Cover crop, herbs, and flowers provide unique opportunities for small farm owners interested in diversification, increasing profit, and season extension. Each year small farms spend time cutting back flowers, herbs, or cover crop to improve health, stimulate production, or prepare ground for new crops. The freshly cut material is normally left in the field. This grant analyzed the profitability of enterprises that utilize the freshly cut material in decorative and edible value-added products.

Crop: Red Flame Cayenne (*Capsicum annuum*)

Cayenne Chiles are widely used to flavor and spice cuisine. They can be preserved by drying for use during the winter and spring when fresh chiles are not available. A common way to market dried chiles is a ristra.

Introduction:

Chile Ristras were analyzed as a value-added product to determine their profitability and marketability in New Jersey.

Marketing:

Retail:

- Eight ristras were made and sold at two farmers markets. All ristras sold within three weeks. Customers had many questions about their utility and storage requirements. Ristras could also be sold at roadside marketstands, community supported agriculture pick-up locations, craft fairs, or online.

Added Value:

- Corn Husks (Hojas para Tamales) were stripped and tied to the top of the ristra as a decorative accent. Jute twine was used as the main strand.

Why Purchase a Chile Ristra?

Chile Ristas can be used as kitchen décor and a culinary ingredient. It is a unique product that adds a vibrant color to any room and serves as a useful addition to dishes as well.

Growing Practices:

- Plants were seeded in the greenhouse in strip trays and placed on a heated mat to expedite germination.

- After germination, plants were potted up into a 50-cell tray.

- Peppers were transplanted onto black plastic after the last frost with 2 rows per bed and 1 foot spacing between plants within the row.

- Pepper plants were staked and trellised in June.

- Leaf mulch was applied on the sides of the bed to suppress weeds. The base of the plants and aisles were hand weeded once to promote airflow.

- Two lines of drip tape were laid underneath the plastic during bed formation. Plants needed water once per week during the hottest and driest period of the summer.

Harvest:

*Tools: bucket, drying rack (if peppers are wet)*

Peppers were harvested on two days in late September when the majority of chiles were ripe and the first frost date approached. Only pick chiles without blemishes or mold. Chiles were harvested into a clean crate and placed on a rack to dry for an hour.
Data:

It took an average of 90 minutes to harvest, dry, and make each ristra.

<table>
<thead>
<tr>
<th>Red Flame Cayenne</th>
<th>Row Feet</th>
<th># of Plants</th>
<th># of Plants Died</th>
<th>Peppers Harvested</th>
<th>Unmarketable Peppers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsicum annuum</td>
<td>31</td>
<td>31</td>
<td>1</td>
<td>889</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labor</th>
<th>Ristras Produced</th>
<th>Total Sold</th>
<th>Price</th>
<th>Profit</th>
<th>Cost of Production</th>
<th>Net Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile Ristra</td>
<td>904.65</td>
<td>8</td>
<td>8</td>
<td>15</td>
<td>301.55</td>
<td>-181.55</td>
</tr>
<tr>
<td>Without training time</td>
<td>700.06</td>
<td></td>
<td></td>
<td>120</td>
<td>233.35</td>
<td>-113.35</td>
</tr>
</tbody>
</table>

Ristra Making:

Tools: hook, jute twine, corn husks

Ristras need to be made while chiles are fresh.

An average of 90 chiles for a 6” ristra (measured from the chile stems of the base to the chile stems at the top) were needed.

• Wash hands

• Separate blemished chiles from pile and discard (compost).

• Drying can take weeks depending on the amount of moisture in the air.

• Measure a 3’ section of twine, cut, and tie ends into a knot making a loop. Hang this loop from a hook with the tie at the top.

• Cut a 2’ section of twine.

• With the 2’ section of twine you will tie 5 groups of chiles on this string with 3 chiles in each group. Use a slip knot to tie the 3 chiles to the twine, then wrap the twine around the stems three times to secure chiles in place. Continue with the next group of chiles ensuring roughly 2” between each group.

• After six 2’ sections of twine have chiles attached, use these strands to create the ristra. Start at the base of the loop and place chiles inside. Push downwards on each group of three chiles and wrap double strand of twine (looped twine) around the stems to secure each group. Continue piling chiles, moving individual chiles into empty spaces and covering sections where jute is showing.

• After the last strand of chiles is looped through the ristra, strip the ends of one piece of corn husk and tie it to the top of the ristra.

Ristras can be any length, to make a taller ristra simply cut longer strands of twine and harvest more chiles.

See resource section below for more detailed instructions with images.

Results:

The 2018 growing season was very wet. At the time of harvest in September, the oldest peppers were blemished, and many had black mold spots. Additionally, roughly one third the peppers on an individual plant were still green. Plants were transplanted outside at the earliest date and the growing season could only be extended with the use of a low tunnel.

Conclusion:

Chile Ristras were not a profitable enterprise using these methods during this growing season. The climate can create difficult growing and drying conditions and making ristras requires a significant amount of time. These challenges, combined with the maximum price customers are willing to pay for a product, are not encouraging for small farmers.

Additional Resources:

Using Chile to Make Ristras and Chile Sauce, Guide E-327, College of Agriculture, Consumer and Environmental Sciences, New Mexico State University
https://aces.nmsu.edu/pubs/_e/E327/welcome.html


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