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1991 BUDGET GUIDE

ESTIMATED PRICES FOR
CROP OPERATING INPUTS
AND
CAPITAL INVESTMENT ITEMS

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ABSTRACT

Current costs for 1991 crop inputs and capital investments common to New York agriculture are summarized and/or estimated from supplier surveys and contacts made in early 1991. The guide includes seed, fertilizer, pesticides, labor, and fuel costs for crop inputs. Capital investment items include power and field equipment and structures. An index of prices paid by New York dairy farmers is provided for 1985 through 1990 along with estimates for 1991.

1991 Budget Guide

Contents

	<u>Page</u>
Introduction	1
Crop Operating Inputs	
Seed	2
Fertilizer and Lime	2
Pesticides	2
Other Items - labor, supplies, interest, etc.	4
Capital Investment Items	
Power and Field Equipment	
Tractors	5
Primary Tillage Equipment	5
Secondary Tillage Equipment	5
Planting Equipment	6
Other Growing Equipment	6
Harvesting Equipment	6
Transport Equipment	7
Dairy Structures and Equipment	8
Horizontal Silos	9
Tower Concrete Silos	10
Machine Storage Buildings	11
Selected Manure System Components	12
Index of Prices Paid by New York Dairy Farmers	13

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1991 BUDGET GUIDE

Darwin P. Snyder*

Introduction

Anyone concerned with controlling production costs for farm enterprises knows the importance of planning ahead. The need to control costs is important regardless of commodity prices. Financial planning for the year ahead should include budgeting to determine the cash flows connected with crop inputs and capital purchases.

This publication includes a compilation of prices acquired from several suppliers. It is intended to serve as a guide for farm operators and those who work with them on the budgeting process. Most prices shown herein are averages of several observations obtained in January to March 1991. Costs for dairy structures and equipment were obtained from contractors and from consultations with agricultural engineers. They are considered reasonable for general planning purposes.

Prices vary - sometimes widely - between vendors and depend on options, quality, and other factors. Average prices or estimates of reasonable prices are presented. Users should recognize that prices for individual situations may differ significantly from those presented.

The prices noted for tractors and field equipment are averages of list prices for each item equipped as normally purchased. Accompanying notes are used in some cases to further identify features of a particular capital item.

A table of the index of prices paid by New York dairy farmers is included to provide a perspective of several years. The indices indicate how the major cost items for a dairy farm business have changed in recent years and provide an estimate of how they may be expected to change in 1991.

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Table 1.

CROP OPERATING INPUTS
New York, Spring 1991

Item	Number of responses	Average price ¹	Unit
		\$	
<u>Seed:</u>			
Alfalfa	6	3.15	pound
Broome grass	5	1.41	pound
Timothy	5	0.78	pound
Red clover	5	1.49	pound
Birdsfoot trefoil	5	3.02	pound
Corn	5	76.20	80,000 kernel unit
Oats	5	5.20	bushel
Barley	5	9.29	bushel
Red kidney beans	2	0.68	pound, treated
Soybeans	3	13.50	bushel
<u>Lime:</u> Spread, 92% ENV ²	6	28.91	ton, spread
<u>Fertilizer:</u>			
Bulk blended:			
Nitrogen (N)	5	0.24	pound of N
Phosphorus (P ₂ O ₅)	5	0.23	pound of P
Potassium (K ₂ O)	5	0.13	pound of K
30-32% liquid N	4	158	ton
30-32% liquid N	4	0.26	pound
33.5-0-0 ammonium nitrate	2	184	ton
46-0-0 urea	5	228	ton
82-0-0 anhydrous ammonia	4	260	ton
0-46-0	5	209	ton
0-0-60	6	154	ton
11-52-0 MAP (monoammonium phosphate)	7	243	ton
18-46-0 DAP (diammonium phosphate)	6	231	ton
5-10-10	4	143	ton
6-24-24	7	198	ton
10-10-10	3	159	ton
10-20-20	7	188	ton
0-10-40	5	164	ton
15-15-15	7	186	ton
19-19-19	6	212	ton
<u>Pesticides:</u>			
<u>Fungicides:</u>			
Bayleton 50DF	4	52.93	pound
Benlate 50DF	4	15.90	pound
Bravo 720	3	46.54	gallon
Captan 75 trtmt	3	0.50	pound
Dithane DF	3	2.43	pound

¹Average price, FOB store, before discounts.

²Effective Neutralizing Value.

