & plants	\$0.47	\$0.48	\$0.44	\$0.45	\$0.47	\$0.49
spray & other crop expense	\$0.24	\$0.23	\$0.21	\$0.23	\$0.27	\$0.35
crop, professional fees	\$0.04	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Real estate						
land, build., fence repair	\$0.28	\$0.21	\$0.25	\$0.32	\$0.28	\$0.38
taxes	\$0.25	\$0.26	\$0.26	\$0.27	\$0.26	\$0.27
rent & lease	\$0.30	\$0.32	\$0.32	\$0.36	\$0.39	\$0.36
Other cash expense						
insurance	\$0.18	\$0.18	\$0.18	\$0.19	\$0.19	\$0.23
utilities	\$0.35	\$0.37	\$0.33	\$0.35	\$0.37	\$0.47
interest paid	\$0.69	\$0.82	\$0.86	\$0.64	\$0.54	\$0.66
other, professional fees	\$0.09	\$0.10	\$0.11	\$0.09	\$0.09	\$0.12
miscellaneous	\$0.10	\$0.09	\$0.11	\$0.10	\$0.10	\$0.11
Farm operating expenses	\$17.87	\$17.85	\$18.01	\$18.76	\$19.53	\$23.05
Expansion Cattle	\$0.15	\$0.13	\$0.05	\$0.05	\$0.11	\$0.20
Extraordinary Expense	\$0.02	\$0.01	\$0.01	\$0.00	\$0.01	\$0.00
Machinery Depreciation	\$1.01	\$0.93	\$0.89	\$0.91	\$0.84	\$0.94
Building Depreciation	\$0.73	\$0.76	\$0.75	\$0.73	\$0.72	\$0.73
Total Accrual Expenses	\$19.78	\$19.68	\$19.71	\$20.46	\$21.21	\$24.92
Net Farm Income w/o Appreciation	\$1.41	-\$0.03	\$1.85	\$2.64	\$1.78	\$5.04



#### Selected Characteristics, Six Year Comparison Same 92 Farms, Remaining 75% Sorted by ROA w/o Appreciation

New York State, Dairy Farm Business Summary & Analysis Program

Year 2017 2018 2019 2020 2021 2022 5 Year % Size of Business Change average number of cows 846 891 931 953 971 998 18.0% 769 average number of heifers 745 772 772 778 776 4.2% percent heifers to cows 88% 87% 83% 82% 79% 78% milk sold, pounds 21.937.359 22.840.140 24.234.082 24,853,671 25.963.503 26.594.892 21.2% worker equivalent 19.37 19.64 6.4% 18.45 18.96 19.43 19.55 total tillable acres 1,704 1,732 1,788 1,872 1,938 1,948 14.3% Rates of Production 2.8% milk sold per cow, pounds 25.919 25.628 26.029 26.089 26.734 26.658 3.30 0.0% hay DM per acre, tons 3.20 3.10 3.00 3.60 3.30 corn silage per acre, tons 3.9% 18.00 18.90 18.60 18.60 19.40 18.70 grain acres per cow 0.19 0.25 0.14 0.18 0.23 0.21 13.6% cull rate, % 34% 34% 35% 36% 36% 33% -2.9% net calf & cow sales, per cow \$ 382 \$ 287 \$ 270 \$ 278 \$ 291 \$ 351 Labor Efficiency cows per worker 45.9 47.0 47.9 48.7 50.1 50.8 10.8% milk sold per worker, pounds 1,189,017 1,204,649 1,247,251 1,271,288 1,340,398 1,354,119 13.9% Cost Control and Milk Price 29.00 grain & conc. purchased as % of milk sales 31.00 34.00 30.00 33.00 34.00 9.89 dairy feed & crop expense per cwt. milk \$ 7.17 \$ 7.24 \$ 7.08 \$ 7.65 \$ 8.32 \$ \$ \$ \$ 1.938 \$ 2,217 22.5% labor and machinery costs per cow 1,810 1,772 1,827 1,865 hired labor cost per cwt. \$ 3.01 3.07 \$ 3.11 3.23 \$ 3.23 \$ 3.42 \$ labor cost per hired worker equivalent 42.292 43,596 \$ 45.456 47.984 \$ 50.829 \$ 53.900 27.4% operating cost of producing milk per cwt.1 \$ 15.30 15.52 \$ 15.88 16.28 \$ 16.42 20.31 purch, input cost of prod, milk per cwt.1 \$ 17.06 17.23 \$ 17.53 \$ \$ 17.92 17.99 21.98 total cost of producing milk per cwt.1 \$ 19.55 \$ 19.75 20.27 \$ 20.38 19.43 24.52 \$ net milk price per cwt. 17.39 16.04 18.23 \$ 17.11 18.42 25.28

Table 7

<sup>&</sup>lt;sup>1</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included as an offset to the cost of production measures for 2020 in this report.



