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ECONOMIC PROFILES FOR CORN, HAY AND PASTURE; 1980 AND FIVE YEAR AVERAGE 1976-80

by

Wayne A. Knoblauch

Robert A. Milligan

Department of Agricultural Economics
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York 14853

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INTRODUCTION

Enacted by the New York State legislature in April 1980, Senate Bill 8923-A and Assembly Bill 11551-A altered the procedures for valuing qualified farm land in real estate tax calculations. The valuation procedure was changed by this legislation from a market base to an income capitalization approach to represent agricultural use value. The legislation stipulated that a land classification system be developed and administered by the New York Department of Agriculture and Markets. The State Division of Equalization and Assessment was directed to calculate land values for each soil group in the land classification system. The division was to use the income capitalization approach based on economic profiles developed by the New York State College of Agriculture and Life Sciences at Cornell University.

The income capitalization approach was implemented in 1981. Agricultural use values were based where possible on economic profiles. Economic profiles were constructed for corn and hay grown in 1979 and the 1975-1979 five-year average and were conveyed to the State Division of Equalization and Assessment[1/]. Economic profiles for fruit, Long Island potatoes and vegetables grown on muckland were also constructed and conveyed to the State Division of Equalization and Assessment[2/].

The purpose of this bulletin is to explain how economic profiles for corn and hay were constructed for 1980 and the five-year average, 1976-1980. A description of the construction of one economic profile using a series of tables that contain the most important parameters utilized dominates the discussion.

1/ Knoblauch, Wayne A. and Robert A. Milligan, Economic Profiles for Corn, Hay and Pasture, A.E. Ext. 81-1, Cornell University, January 1981.

2/ State Board of Equalization and Assessment, Report on the Proposed 1981 Farmland Use Values for Agricultural Assessment in New York, January 9, 1981.

In this document, the term "economic profiles" refers to the information required to determine the return to land for one high- or low-lime soil group.

In total, 14 economic profiles were constructed for eight soil groups. Soil Groups 1 through 6 contain economic profiles for high-lime and low-lime soil mapping units. Soil Groups 7 and 8 contain an economic profile for low-lime only since high-lime soil mapping units are almost nonexistent. For all except Soil Group 8, the economic profile consists of an enterprise budget for corn and an enterprise budget for hay with the net income for each soil group's economic profile being weighted by the specified rotation. Soil Group 8's economic profile is permanent pasture.

The enterprise budgets utilized to compute economic profiles were constructed using the economic engineering approach. In this approach, enterprise budgets are designed to represent the internal and external characteristics of an average farm in the State. The principal internal characteristic is the soil group; however, other internal characteristics of importance include total crop acres, acreages of each crop, the machinery complement and a specification of an average level of management. External characteristics are incorporated through the use of average State input and output prices. The budgets, consequently, are not an average of actual observations, although nearly all of the data used in constructing enterprise budgets is based wholly or partially upon actual observation and collection of information.

For each crop, two sets of enterprise budgets are prepared. The first is constructed for the year 1980. Second, in order to compute a five-year average for 1976-1980, input prices were indexed using indexes published in Agricultural Prices or by calculating actual five-year averages where appropriate. Output prices are based on data in New York Agricultural Statistics. Input levels and yields are held constant for 1980 and 1976-1980 enterprise budgets.

The years 1976-1980 are used as the basis for determining net returns to

land for two reasons. First, use of data for only one year could lead to wide fluctuations in net returns because of changes in prices and costs. The five-year average is consistent with the five-year average effective interest rate on new Federal Land Bank loans made in the Springfield District which is to be used as the capitalization rate as defined in the 1980 Agricultural Districts legislation. Second, the 1976-1980 time period was the most recent possible as data for the 1981 crop year were not available to meet deadlines for computing 1982 agricultural values.

Agricultural values are calculated by the State Division of Equalization and Assessment drawing upon data from corn and hay and from fruit and vegetable economic profiles. Information on the procedure for determining agricultural values will be contained in a Report on the Proposed 1982 Farmland Use Values for Agricultural Value Assessment in New York by the State Board of Equalization and Assessment, to be published early in 1982.

CONSTRUCTION OF ECONOMIC PROFILES

The methodology can be illustrated by describing the procedure used to construct an economic profile for Soil Group 1 low-lime (page 27). Although focusing primarily on this economic profile, the discussion indicates how the procedure was used. Tables containing supporting information follow this section and are referenced throughout the discussion. The 14 economic profiles are in the final section on pages 27-40.

Yield

For each soil group the yields for corn silage and hay are those obtainable under average management. The basis for the yields is prudent management for each soil mapping unit. Prudent management yields are derived from Soil Conservation Service Form 5 and from Cornell research. Prudent management yields of each soil group are then multiplied by a factor for conversion to average

management yields (Table 14). The difference between these conversion factors and 1.0 represents yield reduction due to harvesting loss, field size loss (the necessity of headlands and end rows) and a reduction from prudent to average management. Yields used in the construction of economic profiles for Soil Group 1 are 18.4 tons of corn silage per acre and 3.8 tons of dry hay per acre (Table 10). Yields decrease and rotations contain less corn as the soil group number increases. For each soil group, yields are the same for high-lime and low-lime soils.

Price

The calculation of total revenue requires a price that could be obtained for the product at harvest time as it is ready to leave the farm. A large proportion of the hay and corn crops produced in New York State, however, are fed to livestock on the farm, making difficult the determination of such a price for these crops. Several adjustments must be made to published prices to obtain a harvest time farmgate price.

For corn, the unadjusted weighted price comes from the weighted average of corn silage and corn grain prices, based on acreage of each in the State, then converted to a corn silage price (Table 4). Adjustments to this price are required to represent a farmgate price. The adjustment in the corn silage price includes the annualized investment cost of a silo for storage because the published price represents the price of the corn silage in a silo. The corn grain price is adjusted for the cost of transportation from the farmgate to market and a drying cost for half the crop that did not already have a drying cost included in the published net price. The adjustment is calculated for 1980 and indexed to represent 1976-1980. This farmgate adjustment was subtracted from the average unadjusted price for 1976-1980 and used for corn grown on all soil groups.

