

Sea Kale (*Crambe maritima*): Commercial Opportunities for Perennial Crops and Climate Smart Agriculture

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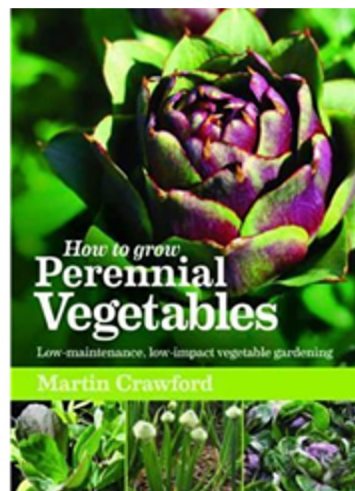
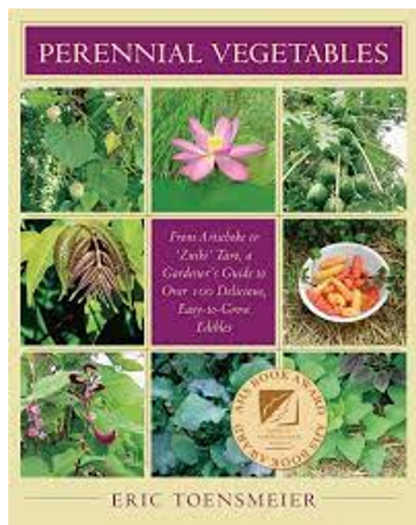
The image is a composite. On the left, a hand holds two stalks of sea kale (Crambe maritima), which are green with white and purple bases. On the right, a background shows a field of spinach vines (Hablitzia tamnoides) growing in a garden bed with a blue wire. The text is overlaid on the top half of the image.

Sea Kale (*Crambe maritima*), Hosta (*Hosta* spp.), Spinach Vine (*Hablitzia tamnoides*): Commercial Opportunities for New Perennial Crops

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AROUND THE WORLD
IN 80 PLANTS



Why Perennial Veggies?

- **Harvest window early in the season (for these perennial veggies and many which include above ground plant part harvest)**
- **Establishment work, then minimal ongoing maintenance**
- **Soil disturbance minimized. Till once (or never).**
- **Pest and disease avoidance**
- **Climate adaptation.**
- **Initial research has shown plants high in nutrition.**
- **Assist in farm viability: diversification, crop resilience, new markets, use marginal spaces.**

Barriers to Adoption

- Familiarity (to the grower, the consumer, the Technical Service Provider, etc.)
- Committed bed space
- Availability, Accessibility, and sometimes Affordability of plant material
- Initial Years following establishment with more limited yields
- Lack of Commercial Cropping and Enterprise Research

Sea kale (*Crambe maritima*)