#### **Table 7 Continued**

Capital Efficiency(average for year)	ange
farm capital per cow \$ 12,349 \$ 12,008 \$ 11,730 \$ 12,220 \$ 12,759 \$ 13,600 10	0.1%
machinery and equipment per cow \$ 2,026 \$ 1,941 \$ 1,884 \$ 1,963 \$ 2,062 \$ 2,273 12	2.2%
asset turnover ratio 0.47 0.41 0.51 0.51 0.51 0.62	
net reinvestment per cow \$ 811 \$ 492 \$ 490 \$ 784 \$ 825 \$ 1,164	
Profitability	
net farm income without appreciation \$ 308,183 \$ (6,792) \$ 448,884 \$ 655,778 \$ 461,999 \$ 1,340,601	
net farm income w/o apprec. per cow \$ 364 \$ (8) \$ 482 \$ 688 \$ 476 \$ 1,343	
net farm income with appreciation \$ 556,652 \$ (108,580) \$ 744,771 \$ 883,702 \$ 780,915 \$ 1,741,464	
net farm income with apprec. per cow \$ 658 \$ (122) \$ 800 \$ 927 \$ 804 \$ 1,745	
labor & management income per oper. \$ (13,530) \$ (140,308) \$ 42,081 \$ 111,143 \$ 20,391 \$ 362,037	
net non-farm withdrawals per cwt. \$ 0.81 \$ 0.78 \$ 0.92 \$ 0.83 \$ 1.15 \$ 1.39	
rate of return on equity capital with apprec. 5.5% -4.4% 8.0% 9.0% 7.0% 16.6%	
rate of return on all capital with apprec. 5.0% -1.1% 6.9% 7.2% 5.7% 12.5%	
rate of return on equity capital w/o apprec. 1.9% -2.9% 3.7% 6.0% 3.1% 12.3%	
rate of return on all capital w/o apprec. 2.7% -0.1% 4.2% 5.2% 3.2% 9.6%	
Financial Summary	
farm net worth, end of year \$ 6,928,780 \$ 6,634,807 \$ 7,105,900 \$ 8,004,131 \$ 8,409,012 \$ 9,824,370 48	3.0%
debt to asset ratio 0.35 0.38 0.36 0.33 0.34 0.31	
farm debt per cow \$ 4,419 \$ 4,445 \$ 4,283 \$ 4,146 \$ 4,448 \$ 4,330 -2.	2.0%
debt coverage ratio 1.31 0.73 1.37 1.69 1.21 2.61	
working capital, as % of expenses 19% 16% 18% 23% 23% 27%	
retained earnings \$ 130,180 \$ (183,304) \$ 226,705 \$ 449,555 \$ 186,963 \$ 1,065,074	
valuation equity change \$ 120,163 \$ (172,995) \$ 214,632 \$ 123,739 \$ 158,416 \$ 208,457	



## "Legal 21" Farm Financial Ratios Same 30 Farms, Top 25% Sorted by ROA w/o Appreciation, New York State, DFBS 2017-2022

	DFBS							6 Year	
	page	2017	2018	2019	2020	2021	2022	Average	Your Farm
Liquidity									
Current Ratio	7	2.53	3.07	3.74	3.98	3.95	4.37	3.61	
Working Capital	7	\$2,002,994	\$2,341,071	\$2,923,487	\$3,767,900	\$4,183,544	\$5,837,644	\$3,509,440	
As % of Total Expense	7	28.0%	30.0%	35.0%	41.0%	41.0%	47.0%	37.0%	
As % of Gross Revenue <sup>1</sup>	calc	24.1%	27.6%	29.0%	33.7%	35.6%	35.9%	31.0%	
Solvency									
Debt/Asset Ratio	7	0.28	0.29	0.27	0.25	0.25	0.24	0.26	
Equity/Asset Ratio	7	0.72	0.71	0.73	0.75	0.75	0.76	0.74	
Debt/Equity Ratio(Leverage Ratio)	7	0.39	0.41	0.37	0.33	0.34	0.32	0.36	
Profitability									
Net Farm Income w/o Appreciation. (Per Cow)	1	\$772	\$463	\$952	\$1,076	\$784	\$2,034	\$1,014	
ROA w/o Appreciation	4	6.3%	4.1%	8.7%	9.2%	6.1%	14.9%	8.2%	
ROE w/o Appreciation	4	7.3%	4.0%	10.2%	11.1%	7.1%	18.7%	9.7%	
Operating Profit Margin Ratio <sup>2</sup>	calc	0.13	0.09	0.16	0.17	0.12	0.24	0.15	
EBITDA(Per Cow) <sup>3</sup>	calc	\$1,173	\$871	\$1,358	\$1,454	\$1,143	\$2,446	\$1,407	
Repayment Capacity									
Capital Debt Repayment Capacity(per cow) <sup>4</sup>	calc	\$1,105	\$679	\$1,205	\$1,335	\$876	\$2,047	\$1,208	
Capital Debt Repayment Margin(per cow) <sup>5</sup>	calc	\$709	\$235	\$775	\$914	\$436	\$1,635	\$784	
Replacement Margin(per cow) <sup>6</sup>	calc	\$862	\$465	\$992	\$1,121	\$659	\$1,811	\$985	
Term Debt Coverage Ratio	1	2.79	1.53	2.80	3.17	1.99	4.96	2.87	
Replacement Margin Coverage Ratio <sup>7</sup>	calc	1.7	1.0	1.9	2.1	1.3	3.2	1.9	