Hay prices are based on prices for "alfalfa hay baled" published in New York Agricultural Statistics (Table 5). The average harvest time prices as published

are $55.50 per ton for 1980 and $57.50 per ton for the five-year average. The quality of the hay crop is higher for better quality soils, as better quality soils can support higher percentages of legumes. Adjustments are made, therefore, in the price to reflect a quality differential among soil groups. The published "alfalfa hay baled" price is used as a basis with adjustments made for the protein and energy content of the hay. Corn grain and soybean meal prices are used as a basis for the value of protein and energy to scale the hay crop price for changes in quality. Consequently, the price per ton is different for each of the Soil Groups except Soil Groups 2 and 3 which both have 75 percent legume. The hay price for the 1976-1980 average for Soil Group 1 is $61.90 per ton.

The value of production or the total revenue from an acre of corn or hay crop is the yield times the price per unit. This value of production is the final row under income and is $299.90 for corn and $235.20 for hay for the five-year average for Group 1 soils (page 28).

Growing Expenses

The input levels and consequent variable expenses depend on two factors. The first is the yield just discussed; the second is crop rotation. In Soil Group 1 there is a rotation of seven years of corn followed by three years of hay (Table 7), represented by C_7H_3.

Seed expense was calculated using the seeding rates per acre and corresponding seed prices per unit (Tables 6 and 9). For corn, the seeding rate for all soil groups is 25,000 kernels planted per acre at a seed price of $50.00 per 80,000 kernels. Seeding costs for hay are establishment cost divided by the years of life of the stand. On the first four soil groups, an alfalfa-timothy mixture is seeded while on Soil Groups 5 through 7 a birdsfoot trefoil-timothy mixture is used. Cost per acre is determined by multiplying the seeding rates by the prices in Table 9 and dividing by the number of years of life of the stand.

Fertilizer prices (Table 9) are multiplied by the quantities applied (Table 7) to determine fertilizer cost per acre. For corn, the calculation was straightforward, the number of pounds of nitrogen, potassium and phosphorus multiplied by the respective nutrient price. For hay the total cost of fertilizer for the years in the rotation must be determined and then divided by the number of years of life of the stand to obtain average cost per acre. As an example, for Soil Group 1 in the first year, 60 pounds each of phosphorus and potassium are required while in the second and third years 40 pounds of phosphorus and 160 pounds of potassium were needed. The cost per acre for phosphorus would be 60 + 40 + 40 = 140 divided by 3 equals 46.67 multiplied by the per pound price of phosphorus. Lime is included as one-half ton per year multiplied by the price of lime (Table 9.). Lime is not required on high lime soils.

Chemical cost was obtained utilizing the chemical application program (Table 8) multiplied by the associated prices (Table 9). The average cost per year was determined by finding the total cost for the years of life of the stand of hay or for the years corn is grown in the rotation. This total was then divided by the number of years of hay or corn in the rotation. For hay on Class 1 soil, the chemical program is Premerge in the establishment year and Methoxychlor each year. The cost of these four chemical applications was summed and divided by three. For corn, the cost of the chemical program (Table 8) for years one, two, and three through seven was summed and divided by seven to attain the average annual cost per acre.

Power and equipment costs and "other" costs were calculated using the economic engineering approach. Information in An Economic Analysis of New York Field Crop Enterprises was used. The fuel, oil and grease expense was taken from that publication for Soil Group 1; repairs and maintenance costs were increased to account for the nine-year average life of the machinery complement used for economic profiles as contrasted with the seven-year average life of the machinery in that publication. "Other" costs were updated from that

publication.

Fuel, oil and grease, and repairs and maintenance were increased by five percent in Soil Groups 5 and 6 and by 10 percent in Soil Group 7 and 8 to reflect the increased costs of machinery operation on steeper slopes and on more poorly drained soils. The power and equipment costs for growing hay are constant across soil groups except for the increase because of slope and/or drainage for the establishment year. This cost was calculated and then divided by the years of life of the stand.

Harvesting Expenses

Harvesting expenses were calculated in a similar manner to power and equipment expenses for growing. Fuel, oil and grease, and repairs and maintenance were again constructed using the economic engineering approach. For harvesting, however, the cost depended upon the harvesting system and on the quantities harvested. For corn the fuel, oil and grease, and repairs and maintenance costs were based on the costs in An Economic Analysis of New York Field Crop Enterprises, with repairs and maintenance increased to reflect change in years of life and adjustments for yield in each soil group. Again, all these costs were increased as indicated above to reflect slope or drainage. Fuel, oil and grease plus baler twine costs for hay were determined primarily by the number of cuttings. Three cuttings specified for Soil Groups 1 - 3, two cuttings for Soil Groups 4 and 5 and one cutting for Soil Groups 6 and 7 (Table 10).

Other Variable Costs

The remaining variable costs are interest on operating capital, management charge and labor. The interest on operating capital is a charge for the capital required to purchase inputs for growing the crop. The figure derived is for an average of six months from planting until harvest and was charged at the short-term interest rate of Production Credit Associations in the Springfield District (Table 12).

The charge for operator labor and management, his/her family and any hired

labor is included in two parts. The first is a management charge to compensate the operator or operators of the farm for their management input. This charge is five percent of the total value of production. The second part is for the hours of labor required in the production and harvesting of the crop (Table 10) and charged at $4.60 per hour.

Fixed Expenses

An important expense for any crop production enterprise is the machinery complement required to plant and harvest the crop. Machinery investments are fixed costs since this machinery must be available whether or not it is utilized, The procedure used to determine the fixed costs for corn and hay is outlined below.

Upon examination of the rotations on the eight soil groups, an average farm was found to have 150 acres of hay, 120 acres of corn and 30 acres of pasture, for a total of 300 crop acres. The machinery complement and allocation of the different items of machinery to the corn silage, hay and pasture enterprises is the first step in the calculation procedure (Table 1). Proportional investments were used to calculate the total and the per acre costs (1980 new cost) for each of the three enterprises.

