Lettuce Cost and Return Estimates, 2010

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Long-run continued success of New Mexico's commercial lettuce crop will, as always, depend upon the profitability of the crop in any or all of its various forms. Table 1 presents typical costs and returns of producing lettuce in the primary producing areas of New Mexico. These estimates provide comparisons that can be used by current and prospective lettuce producers and processors to assess the profitability of lettuce production.

Lettuce is an increasingly recognizable commodity grown in New Mexico. The bulk of the production is concentrated in three counties in southern New Mexico. The lettuce is harvested, packaged, and shipped during the fall and spring. Most of the lettuce is sold to the wholesale market, while some is sold through local farmers' markets and roadside stands. The lettuce can go on to be chopped or shredded for restaurants and premade salads or sold whole. Regardless of the end use of the lettuce, the crop must provide an adequate return to cover all of the producer's costs.

Obtaining a higher price or reducing costs can generate increased profit. The cost-return relationship must be examined carefully by every producer of every commodity, whether in agriculture manufacturing, or service industries. Because of the economic structure of agriculture markets, cost and return relationships are particularly important. The basic building blocks of cost and return analysis are enterprise budgets, which are later organized and compiled into other budgets, including whole farm, partial, and cash flow budgets. An enterprise budget includes all costs and returns associated with producing an enterprise in some particular manner. Enterprise budgets are constructed on a per-unit basis, such as per acre, to make a workable comparison among alternative enterprises. An enterprise is any activity that results in a product used on the farm or sold in the market, and a farm is made up of any one or many enterprises. Each enterprise requires a certain combination of resources, such as land, labor, machinery, capital, and purchased inputs.

Enterprise budgets can estimate costs and returns on enterprises currently in the farm plan, as well as new enterprises being considered. Most enterprise budgets also list physical resources needed for production, which is useful information for prospective new producers of a commodity. In addition to producers, many other professionals in agriculture find enterprise budgets valuable information sources. These include lenders, assessors and appraisers, consultants, and lawyers. The New Mexico State University Cooperative Extension Service publishes representative budgets for various regions of the state annually. These enterprise budgets represent typical costs and returns for a given size and method of production in a particular region of the state. The budgets are not averages, but represent typical situations.

NMSU budgets represent current conditions for farming situations where management is above average. Adjusting these budgets for prices and yields expected in the future would increase their value as decision-making tools. Projections based upon a farm's unique set of conditions would be most valuable. Some items can be modified easily to build more personalized budgets. Quantities and prices of purchased inputs, yields and prices of crops, the cost of fuel, and labor costs may be readily adapted to individual farms. Another example of a modification to these budgets is to analyze each operation performed on each crop. If these operations are performed in a different pattern, the budgets should be changed. Yields and prices of the crops are highly variable from year to year. In analyzing historical budgets for use in forward planning, the astute manager will decide how much risk can be adsorbed, and select cropping patterns accordingly. In forward planning, the manager should consider both optimistic and pessimistic price and yield combinations to account for risk, and should consider crop rotation plans.

The effect of the various costs on planning decisions and business analysis is very important. These estimates present a **full-cost** approach to enterprise analysis. Many

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of the costs are opportunity costs; that is, they are real costs of doing business, but may not be cash expenditures. For example, if all labor is provided by the operator, then the entire amount listed in these estimates is money that can be kept by the operator—it represents a return to operator from family labor. Similarly, all land and all capital are charged at competitive rates regardless of whether land is rented or owned or whether capital is borrowed or owned.

The key to interpreting the "bottom-line" figure calculated in these estimates lies in the type of decision at hand. For next year's crop, the important point is the level of gross margins (the returns minus all cash expenses). Can enough cash be generated to meet reasonable family living needs and to cover all financial debt commitments? In the long run, **all** expenses must be covered (of particular importance when trying to determine whether to buy a farm). In the short run, a negative net income is not desirable, but it may not necessarily be enough to cause business failure. For a short while, depreciation and other non-cash costs can provide a cushion to allow producers additional financial flexibility.

GLOSSARY

Depreciation expense: Annual allowance for the deterioration of an asset whose productive life is more than one year. Depreciation is not paid in cash, but it is an expense to the business since the purchase price of a long-lived asset cannot and should not be deducted in any one year.

Enterprise budget: A detailed full-cost listing of all returns and costs (whether paid or unpaid) associated with a particular crop or livestock enterprise.

Fixed costs: Expenses that do not vary with the level of production, such as depreciation and personal property taxes. For example, personal property taxes are the same on a tractor regardless of whether that tractor is used on one acre or 300 acres. (Line E)

Gross margins: Returns minus variable costs; the most important short-run planning figure.