**Table 8 Continued** 

	DFBS							6 Year	
	page	2017	2018	2019	2020	2021	2022	Average	Your Farm
Financial Efficiency									
Asset Turnover Ratio <sup>8</sup>	14	0.5	0.45	0.55	0.55	0.54	0.66	0.54	
Operating Expense Ratio	14	0.77	0.81	0.74	0.74	0.79	0.69	0.76	
Depreciation Expense Ratio	14	0.08	0.08	0.07	0.07	0.07	0.05	0.07	
Interest Expense Ratio	14	0.02	0.03	0.03	0.02	0.01	0.01	0.02	
Net Farm Income from Operations Ratio	4	0.14	0.09	0.16	0.18	0.13	0.24	0.16	

- 1 Calculated utilizing gross income instead of value of farm production. (Current Assets Current Liabilities)/Gross Receipts\*100
- 2 (Net Farm Income + Interest Paid Unpaid Family Labor Owner Value)/Gross Revenue
- 3 (Net Farm Income + Depreciation + Interest Value of Unpaid Owner Labor & Management)/Average Cows
- 4 (Net Farm Income + Depreciation + Net Non-Farm Income Non-Farm Cash Expenses + Interest Paid on Term Loans)/Average Cows
- 5 (Capital Debt Repayment Capacity Scheduled Principle and Interested on Term Loans/Average Cows
- 6 (Capital Debt Repayment Capacity Unfunded(cash) Capital Replacement Allowance. Annual machinery depreciation expense utilized to represent un-funded capital replacement requirement.
- 7 (Capital Debt Repayment Capacity/(Scheduled Principle & Interest on Term Loans + Unfunded(cash) Capital Replacement Allowance))
- 8 Utilizing Gross Farm Income to calculate instead of value of farm production

Source: Farm Financial Ratios and Guidelines, Farm Financial Standards Council, 2014



## "Legal 21" Farm Financial Ratios Same 122 Farms, New York State, DFBS 2017-2022

	DFBS page	2017	2018	2019	2020	2021	2022	6 Year Average	Your Farm
Liquidity	page	2017	2010	2013	2020	2021	2022	Average	Tourraini
Current Ratio	7	2.32	2.3	2.69	3.14	3.07	3.76	2.88	
Working Capital	7	\$1,100,803	\$1,108,727	\$1,371,231	\$1,809,425	\$1,995,790	\$2,770,990	\$1,692,828	
As % of Total Expense	7	22.0%	21.0%	24.0%	30.0%	30.0%	35.0%	27.0%	
As % of Gross Revenue <sup>1</sup>	calc	19.8%	20.3%	21.4%	25.6%	27.0%	27.7%	23.6%	
Solvency									
Debt/Asset Ratio	7	0.33	0.35	0.33	0.3	0.31	0.28	0.32	
Equity/Asset Ratio	7	0.67	0.65	0.67	0.70	0.69	0.72	0.68	
Debt/Equity Ratio(Leverage Ratio)	7	0.49	0.53	0.49	0.43	0.45	0.40	0.47	
Profitability									
Net Farm Income w/o Appreciation (Per Cow)	1	\$511	\$167	\$660	\$839	\$596	\$1,612	\$731	
ROA w/o Appreciation	4	3.9%	1.4%	5.8%	6.7%	4.2%	11.6%	5.6%	
ROE w/o Appreciation	4	3.9%	-0.3%	6.3%	8.0%	4.7%	14.9%	6.3%	
Operating Profit Margin Ratio <sup>2</sup>	calc	0.09	0.03	0.12	0.13	0.09	0.19	0.11	
EBITDA(Per Cow) <sup>3</sup>	calc	\$923	\$589	\$1,090	\$1,219	\$948	\$2,020	\$1,131	
Repayment Capacity									
Capital Debt Repayment Capacity(per cow) <sup>4</sup>	calc	\$900	\$528	\$1,013	\$1,170	\$803	\$1,828	\$1,040	
Capital Debt Repayment Margin(per cow) <sup>5</sup>	calc	\$375	-\$13	\$443	\$621	\$250	\$1,273	\$492	
Replacement Margin(per cow) <sup>6</sup>	calc	\$645	\$298	\$788	\$942	\$580	\$1,583	\$806	
Term Debt Coverage Ratio	1	1.72	0.98	1.78	2.13	1.45	3.29	1.89	
Replacement Margin Coverage Ratio <sup>7</sup>	calc	1.2	0.7	1.3	1.5	1.0	2.3	1.3	