Fixed cost per year was determined (Table 2) using 1980 new investment cost (Table 1) for each crop. Cost indexes (Table 11) were used to calculate the average investment cost of the machinery complement on the farm for the 1980 crop year and the average of the 1976-1980 crop years. This index is based on a machinery complement purchased evenly over the preceding nine years. The 1980 index was multiplied by the 1980 new investment cost to obtain the average investment cost for the 1980 crop year. The 1976-1980 index was used for converting the 1980 new machinery complement investment back to a 1976-1980 average.

Annual fixed cost is composed of depreciation, interest and insurance.

Depreciation is the annual charge for the use of the machinery, calculated using straight-line depreciation over the nine-year life with a 10 percent salvage value. Interest on investment represents the fact that if the farmer had not invested in machinery, he/she could have obtained a return from alternative investments. Interest on investment was calculated using the interest rate of 13.03 percent for 1980 and 10.13 percent for the 1976-1980 average, multiplied by the average investment costs. The last fixed cost component, insurance, was charged at 1.5 percent of average initial investment.

Machinery and corn silage storage and electric fencing investments were required to complete the economic profiles (Table 3). The first item was the cost of machinery storage to house the equipment complement (Table 1) and was charged on a per acre basis to each of the three enterprises. Depreciation, interest and insurance was charged on a building that was built, on the average, over a 15-year period. The fixed cost of the electric fencing was used only in the pasture enterprise (Soil Group 8) and the cost reflected accordingly. The fixed cost information on the corn silage storage was used as previously described for calculating the price of corn silage.

Return to Land

Total expenses are calculated by adding Total Growing, Total Harvesting, Interest on Operating Capital, Management Charge, Labor and Total Fixed Expenses, less property tax. This total is then substracted from the Value of Production to obtain the Return to Land (less property tax).

The Return to Land (less property tax) for corn and hay for the 1976-1980 crop years was weighted by the rotation (Table 7) to obtain a rotation weighted average return to land. Based upon the weighted average return to land and the capitalization rate, a property tax charge (Table 13) was deducted to produce return to land. Return to land is the amount to be capitalized into land value.

SUPPORTING INFORMATION

TABLES 1 - 14

TABLE 1.

INVESTMENT IN POWER AND EQUIPMENT COMPLEMENT FOR CORN SILAGE, HAY AND PASTURE PRODUCTION ON 300 ACRES, ALLOCATED TO ENTERPRISES, 1980 NEW COST

Item	1980 New Cost	Corn Silage		Hay		Pasture	
		Proportion	Cost	Proportion	Cost	Proportion	Cost
	$		$		$		$
Tractor, 2-wheel drive, 90 hp.	24,000	.49	11,760	.49	11,760	.02	480
Tractor, 2-wheel drive, 50 hp.	13,400	.53	7,102	.43	5,762	.04	536
Tractor, 2-wheel drive, 35 hp.	9,600	.29	2,784	.71	6,816	--	--
Plow, semi-mounted, 4-16" bottoms	5,000	.78	3,900	.20	1,000	.02	100
Disc harrow, 12'	4,100	.78	3,198	.20	820	.02	82
Springtooth harrow, 16'	1,800	.78	1,404	.20	360	.02	36
Cultipacker 12'	1,300	.78	1,014	.20	260	.02	26
Corn planter, 4-row	6,300	1.0	6,300	--	--	--	--
Cultivator, 4-row	2,100	1.0	2,100	--	--	--	--
Sprayer, trailer w/tank	2,200	.62	1,364	.38	836	--	--
Cultipacker seeder 10'	2,800	--	--	.91	2,548	.09	252
Fertilizer spreader, 12'	1,600	--	--	.83	1,328	.17	272
Mower-conditioner, windrower, 9'	6,400	--	--	1.0	6,400	--	--
Side delivery rake	2,000	--	--	1.0	2,000	--	--
Baler with bale thrower	7,800	--	--	1.0	7,800	--	--
Bale wagons, 3@ $1,800	5,400	--	--	1.0	5,400	--	--
Forage harvester with 2-row crophead	12,000	1.0	12,000	--	--	--	--
Forage wagons, 2@ $5,500	11,000	1.0	11,000	--	--	--	--
Pickup truck, 1/2 ton	6,300	.40	2,520	.50	3,150	.10	630
Total	$125,100		$66,446		$56,240		$2,414
Per Acre 1/			$ 554		$ 375		$ 80

1/ Based on 120 acres of corn, 150 acres of hay and 30 acres of pasture on a 300 acre farm.

TABLE 2.

ANNUAL FIXED COSTS OF THE POWER AND EQUIPMENT COMPLEMENT

ALLOCATED TO ENTERPRISES

CROP YEARS 1980 AND 1976-1980 AVERAGE

	Corn		Hay		Pasture	
	1980	1976-1980	1980	1976-1980	1980	1976-1980
INVESTMENT[1/]	$44,519	$36,545	$37,681	$30,932	$ 1,617	$ 1,328
ANNUAL FIXED COSTS						
DEPRECIATION [2/]	4,452	3,655	3,768	3,093	162	133
INTEREST[3/]	3,190	2,036	2,700	1,723	116	74
INSURANCE[4/]	668	548	565	464	24	20
TOTAL	$ 8,310	$ 6,239	$ 7,033	$ 5,280	$ 302	$ 227
PER ACRE	$ 69.25	$ 52.00	$ 46.90	$ 35.20	$ 10.05	$ 7.55

1/ Index factor of 0.67 for 1980 and 0.55 for 1976-1980 average to convert 1980 new cost to crop years average.

2/ Nine-year life with a 10 percent salvage value, straight line depreciation.

3/ Interest rate of 13.03 percent for 1980 and 10.13 percent for 1976-1980 on average investment.

4/ Insurance rate of 1.5 percent of initial investment.

TABLE 3.

