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1989 BUDGET GUIDE

ESTIMATED PRICES
for
CROP OPERATING INPUTS
and
CAPITAL INVESTMENT ITEMS

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ABSTRACT

Current costs for 1989 crop inputs and capital investments common to New York agriculture are listed. Costs are summarized and/or estimated from supplier surveys and contacts made in early 1989. 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 1983 through 1988 along with estimates for 1989.

1989 Budget Guide

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ACKNOWLEDGEMENTS

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1989 BUDGET GUIDE

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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 what crop inputs and capital purchases will be needed.

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 for use in the budgeting process. Most prices shown herein are averages of several observations obtained in January to March 1989. Costs for dairy structures and equipment were obtained in 1989 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, trucks, 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 index 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 1989.

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Table 1. CROP OPERATING INPUTS
New York, Spring 1989

Item	Number of responses	Average price[1]	Unit
		$	
Seed:			
Alfalfa	6	2.91	pound
Timothy	6	1.59	pound
Corn	6	76.00	80,000 kernel unit
Oats	5	7.08	bushel
Wheat - winter	3	7.67	bushel
Red kidney beans	1	0.66	pound
Soybeans	5	17.00	bushel
Lime: Spread, 89% ENV[2]	3	28.33	ton
Fertilizer:			
Bulk blended:			
Nitrogen (N)	5	0.27	pound
Phosphorus (P_2O_5)	4	0.23	pound
Potassium (K_2O)	4	0.13	pound
30-32% liquid N	5	157	ton
30-32% liquid N	6	0.26	pound
33.5-0-0 ammonium nitrate	2	192	ton
46-0-0 urea	4	210	ton
82-0-0 anhydrous ammonia	4	226	ton
0-46-0	3	215	ton
0-0-60	7	157	ton
11-52-0 MAP (monoammonium phosphate)	7	256	ton
18-46-0 DAP (diammonium phosphate)	6	251	ton

[1]Average price, FOB store, before discounts.

[2]Effective Neutralizing Value.

Table 1 (continued) CROP OPERATING INPUTS
New York, Spring 1989

Item	Number of responses	Average price	Unit
		$	
6-24-24	6	203	ton
10-20-20	7	190	ton
15-15-15	7	185	ton
Pesticides:			
Herbicides:			
2,4-D	5	10.26	gallon
2,4-DB	5	19.13	gallon
Amiben	2	18.06	gallon
Atrazine 4L	6	9.60	gallon
Banvel	5	57.26	gallon
Bicep	5	24.32	gallon
Bladex 4L	5	18.98	gallon
Dual 8E	6	51.25	gallon
Eptam 7E	6	21.06	gallon
Eradicane	6	24.41	gallon
Gramoxone	4	29.94	gallon
Lasso	5	20.36	gallon
Lorox L	3	48.71	gallon
Princep 4L	4	11.26	gallon
Prowl	6	23.99	gallon
Ranger	6	33.23	gallon
Roundup	4	62.48	gallon
Sencor DF	2	19.24	gallon

Table 1 (continued) CROP OPERATING INPUTS
New York, Spring 1989

Item	Number of responses	Average price	Unit
		$	
Treflan	5	26.64	gallon
Valpar	6	47.08	gallon
Insecticides:			
Corn/bean seed treatment	2	1.05	acre
Counter	6	1.46	pound
Diazinon 14G	2	1.49	pound
Dyfonate 20G	6	1.79	pound
Furadan 15G	5	1.38	pound
Lorsban 15G	6	1.41	pound
Malathion 5E	2	19.84	gallon
Methoxachlor 2E	2	12.63	gallon
Sevin 80W	1	3.22	pound
Thimet 20G	5	1.37	pound
Fungicides:			
Benlate DF	1	13.75	pound
Other Operating Inputs:			
Baling - twine	2	20.75	9000 ft bale
wire	1	38.00	cwt (6500 ft)
Labor - including nonwage costs			
Regular, full-time, career	*	7.50	hour
Part-time, seasonal	*	5.50	hour
Interest	*	11.0	percent
Fire insurance - Real estate, chattel	*	6.00	per $1,000 coverage
Fuel - diesel - delivered, field use	*	0.75	gallon, w/o tax
pump price	*	1.10	gallon
gas, UL - delivered, field use	*	0.90	gallon, w/o tax
pump price	*	1.15	gallon
LP gas, propane for crop drying	*	0.70	gallon

*Author's estimates of current costs that would be reasonable for budgeting purposes. Labor costs are based on knowledge of farm records and employer costs. Other costs are based on recent personal communication with suppliers.