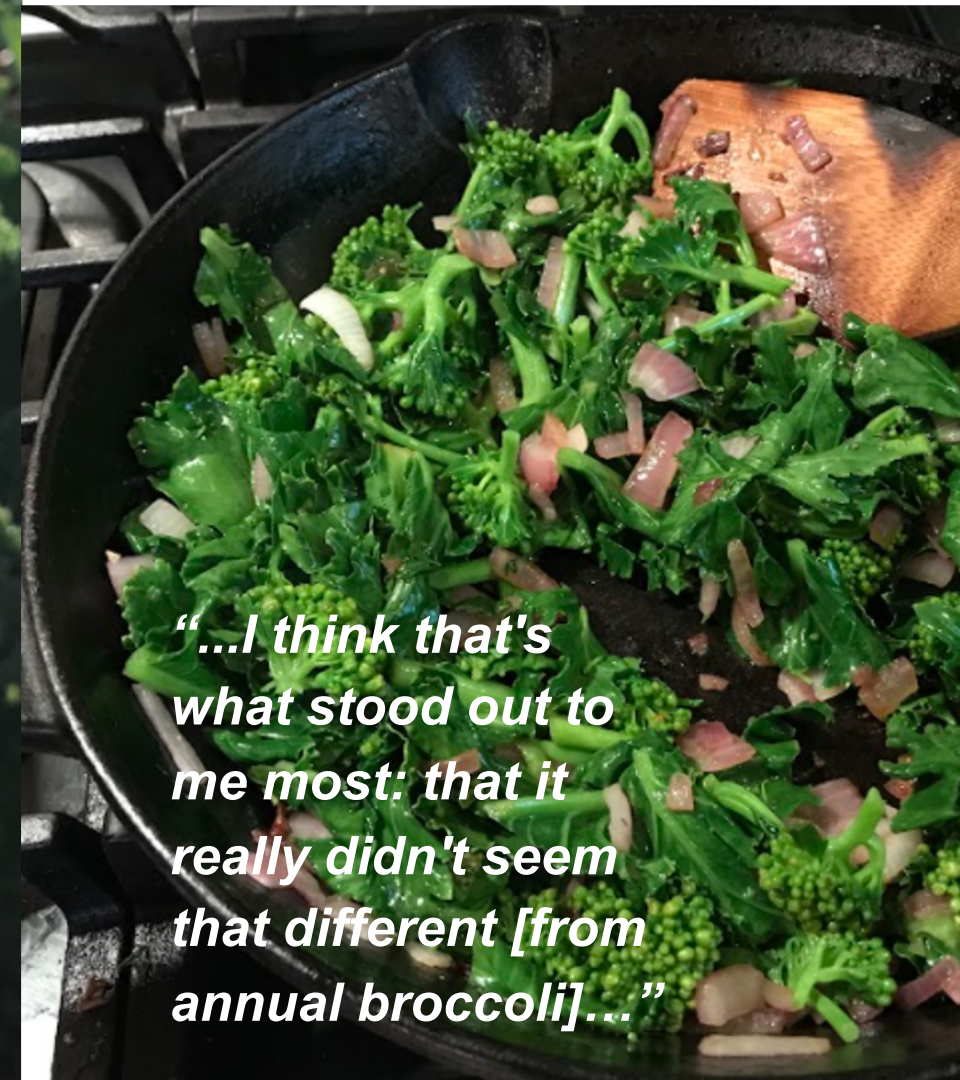
- **Sea Kale** (3rd / 4th yr)
 - 1.8 to 3.7 # / plant
 - Approx 4,764 to 9,768 # / acre or 65-133# / 100' row feet in field plantings of 6' between rows and 2.75' between plants
- **Annual Broccoli** = 5K - 10K lbs. / acre, NE 5 year Navg. 3,615 lbs
- **Asparagus** = 1,420 # / acre NE avg

([New England Vegetable Management Guide](#) (UMASS Center for Ag, Food, and the Env))

Though the ranges of our research yields and the ranges of estimated yields for annual broccoli through UMASS are relatively similar, the real 5 year avg. in the northeast as well as the relative immaturity of the Sea Kale plants harvested, suggest to us that yields of Sea Kale could prove significantly more productive than annual broccoli on an acre / acre and plant by plant basis.



“...the stems are significantly better than broccoli stems- more tender, more juicy, perhaps sweeter...”



“...I think that's what stood out to me most: that it really didn't seem that different [from annual broccoli]...”

Grilled Sea Kale With Caramelized Onions, Garlic and Jasper Hill Alpha Tolman Cheese



Spinach Vine (*Hablitzia tamnoides*)



















Spinach Vine Lessons and questions:

- Trellising.
- Maturity at harvest and resulting product.
- Density of planting depending on how you want to harvest and what product you want to grow.
- Tastes very much like spinach.
- Easy propagation.
- Vigorous growth, but sensitive to weeds and weeding.

Hosta
(Hosta spp.)



Hostas

- The deer are on to something!
- Long history in East Asia as a choice spring vegetable.
- Focus on shoots, but also edible include flowers, flower stalks, leaves.
- Dozens of species in the genus *Hosta*, all edible.
- Grows in shade: intercropping, polyculture.