INVESTMENT AND ANNUAL FIXED COSTS OF MACHINERY STORAGE, CORN SILAGE STORAGE AND ELECTRIC FENCING

	1980 New Cost	1980 Crop Year[1/]	1976-1980 Crop Years Average[1/]
MACHINERY STORAGE			
Pole barn; three exterior walls, metal roofing, dirt floor	$16,600	$9,794	$8,466
Depreciation[2/]	--	653	564
Interest[3/]	--	638	429
Insurance[4/]	--	147	127
Total		$1,438	$1,120
Per Acre		$ 4.80	$ 3.75
CORN SILAGE STORAGE			
Concrete stave silo; including site preparation and roof, 24' x 70'	$22,800	$13,452	$11,628
Depreciation[2/]	--	897	775
Interest[3/]	--	876	589
Insurance[4/]	--	202	174
Total		$ 1,975	$ 1,538
Per Ton		$ 2.45	$ 1.90
ELECTRIC FENCING			
Electric fencer, wire, posts, post insulators & handles	$ 600	$ 354	$ 306
Depreciation[2/]	--	24	20
Interest[3/]	--	23	15
Total		$ 47	$ 35
Per Acre		$ 1.60	$ 1.15

1/ Index factor of 0.59 and 0.51 used to convert 1980 new cost to crop year 1980 and 1976-1980 average.

2/ Fifteen-year life, straight line depreciation.

3/ Interest is 13.03 percent for 1980 and 10.13 for 1976-1980 on average investment.

4/ Insurance rate of 1.5 percent of initial investment.

TABLE 4.

FARMGATE CORN SILAGE PRICES

Year	Unadjusted Weighted Price[1/]	Adjustments[2/]	Weighted Farmgate Prices
	$/ton	$/ton	$/ton
1976	17.00	---	---
1977	15.45	---	---
1978	16.05	---	---
1979	18.05	---	---
1980	20.85	1.85	19.00
1976-1980	17.50	1.20[3/]	16.30

1/ Weighted average of corn silage and corn grain prices based on acreage in the State of each and converted to a silage price.

2/ Adjustments include: storage costs for corn silage, marketing and transportation costs for corn grain and drying costs for one-half of the corn grain. These adjustments are also weighted based on acreage in the State and converted to a silage price. Not calculated for years 1976-1979.

3/ Computed using cost index factors.

TABLE 5.

HAY PRICES ADJUSTED FOR QUALITY DIFFERENTIALS BY SOIL GROUP

Soil Group	Percent Legume	Crude Protein	Net Energy	Price 1/ 1980	Price 1/ 1976-1980
	Percent of Dry Matter		Mcal/lb. of Dry Matter	--Dollars Per Ton--	
1	80	16.50	.574	59.70	61.90
2 & 3	75	16.10	.568	58.60	60.70
4	70	15.75	.562	57.60	59.70
5	60	15.00	.550	55.50	57.50
6	40	13.50	.526	51.30	53.10
7	30	12.75	.514	49.30	50.90
8	20	12.00	.502	47.10	48.80

1/ Using a harvest time price of $55.50/ton for crop year 1980 and $57.50/ton for 1976-1980 crop years, average prices were adjusted for crop quality based on percentage legume. Alfalfa hay price was specified to be 60 percent legume and adjusted for quality using corn grain and soybean meal prices.

TABLE 6.

SEEDING RATES FOR CORN AND HAY

Crop	Soil Group	Rate
Corn	1 - 7	25,000 Kernels Planted Per Acre
Hay		
Alfalfa-Timothy	1 - 4	12# Alfalfa and 5# Timothy
Birdsfoot Trefoil-Timothy	5 - 8	8# Birdsfoot Trefoil & 4# Timothy

TABLE 7.

FERTILIZATION RATES FOR CORN AND HAY
BY SOIL GROUP

Soil Group	Rotation	Corn N--P_2O_5-K_2O	Hay[1/] N--P_2O_5-K_2O
1	C_7H_3	90-60-60	0-40-160
2	C_6H_4	85-60-60	0-40-160
3	C_5H_5	75-60-60	0-40-120
4	C_5H_5	75-60-60	0-40-120
5	C_4H_6	60-60-60	0-30-60
6	C_3H_7	50-60-60	0-30-60[2/]
7	C_2H_8	30-60-60	0-30-60[2/]
8	C_0H_{10}	-- -- --	30-30-30

1/ Establishment year fertilization is 0-60-60.

2/ Years 7 and 8 fertilization is 30-30-30.

TABLE 8.

CHEMICAL APPLICATIONS FOR CORN AND HAY

Crop	Soil Group(s)	Year(s)	Chemical(s)	Rate Per Acre
Hay	1-8	1	Premerge	1-1/3 qt. at seeding
	1-4	All	Methoxychlor	1 qt. per year
Corn[1/]	1	1	Atrazine	2# preplant and 2# with 1 qt. oil post emergence
		2	Atrazine	2# with 1 qt. oil post emergence
		3-7	Sutan +6.7E	4-3/4 pt. with 1# Atrazine preplant & double incorporate
			Furadan	10 pounds
	2-5		Same as Group 1, less years in 3-7	
	6	1&2	Same as Group 1	
		3	Atrazine & Sutan +6.7E	1# Atrazine and 4-3/4 pt. Sutan +6.7E preplant incorporated
			Furadan	10 pounds
	7	1	Same as Group 1	
		2	Sutan +6.7E	6 pt. preplant and double incorporate

1/ Planter box treatment 2 ounces of Captan/Diazanon per seed unit all years, all soil groups.

TABLE 9.

SEED, FERTILIZER AND LIME, AND CHEMICAL COSTS, 1980

Item	Cost
Seed	
Corn	$50.00/80,000 Kernels
Alfalfa	$2.65/lb.
Birdsfoot Trefoil	$4.65/lb.
Timothy	$0.80/lb.
Fertilizer & Lime	
Nitrogen	$0.28/lb.
Phosphorus	$0.28/lb.
Potassium	$0.14/lb.
Lime	$23.00/ton spread
Chemicals	
Premerge	$10.50/gal.
Methoxychlor	$10.60/gal.
Atrazine	$10.60/gal.
Crop Oil	$ 8.20/gal.
Sutan + 6.7E	$20.35/gal.
Furadan	$0.90/lb.
Captan/Diazanon	$3.75/lb.