Gross returns: Total cash receipts from a crop, i.e., total yield times price. (Line A)

Interest on operating capital and equipment investment: A calculated cost, or opportunity cost, on the use of capital in the farm business. For some farmers, interest cost might outlay while for others it might be an imputed cost. (Lines I and J)

Net farm income: Returns to labor management, capital, land, and risk, i.e., gross returns minus purchased inputs, fuel, oil, lubricants, repairs, and fixed costs. (Line F)

Net operating profit: Gross returns minus total operating expenses. (Line H)

Operating capital: Operating expenses minus fixed costs, i.e., the amount of cash required for all purchased inputs (including labor, fuel, oil, and repairs) to produce a crop, without regard to machinery, equipment, and land investments.

Operating expenses: The total of all costs of producing a crop, except interest.

Opportunity cost: The cost of using a resource in one enterprise when it could be used in alternative enterprises or investment opportunities, measured by the return that could be obtained from using the recourse in an alternative investment. For example, if cash used in crop production could be placed in the bank at a 10% rate of interest, the opportunity cost of cash to the crop would be 10%.

Overhead expenses: Expenses not directly associated with production, such as insurance, employee benefits, land taxes, and utilities. These costs occur without regard to level of production, or whether production exits at all.

Partial budgeting: A planning procedure that lists only items of receipts and expenses that are affected by a particular change in procedure or organization.

Rate of return on investment: Net operating profit divided by the total machinery, equipment, and land investment. A measure of profitability of assets in percentage terms.

Return over cash expense: Gross returns less all cash operating expenses. (Line C = A - B)

Return to capital, labor, land, and risk: Charges for the listed factors of capital, labor, and land have not yet been subtracted from gross returns. Typically, these three factors are owned.

Return to land and risk: Net operating profit minus the interest change on the use of machinery, equipment, and operating capital. This return figure shows the final return before a land charge is calculated. (Line L)

Return to risk: Return to land and risk minus a charge for land investment; the amount of gross returns left over after charges are made for every factor of production.

Variable cost: Expenses that vary with the level of production, such as labor, fuel, oil and repairs, fertilizer, and seed.

Whole-farm budget: Projected crop mix revenues and expenses for a production year. A projected plan and income statement.

Table 1. Costs and Returns for Producing Lettuce in New Mexico for 2010

County	Doña Ana/ Sierra	Luna	Doña Ana/ Sierra	Luna
Variety	Fall	Fall	Spring	Spring
Marketing System	Wholesale	Wholesale	Wholesale	Wholesale
Yield				
Fall	500	500		
Units	Cartons	Cartons		
Spring			475	475
Units			Cartons	Cartons
Price per unit				
Fall	$5.47	$5.47		
Spring			$5.12	$5.12
Gross Returns (A)	**$2,735.00**	**$2,735.00**	**$2,432.00**	**$2,432.00**
Cash Operating Expenses				
Seed	$4.40	$4.40	$560.00	$560.00
Fertilizer	$240.00	$184.63	$253.75	$184.63
Chemicals	$250.28	$111.14	$111.09	$92.45
Crop Insurance				
Other Purchased Inputs				
Canal Water	$46.67		$75.00	
Fuel & Lubricants–Equipment	$60.82	$73.79	$55.78	$69.43
Fuel–Irrigation		$106.74	$0.13	$60.99
Repairs	$20.79	$18.98	$18.87	$17.54
Custom Charges	$2,001.51	$2,022.34	$1,849.25	$1,849.15
Other Expenses	$73.06	$67.31	$73.06	$67.31
Total Cash Expenses (B)	**$2,697.53**	**$2,589.33**	**$2,996.93**	**$2,901.50**
Return Over Cash Expenses (C = A - B)	$37.47	$145.67	($564.93)	($469.50)
Fixed Expenses (D)	$41.92	$75.40	$61.46	$59.98
Total Expenses (E = B + D)	$2,739.45	$2,664.73	$3,058.39	$2,961.48
Net Farm Income (F = A - E = C - D)	($4.45)	$70.27	($626.39)	($529.48)
Labor and Management Costs (G)	$133.48	$176.58	$224.87	$202.69
Net Operating Profit (H = F - G)	($137.93)	($106.31)	($851.26)	($732.17)
Capital Costs				
Interest on Operating Capital (I)	$38.67	$26.82	$54.69	$45.96
Interest on Equipment Investment (J)	$22.10	$24.75	$39.32	$22.85
Total Capital Costs (K = I + J)	$60.77	$51.57	$94.01	$68.81
Return to Land and Risk (L = H - K)	**($198.70)**	**($157.88)**	**($945.27)**	**($800.98)**

*Letters in parentheses refer to definitions in the glossary.