Table 2. FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1989

Item	Number of Responses	Average List Price $
Tractors - diesel and equipped as normally purchased, without cab, pto hp.		
12 hp (gas), lawn & garden, hydro transmission	5	3,300
25 hp	6	11,755
40 hp	7	15,512
50 hp	7	18,292
60 hp	7	21,120
60 hp w/front wheel assist	7	26,353
80 hp	6	26,374
80 hp w/front wheel assist	6	32,924
100 hp	7	36,823
100 hp w/front wheel assist	7	44,263
120 hp	7	41,930
120 hp w/front wheel assist	7	50,584
140 hp	7	52,160
175 hp 4WD, with cab	7	70,641
Tractor cab w/air	6	6,300
Trucks		
Pickup - 3/4T, auto, V8, 2WD	3	13,500
3/4T, auto, V8, 4WD	3	15,300
Large road truck - 400 cu. in. gas engine, 5 speed trans., 18 ft. grain box w/hoist, heavy tires, single rear axle	2	35,000
Primary Tillage Equipment		
Moldboard plow - auto reset, semi-mounted		
4-16"	6	8,480
5-16"	6	9,729

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1989

Item	Number of Responses	Average List Price
		$
Primary Tillage Equipment continued		
Moldboard plow - auto reset, semi-mounted (continued)		
5-18"	6	10,538
6-18"	6	12,211
Chisel plow - w/front disc		
11 ft, 7 shank	7	8,359
13 ft, 9 shank	7	10,046
Offset disc - 13 ft, 26" disc	5	10,262
Secondary Tillage Equipment		
Disc - 14 ft	7	7,429
16 ft	7	9,001
20 ft	7	11,941
Drag - spring tooth harrow		
16 ft	4	4,200
20 ft	5	4,867
Cultimulcher - 12 ft	7	6,561
15 ft	7	8,022
Field cultivator - 16-18 ft	6	6,411
Cultipacker - 12 ft	3	1,924
14 ft	3	2,328
30 ft	2	7,682
Ridge cultivator (builder) - 6 row	3	5,602

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1989

Item	Number of Responses	Average List Price $
Planting Equipment		
Grain drill - w/seeder, dry fertilizer		
15 x 7"	6	5,785
21 x 7"	6	7,194
24 x 7"	6	7,509
Cultipacker seeder - 10 ft	3	4,632
12 ft	2	6,675
No-till grass seeder	2	8,850
Corn planter - conventional plateless w/dry fertilizer attachment		
4 row	7	11,063
6 row	7	15,077
8 row	6	20,075
12 row	5	36,955
Corn planter - no-till plateless w/dry fertilizer attachment		
4 row	5	13,130
6 row	5	18,160
8 row	4	25,000
Growing Equipment		
Cultivator - 4 row	6	3,290
6 row	6	4,259
8 row	5	6,117
12 row	5	8,960
Sprayer - 28 ft, 300 gallons	5	3,940
40 ft, 500 gallons	5	6,160

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1989

Item	Number of Responses	Average List Price $
Harvesting Equipment		
Rotary mower - 5 ft	7	1,181
7 ft	2	4,328
Mower conditioner - 9 ft	7	11,908
12 ft	6	15,640
Side delivery rake - 9 ft	7	3,763
Baler w/kicker, mid size, twine	7	14,330
Large round baler - 5 ft	7	15,456
Flail chopper - 6 ft	6	6,925
Forage harvester - pto base unit w/o metal detector		
2 row	7	16,059
3 row	7	20,059
Windrow pickup head - 5.5 ft	7	2,958
7.5 ft	7	4,096
Corn head - 2 row	6	4,377
3 row	6	8,064
Snapper head - 1 row	2	3,750
2 row	6	7,402
Blower - 4 to 5 ft diameter	6	4,109
Combine - self-propelled, diesel, 2 wheel drive		
4 row power unit	5	67,934
4 row corn head	6	13,344
4 row bean head	3	15,094
13 ft grain head	4	7,113