TABLE 10.

LABOR REQUIREMENTS FOR CORN AND HAY
BY SOIL GROUP AND YIELD

Soil Group	Corn		Hay	
	Yield T/Ac.	Labor Hrs./Ac.	Yield T/Ac.	Labor[1] Hrs./Ac.
1	18.4	6.2	3.8	7.7
2	17.4	6.1	3.6	7.5
3	16.1	6.0	3.3	7.2
4	14.4	5.9	2.9	5.5
5	13.3	5.8	2.7	5.3
6	11.3	5.7	2.2	4.1
7	9.7	5.6	1.6	3.5
8	---	---	1.0	1.0[2]

1/ Soil Groups 1-3, three cuttings per year; 4 and 5 two cuttings per year and 6 and 7 one cutting per year.

2/ Pasture

TABLE 11.

INDEX FACTORS USED TO CONVERT 1980 INVESTMENT COSTS
TO CROP YEARS 1980 AND 1976-1980 AVERAGE
AND 1980 PRODUCTION COSTS TO 1976-1980 CROP YEAR AVERAGE

Item	Index Factor 1980	Index Factor 1976-1980
Investments	0.67	0.55
Power & Equipment	0.59	0.51
Building & Fencing Materials		
Production Costs	--	0.89
Seed	--	0.78
Fertilizer & Lime	--	0.76
Nitrogen	--	0.83
Phosphorus	--	0.83
Potassium	--	0.99
Lime	--	0.66
Chemicals	--	0.86
Fuels	--	0.86
Wages	--	0.83
Items Used for Production	--	0.70
Power & Equipment Repairs		
Twine		

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ECONOMIC PROFILES

SOIL GROUPS 1 - 8

SOIL GROUP 1
7 CORN - 3 HAY
High Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	18.4	18.4	3.8	3.8
Price ($/Ton)	19.00	16.30	59.70	61.90
Value of Production	$349.60	$299.90	$226.85	$235.20
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	11.95	10.60
Fertilizer				
Nitrogen	25.20	19.65	0.00	0.00
Phosphorus	16.80	12.75	13.05	9.95
Potassium	8.40	6.95	17.75	14.70
Custom Application	5.00	3.75	0.00	0.00
Lime	---	---	---	---
Chemicals	20.30	20.05	3.80	3.80
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.95	1.30
Repair & Maintenance	4.90	4.05	1.10	.95
Other	2.45	2.10	3.35	2.90
Total Growing	$105.70	$87.85	$52.95	$44.20
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	9.00	5.95	10.90	7.20
Repair & Maintenance	5.05	4.20	11.00	9.15
Twine	---	---	7.00	4.90
Other	1.80	1.55	2.55	2.20
Total Harvesting	$15.85	$11.70	$31.45	$23.45
Interest on Operating Capital	7.90	5.05	5.50	3.45
Management Charge	17.50	15.00	11.35	11.75
Labor	28.50	24.55	35.40	30.45
TOTAL VARIABLE EXPENSES	$175.45	$144.15	$136.65	$113.30
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$249.50	$199.90	$188.35	$152.25
RETURN TO LAND (less property tax)	$100.10	$100.00	$38.50	$82.95

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$94.90
Property Tax	-17.10
RETURN TO LAND	$77.80

SOIL GROUP 1
7 CORN - 3 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	18.4	18.4	3.8	3.8
Price ($/Ton)	19.00	16.30	59.70	61.90
Value of Production	$349.60	$299.90	$226.85	$235.20
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	11.95	10.60
Fertilizer				
Nitrogen	25.20	19.65	0.00	0.00
Phosphorus	16.80	12.75	13.05	9.95
Potassium	8.40	6.95	17.75	14.70
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	20.30	20.05	3.80	3.80
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.95	1.30
Repair & Maintenance	4.90	4.05	1.10	.95
Other	2.45	2.10	3.35	2.90
Total Growing	$117.20	$97.40	$64.45	$53.75
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	9.00	5.95	10.90	7.20
Repair & Maintenance	5.05	4.20	11.00	9.15
Twine	---	---	7.00	4.90
Other	1.80	1.55	2.55	2.20
Total Harvesting	$15.85	$11.70	$31.45	$23.45
Interest on Operating Capital	8.70	5.55	6.25	3.90
Management Charge	17.50	15.00	11.35	11.75
Labor	28.50	24.55	35.40	30.45
TOTAL VARIABLE EXPENSES	$187.75	$154.20	$148.90	$123.30
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$261.80	$209.95	$200.60	$162.25
RETURN TO LAND (less property tax)	$ 87.80	$89.95	$26.65	$72.95
ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average		$84.85		
Property Tax		-15.30		
RETURN TO LAND		$69.55		

SOIL GROUP 2
6 CORN - 4 HAY
High Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	17.4	17.4	3.6	3.6
Price ($/Ton)	19.00	16.30	58.60	60.70
Value of Production	$330.60	$283.60	$210.95	$218.50
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	8.95	8.00
Fertilizer				
Nitrogen	23.80	18.60	0.00	0.00
Phosphorus	16.80	12.75	12.60	9.60
Potassium	8.40	6.95	18.90	15.70
Custom Application	5.00	3.75	0.00	0.00
Lime	---	---	---	---
Chemicals	19.60	19.45	3.55	3.50
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.95	1.30
Repair & Maintenance	4.90	4.05	1.10	.95
Other	2.45	2.10	3.35	2.90
Total Growing	$103.60	$86.20	$50.40	$41.95
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	8.80	5.80	10.90	7.20
Repair & Maintenance	5.00	4.15	11.00	9.15
Twine	---	---	6.45	4.50
Other	1.80	1.55	2.55	2.20
Total Harvesting	$15.60	$11.50	$30.90	$23.05
Interest on Operating Capital	7.75	4.95	5.30	3.30
Management Charge	16.55	14.20	10.55	10.95
Labor	28.05	24.15	34.50	29.65
TOTAL VARIABLE EXPENSES	$171.55	$141.00	$131.65	$108.90
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$245.60	$196.75	$183.35	$147.85
RETURN TO LAND (less property tax)	$85.00	$86.85	$27.60	$70.65

