Dairy Cost of Production for Maine

**Objective:**
To evaluate dairy cost of production for farms varying in size.

**Methods:**
Econometric regression analysis.

**Data:**
Detailed cost information from an on-farm survey of 42 dairy farms.

**Key Findings:**
- Fuel and purchased feed are the key components in the cost of producing milk for all farm sizes.
- The costs of unpaid family labor and management are particularly significant as farm size decreases, consistent with USDA findings (Hoppe, Robert, et al., 2010).

Furthermore, the results indicate an inverse relationship between the size of the operation and the cost of production, which is consistent with economic production theory.

**Unpaid Labor by Farm Size**

**Average Cost Curves for Maine Dairy Producers**

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Organic vs. Conventional Dairy Farms for Vermont

**Objectives:**
- To examine the cost structure and profitability of small and medium sized farms.
- To examine selected alternative dairy farm management options compatible with local conditions.
- To analyze the impact of positive and negative externalities on the expected cost structure and profitability.

**Methods:**
Vermont and Maine extension designed a study to analyze organic dairy production.

**Data:**
Collected through paid survey of 31 Organic Dairy farms in VT.

**Key Findings:**
- Organic fits New England small size farms;
- Major contributor to rural economy;
- 81% of organic dairy farms would not be in business today if they had not gone organic; and
- Managed growth envied by conventional.

**Operating Costs**

**Purchased Input Costs**

**Log. (Operating Costs)**

**Log. (Purchased Input Costs)**

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PROJECT OBJECTIVES

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**Average Cost By Farm Size**

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Alternative Corps for Operator Unpaid Labor and Management Expense:
- In order to analyze and compare the cost of production across farm sizes, all farms must first be converted into like entities, i.e. from a single proprietorship, partnership, or cooperative, into an LLC.
- A charge for operator unpaid labor and management is particularly important for converting smaller farms into comparable entities.
- Methods for determining the cost of unpaid labor include:
  - An hourly wage rate and management fee: the amount of unpaid hours must be estimated and a set wage rate is determined, either the state rate for hired labor, or the opportunity wage for off farm employment.
  - A draw for family living expense or set charge for operator labor and management: the value operator unpaid labor and management and family farm contribution is determined as a set amount for the total value of the various farm services rendered.

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Cost and Returns for New England Dairy Farms

**Objective:**
To estimate the average cost per hundredweight (CWT) for New England dairy farms.

**Method:**
Descriptive analysis.

**Key Findings:**
- In the most recent time period the cost of production has increased markedly. Compared with small to medium sized farms, large sized farms experience economies of scale particularly noticeable in the most recent years.

**Milk Output By Farm Size**

**Average Cost By Farm Size**

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Nutrient Management Plans for Connecticut

**Objective:**
To evaluate how well farmers implement field-by-field nutrient management plans (NMPs).

**Methods:**
Field-by-field records for manure and fertilizer applications were kept throughout the duration of the study starting a year prior to implementation of the NMP to establish the baseline.

**Data:**
Information from four dairy farms ranging from 178-748 milking cows for the period 1999-2004.

**Key Findings:**
The farmers seemed confident that fertilizer recommendations were accurate when based on soil tests, especially the recommendations for P and K. A small percentage of fields received the same amount of manure as recommended and no significant improvements in manure distribution were indicated by the four dairy farms studied.