Table 1 (continued)

CROP OPERATING INPUTS
New York, Spring 1991

Item	Number of responses	Average price	Unit
		\$	
Manzate 200 DF	4	2.55	pound
Mertect 340F	3	124.88	gallon
Penncozeb DF	1	2.34	pound
Ridomil 2E	5	144.43	gallon
Vitavax 200	1	41.12	gallon
<u>Herbicides:</u>			
2,4-D	5	13.21	gallon
Aatrex 4L	5	12.55	gallon
Amiben 10G	4	1.44	pound
Banvel	6	74.76	gallon
Bicep 6L	6	31.12	gallon
Bladex 90DF	6	5.11	pound
Bladex 4L	5	23.73	gallon
Buctril	6	50.63	gallon
Bullet 4L	6	18.82	gallon
Butyrac 200	6	29.94	gallon
Dual 8E	6	62.70	gallon
Eptam 7E	6	26.16	gallon
Eradicane Extra	5	30.90	gallon
Extrazine II 4L	5	17.50	gallon
Gramoxone Extra	6	36.20	gallon
Karmex 80DF	3	4.77	pound
Laddock 3.3L	4	25.07	gallon
Lasso 4EC	5	25.36	gallon
Lexone 75DF	6	25.40	pound
Lorox 50DF	6	8.59	pound
Lorox 4L	4	66.13	gallon
Marksman 3.2L	5	22.83	gallon
Princep 4L	4	15.68	gallon
Prowl 4EC	6	28.23	gallon
Ranger	6	33.74	gallon
Roundup	6	50.96	gallon
Sencor DF	6	25.63	pound
Sutazine Plus 6ME	6	20.18	gallon
Treflan 4EC	6	32.86	gallon
Velper L	6	54.71	gallon

Table 1 (continued)

CROP OPERATING INPUTS
New York, Spring 1991

Item	Number of responses	Average price \$	Unit
<u>Insecticides:</u>			
Ambush 2E	4	105.83	gallon
Asana XL	3	125.65	gallon
Counter 15G	6	1.67	pound
Cygon 400	2	31.20	gallon
Diazinon 14G	3	2.65	pound
Disyston 15G	5	1.34	pound
Dyfonate 4EC	3	46.94	gallon
Dyfonate II 20G	5	2.12	pound
Dylox 80SP	2	7.95	pound
Furadan 15G	5	1.59	pound
Furadan 4F	5	59.37	gallon
Guthion 50WP	3	4.49	pound
Lannate 90SP	3	20.60	pound
Lorsban 15G	6	1.70	pound
Lorsban 4E	5	45.53	gallon
Malathion 5E	4	19.57	gallon
Methoxychlor 2E	2	16.35	gallon
Monitor 2E	3	68.80	gallon
Parathion 8E	4	32.71	gallon
Pennacp M 2EC	2	22.50	gallon
Pounce 3.2EC	5	171.65	gallon
Sevin 50W	3	2.87	pound
Sevin 4F	4	49.39	gallon
Thimet 20G	5	1.57	pound
<u>Other Operating Inputs:</u>			
Baling - twine	3	21.90	9000 ft bale
wire	3	40.96	cwt (6500 ft)
Labor - including all employer costs			
Regular, full-time, career	*	7.50	hour
Part-time, seasonal	*	5.50	hour
Interest	*	10.5	percent
Fire insurance - Real estate, chattel	*	7.00	per \$1,000 coverage
Fuel - diesel - delivered, field use	*	1.10	gallon, w/o tax
pump price	*	1.35	gallon
gas, UL reg - delivered, field use	*	1.05	gallon, w/o tax
pump price	*	1.20	gallon
LP gas, propane for crop drying	*	0.80	gallon

*These costs are estimates that would be reasonable for budgeting purposes in typical farm situations. They are generally based on a variety of sources including farm records and industry contacts regarding current costs and trends.