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980	Average	$80.35
Property Tax		-14.45
RETURN TO LAND		$65.90

SOIL GROUP 2
6 CORN - 4 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	17.4	17.4	3.6	3.6
Price ($/Ton)	19.00	16.30	58.60	60.70
Value of Production	$330.60	$283.60	$210.95	$218.50
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	8.95	8.00
Fertilizer				
Nitrogen	23.80	18.60	0.00	0.00
Phosphorus	16.80	12.75	12.60	9.60
Potassium	8.40	6.95	18.90	15.70
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	19.60	19.45	3.55	3.50
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.95	1.30
Repair & Maintenance	4.90	4.05	1.10	.95
Other	2.45	2.10	3.35	2.90
Total Growing	$115.10	$95.75	$61.90	$51.50
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	8.80	5.80	10.90	7.20
Repair & Maintenance	5.00	4.15	11.00	9.15
Twine	---	---	6.45	4.50
Other	1.80	1.55	2.55	2.20
Total Harvesting	$15.60	$11.50	$30.90	$23.05
Interest on Operating Capital	8.50	5.45	6.05	3.80
Management Charge	16.55	14.20	10.55	10.95
Labor	28.05	24.15	34.50	29.65
TOTAL VARIABLE EXPENSES	$183.80	$151.05	$143.90	$118.95
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$257.85	$206.80	$195.60	$157.90
RETURN TO LAND (less property tax)	$72.75	$76.80	$15.35	$60.60

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$70.30
Property Tax	-12.65
RETURN TO LAND	$57.65

SOIL GROUP 3
5 CORN - 5 HAY
High Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	16.1	16.1	3.3	3.3
Price ($/Ton)	19.00	16.30	58.60	60.70
Value of Production	$305.90	$262.45	$193.40	$200.30
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	7.15	6.35
Fertilizer				
Nitrogen	21.00	16.40	0.00	0.00
Phosphorus	16.80	12.75	13.30	10.10
Potassium	8.40	6.95	15.10	12.55
Custom Application	5.00	3.75	0.00	0.00
Lime	---	---	---	---
Chemicals	18.70	18.50	3.35	3.30
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.20	.80
Repair & Maintenance	4.85	4.05	.70	.55
Other	2.45	2.10	2.05	1.75
Total Growing	$99.85	$83.05	$42.85	$35.40
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	8.45	5.55	10.90	7.20
Repair & Maintenance	4.85	4.05	11.00	9.10
Twine	---	---	5.70	4.00
Other	1.80	1.55	2.55	2.20
Total Harvesting	$15.10	$11.15	$30.15	$22.50
Interest on Operating Capital	7.50	4.75	4.75	2.95
Management Charge	15.30	13.10	9.65	10.00
Labor	27.60	23.75	33.10	28.50
TOTAL VARIABLE EXPENSES	$165.35	$135.80	$120.50	$99.35
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$239.40	$191.55	$172.20	$138.30
RETURN TO LAND (less property tax)	$66.50	$70.90	$21.20	$62.00

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$66.45
Property Tax	-11.95
RETURN TO LAND	$54.50

SOIL GROUP 3
5 CORN - 5 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	16.1	16.1	3.3	3.3
Price ($/Ton)	19.00	16.30	58.60	60.70
Value of Production	$305.90	$262.45	$193.40	$200.30
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	7.15	6.35
Fertilizer				
Nitrogen	21.00	16.40	0.00	0.00
Phosphorus	16.80	12.75	13.30	10.10
Potassium	8.40	6.95	15.10	12.55
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	18.70	18.50	3.35	3.30
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.20	.80
Repair & Maintenance	4.85	4.05	.70	.55
Other	2.45	2.10	2.05	1.75
Total Growing	$111.35	$92.60	$54.35	$44.95
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	8.45	5.55	10.90	7.20
Repair & Maintenance	4.85	4.05	11.00	9.10
Twine	---	---	5.70	4.00
Other	1.80	1.55	2.55	2.20
Total Harvesting	$15.10	$11.15	$30.15	$22.50
Interest on Operating Capital	8.25	5.25	5.50	3.40
Management Charge	15.30	13.10	9.65	10.00
Labor	27.60	23.75	33.10	28.50
TOTAL VARIABLE EXPENSES	$177.60	$145.85	$132.75	$109.35
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$251.65	$201.60	$184.45	$148.30
RETURN TO LAND (less property tax)	$54.25	$60.85	$ 8.95	$52.00

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$56.40
Property Tax	-10.15
RETURN TO LAND	$46.25

SOIL GROUP 4
5 CORN - 5 HAY
High Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	14.4	14.4	2.9	2.9
Price ($/Ton)	19.00	16.30	57.60	59.70
Value of Production	$273.60	$234.70	$167.05	$173.15
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	7.15	6.35
Fertilizer				
Nitrogen	21.00	16.40	0.00	0.00
Phosphorus	16.80	12.75	13.30	10.10
Potassium	8.40	6.95	15.10	12.55
Custom Application	5.00	3.75	0.00	0.00
Lime	---	---	---	---
Chemicals	18.70	18.50	3.35	3.30
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.20	.80
Repair & Maintenance	4.85	4.05	.70	.55
Other	2.45	2.10	2.05	1.75
Total Growing	$99.85	$83.05	$42.85	$35.40
Harvesting				
Power & Equipment	7.85	5.15	9.00	5.95
Fuel, Oil & Grease	4.80	4.00	7.60	6.30
Repair & Maintenance	---	---	4.75	3.35
Twine	1.80	1.55	2.55	2.20
Other				
Total Harvesting	$14.45	$10.70	$23.90	$17.80
Interest on Operating Capital	7.45	4.75	4.35	2.70
Management Charge	13.70	11.75	8.35	8.65
Labor	27.15	23.35	25.30	21.75
TOTAL VARIABLE EXPENSES	$162.60	$133.60	$104.75	$86.30
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$236.65	$189.35	$156.45	$125.25
RETURN TO LAND (less property tax)	$36.95	$45.35	$10.60	$47.90