Tastes a lot like asparagus.



Part shade!

...polycultures?





Self mulching. Shade out weeds at proper spacing.



Larger, fatter, fewer shoots...smaller, slender, many shoots.



Variegated.



Easy harvest.







Hosta Tasting

Green Mountain Hostas
East Dover, VT

15 varieties tasted.
Most delicious; some with more
or less acidity, somewhat
variable based on cook time.

Exciting visual variations.

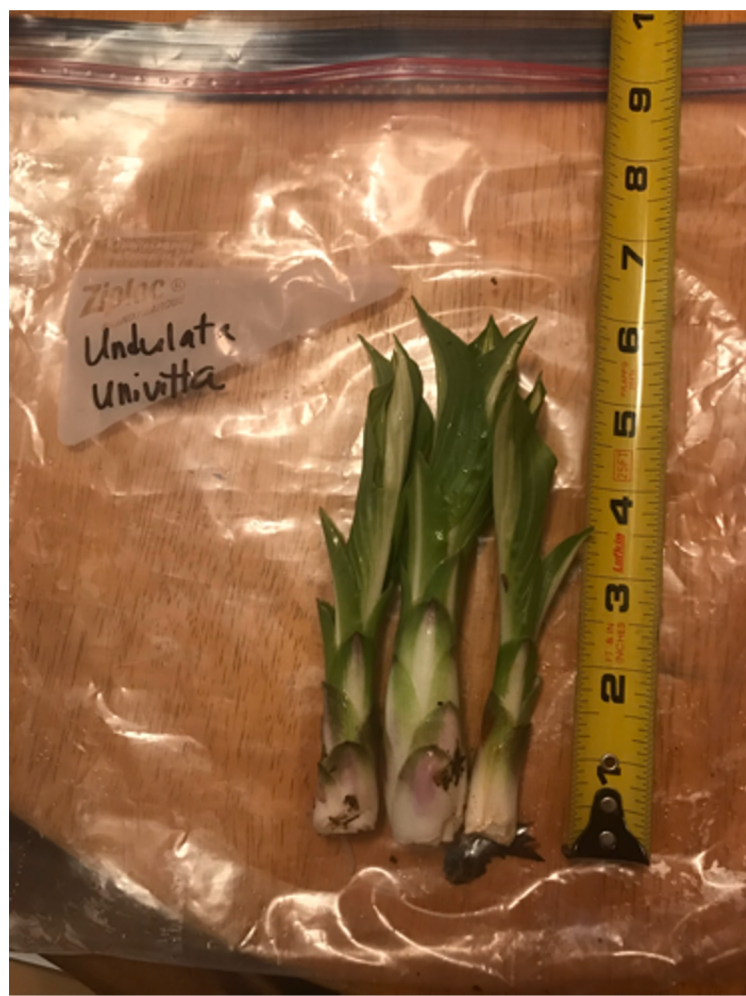








Image: CountryWoodSmoke.com

Hosta Lessons:

- All varieties tasted have been delicious. Some bitter and mildly acrid components - variable depending on variety and cooking time.
- More expensive to source (than other subject plants)
- Watch for nematode disease and viruses (look for nurseries who test)
- Slower to establish - mature plantings will take time.
- Full sun plantings were not as successful as shaded plantings





Research Deliverables and Materials:

- [Commercial Crop Growing Guide](#) (1 page / 2 sides; pdf)
- [UVM Center for Sustainable Agriculture Perennial Vegetable Research Webpage](#)
- [Final SARE Report](#)
- Contribution to international collaborative research on nutritional analyses of Sea Kale and other Perennial Crops for paper authored by Eric Toensmeier (publishing soon)
- [Introductory Article to Sea Kale](#)
- [7 Days Article by Food Writer Melissa Pasanen](#)
- Commercial Crop Enterprise Guide (available soon)



HOSTA LA VISTA, BABY

Image from [Esquire](#).