Table 2. FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1991

Item	Number of responses	Average List Price \$
<u>Tractors</u> - equipped as normally purchased, pto hp, diesel unless otherwise noted.		
12 hp (gas), lawn & garden, hydro transmission	4	3,088
25 hp no cab	6	13,174
40 hp no cab	6	18,027
50 hp no cab	6	20,799
60 hp no cab	6	23,290
60 hp w/front wheel assist no cab	6	29,054
80 hp no cab	6	31,377
80 hp w/front wheel assist no cab	6	37,554
100 hp w/cab & air	6	45,429
100 hp w/front wheel assist w/cab & air	6	53,080
120 hp w/cab & air	6	54,847
120 hp w/front wheel assist w/cab & air	6	63,018
140 hp w/cab & air	6	63,241
175 hp 4WD, with cab w/cab & air	6	80,418
over 200 hp 4WD, [avg. 223 hp] w/cab & air	4	97,474
<u>Primary Tillage Equipment</u>		
Moldboard plow - auto reset, semi-mounted		
4-16"	5	8,574
5-16"	5	9,519
5-18"	5	10,064
6-18"	5	12,459
8-16"	2	15,500
8-18"	4	16,226
Chisel plow - w/front disc		
11 ft, 7 shank	4	6,900
13 ft, 9 shank	6	9,030
Offset disc - 13 ft, 26" disc	4	10,211
<u>Secondary Tillage Equipment</u>		
Disc - 14 ft	5	6,721
16 ft	4	8,991
20 ft	5	12,968
Drag - spring tooth harrow		
16 ft	4	3,745
20 ft	4	4,269
Cultimulcher - 12 ft		
15 ft	5	7,786
15 ft	6	8,249
Field cultivator - 16-18 ft	4	4,452

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1991

Item	Number of responses	Average List Price
		\$
Cultipacker - 12 ft	4	2,936
14 ft	4	3,238
30 ft	3	9,833
Land roller - 24 ft	2	7,600
<u>Planting Equipment</u>		
Grain drill - w/seeders, dry fertilizer		
15 x 7"	3	5,631
21 x 7"	3	6,100
24 x 7"	2	5,725
Cultipacker seeder - 10 ft	3	5,943
12 ft	3	6,800
Corn planter - conventional plateless w/dry fertilizer attachment		
4 row	3	12,447
6 row	4	16,903
8 row	2	21,021
12 row	3	32,735
Corn planter - no-till plateless w/dry fertilizer attachment		
4 row	3	13,067
6 row	4	17,925
8 row	3	22,100
<u>Other Growing Equipment</u>		
Cultivator, row crop - 4 row	4	2,798
6 row	3	3,503
8 row	3	5,040
12 row	4	8,722
Sprayer - 28 ft, 300 gallons	3	3,917
40 ft, 500 gallons	3	6,608
<u>Harvesting Equipment</u>		
Rotary mower - 5 ft	5	927
6 ft	2	1,125
Mower conditioner - 9 ft	6	11,892
12 ft	6	18,436
Side delivery rake - 9 ft	6	3,791
Baler w/kicker, mid-size, twine	6	15,301
Large round baler - 5 ft	6	15,229
Flail chopper - 6 ft	2	8,450
Forage harvester - pto base unit w/o metal detector		
2 row	6	15,407
3 row	6	19,633

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1991

Item	Number of responses	Average List Price
		\$
Windrow pickup head - 5.5 ft	6	3,027
7.5 ft	5	4,005
Corn head - 2 row	6	4,701
3 row	5	8,569
Snapper head - 2 row	1	9,000
Blower - 4 to 5 ft diameter	6	4,122
Combine - self-propelled, diesel, 2 wheel drive		
4 row power unit	3	97,350
4 row corn head	2	17,783
13-16 ft grain head	3	8,081
6 row power unit	4	124,888
6 row corn head	3	20,752
15-18 ft grain head	3	8,953
4 wheel drive option	3	8,500
<u>Transport Equipment</u>		
Running gear - chassis w/tires		
8 ton	5	1,425
12 ton, tandem rear axle	5	2,200
Bale wagon w/8 ton chassis, 4 tires	3	2,500
Round bale mover - 3 pt hitch	3	283
Flat bed transport	1	3,000
Forage wagons - 12 ton chassis, 6 tires, roof		
Side unloading - auger or belt	5	9,340
Side dump - hydraulic lift		
12 ft body	4	10,375
14 ft body	4	12,250
Gravity grain wagon		
300 bu box with 8 ton chassis & tires	4	2,338
Fertilizer spreader, 1 ton capacity	1	3,300
Front end loader - 5 ft material bucket	6	4,200
6 ft material bucket	5	4,920
Manure spreader - hydraulic gate		
225 bu (approximately)	7	6,238
350 bu (approximately)	6	9,252
Slurry spreader		
2,400 gallons (approximately)	6	13,833
Feed mixer wagon w/scales, chassis, tires		
300-350 bu	5	18,920

Table 3. ESTIMATED CAPITAL INVESTMENT COSTS
DAIRY BARN AND MILKING CENTERS FOR TWO FREESTALL BARN SIZES
New York, Spring 1991