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$46.60
Property Tax	-8.40
RETURN TO LAND	$38.20

SOIL GROUP 4
5 CORN - 5 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	14.4	14.4	2.9	2.9
Price ($/Ton)	19.00	16.30	57.60	59.70
Value of Production	$273.60	$234.70	$167.05	$173.15
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	7.15	6.35
Fertilizer				
Nitrogen	21.00	16.40	0.00	0.00
Phosphorus	16.80	12.75	13.30	10.10
Potassium	8.40	6.95	15.10	12.55
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	18.70	18.50	3.35	3.30
Power & Equipment				
Fuel, Oil & Grease	7.05	4.65	1.20	.80
Repair & Maintenance	4.85	4.05	.70	.55
Other	2.45	2.10	2.05	1.75
Total Growing	$111.35	$92.60	$54.35	$44.95
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	7.85	5.15	9.00	5.95
Repair & Maintenance	4.80	4.00	7.60	6.30
Twine	---	---	4.75	3.35
Other	1.80	1.55	2.55	2.20
Total Harvesting	$14.45	$10.70	$23.90	$17.80
Interest on Operating Capital	8.20	5.25	5.10	3.20
Management Charge	13.70	11.75	8.35	8.65
Labor	27.15	23.75	25.30	21.75
TOTAL VARIABLE EXPENSES	$174.85	$144.05	$117.00	$96.35
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$248.90	$199.80	$168.70	$135.30
RETURN TO LAND (less property tax)	$24.70	$34.90	$(-)1.65	$37.85

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$36.35
Property Tax	-6.55
RETURN TO LAND	$29.80

SOIL GROUP 5
4 CORN - 6 HAY
High Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	13.3	13.3	2.7	2.7
Price ($/Ton)	19.00	16.30	55.50	57.50
Value of Production	$252.70	$216.80	$149.85	$155.25
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	6.75	6.00
Fertilizer				
Nitrogen	16.80	13.10	0.00	0.00
Phosphorus	16.80	12.75	9.80	7.45
Potassium	8.40	6.95	8.40	6.95
Custom Application	5.00	3.75	0.00	0.00
Lime	---	---	---	---
Chemicals	17.35	17.15	3.25	3.20
Power & Equipment				
Fuel, Oil & Grease	7.30	4.85	1.00	.65
Repair & Maintenance	5.10	4.20	.60	.50
Other	2.45	2.10	1.70	1.45
Total Growing	$94.80	$78.75	$31.50	$26.20
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	7.85	5.20	9.40	6.20
Repair & Maintenance	4.85	4.00	7.95	6.60
Twine	---	---	4.25	2.95
Other	1.80	1.55	2.55	2.20
Total Harvesting	$14.50	$10.75	$24.15	$17.95
Interest on Operating Capital	7.10	4.55	3.65	2.25
Management Charge	11.50	9.85	6.65	6.90
Labor	26.70	22.95	24.40	20.95
TOTAL VARIABLE EXPENSES	$154.60	$126.85	$90.35	$74.25
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$228.65	$182.60	$142.05	$113.20
RETURN TO LAND (less property tax)	$24.05	$34.20	$7.80	$42.05
ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980	Average	$38.90		
Property Tax		-7.00		
RETURN TO LAND		$31.90		

SOIL GROUP 5
4 CORN - 6 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	13.3	13.3	2.7	2.7
Price ($/Ton)	19.00	16.30	55.50	57.50
Value of Production	$252.70	$216.80	$149.85	$155.25
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	6.75	6.00
Fertilizer				
Nitrogen	16.80	13.10	0.00	0.00
Phosphorus	16.80	12.75	9.80	7.45
Potassium	8.40	6.95	8.40	6.95
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	17.35	17.15	3.25	3.20
Power & Equipment				
Fuel, Oil & Grease	7.30	4.85	1.00	.65
Repair & Maintenance	5.10	4.20	.60	.50
Other	2.45	2.10	1.70	1.45
Total Growing	$106.30	$88.30	$43.00	$35.75
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	7.85	5.20	9.40	6.20
Repair & Maintenance	4.85	4.00	7.95	6.60
Twine	---	---	4.25	2.95
Other	1.80	1.55	2.55	2.20
Total Harvesting	$14.50	$10.75	$24.15	$17.95
Interest on Operating Capital	7.85	5.00	4.35	2.70
Management Charge	11.50	9.85	6.65	6.90
Labor	26.70	22.95	24.40	20.95
TOTAL VARIABLE EXPENSES	$166.85	$136.85	$102.55	$84.25
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$240.90	$192.60	$154.25	$123.20
RETURN TO LAND (less property tax)	$11.80	$24.20	$(-)4.40	$32.05

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$28.90
Property Tax	-5.20
RETURN TO LAND	$23.70

SOIL GROUP 6
3 CORN - 7 HAY
High Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	11.3	11.3	2.2	2.2
Price ($/Ton)	19.00	16.30	51.30	53.10
Value of Production	$214.70	$184.20	$112.85	$116.80
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	5.75	5.15
Fertilizer				
Nitrogen	14.00	10.90	1.20	.95
Phosphorus	16.80	12.75	9.60	7.30
Potassium	8.40	6.95	4.80	4.00
Custom Application	5.00	3.75	0.00	0.00
Lime	---	---	---	---
Chemicals	15.05	14.90	3.15	3.10
Power & Equipment				
Fuel, Oil & Grease	7.30	4.85	1.00	.65
Repair & Maintenance	5.10	4.20	.60	.50
Other	2.45	2.10	1.70	1.45
Total Growing	$89.70	$74.30	$27.80	$23.10
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	7.35	4.85	5.60	3.70
Repair & Maintenance	4.55	3.80	4.75	3.90
Twine	---	---	3.55	2.50
Other	1.80	1.55	2.55	2.20
Total Harvesting	$13.70	$10.20	$16.45	$12.30
Interest on Operating Capital	6.75	4.30	2.90	1.80
Management Charge	10.75	9.20	5.65	5.85
Labor	26.20	22.55	18.85	16.20
TOTAL VARIABLE EXPENSES	$147.10	$120.55	$71.65	$59.25
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$221.15	$176.30	$123.35	$98.20
RETURN TO LAND (less property tax)	$(-)6.45	$7.90	$(-)10.50	$18.60

