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Ginger Production in the Northeast: Intercropping in Variable Growing Environments to Maximize Harvest Opportunities

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Research Justification and Hypotheses

Fresh baby ginger *(Zingiber officinale)* is a niche crop with demonstrated marketability and high profit potential. Added to a diversified vegetable system, baby ginger can offer growers a novel item for production and sale. While baby ginger has been grown successfully in the Northeast, it requires a substantial investment for seed stock and, given the time to harvestable maturity (~200 frost-free days), commitment of a protective growing environment in cold climates. These cost and time-related barriers to production, which could deter growers from incorporating ginger into their farm systems, might be mitigated by reducing infrastructure costs and increasing revenue through intercropping.

Similar in flavor to, but milder than, cured ginger, uncured "baby" ginger is an antioxidant-rich crop great for fresh use and pickling. The greens are removed post-harvest, but the very thin skin is edible.

Intercropping practices that incorporate other, shorter-season annual vegetables alongside slower-growing ginger may provide supplemental harvest opportunities—and therefore increased revenue—throughout the season. Additionally, if ginger productivity could be maintained with **lower infrastructure inputs** than previously thought, an opportunity might exist for farmers to find increased value in growing and marketing this niche crop.

Objectives

There were two primary objectives for this trial:

Objective 1: Evaluate yields of intercropped ginger, green beans, and carrots toward maximizing row-foot profitability of bed space.

Objective 2: Compare productivity of ginger and intercropped green beans and carrots across three distinct growing environments to demonstrate potential for reduced infrastructure needs when growing ginger in the Northeast.

The Student Farm high tunnel demonstrates infrastructure for standard production practice in the Northeast.

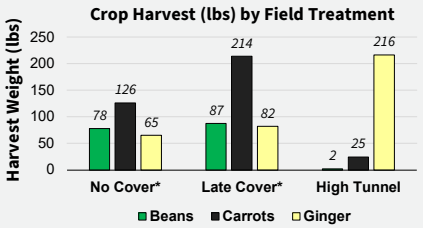
Methods

Ginger rhizomes were pre-sprouted indoors in a soilless potting mix, then grown on heat mats for five weeks before transplanting into raised beds and grown to maturity in three different environments: a high tunnel from planting to harvest, in-field with row cover applied late season, and in-field without protective cover. Two additional **annual vegetables (green beans and carrots) were interplanted alongside ginger** in each of these environments, seeded at the time of ginger transplanting. Green beans and carrots matured for harvest mid-summer; ginger was harvested at maturity in the fall.

Ginger intercropped with green beans in a high tunnel environment, supported with drip irrigation and shade cloth, as an example field treatment.

Results

Ginger production ranged from 0.78-2.45lbs/ft, with the highest production in a **high tunnel setting** valued at **$36.82/ft.** Beans and carrots added up to **$16.67/ft** in value **when intercropped** with ginger in uncovered field settings.



**Beans and carrots were harvested before late cover installation due to mid-summer maturity times.*

Crop Harvest (lbs) and Retail* Value ($) per Bed Foot by Field Treatment**

Crop	No Cover		Late Cover		High Tunnel	
	lbs/ft	$/ft	lbs/ft	$/ft	lbs/ft	$/ft
Beans (two rows)	2.78	$16.67	2.65	$15.89	0.07	$0.41
Carrots (two rows)	4.51	$11.27	6.48	$16.20	0.84	$2.11
Ginger (single row)	0.78	$11.75	0.84	$12.55	2.45	$36.82

**Retail prices reflect direct-to-consumer farmers market/CSA value for produce grown using organic practices in 2025. **Beans and carrots were harvested at maturity before late cover installation.*

Conclusions and Future Studies

While high tunnel production had the largest yield, in-field production also generated harvestable crops of baby ginger in our trial. Producing ginger in a high tunnel, the established best practice for northeast growers, is the most dependable and highest-yielding method. Yet, for farmers with limited space or capital to invest, field production of ginger may be feasible.

Intercropping baby ginger with shorter-season annual vegetables such as green beans and carrots, especially in field-grown systems without a high tunnel, **can help balance risk with reward for northeast growers**. Supplementing potentially lower ginger yields with sales of other reliable market crops may help keep revenue robust while incorporating novel baby ginger.

Future studies might investigate alternative intercropping choices, such as short-season mixed greens, radishes, or beets. For high tunnel production, heat and humidity-tolerant varieties should be selected to thrive in the tropical environment preferred by baby ginger. Studies conducted north of the central New Jersey climate (Zone 7a) should further test the viability of field-grown ginger.

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References

1. Errickson, W.; Sawatzky, A. 2023. Exploring production practices and market potential of baby ginger in temperate climates. Journal of the National Association of County Agricultural Agents 16(1). ISSN 2158-9429.
2. Errickson, W. 2022. Exploring market potential of baby ginger as a niche crop in temperate climates. Applied research poster presented at the NACAA AM/PIC, West Palm Beach, FL.