Item	BARN SIZE	
	125 Freestalls	250 Freestalls
Dairy Barn - includes site prep & all concrete work, feed bunk, headgates, & freestalls	\$130,000	\$260,000
Computer feeding system (optional)	[15,000	25,000]
Mechanical manure scraper	12,000	20,000
Milking Center - Includes milk room & holding area	75,000	110,000
Parlor equipment - no feeders	16,000	23,000
Milking system - includes pump, controller, pipeline, water heater, heat exchanger, etc.	26,000	29,000
Automatic detachers -		
Basic	13,500	22,500
Additional for computer capability (optional)	[12,000	20,000]
Computer (optional)	[14,000	20,000]
Milk tank includes washer, compressors, & controls	19,500	29,500
Crowd gate	6,000	7,000
Plumbing, wiring, waterers, lighting	16,000	21,000
Well - 200 ft deep, 100 ft of 6" casing with pump	<u>5,000</u>	<u>5,000</u>
TOTAL COST	\$319,000	\$527,000
Per Cow	\$2,552	\$2,108
TOTAL - with computerized feeding, milking	\$360,000	\$592,000
Per Cow	\$2,880	\$2,368

Notes:

1. Barn complex - four rows of freestalls, center drive through design, pole construction with attached masonry, insulated parlor and milk room. All barn equipment installed.
2. 125 stall barn uses a double 6 herringbone parlor with a 2,000 gallon bulk tank. 250 stall barn uses a double 10 herringbone parlor with a 4,000 gallon bulk tank (no rapid exit).
3. Excludes feed storage facilities.

Source: Estimates were developed from information received from three vendors and communication with R. Guest and W. Irish, Department of Agricultural and Biological Engineering, Cornell University.

Table 4.

HORIZONTAL SILOS
ESTIMATED COSTS
New York, Spring 1991

Size	Total Cost	@42 lbs/cu ft		@44 lbs/cu ft	
		Capacity	Cost/ton	Capacity	Cost/ton
	\$	tons	\$	tons	\$
Width x length x height in feet:					
30 x 60 x 10	13,470	378	36	396	34
30 x 80 x 10	17,340	504	34	528	33
40 x 80 x 10	19,200	672	29	704	27
12	21,552	806	27	845	26
40 x 100 x 10	23,380	840	28	880	27
12	26,320	1,008	26	1,056	25
50 x 80 x 10	21,060	840	25	880	24
12	23,412	1,008	23	1,056	22
50 x 100 x 10	25,550	1,050	24	1,100	23
12	28,490	1,260	23	1,320	22
60 x 100 x 10	27,720	1,260	22	1,320	21
12	30,660	1,512	20	1,584	19
60 x 120 x 10	32,520	1,512	22	1,584	21
12	36,048	1,814	20	1,901	19

Notes: (Silo has concrete walls and floor with open ends.)

1. Some top rounding to offset sloping ends is assumed so that capacity is based on volume within the silo walls. Capacity and construction cost per ton data are provided for densities of 42 and 44 pounds per cubic foot.
2. Cost includes site preparation at \$0.21 per square foot of floor area.
 Floor area includes two full width aprons 20 feet long and reinforcing. Average cost at \$1.34 per square foot.
 Walls are erected and in place with necessary supports, footers, and reinforcing. Average cost at \$7.35 per square foot.
 Costs are for silo built within 30 miles of dealer's plant.
3. Capacity would be greater and cost per ton lower if average depth of silage exceeded wall height.
4. Costs are calculated from data supplied by three vendors.

Table 5.

TOWER CONCRETE SILOS AND TOP UNLOADERS
ESTIMATED COSTS
New York, Spring 1991

Silo Size	Capacity	Cost		Unloaders	
		Silo	Per Ton	Surface	Ring
		\$	\$	\$	\$
Diameter x height in feet	Tons @ 70% moisture content				
16 x 50	260	14,565	56	} 5,875	7,088
60	340	18,030	53		
18 x 60	430	19,996	47	} 6,371	7,749
70	540	22,821	42		
20 x 60	530	21,800	41	} 6,466	7,789
70	660	25,106	38		
24 x 60	760	28,355	37	} 7,168	9,078
70	940	32,196	34		

Notes:

1. Includes site preparation, foundation, roof, chute, ladder with cage, and pipe.
2. Most silo manufacturers contacted do not offer silos larger than 24 feet in diameter.
3. Data for the unloaders is generally from four dealers. Data for the silos is generally from five dealers.

Table 6.

FARM MACHINE STORAGE BUILDINGS
COST ESTIMATES
New York, 1991

General Specifications of Structure -

- About 3,000 to 5,000 square feet, metal shell, timber column, large doors on both ends and one side passage door, basic wiring, no concrete floor, delivered and erected on prepared site.