**Table 9 Continued** 

								6 Year	
		2017	2018	2019	2020	2021	2022	Average	Your Farm
Financial Efficiency									
Asset Turnover Ratio <sup>8</sup>	14	0.48	0.43	0.52	0.53	0.52	0.63	0.52	
Operating Expense Ratio	14	0.8	0.85	0.78	0.77	0.82	0.73	0.791667	
Depreciation Expense Ratio	14	0.08	0.08	0.07	0.07	0.07	0.05	0.07	
Interest Expense Ratio	14	0.03	0.04	0.03	0.02	0.02	0.02	0.027	
Net Farm Income from Operations Ratio	4	0.09	0.03	0.12	0.14	0.10	0.20	0.11	

- 1 Calculated utilizing gross income instead of value of farm production. (Current Assets Current Liabilities)/Gross Receipts\*100
- 2 (Net Farm Income + Interest Paid Unpaid Family Labor Owner Value)/Gross Revenue
- 3 (Net Farm Income + Depreciation + Interest Value of Un-Paid Owner Labor & Management)/Average Cows
- 4 (Net Farm Income + Depreciation + Net Non-Farm Income Non-Farm Cash Expenses + Interest Paid on Term Loans)/Average Cows
- 5 (Capital Debt Repayment Capacity Scheduled Principle and Interest on Term Loans/Average Cows
- 6 (Capital Debt Repayment Capacity Unfunded(cash) Capital Replacement Allowance. Annual machinery depreciation expense utilized to represent un-funded capital replacement requirement.
- 7 (Capital Debt Repayment Capacity/(Scheduled Principle & Interest on Term Loans + Unfunded(cash) Capital Replacement Allowance))
- 8 Utilizing Gross Farm Income to calculate instead of value of farm production

Source: Farm Financial Ratios and Guidelines, Farm Financial Standards Council, 2014

## OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2023-12	Six Year Trend Analysis 2022, New York State Dairy Farms Selected Financial and Production Factors	Karszes	, J., and Augello, L.
2023-11	On the Use of Whole-Farm Revenue Protection by Specialty Crop Producers in New York State		, Higgins, E., Raszap nsky, S., and Rickard, B.
2023-10	Organic Dairy Margin Coverage: Is the application Feasible?	Wolf, C.	
2023-08	Progress of the Dairy Farm Report, Dairy Farm Business Summary, 2022	Karszes	, J. and Augello, L.
2023-07	Glossary of Terms Associated with The DFBS: Dairy Farm Business Summary and Analysis	Karszes	, J. and Augello, L.
2023-05	Controlling Pests and Diseases Using Mesotunnels: Understanding Organic Cucurbit Crop Growers' Preferences and Choices	Cheng, I	N.,Zhang, W.,and Gleason, M.
2023-04	2022 New York Berry Price Information	Park, K.	
2023-03	Examination of Impact of Changes of Minimum Wage and Overtime Thresholds to New York State Berry Farmers	Severso M.I.	n, R.M., Park, K. and Gomez,
2023-02	How New York Farmers Adapt to New Farm Labor Overtime Requirements	•	E. Higgins, J. Karszes, B. and C. Wolf
2023-01	Size Year Trend Analysis 2021 – New York State Dairy Farms – Selected Financial and Production Factors	Karszes	, J. and Augello, L
2022-13	Specialty Mushroom Grower Survey Report	Park, K.,	, Gabriel, S., Rangajaran, A.

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