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Piloting a Fee-for-Service Dehydration Program for Hunger Relief and Local Fruit Growers

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- Western Slope fruit and vegetable producers currently lack access to infrastructure needed to pursue value-added processing opportunities due to capital, labor and scale concerns.
- An innovative model for a revenue-generating dehydration service at the West Slope Branch of Food Bank of the Rockies in collaboration with regional fruit producers may complement efforts to match producers, new value-added facilities and hunger relief efforts.
- Preliminary costs of production estimates show this collaboration could offer growers opportunities to dehydrate their seconds within a feasible range of fees for growers, but more attention to overall costs and refined logistics for the fee-for-service program is warranted.

Overview

Western Slope fruit and vegetable producers currently have limited access to regional infrastructure needed to pursue diverse value-added opportunities, which limits marketing and broader economic development opportunities for these producers. Value-added processing of specialty crops has been previously explored on the Western Slope for commercial freezing and individual quick freezing for well-known produce such as Palisade peaches and Olathe sweet corn. In short, capital expenditures and labor requirements were perceived as too great for the expected scale of production available in the area, at least if traditional investment models were considered.

In 2022, Delta County and Colorado State University (CSU) were awarded an Economic Development Administration (EDA) Grant, and one targeted regional project was to explore how specialty crop producers in the Delta, Mesa and Montrose counties might adopt innovative approaches to developing value-added products to create value for their "seconds" produce that had few other marketing options. Based on conversations with growers in the area, dehydration was identified as an area of potential growth due to relatively lower capital costs, alignment with the regional produce availability, and the flexibility of scale-appropriate equipment. Based on the established hunger relief partnerships between the CSU Community Alliance for Education & Hunger Relief Program, an opportunity was identified with the Western Slope Branch of the Food Bank of the Rockies (FBR): the only food bank in the Feeding America network with a dehydration program. The collaboration's goal was to assess the logistical and financial feasibility of FBR offering dehydration services to local fruit producers in exchange for a reasonable fee to cover the cost of dehydration services and without competing with hunger relief efforts.

Feasibility Assessment

Labor data, logistical requirements, consumer feedback, and input costs were collected from February 2023 through January 2024. Apricots, cherries, peaches, pears, and apples were purchased from four fruit operations participating in the study—Talbott Farms, Rancho Durazno, Honey Rock Landing, and Topp Fruits—and if product made it to its final, sellable stage, it was returned to the growers to use for consumer sampling, market tests or to sell in their direct-to-consumer (DTC) markets (e.g., farmers market, farm stands) during

that same growing season. In addition, Ela Farms provided comparative data and products from their farm's dehydration operations to help us "benchmark" our pilot numbers.

Over 2,400 pounds of local fruit was processed from June to October (2023) employing over 400 hours of individual labor provided by staff and volunteers of the FBR dehydration kitchen. Roughly 2,000 2-ounce packages of dehydrated fruit were returned to the growers (identity-preserved to assure growers received only their fruit) for 2023 sales.

Consumer feedback

The CSU Spur Food Innovation Center team collaborated to assess the overall perception of the final dehydrated peach, pear, and apple products. Overall, apples were the most preferred, followed by peaches and then pears. We solicited information on the willingness-to-pay (WTP) for a 3-ounce package of the product (containing roughly 2 servings per package. Average willingness to pay for a 3-ounce bag of peaches ranged from $0.97-$1.05/ounce with a sliding scale of $0.66-$3/ounce. For pears, the average willingness to pay was $0.94/ounce, and for apples, $0.98/ounce, both with the same sliding scale options. Pears and apples did not have ranges because only 1 sample was tested. Overall, the growers sold their product for more than these values (before WTP was assessed). This speaks to the potential power of in-person sales and the consumer experience influencing the ability to secure higher prices in direct markets.

Logistical & financial feasibility

The labor and cost information that CSU was able to analyze shows promise for the potential fee-for-service program. Based on the processing rates collected from labor logs and product weights tracked along each step of processing, the following estimates of maximum labor hours, maximum gross weight (fresh produce), and resulting dry weights were estimated (Figure 2). The summary of labor hours does not factor in the calendar days required to complete processing overall, buton average, it took 9.5 business days to complete processing—including a 7-day wait period for product "equilibration" after dehydration—with 1.6 kitchen staff and 0.9 volunteers per working day. There was 84% water loss that explains the difference between net fresh weight and weight of final dried product.

The average processing and materials cost per ounce of dried fruit was $0.21/oz. A formal summary of equipment and capital costs (with depreciation) was provided to FBR. Overall, with some operational improvements that seem attainable, this program shows promise for providing local growers a supply of dehydrated fruit to add to their options in the DTC market in exchange for supporting revenue to fund the FBR dehydration program for hunger relief.

Areas of improvement for continuing the program would be based on final financial analysis and extension of the currently known product shelf life (6 months from the packaging date). A formal shelf-life study could extend this conservative estimate, and growers could also explore the option of obtaining a state-regulated license to be able to sell in intermediate markets beyond the DTC market. Since consumers were not fully satisfied with the crispiness, chewiness, sourness, or sweetness of the product the pilot shows room for process refinement (such as recipe adjustments and more precise moisture testing).

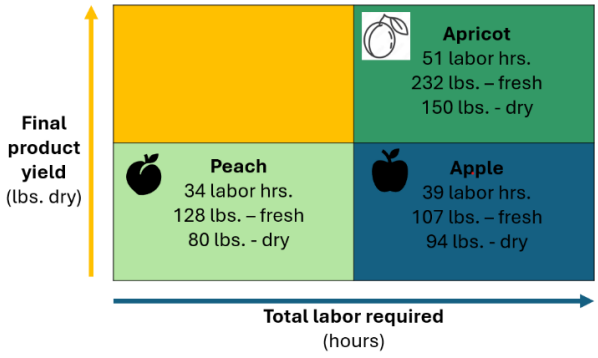

Figure 1. Estimated labor hours and max pounds in (fresh) and out (dry) for 1 dehydrator