- Average cost \$8.50 per square foot erected

Site preparation 0.85 per square foot

Floor - Gravel and concrete 2.96 per square foot installed

Total cost \$12.31 per square foot

Note: Data from four vendors.

Table 7.

SELECTED MANURE SYSTEM COMPONENTS
COST ESTIMATES FOR A 100 FREESTALL BARN
New York, Spring 1991

Method of Cleaning Barn		Equipment for Loading Storage	
	\$		\$
Tractor & scraper	4,000 - 16,000	Loading dock	4,000 - 7,000
Front end loader	4,000 - 8,000	Conveyor & stacker	7,000 - 8,000
Alley scraper or gutter cleaner	7,000 - 9,000	Ram pump	8,000 - 12,000
Slotted floor	12,000 - 24,000	Liquid pump (submersible)	10,000 - 20,000
Flush	5,000 - 10,000	Gravity structure, pipe &/or channels	4,000 - 10,000
Storages*		Unloading & Hauling Equipment	
	\$		\$
Earthen pond Paved bottom & ramp	4,000 - 8,000	Pump with agitator	6,000 - 10,000
Bunker - wood or concrete	4,000 - 7,000	Liquid manure tank	8,000 - 14,000
Concrete storage below slats	11,000 - 18,000	Slurry spreader	7,000 - 15,000
Concrete - poured in place	16,000 - 25,000	Irrigation	20,000 - 30,000
Above grade steel	21,000 - 28,000	Conventional spreader	6,000 - 11,000
	30,000 - 35,000	Gravity - load out structure	4,000 - 10,000

*Six month storage (except for 12 months in earthen storage).

Source: Data reviewed by personal communication with R. Guest and W. Irish, Department of Agricultural and Biological Engineering, Cornell University.

INDEX OF PRICES PAID BY NEW YORK DAIRY FARMERS
(1977=100)

Item	Weight	1985	1986	1987	1988	1989	1990*	1991*
Feed	.31	119	119	112	133	139	128	129
Purchased animals	.03	163	156	173	188	198	227	200
Fuel & energy	.05	204	184	176	184	193	220	240
Fertilizer	.05	134	127	128	139	144	140	145
Seed	.02	169	167	166	171	181	184	185
Machinery	.18	185	185	189	198	208	217	225
Building & fencing supplies	.08	136	136	137	138	141	144	144
Farm services & rent	.08	151	150	146	147	158	166	172
Agricultural chemicals	.01	128	127	124	127	132	139	142
Interest rates	.07	147	140	125	126	141	135	136
Farm wage rates	.09	170	183	195	209	221	235	245
Taxes	.03	176	181	175	181	186	190	195
Prices Paid, Not Including Assessment		150	149	149	159	168	170	174
Prices Paid, Including Assessment & Promotion Deduction		152	154	150	N/A	N/A	N/A	

Source: New York Economic Handbook, 1991; A.E. Ext. 90-30, December 1990, page 95; Department of Agricultural Economics, Cornell University.

*1990 final and 1991 projections made in April 1991.

Other Agricultural Economics Research Publications

No. 90-8	An Economic Analysis of Freshwater Finfish Aquaculture in the Mid-Atlantic States	Minot Weld Wayne Knoblauch Joe Regenstein
No. 90-9	Agricultural Risk Modeling Using Mathematical Programming	Richard M. Boisvert Bruce McCarl
No. 90-10	Organic Field Crop Production, A Review of the Economic Literature	Wayne A. Knoblauch Rebecca Brown Martin Braster
No. 90-11	Dairy Farm Management Business Summary, New York, 1989	Stuart F. Smith Wayne A. Knoblauch Linda D. Putnam
No. 90-12	Strategic Directions in Supermarket Deli/Prepared Foods	John W. Allen Edward W. McLaughlin Thomas R. Pierson
No. 90-13	Evaluation of Wine Trails in New York State	Brian Henehan Gerald B. White
No. 90-14	List of Available Agricultural Economics Publications July 1, 1989 - June 30, 1990	Dolores Walker
No. 90-15	A Social Accounting Matrix for Cameroon	Madeleine Gauthier Steve Kyle
No. 90-16	An Analysis of Consumer Trends and Employee Training in the U.S. Supermarket Delicatessen Industry	Gene German Gerald Hawkes
No. 91-1	The Feasibility of Producing and Marketing Fresh Vegetables in Central and Western New York	Raymond Barnes Gerald B. White