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1989

Item	Number of Responses	Average List Price $
Combine - self-propelled, diesel, 2 wheel drive (continued)		
6 row power unit	6	85,214
6 row corn head	6	18,657
6 row bean head	2	19,500
15 ft grain head	5	8,542
4 wheel drive option	6	9,933
Transport Equipment		
Running gear - chassis w/tires		
8 ton	6	1,440
12 ton, tandem rear axle	6	2,134
Bale wagon w/8 ton gear, 4 tires	5	2,316
Round bale mover - 3 pt hitch	5	348
Flat bed transport	2	2,988
Side unloading forage wagon		
heavy gear, 6 tires, roof	6	9,892
Dump wagon - hydraulic, heavy gear, tires, roof		
12 ft	5	8,792
14 ft	5	9,984
Gravity grain wagon		
300 bu, 8T gear	5	2,472
Fertilizer spreader, 4 ton	2	4,750
Front end loader - 5 ft bucket	6	3,942
6 ft bucket	5	4,360

Table 2. (continued) FARM POWER AND EQUIPMENT LIST PRICES
New York, Spring 1989

Item	Number of Responses	Average List Price
		$
Manure spreader - hyd gate		
225 bu ±	7	6,609
350 bu ±	7	9,667
Slurry spreader		
2,400 gallons	5	11,720
Feed mixer wagon w/scales, chassis, tires		
300-350 bu	5	21,552

Table 3. ESTIMATED CAPITAL INVESTMENT COSTS
DAIRY BARN AND MILKING CENTERS FOR TWO HERD SIZES
New York, Spring 1989

Item	125 Cows	250 Cows
Dairy Barn & holding area - includes site prep & all concrete work	$120,000	$225,000
Feed bunk or manger & headgates	3,000	5,000
[Computer feeding system	[10,000	20,000]
Freestalls - metal	6,000	12,000
Mechanical manure scraper	15,000	20,000
Milking Center - Includes milk room	50,000	70,000
Parlor equipment - no feeders	6,000	10,000
Milking system - includes pump, controller, pipeline, water heater, heat exchanger, etc.	20,000	24,000
Automatic detachers -		
Basic	12,000	20,000
[Additional for computer capability	[12,000	20,000]
[Computer	[7,000	7,000]
Milk tank includes washer, compressors, & controls	20,000	30,000
Crowd gate	3,000	4,000
Plumbing, wiring, waterers, lighting	10,000	15,000
Well - 200 ft deep, 100 ft of 6" casing with pump	5,000	5,000
TOTAL COST	$270,000	$440,000
Per Cow	$2,160	$1,760
TOTAL - with computer feeding, milking	$299,000	$487,000
Per Cow	$2,392	$1,920

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 cow herd uses a double 6 herringbone parlor with a 2,000 gallon bulk tank. 250 cow herd uses a double 10 herringbone parlor with a 4,000 gallon bulk tank.
3. Excludes feed storage facilities.

Source: D.P. Snyder, 1988 Budget Guide, A.E. Res. 88-2, Department of Agricultural Economics, Cornell University. Data updated by personal communication with two suppliers, and R. Guest and W. Irish, Department of Agricultural Engineering, Cornell University.

Table 4. HORIZONTAL SILOS
ESTIMATED COSTS
New York, Spring 1989

Size	Capacity	Cost	
		Total	Per Ton
Width x length x height in ft.	tons	$	$
30 x 60 x 10	378	13,800	37
30 x 80 x 10	504	17,760	35
40 x 80 x 10	672	19,680	29
12	845	22,080	26
40 x 100 x 10	840	23,960	29
12	1,056	26,960	26
50 x 80 x 10	840	21,600	26
12	1,056	24,000	23
50 x 100 x 10	1,050	26,200	25
12	1,320	29,200	22
60 x 100 x 10	1,260	28,440	23
12	1,584	31,440	20
60 x 120 x 10	1,512	33,360	22
12	1,901	36,960	19

Notes: (Silo is concrete with open ends.)

1. Capacity is within the silo walls and based on an average density of 42 pounds per cubic foot at 10 foot depth and 44 pounds per cubic foot at 12 foot depth.

