INTRODUCTION

Insect pollination is estimated to add $500 million to the value of New York State’s agricultural economy. Because so many crop producers depend on honey bees for pollination, the continued success of beekeeping businesses is of statewide importance. Concerns about impacts of honey bee declines on beekeeping businesses prompted the NYS Beekeeper Tech Team to launch a Financial Analysis and Business Benchmarking (FABB) program in 2017. FABB participants work with a financial analyst to assess the financial performance of their apiaries and identify opportunities for improvement. FABB aggregates and analyzes financial data provided by participants in an annual beekeeping business benchmark report.

METHODS

Nine beekeepers completed a financial analysis for 2017 that included tracking revenues and expenses and completing a beginning and ending inventory.

Participants included six small beekeeping operations managing fewer than 100 colonies, and three medium operations managing between 100 and 350 colonies. Each participant received a beginning and ending balance sheet, an accrual adjusted income statement, and an individualized financial report. Data was aggregated and summarized in the NYS Beekeeper Tech Team 2017 Business Benchmark.

RESULTS

Price

The price per pound for honey ranged from $2.30 to $12.00. The mean price was $6.73 for small operations and $2.68 for medium operations, reflecting price differences in retail vs. wholesale marketing channels.

Productivity

Honey yields ranged from 30 to 118 pounds per colony, with a mean of 61. Only two beekeepers in our sample reported honey yields over 100 pounds per colony, while three participants reported yields lower than 40. This productivity gap results in a revenue difference of $300 or more per colony.

Figure 1 illustrates the tradeoff between making honey and making bees (i.e. growing new colonies). The line of best fit predicts that increasing the colony growth rate by 10 percentage points will reduce honey yield by 3.6 pounds per colony, on average.

Revenue

Total adjusted (gross) income ranged from $291 to $1,220 per colony. Mean per-colony revenue was $667 for small operations, and $340 for medium operations.

Investment

Investment in intermediate assets ranged from $17 to $2,258 per colony. Average investment was $778 for small operations and $405 for medium operations.

Cost of Production

The full economic cost of production, which includes the value of unpaid labor and management, ranged from $217 to $2,706 per colony, or $2.97 to $43.64 per pound. Values at the higher end of that range reflect smaller operations where labor is used inefficiently.

Profitability

Net farm income (profit) for medium operations ranged from $20 to $171 per colony, with a mean of $98. Net farm income was negative for all 6 of the small operations in the study.

WHY BENCHMARKING?

A benchmark is a standard, or point of reference, against which individual outcomes may be compared and evaluated. Financial benchmarking is a valuable tool for education, applied research, and management.

Educational Value

Producers learn accounting techniques to consistently track revenues and expenses, evaluate inventories, and create accrual basis financial statements.

Applied Research Value

Industry stakeholders benefit from published data describing key indicators of financial performance.

Management Value

Producers can track changes to their own financial indicators over time (internal benchmarking) and compare their data to industry averages (external benchmarking) to inform management decisions.

“It was reassuring to find out that my small business was profitable and ranked well when compared to similar businesses.”

FABB helps me know where to improve (or take it easy!) Just keep up the FABB-ulous work!”

MANAGEMENT IMPLICATIONS

Colony Productivity and Replacement

- Beekeepers face tradeoffs between producing honey, pollination services, and new colonies.
- Operations undergoing rapid growth prioritize making new colonies at the expense of honey yields.
- Beekeepers who suffer high colony losses may forgo honey or pollination revenue in order to rebuild.

- The ideal number of colonies and pace of growth depend on an individual beekeeper’s goals, resources, and marketing preferences.

Market Channel Selection

- Small operations with fewer than 100 colonies tend to sell high-value products through retail outlets. This generates higher revenues per colony, but also higher processing and marketing costs.
- Beekeepers with 100 to 350 colonies sell most of their honey in wholesale markets. They receive lower prices and generate less revenue per colony, yet they also have lower costs per colony.

Scale and Profitability

- Smaller operations have fewer productive colonies across which to spread overhead costs, including the cost of operator labor and management.
- Only those beekeeping operations that harvested honey from at least 200 colonies were profitable when we account for the value of operator labor.
- Beekeepers managing fewer than 200 colonies may struggle to adequately compensate themselves.

Investment and Depreciation

- Some beekeepers invest more than $1,000 per colony in intermediate assets, while others invest less than $200 per colony.
- Both overinvestment and underinvestment can cause inefficiencies. Selecting equipment that is appropriately scaled can help to avoid this pitfall.
- Mature operations have the advantage of lower depreciation costs. Maintaining productive assets beyond their expected lifespan will reduce depreciation costs in the long run.

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Figure 1. Honey Yields vs. Colony Increases

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