

Profitability of Sprouting Broccoli in High Tunnels



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Sprouting broccoli is a novel opportunity for Carolina growers utilizing high tunnels seeking a winter off-season market. CFSA and Union County Cooperative Extension conducted a demonstration in 2020-2021 to quantify the profitability of this crop and winter production system. Three varieties of sprouting broccoli (BC 1611, DeCiccio and Santee) were planted on Sep. 23, 2020 into a caterpillar tunnel at the Lomax Research and Education Farm, Concord, NC. Santee is a purple sprouting broccoli requiring vernilization while the remaining two varieties are green with no vernilization requirement. The caterpillar tunnel was minimally managed to reduce the negative impact of frost on the crop. All varieties were managed in the caterpillar tunnel from Sept. 2020 to Mar. 2021.



Figure 1. Sprouting broccoli planted in a caterpillar tunnel at Lomax Research and Education Farm; Concord, NC.

Varietal Differences

Each variety presented different characteristics. Choosing the correct one for your market is important to maximize both production and economic success in the winter market.

- BC 1611 yielded a uniform first harvest on Nov. 12, 2020 and provided a consistent harvest throughout the season. This variety had long thick stems great for bunching. Long shelf life in both stems and florets.
- DeCiccio yielded it's first harvest on Nov. 24, 2020 and provided a mixed harvest of main heads and sprouts for several months. This variety had slightly larger florets and was well suited for either bunching or clamshells. Long shelf life in stems and florets.
- Santee achieved vernilization and yielded a first harvest on Mar. 2, 2021. This variety had much smaller florets in a bright purple color. The thin tender stems made this product more suitable for the fresh market.
- In general, all varieties demonstrated well in the caterpillar tunnel with limited management during the winter season.

Expert Tip

Many sprouting broccoli varieties are cold hardy and will thrive in a minimally managed high tunnel, caterpillar tunnel or low tunnel.



Packaging and presentation options include clamshells (left), pint containers (middle) and bunches (right).



Harvest, Postharvest and Packaging

Harvest: Sprouting broccoli can be harvested as small florets or include stems and leaves for bunching. The entire stem, including leaves, is tender and edible. Maintain consistent in stem length when harvesting.

Postharvest: After harvesting, florets should be sorted and packaged. For this demonstration a total weight of .25 lbs was used per packaged product. Bunches contained 7-10 stems; clamshells and pints contained 12-15 florets.

Packaging: Marketplace interest helps determine the most appropriate packaging. Consider what consumers want along with farm goals when deciding on packaging. To increase shelf life, bag or seal packaged and unpackaged product and store in a refrigerated area.

Economic Impact

Sprouting broccoli in a caterpillar tunnel is a low maintenance crop suitable for the fall, winter and spring fresh market. Sale price for packaged

Average Marketable Weight per Plant

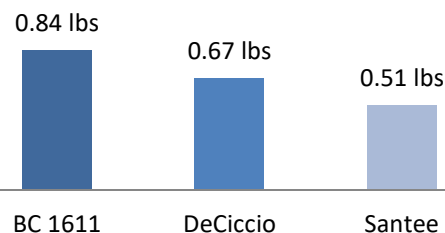


Fig 1. Average weight of marketable product per plant when harvested for bunching.

Average Number of Florets

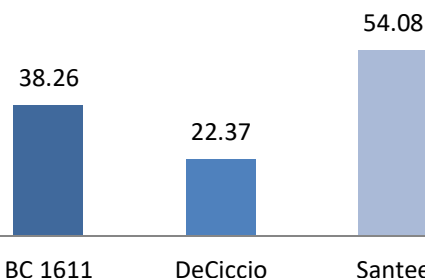


Fig 2. Average number of florets produced per plant.

Economic Impact

product (~.25lbs) was estimated at \$3-\$4. The tunnel used was 14' x 50' accommodating 200 broccoli plants. Based on demonstration averages sprouting broccoli yielded an estimated gross income of \$5 per bed square foot (30" x 50') or \$2.68 per tunnel square foot. Production cost, excluding the tunnel, was \$2.62 per bed square foot for the duration of the demonstration.

Useful References

- <https://www.johnnyseeds.com/growers-library/vegetables/broccoli-mini-sprouting-varieties-comparison-chart.html>

The Carolina Farm Stewardship Association (CFSA) is a farmer-driven, membership-based 501(c)(3) non-profit organization that helps people in the Carolinas grow and eat local, organic foods by advocating for fair farm and food policies, building the systems family farms need to thrive, and educating communities about local, organic agriculture.

Our Mission: We help people in the Carolinas grow and eat local, organic food by **advocating** for fair farm and food policies, **building** the systems that organic family farms need to thrive, and **educating** communities about local, organic farming.