2. Cost includes site preparation at $0.35 per square foot of floor area.

   Floor area includes two full width aprons 20 feet long and reinforcing. Average cost at $1.25 per square foot.

   Walls are erected and in place with necessary supports, footers, and reinforcing. Average cost at $7.50 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 two vendors.

Table 5. TOWER CONCRETE SILOS AND TOP UNLOADERS
ESTIMATED COSTS
New York, Spring 1989

Silo Size	Capacity	Cost		Unloaders	
		Silo	Per Ton	Surface	Ring
Diameter x height in feet	Tons @ 70% moisture content	$	$	$	$
16 x 50	260	13,472	52	} 5,456	6,549
60	340	17,031	50		
18 x 60	430	18,789	44	} 5,740	7,171
70	540	20,995	39		
20 x 60	530	20,456	39	} 5,940	7,534
70	660	22,793	35		
22 x 60	640	23,800	37	} 6,900	9,000
70	790	27,900	35		
24 x 60	760	26,311	35	} 6,562	9,067
70	940	29,524	31		

Notes:

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

Table 6. FARM MACHINE STORAGE BUILDINGS
COST ESTIMATES
New York, 1989

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	$7.22 per square foot erected
Site preparation	0.59 per square foot
Floor - Gravel and concrete	2.11 per square foot installed
Total cost	$9.92 per square foot

Note: Data from five vendors.

Table 7. SELECTED MANURE SYSTEM COMPONENTS COST ESTIMATES* New York, Spring 1989

Method of Cleaning Barn		Equipment for Loading Storage		Storages**		Equipment for Agitation & Hauling	
	---------- Range in Thousands $ ----------						
Tractor scraper	4-16	Loading dock	4-7	Earthen paved bottom & ramp	4-8 4-7	Pump agitator	6-10
Alley scraper Gutter cleaner	7-9	Conveyor stacker	7-8			Liquid manure tanks	8-12
Slotted floor	12-24	Ram pump	8-12	Above grade steel	30-35	Front end loader	4-8
Flush	5-10	Liquid pump (submersible)	8-14	Monolithic	21-28	Gravity load out structure	4-10
		Gravity structure & pipe	4-10	Bunker wood & concrete	11-18	Conv. spreader	6-10
		Surface or subsurface sluiceways	4-10	Below slats	16-25	Irrigation	20-30

*100 cows, freestall barn.
**Six month storage (except for 12 months in earthen storage).

Source: D.P. Snyder, 1988 Budget Guide, A.E. Res. 88-2, Department of Agricultural Economics, Cornell University. Data updated by personal communication with two suppliers, and R. Guest and W. Irish, Department of Agricultural Engineering, Cornell University.

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

Item	Weight	1983	1984	1985	1986	1987	1988*	1989**
Feed	.31	141	141	119	118	112	133	142
Purchased animals	.03	195	170	163	156	173	187	190
Fuel & energy	.05	205	206	204	178	176	184	188
Fertilizer	.05	139	142	134	127	128	139	145
Seed	.02	160	169	169	167	166	171	182
Machinery	.18	172	181	185	185	189	198	200
Building & fencing supplies	.08	138	138	136	136	137	138	140
Farm services & rent	.08	147	149	152	150	148	150	152
Agricultural chemicals	.01	125	128	128	127	124	126	133
Interest rates	.07	145	151	146	141	134	140	150
Farm wage rates	.09	151	158	169	185	195	206	216
Taxes	.03	152	161	176	181	190	199	210
Prices Paid, Not Including Assessment		153	156	150	149	149	161	167
Prices Paid, Including Assessment & Promotion Deduction		159	162	152	154	151	N/A	N/A

Source: New York Economic Handbook, 1989; A.E. Ext. 88-28, December 1988, page 59; Department of Agricultural Economics, Cornell University.

*Preliminary
**Projected

Other Agricultural Economics Research Papers

No. 88-12	The Competitive Position of the United States Grape and Wine Industry	G. B. White D. Blandford
No. 88-13	Lessons Learned From the Farm Debt Crisis of the 1980s, W. I. Myers Memorial Lecture	N. E. Harl Iowa State University
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