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980	Average	$15.40
Property Tax		- 2.75
RETURN TO LAND		$12.65

SOIL GROUP 6
3 CORN - 7 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	11.3	11.3	2.2	2.2
Price ($/Ton)	19.00	16.30	51.30	53.10
Value of Production	$214.70	$184.20	$112.85	$116.80
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	5.75	5.15
Fertilizer				
Nitrogen	14.00	10.90	1.20	.95
Phosphorus	16.80	12.75	9.60	7.30
Potassium	8.40	6.95	4.80	4.00
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	15.05	14.90	3.15	3.10
Power & Equipment				
Fuel, Oil & Grease	7.30	4.85	1.00	.65
Repair & Maintenance	5.10	4.20	.60	.50
Other	2.45	2.10	1.70	1.45
Total Growing	$101.20	$83.85	$39.30	$32.65
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	7.35	4.85	5.60	3.70
Repair & Maintenance	4.55	3.80	4.75	3.90
Twine	---	---	3.55	2.50
Other	1.80	1.55	2.55	2.20
Total Harvesting	$13.70	$10.20	$16.45	$12.30
Interest on Operating Capital	7.50	4.75	3.65	2.30
Management Charge	10.75	9.20	5.65	5.85
Labor	26.20	22.55	18.85	16.20
TOTAL VARIABLE EXPENSES	$159.35	$130.55	$83.90	$69.30
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$233.40	$186.30	$135.60	$108.25
RETURN TO LAND (less property tax)	(-)$18.70	(-)$2.10	(-) $22.75	$8.55

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	$5.35
Property Tax	- .95
RETURN TO LAND	$4.40

SOIL GROUP 7
2 CORN - 8 HAY
Low Lime

	Corn		Hay	
	1980	1976-1980	1980	1976-1980
INCOME				
Yield (Tons/Acre)	9.7	9.7	1.6	1.6
Price ($/Ton)	19.00	16.30	49.30	50.90
Value of Production	$184.30	$158.10	$78.90	$81.45
VARIABLE EXPENSES				
Growing				
Seed	15.60	13.90	5.05	4.50
Fertilizer				
Nitrogen	8.40	6.55	2.10	1.65
Phosphorus	16.80	12.75	10.80	8.20
Potassium	8.40	6.95	4.75	3.95
Custom Application	5.00	3.75	0.00	0.00
Lime	11.50	9.55	11.50	9.55
Chemicals	8.45	8.35	3.10	3.05
Power & Equipment				
Fuel, Oil & Grease	7.55	5.00	.80	.50
Repair & Maintenance	5.25	4.35	.45	.40
Other	2.45	2.10	1.25	1.10
Total Growing	$89.40	$73.25	$39.80	$32.90
Harvesting				
Power & Equipment				
Fuel, Oil & Grease	7.10	4.70	5.80	3.85
Repair & Maintenance	4.45	3.70	4.45	3.70
Twine	---	---	2.75	1.95
Other	2.00	1.70	2.55	2.20
Total Harvesting	$13.55	$10.10	$15.55	$11.70
Interest on Operating Capital	6.70	4.20	3.60	2.25
Management Charge	9.20	7.90	3.95	4.05
Labor	25.75	22.15	16.10	13.85
TOTAL VARIABLE EXPENSES	$144.60	$117.60	$79.00	$64.75
FIXED EXPENSES				
Power & Equipment	69.25	52.00	46.90	35.20
Machinery Storage	4.80	3.75	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$74.05	$55.75	$51.70	$38.95
TOTAL EXPENSES	$218.65	$173.35	$130.70	$103.70
RETURN TO LAND (less property tax)	(-)$34.35	(-)$15.25	(-)$51.80	(-)$22.25

ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	(-)$20.85
Property Tax	- 0.00
RETURN TO LAND	$ 0.00

SOIL GROUP 8
PASTURE
Low Lime

	Pasture	
	1980	1976-1980
INCOME		
Yield (Tons/Acre)	1.0	1.0
Price ($/Ton)	$47.10	$48.80
Value of Production	$47.10	$48.80
VARIABLE EXPENSES		
Growing		
Seed	4.05	3.60
Fertilizer		
Nitrogen	7.55	5.90
Phosphorus	9.25	7.00
Potassium	4.60	3.85
Custom Application	---	---
Lime	11.50	9.55
Chemicals	.35	.35
Power & Equipment		
Fuel, Oil & Grease	.65	.45
Repair & Maintenance	.35	.30
Other	1.00	.85
Total Growing	$39.30	$31.85
Harvesting		
Power & Equipment		
Fuel, Oil & Grease	---	---
Repair & Maintenance	---	---
Twine	---	---
Other	---	---
Total Harvesting	$ 0.0	$ 0.0
Interest on Operating Capital	2.55	1.60
Management Charge	2.35	2.45
Labor	4.60	3.95
TOTAL VARIABLE EXPENSES	$48.80	$39.85
FIXED EXPENSES		
Power & Equipment	10.05	7.55
Machinery Storage	4.80	3.75
TOTAL FIXED EXPENSES (less property tax)	$14.85	$11.30
TOTAL EXPENSES	$63.65	$51.50
RETURN TO LAND (less property tax)	(-)$16.55	(-)$2.70
ROTATION WEIGHTED AVERAGE RETURN TO LAND, 1976-1980 Average	(-)$2.70	
Property Tax	-0.00	
RETURN TO LAND	0.00	